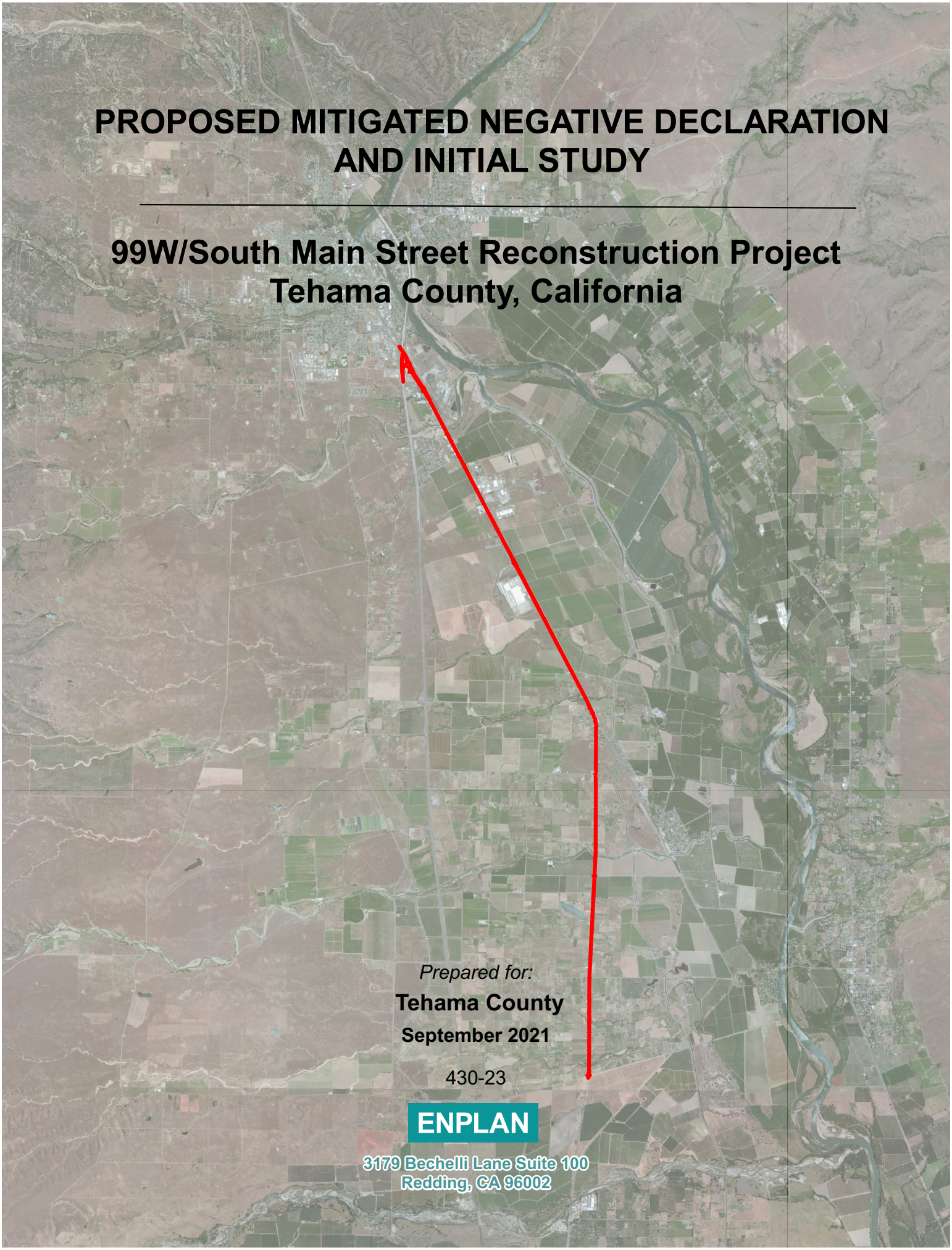
# PROPOSED MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY

## 99W/South Main Street Reconstruction Project
## Tehama County, California



*Prepared for:*

**Tehama County**

**September 2021**

430-23

**ENPLAN**

3179 Bechelli Lane Suite 100
Redding, CA 96002

# PROPOSED MITIGATED NEGATIVE DECLARATION

| | |
|---|---|
| **LEAD AGENCY:** | **Tehama County** |
| **PROJECT PROPONENT:** | Tehama County |
| **PROJECT NAME:** | **99W/South Main Street Reconstruction Project** |
| **PROJECT SUMMARY:** | The proposed project includes roadway and traffic control improvements in the Red Bluff City limits and unincorporated area in Tehama County. Improvements in the city limits include rehabilitating and widening a ±0.95-mile section of South Main Street between the southern city limits and the Interstate 5 (I-5) interchange, modifying the traffic signal at Sister Mary Columba Drive, enhancing bicycle and pedestrian facilities, improving the northbound I-5 interchange ramps, and installing a roundabout at the I-5/South Main Street interchange. If it is determined that a roundabout at this location is not feasible, improvements would be made to the existing signalized intersection.<br><br>Outside the city limits, the project includes the repair of structural roadway deficiencies along a ±10.35-mile segment of 99W between the southern Red Bluff city limit and Gyle Road. It is estimated that ±8 miles of 99W will be rehabilitated and receive a pavement overlay. Guardrails along 99W would be replaced/extended as funding becomes available. It is anticipated that all work on 99W would occur within the existing road prism and no widening of the roadway would occur. |
| **LOCATION:** | The proposed project is located within the Red Bluff city limits and unincorporated areas of Tehama County. Improvements in the City would occur on South Main Street and at the I-5/South Main Street interchange within Caltrans right-of-way (ROW). Improvements south of the Red Bluff city limits would occur within the County road ROW of 99W between the southern Red Bluff city limit and Gyle Road. The project is located in portions of Townships 25, 26, and 27 North, Range 3 West, in the U.S. Geological Survey (USGS) Red Bluff East and Gerber 7.5-minute quadrangles. Latitude 40˚ 06’ 30.84”, Longitude 122˚ 13’ 26.12” (centroid). |

## FINDINGS / DETERMINATION

As documented in the Initial Study, project implementation could result in temporarily increased air emissions, possible effects to special-status wildlife species and their habitats, impacts to wetlands and other waters of the U.S./State, disturbance of nesting birds (if present), potential introduction and spread of invasive weeds, impacts to cultural and tribal cultural resources (if present), temporarily increased risk of exposure to contaminated materials, and temporarily increased noise and vibration levels.

Design features incorporated into the project would avoid or reduce certain potential environmental impacts, as would compliance with existing regulations and permit conditions. Remaining impacts can be reduced to levels that are less than significant through implementation of the mitigation measures presented in Section 1.10 of the Initial Study. Because Tehama County will adopt mitigation measures as conditions of project approval and will be responsible for ensuring their implementation, it has been determined that the project will not have a significant adverse impact on the environment.

---

**Final Mitigated Negative Declaration approved by the Tehama County Board of Supervisors on _____, 2021 by Resolution _____.**

# INITIAL STUDY

## TEHAMA COUNTY

## 99W/SOUTH MAIN STREET RECONSTRUCTION

**LEAD AGENCY:**

**Tehama County**
9380 San Benito Avenue
Gerber, CA 96035

**PREPARED BY:**

ENPLAN
3179 Bechelli Lane, Suite 100
Redding, CA 96002
**530.221.0440**

**September 2021**

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# SECTION 1.0 INTRODUCTION

## 1.1 PROJECT SUMMARY

| | |
|---|---|
| **Project Title:** | **Tehama County 99W/South Main Street Reconstruction Project** |
| **Lead Agency Name and Address:** | **Tehama County**<br>9380 San Benito Avenue<br>Gerber, CA 96035 |
| **Contact Person and Phone Number:** | **Jim Simon, Director of Public Works**<br>530.385.1462 |
| **Environmental Consultant:** | **ENPLAN**<br>3179 Bechelli Lane, Suite 100<br>Redding, CA 96002 |

## 1.2 PURPOSE OF STUDY

Tehama County (County), as Lead Agency, has prepared this Initial Study (IS) to provide the general public and interested public agencies with information about the potential environmental impacts of the 99W/South Main Street Reconstruction project (project; proposed project). Details about the proposed project are included in Section 3.0 (Project Description) of this Initial Study.

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified in California Public Resources Code §21000 et seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. Pursuant to these regulations, this Initial Study identifies potentially significant impacts and, where applicable, includes mitigation measures that would reduce all identified environmental impacts to less-than-significant levels. This Initial Study supports a Mitigated Negative Declaration (MND) pursuant to CEQA Guidelines §15070.

The majority of funding for the proposed project will be provided through the Caltrans Local Assistance Program, which is funded in part by the State Transportation Improvement Program (Federal STIP); therefore, the proposed project is also subject to National Environmental Policy Act (NEPA) review. Caltrans is the lead agency for NEPA review.

## 1.3 EVALUATION TERMINOLOGY

The environmental analysis in Section 4.0 is patterned after the Initial Study Checklist recommended in the State CEQA Guidelines. For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the proposed project. To each question, there are four possible responses:

- **No Impact.** The proposed project will not have any measurable environmental impact on the environment.
- **Less-Than-Significant Impact.** The proposed project has the potential to impact the environment; however, this impact will be below established thresholds of significance.

- **Potentially Significant Impact Unless Mitigation Incorporated.** The proposed project has the potential to generate impacts which may be considered a significant effect on the environment; however, mitigation measures or changes to the proposed project's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact**. The proposed project will have significant impacts on the environment, and additional analysis is required to determine if it is feasible to adopt mitigation measures or project alternatives to reduce these impacts to less than significant levels.

## 1.4 ORGANIZATION OF THE INITIAL STUDY

This document is organized into the following sections:

**Section 1.0:** **Introduction:** Describes the purpose, contents, and organization of the document and provides a summary of the proposed project.

**Section 2.0:** **CEQA Determination:** Identifies the determination of whether impacts associated with development of the proposed project are significant, and what, if any, additional environmental documentation may be required.

**Section 3.0:** **Project Description:** Includes a detailed description of the proposed project.

**Section 4.0:** **Environmental Impact Analysis (Checklist):** Contains the Environmental Checklist from CEQA Guidelines Appendix G with a discussion of potential environmental effects associated with the proposed project. Mitigation measures, if necessary, are noted following each impact discussion.

**Section 5.0:** **List of Preparers**

**Section 6.0:** **Abbreviations and Acronyms**

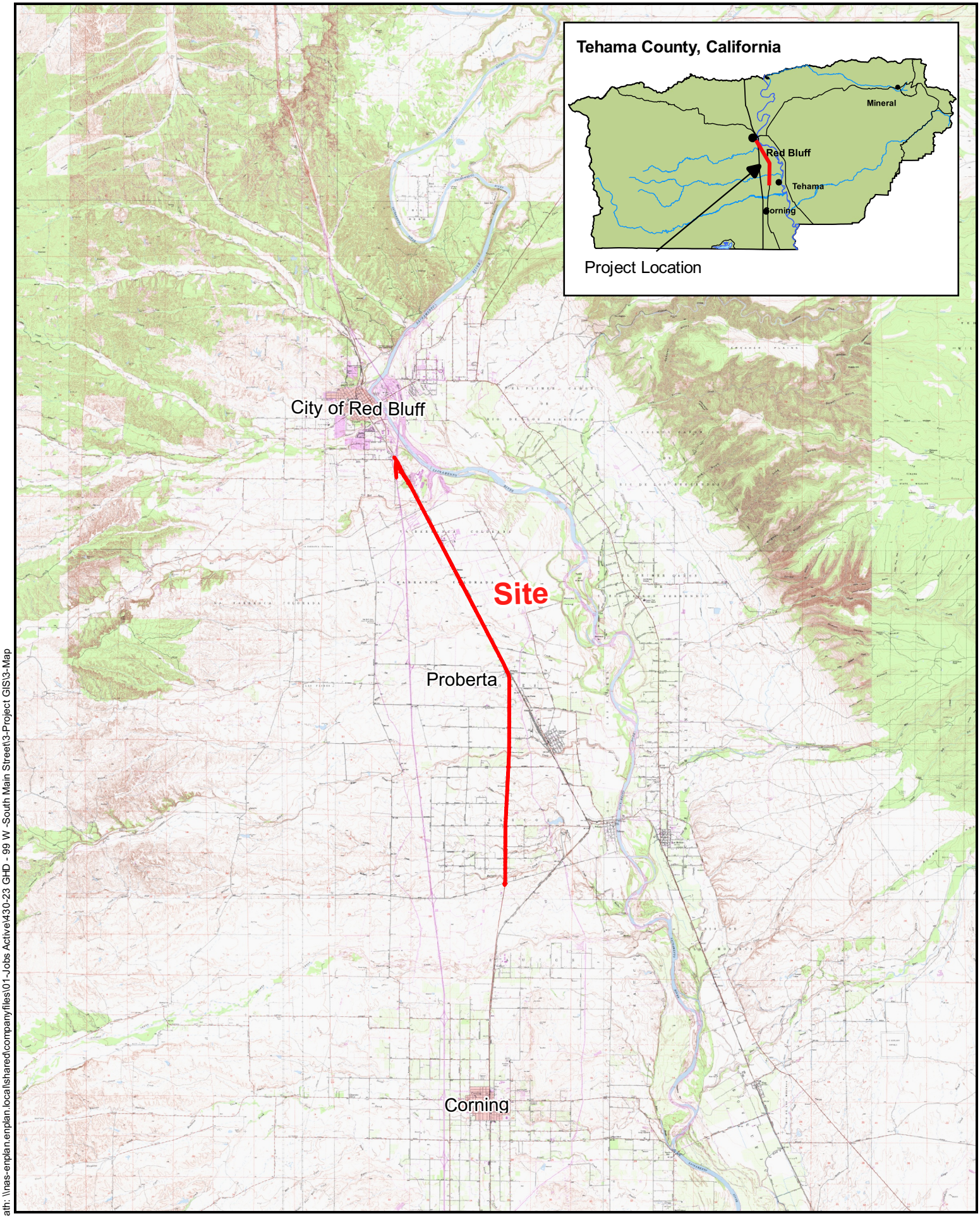
**Appendices:** Contains information to supplement Section 4.0.

## 1.5 PROJECT LOCATION

As shown in **Figure 1** (Project Location and Vicinity), the proposed project is located within the Red Bluff city limits and unincorporated areas of Tehama County. Improvements in the City would occur on South Main Street and at the I-5/South Main Street interchange within Caltrans right-of-way (ROW). Improvements south of the Red Bluff city limits would occur within the County road ROW of 99W between the southern Red Bluff city limit and Gyle Road.

The project is located in portions of Townships 25, 26, and 27 North, Range 3 West, in the U.S. Geological Survey (USGS) Red Bluff East and Gerber 7.5-minute quadrangles. Latitude 40˚ 06' 30.84", Longitude 122˚ 13' 26.12" (centroid). **Figures 2 through 8** show the project details overlain on aerial photography.

Staging of construction equipment would occur in selected locations in the existing road right-of-way. These locations are all existing, denuded wide spots along the road corridor and will not require vegetation removal or earthwork prior to use as staging areas.




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All depictions are approximate. Not a survey product. 06.01.21

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Figure 1

**Project Vicinity**

ENPLAN

Project Boundary
Guardrail Replacement Locations
Road Curb
Road Lane
Road Shoulder
Sidewalk
Edge of Pavement
Proposed Topography
2-Foot Contours
Match Line

Interstate 5
South Main Street
Sister Mary Columba Dr
Match Line
Match Line
Sister Mary Columba Dr
South Main Street
99W
Red Bank Creek
Match Line

Path: N:\companyfiles\01-Jobs Active\430-23 GHD - 99 W -South Main Street\3-Project GIS\3-Map Documents\IS-MND\Figure 2 Roundabout Area.mxd.qgz

NAVD 1988

All depictions are approximate. Not a survey product. 06.01.21

1" = 300'

0 150 300 ft

Figure 2

**Project Boundary and Proposed Site Improvements**

ENPLAN

Match Line

Match Line

Manor Ln

99 West

Tyler Rd

99 West

Match Line

Sunbright Ave

Match Line

Project Boundary

Guardrail Replacement Locations

2-Foot Contours

Match Line

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All depictions are approximate. Not a survey product. 06.01.21

1" = 300'

0 150 300 ft

Figure 3

**Project Boundary and Proposed Site Improvements**

ENPLAN




Figure 4

**Project Boundary and Proposed Site Improvements**

ENPLAN




Figure 5

**Project Boundary and Proposed Site Improvements**

ENPLAN

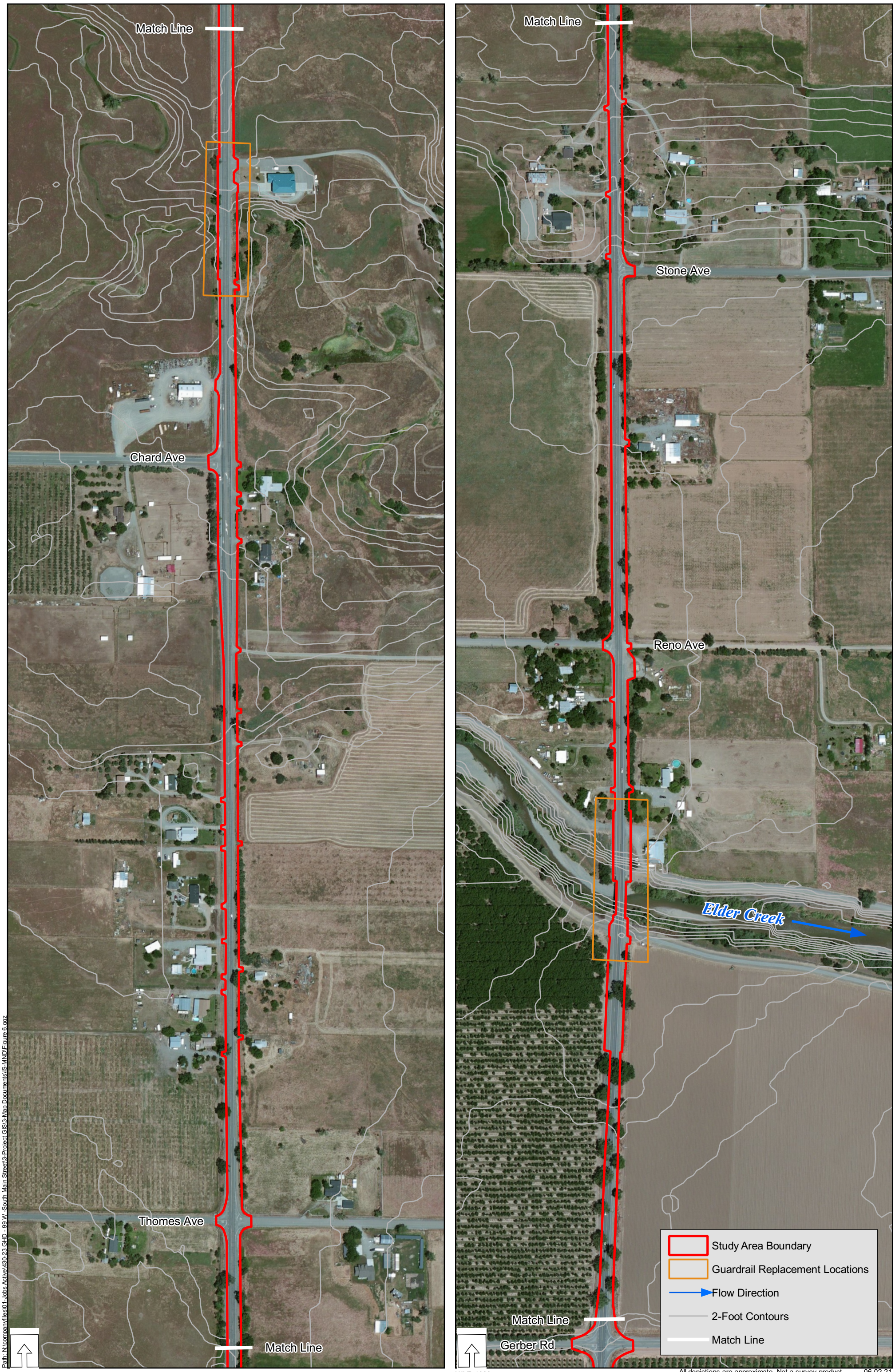
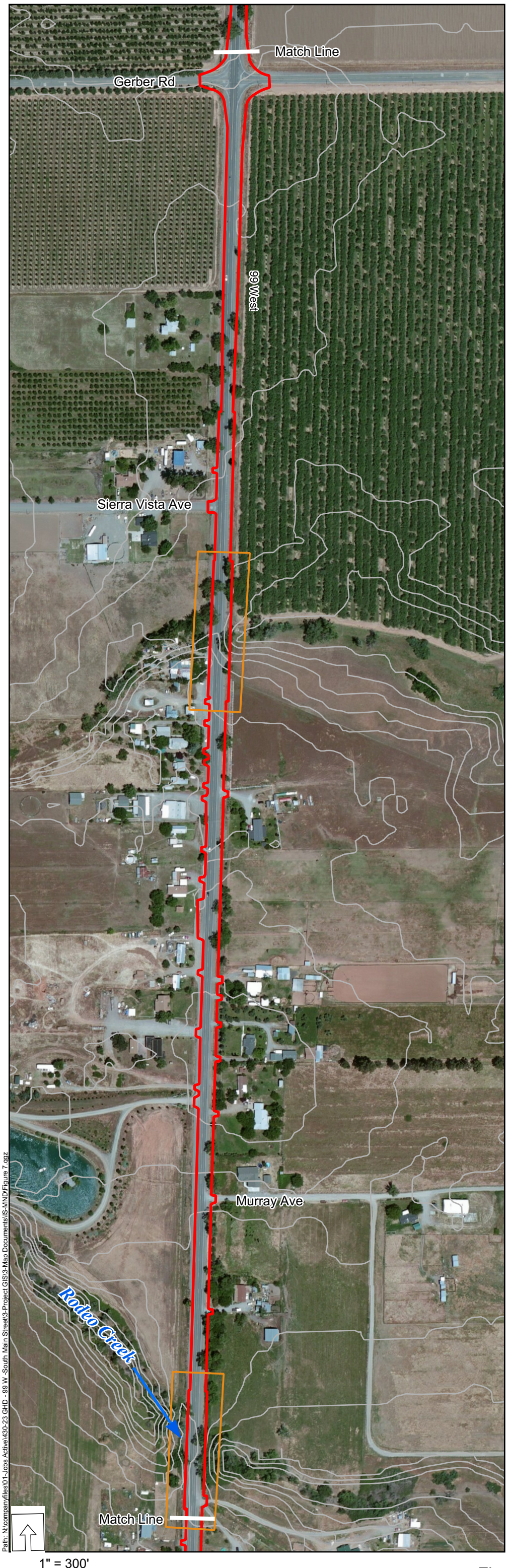
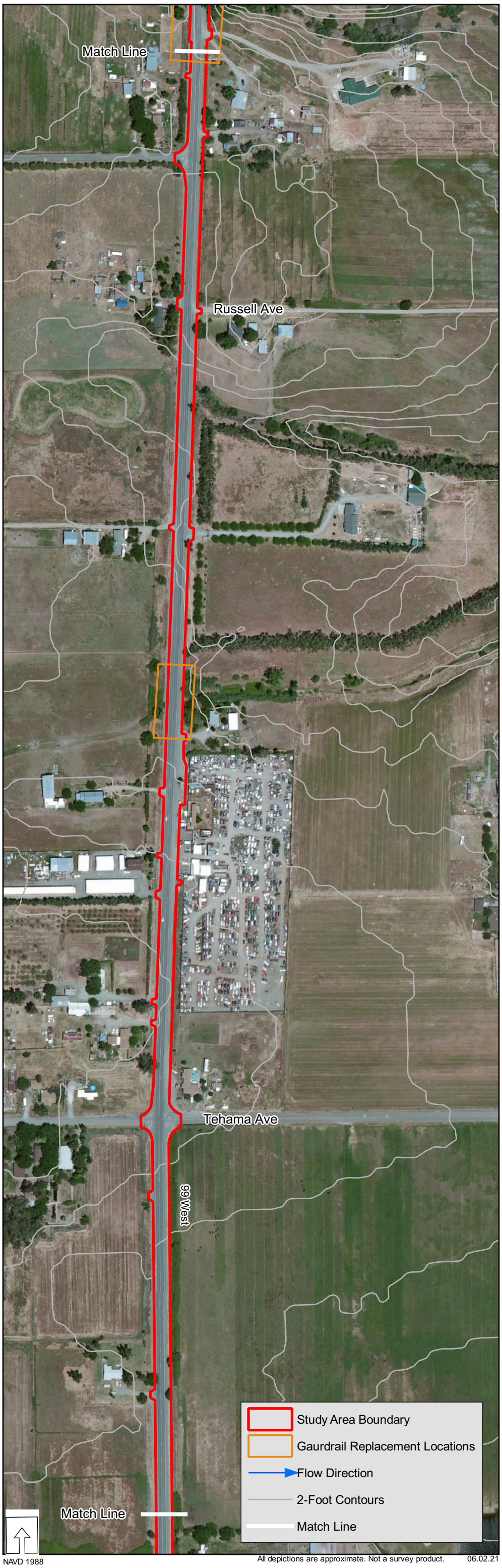



Figure 6

**Project Boundary and Proposed Site Improvements**

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1" = 300'

0 150 300 ft

NAVD 1988

All depictions are approximate. Not a survey product. 06.02.21

Figure 7

**Project Boundary and Proposed Site Improvements**

ENPLAN

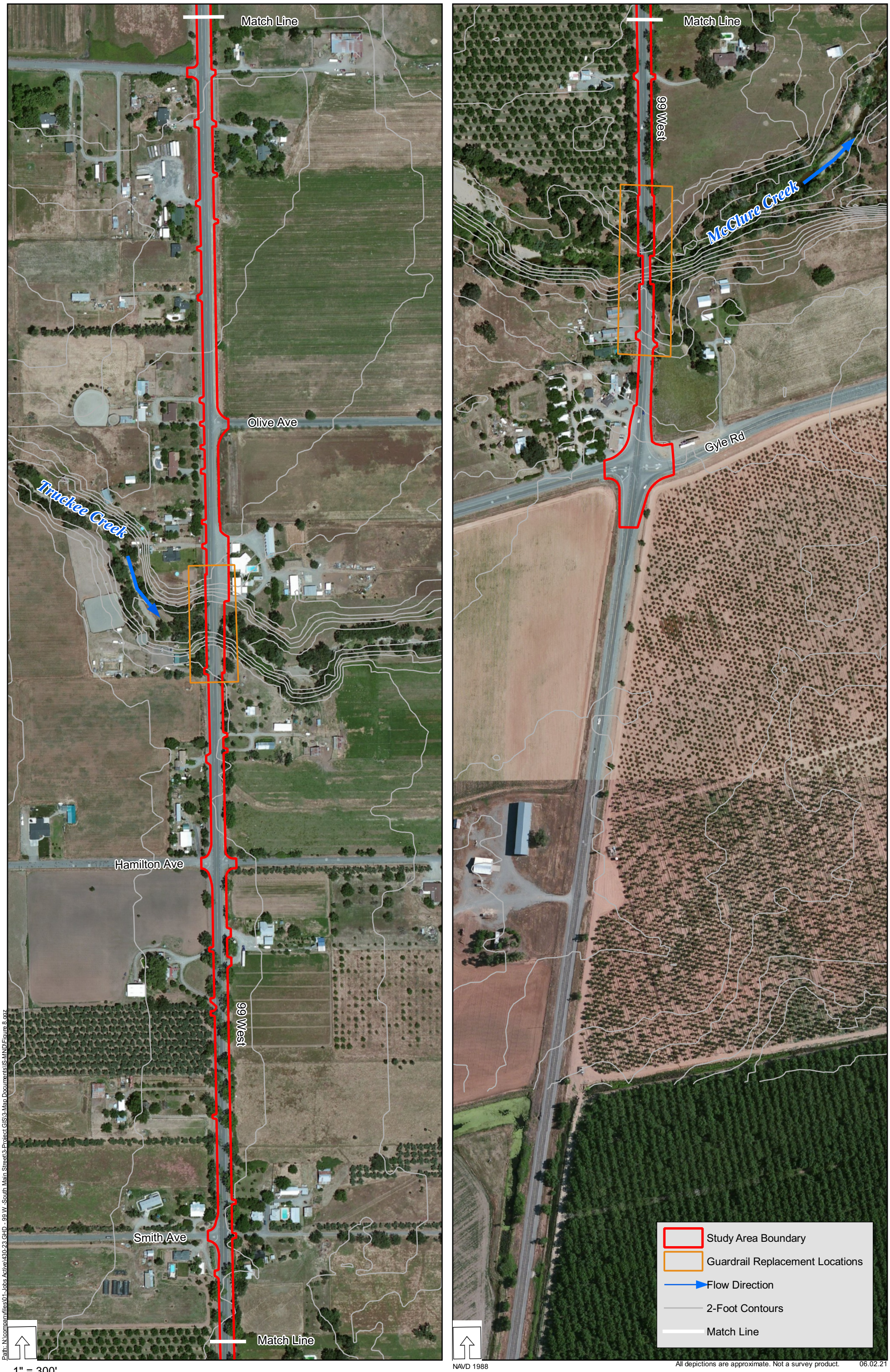



Figure 8

**Project Boundary and Proposed Site Improvements**

ENPLAN

## 1.6 ENVIRONMENTAL SETTING

| | |
|---|---|
| **General Plan Designations:** | **City of Red Bluff:** Commercial, Industrial, and Public Service.<br>**Tehama County:** General Industrial, General Commercial, Urban Residential, Suburban Residential, Rural Small Lot, and Valley Floor Agriculture. |
| **Zoning:** | **City of Red Bluff:** General Commercial (C-3), Light Industrial (M-1), and Public Agency (P-A).<br>**Tehama County:** Light Industrial (M-1), General Industrial (M-2), Public Agency (PA), General Commercial (C-1 and C-2), One-Family Residential (R-1), Residential Estate (RE), Planned Development (PD), Agricultural – Valley District (AG-2), and Agricultural/El Camino (AG-3). |
| **Surrounding Land Uses:** | Land uses in the vicinity of the I-5/South Main Street interchange are primarily commercial, and include a hotel, gas station/mini-mart, medical offices, and a hospital. Land uses along the 99W corridor include low-density residences, a church, general commercial and industrial uses, a distribution center, agricultural uses, and open space. The agricultural lands consist primarily of orchards, with some irrigated grazing lands. The Union Pacific Railroad tracks parallel the east side of South Main Street and 99W for approximately six miles, between the I-5/South Main Street interchange and San Benito Avenue. |
| **Topography:** | The project site ranges in elevation between ±240 to ±300 feet above sea level. Topography is relatively level throughout the study area. |
| **Plant Communities/ Wildlife Habitats:** | As discussed in Section 4.4, the principal community in the project corridor is a disturbed road shoulder/grassland along 99W and South Main Street. The road shoulders are predominantly unvegetated, but may support a low density of introduced weedy plant species such as yellow star-thistle, peppergrass, dove weed, and bindweed. Annual grassland is located in the northeastern portion of the project area. Several valley oaks, some with diameters of over two feet, occur within the grassland habitat. Inclusions of seasonal wetland and vernal pool habitats are also present within the onsite annual grassland; these seasonally wet features support a variety of plant species adapted to these specialized environments.<br>Valley foothill riparian habitat is present along both banks of Red Bank Creek and extends under the 99W bridge over Red Bank Creek. Representative plants in the narrow corridors of foothill riparian includes valley oak, Himalayan blackberry, willow, California grape, and Fremont cottonwood.<br>The only perennial stream within the project area is Coyote Creek. Coyote Creek is characterized by an open channel with freshwater emergent vegetation on its shallow channel edges. |
| **Water Features:** | The Sacramento River is located ±0.4 miles east of the proposed I-5/South Main Street interchange improvements. Red Bank Creek, the Colusa Canal, Coyote Creek, Oat Creek, Elder Creek, Rodeo Creek, Truckee Creek, and McClure Creek cross under 99W in the study area. A number of small unnamed streams are located throughout the study area. |

## 1.7 REGULATORY REQUIREMENTS

Permits and approvals that may be necessary for construction and operation of the proposed project are identified below.

**Tehama County:**

- Adoption of a Mitigated Negative Declaration pursuant to the California Environmental Quality Act (CEQA).
- Adoption of a Mitigation Monitoring Plan for the project that incorporates the mitigation measures identified in this Initial Study.
- Approval of an Encroachment Permit for work in the public road right-of-way.

**City of Red Bluff:**

- Approval of an Encroachment Permit for work in the public road right-of way.

**California Department of Transportation:**

- Approval of National Environmental Policy Act (NEPA) compliance documentation.
- Approval of an Environmental Commitments Record that identifies all avoidance, minimization, and mitigation measures, including those required by Caltrans' Standard Specifications.
- Approval of an Encroachment Permit for work in the State ROW.
- Approval of funding.

**State Water Resources Control Board (SWRCB), Central Valley Regional Water Quality Control Board (CVRWQCB):**

- Coverage under the National Pollutant Discharge Elimination System (NPDES) permit for *Discharges of Storm Water Runoff Associated with Construction Activity* (currently Order No. 2009-009-DWQ, amended by 2010-0014-DWQ & 2012-006-DWQ), which requires the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) to reduce pollutants as well as additional controls necessary to meet water quality standards.
- Section 401 Water Quality Certification and/or Report of Waste Discharge (or waiver).
- Coverage under the applicable permit for dewatering activities (if necessary).

**U.S. Army Corps of Engineers:**

- Section 404 Permit under the Federal Clean Water Act (potentially).

**California Office of Historic Preservation, State Historic Preservation Officer (SHPO)**

- Due to federal funding and federal permits for the proposed project, consultation regarding potential impacts to cultural resources is required pursuant to Section 106 of the National Historic Preservation Act (NHPA).

## 1.8 TRIBAL CULTURAL RESOURCES CONSULTATION

Public Resources Code (PRC) §21084.2 (AB 52, 2014) establishes that *"a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."* In order to determine whether a project may have such an effect, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requested to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographical area; and the tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation.

According to the County, as of September 1, 2021, no tribes have requested formal notification of proposed projects in the geographical area. As discussed in Section 4.5 (Cultural Resources), on February 26, 2019, ENPLAN contacted Native American tribes that were identified by the Native American Heritage Commission (NAHC) with a request to provide comments on the proposed project. Follow-up telephone calls were placed on April 2, 2020, to the tribal members that were previously identified by the NAHC. Ms. Ellen Ehni of the Wintu Tribe of Northern California responded on April 5, 2021, and requested that project information be re-sent. Ms. Ehni stated that either Chairperson Wade McMaster or another qualified tribal representative would contact ENPLAN if they have any concerns regarding the project. Tim Spillane of Natural Investigations Company re-sent the project information letter to Ms. Ehni on the same day. No further response was provided by the Wintu Tribe. No other comments or concerns were reported by any other Native American representative or organization.

## 1.9 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the proposed project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Impacts to these resources are evaluated using the checklist included in Section 4.0. The roposed project was determined to have a less-than-significant impact or no impact without mitigation on unchecked resource areas.

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

## 1.10 PROPOSED MITIGATION MEASURES

The following mitigation measures are proposed to reduce impacts of the proposed project to less than significant levels.

**AIR QUALITY**

**MM 4.3.1** The following measures shall be implemented throughout construction:

a. All material excavated, stockpiled, or graded shall be covered or sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of ambient air quality standards. Watering shall occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.

b. Haul vehicles transporting soil into or out of the property shall be covered.

c. All non-paved areas with vehicle/construction equipment traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions.

d. All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved roads.

e. All land clearing, grading, earth moving, and excavation activities on the project site shall be suspended when winds are causing excessive dust generation.

f. Paved streets in and adjacent to the construction site shall be swept or washed at the end of the day to remove excessive accumulations of silt and/or mud resulting from activities on the development site.

g. When not in use, motorized construction equipment shall not be left idling for more than five minutes.

h. A publicly visible sign with a telephone number and person to contact regarding dust complaints shall be posted near construction activities. The telephone number of the District shall also be visible to ensure compliance with District Rule 4.1 (Nuisance) and 4:24 (Fugitive Dust Emissions).

i. Designated parking areas shall be provided for construction workers in order to reduce dust emissions.

**MM 4.3.2** Prior to demolition of the existing guardrails, other structural components, and painted surfaces, a comprehensive survey shall be completed by a qualified professional in locations where asbestos and lead-based paint are suspected, as needed to meet Caltrans requirements. Removal or disturbance of materials containing asbestos or lead-based paint shall be conducted by the project contractor in accordance with Caltrans and OSHA regulations, and shall be conducted by trained and authorized personnel and disposed of at a licensed facility that is approved to receive asbestos- and lead-containing waste material.

**MM 4.3.3** Aerially Deposited Lead (ADL) testing shall be conducted prior to construction as needed to meet Caltrans requirements. If soil is determined to contain lead concentrations exceeding the regulated threshold level, the project contractor shall be responsible for managing ADL-containing soils during construction in accordance with Caltrans and Department of Toxic Substances Control requirements.

**MM 4.3.4** In the event previously undetected asbestos or lead-containing materials are discovered during construction or demolition, activities that may affect the materials shall cease until results of additional evaluations are reviewed. Alternatively, the County can assume that the materials are hazardous. Any identified asbestos or lead-containing material shall be handled and disposed of in accordance with applicable hazardous materials regulations.

**BIOLOGICAL**

**MM 4.4.1 Conduct Worker Environmental Awareness Program**

Prior to commencement of any earth disturbance (e.g., clearing, grading, trenching, etc.), all contractors, work crews, and any onsite personnel shall receive training from a qualified biologist regarding protective measures for special-status plant and animal species and sensitive habitats that could exist in the project area. If new personnel are added to the project, the County shall ensure that they receive the mandatory training before starting work. At a minimum, the training shall include the following:

a. A review of the special-status species that could occur in the project study area, their life history and habitat requirements, the locations where the species could occur, the laws and regulations that protect these species, procedures to be implemented in the event that these species are encountered during

construction, and the consequences of noncompliance with those laws and regulations.

b. A review of vernal pools, wetlands, and waters of the U.S. and State that occur in the study area and the location of the sensitive habitats.

c. A review of applicable mitigation measures, standard construction measures, best management practices, and resource-agency permit conditions that apply to the protection of special-status species and sensitive habitats.

**MM 4.4.2 Install Exclusionary Fencing to Avoid Impacts to Special-Status Species and Sensitive Habitats**

Prior to commencement of any earth disturbance (e.g., clearing, grading, trenching, etc.), high-visibility fencing, flagging, or other markers shall be installed at the following locations:

a. Along the outer edge of the construction zone adjacent to vernal pools, wetlands, and other waters of the U.S. and/or State. Should full avoidance of jurisdictional waters be impossible, permits may be required as determined by the federal and/or state regulatory agency.

b. Around the elderberry shrub adjacent to the northern bridge abutment, just under the west side of the bridge over Red Bank Creek.

c. Around other elderberry shrubs with basal diameters of one inch or greater that are identified in or adjacent to the work area during construction.

Fencing/flagging locations shall be determined by a qualified biologist in consultation with the project engineer and County staff. No construction activities (e.g., clearing, grading, trenching, etc.), including vehicle parking and materials stockpiling, shall occur within the fenced/flagged areas. The exclusionary fencing/flagging shall be periodically inspected by a qualified biologist throughout project construction to ensure the fencing/flagging is properly maintained. The fencing shall be removed upon project completion.

**MM 4.4.3 Avoid/Minimize/Offset Impacts on Vernal Pool Branchiopods**

Potential impacts to vernal pool branchiopods and their habitat shall be avoided/ minimized and offset as follows:

a. Direct and indirect effects on all seasonal wetland or vernal pool habitats that may support federally listed vernal pool branchiopods shall be offset through the purchase of vernal pool conservation credits from a U.S. Fish and Wildlife Service (USFWS)-approved conservation bank at a 3:1 ratio. The project is expected to directly impact 0.20 acres and indirectly impact 0.04 acres of seasonal wetland, requiring the purchase of 0.72 vernal pool creation credits; however, the actual number of credits to be purchased shall be based on final project design. Proof of purchase shall be submitted to Caltrans and the US Department of the Army, Corps of Engineers, prior to commencement of construction.

b. No herbicides or insecticides shall be used within 250 feet of any seasonal wetland or vernal pool habitats. Any such chemicals that may be used in the project area shall be applied using a backpack sprayer or similar direct application method. A qualified biologist shall periodically monitor the work area to confirm compliance. Any unauthorized effects shall be immediately reported to Caltrans and the US Department of the Army, Corps of Engineers.

**MM 4.4.4 Avoid/Minimize Impacts on Valley Elderberry Longhorn Beetle**

Potential impacts on valley elderberry longhorn beetle (VELB) shall be mitigated as follows:

a. As much as feasible, all construction-related activities within 50 meters (165 feet) of an elderberry shrub shall be conducted outside of the flight season of the VELB (March - July).

b. No trimming of elderberry shrubs is proposed. In the unlikely event that trimming becomes necessary for project implementation, trimming shall occur between November and February and shall avoid the removal of any branches or stems that are one-inch in diameter or larger.

c. Herbicides shall not be used within the drip-line of elderberry shrubs. Insecticides shall not be used within 30 meters (98 feet) of an elderberry shrub. Any such chemicals that may be used in the project area shall be applied using a backpack sprayer or similar direct application method.

d. A qualified biologist shall periodically monitor the work area to assure that all avoidance and minimization measures are implemented.

**MM 4.4.5 Avoid Impacts on Special-Status Birds and Nesting Birds**

To avoid impacts on special-status birds and nesting birds, including raptors protected under State and federal regulations, one of the following shall be implemented (removal of raptor nests at any time of year is prohibited unless appropriate permits are obtained).

a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31, when birds are not nesting; or

b. If vegetation removal or ground disturbance activities occur during the nesting season (February 1 – August 31), a pre-construction nesting survey shall be conducted by a qualified biologist to identify active nests in and adjacent to the work area.

   Surveys shall begin prior to sunrise and continue until vegetation and nests have been sufficiently observed. The survey shall consider acoustic impacts and line-of-sight disturbances occurring as a result of the project in order to determine a sufficient survey radius to avoid nesting birds. At a minimum, the survey report shall include a description of the area surveyed, date and time of the survey, ambient conditions, bird species observed in the area, a description of any active nests observed, any evidence of breeding behaviors (e.g., courtship, carrying nest materials or food, etc.), and a description of any outstanding conditions that may have impacted the survey results (e.g., weather conditions, excess noise, the presence of predators, etc.).

   The results of the survey shall be submitted electronically to the California Department of Fish and Wildlife at R1CEQARedding@wildlife.ca.gov upon completion. The survey shall be conducted no more than one week prior to the initiation of construction. If construction activities are delayed or suspended for more than one week after the pre-construction survey, the site shall be resurveyed.

   If active nests are found, appropriate actions shall be implemented to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

**MM 4.4.6 Avoid/Minimize Introduction and Spread of Noxious Weeds**

The potential for introduction and spread of noxious weeds shall be avoided/minimized by:

a. Using only certified weed-free erosion control materials, mulch, and seed;

b. Precluding the use of rice straw in riparian areas;

c. Limiting any import or export of fill to material known to be weed free.

d. Requiring the construction contractor to thoroughly wash all equipment at a commercial wash facility prior to entering and upon leaving the job site.

**MM 4.4.7 Avoid Inadvertent Entrapment of Wildlife**

To prevent the inadvertent entrapment of wildlife, the construction contractor shall ensure that, at the end of each workday, trenches and other excavations that are over one-foot deep have been backfilled or covered with plywood or other hard material. If backfilling or covering is not feasible, one or more wildlife escape ramps constructed of earth fill or wooden planks shall be installed in the open trench. Pipes shall be inspected for wildlife prior to capping, moving, or placing backfill over the pipes to ensure that animals have not been trapped. If animals have been trapped, they shall be allowed to leave the area unharmed.

**CULTURAL**

**MM 4.5.1** In the event of any inadvertent discovery of cultural resources (i.e., burnt animal bone, midden soils, projectile points or other humanly modified lithics, historic artifacts, etc.), all work within 50 feet of the find shall be halted until a professional archaeologist can evaluate the significance of the find in accordance with PRC §21083.2(g) and §21084.1, and CEQA Guidelines §15064.5(a). If any find is determined to be significant by the archaeologist, the County shall meet with the archaeologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by an archeologist outlining recovery of the resource, analysis, and reporting of the find shall be prepared. The Treatment Plan shall be reviewed and approved by the County prior to resuming construction.

**MM 4.5.2** In the event that human remains are encountered during construction activities, all construction activities (ground-disturbing or not) shall stop within 50 feet (15 meters) of the find, and the County-Designated (CD) Archaeologist shall be immediately contacted. The CD-Archaeologist, in coordination with Tehama County, shall ensure that the requirements of §15064.5 (e) (1) of the CEQA Guidelines and §7050.5 of the Health and Safety Code are met. These requirements provide that (1) the Tehama County coroner shall be contacted to determine whether investigation of the cause of death is required and (2), if the remains are determined to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of the find. Together with representatives of the people of most likely descent, as identified by the NAHC, the CD-Archaeologist shall make an assessment of the discovery and recommend/implement mitigation measures as necessary.

**HAZARDS/HAZARDOUS MATERIALS**

**MM 4.9.1** Treated wood waste (TWW) shall be handled, stored, transported, and disposed of in accordance with Caltrans requirements. All personnel that may come into contact with TWW must receive, at a minimum, training on procedures for identifying and segregating treated wood waste; safe handling practices; proper storage of TWW prior to disposal; and proper disposal methods.

## NOISE

**MM 4.13.1** Construction activities between the hours of 9:00 PM and 6:00 AM shall not exceed 86 dB Lmax at 50 feet.

**MM 4.13.2** Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

**MM 4.13.3** Stationary construction equipment (generators, compressors, etc.) shall be located at the farthest practical distance from nearby noise-sensitive land uses.

## TRIBAL CULTURAL RESOURCES

Implementation of **MM 4.5.1 and MM 4.5.2.**

## SECTION 2.0 CEQA 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 has been 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 significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." 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.

Jim Simon
Director of Public Works

9-24-21
Date

# SECTION 3.0 PROJECT DESCRIPTION

## 3.1 PROJECT BACKGROUND, NEED, AND OBJECTIVES

The Interstate 5 (I-5)/South Main Street interchange was constructed in the 1960s following construction of I-5. The current roadways in the area are rough and unlevel, with deteriorating pavement surfaces. Similarly, 99W south of the interchange is deteriorating and in need of repairs. In addition, the area surrounding the I-5 interchange often experiences congestion during peak travel hours, causing unnecessary delays and potentially dangerous conditions for the public. Further, industrially zoned properties in the area are expected to develop in accordance with the City of Red Bluff and Tehama County General Plans in the next 10 to 20 years, and this will place a higher demand on the interchange and local road system. Therefore, Tehama County, in cooperation with the City of Red Bluff and the California Department of Transportation (Caltrans), identified specific improvements that are needed to repair structural roadway deficiencies and improve traffic circulation and safety in the area. These improvements are described in Section 3.2 (Project Components/Physical Improvements).

The purpose of the project is to reduce costly maintenance associated with road repairs, improve traffic flow and relieve congestion at the I-5/South Main Street interchange, improve safety for the travelling public, and comply with current standards for guardrails. It is anticipated that no new ROW or construction easements will need to be acquired. Improvements may be phased and completed as funding becomes available. For purposes of this Initial Study, "study area", "project site", and "project corridor" shall mean the project footprint, which includes access roads, staging areas, and areas in which improvements are proposed.

## 3.2 PROJECT COMPONENTS / PHYSICAL IMPROVEMENTS

**I-5/South Main Street Interchange Improvements**

Improvements in the Red Bluff city limits include rehabilitating and widening a ±0.95-mile section of South Main Street between the southern city limits and the I-5/South Main Street interchange, improving the northbound I-5 interchange ramps, modifying the traffic signal at Sister Mary Columba Drive, enhancing bicycle and pedestrian facilities, and installing a roundabout at the I-5/South Main Street interchange. If it is determined that a roundabout is not feasible, improvements would be made to the existing signalized intersection. **Figure 3.2-1** shows the preliminary roundabout design overlain on aerial imagery. **Figure 3.2-2** shows the preliminary design for the roundabout. **Figure 3.2-3** shows a conceptual design for the traffic signal improvements with a widened intersection in the event a roundabout is determined to be infeasible.

**99W Improvements**

Outside the city limits, the project includes the repair of structural roadway deficiencies along a ±10.35-mile segment of 99W between the southern Red Bluff city limit and Gyle Road (see **Figures 3-8**. It is estimated that ±8 miles of 99W would be rehabilitated and receive a pavement overlay. Gravel shoulder backing would be installed as needed. Guardrails along 99W would be replaced/extended at ±11 locations where 99W crosses over stream features. The guardrail work would consist of replacing and, in some locations, extending the existing guardrail. Gravel shoulder backing would be installed behind the guardrail. Most of the guardrail upgrade sites are at stream crossings; however, no improvements or replacement of culverts would occur. In addition, no work on bridges would occur, and no trees would be removed (although some low branches may need to be pruned to provide access). It is anticipated that all work on 99W would occur within the existing road prism and no widening of the roadway would occur. Existing driveway encroachments would be paved.

**Staging Areas**

Staging of construction equipment and materials would occur in selected locations within the existing road right-of-way. These locations are all existing, denuded wide spots along the road corridor and will not require vegetation removal or earthwork prior to use as staging areas.




100 0 100

1 inch = 100 ft.

GHD

TEHAMA COUNTY DEPARTMENT OF PUBLIC WORKS
99W & S. MAIN STREET IMPROVEMENTS

CONCEPTUAL ROUNDABOUT DESIGN

Project No. 11184670
Report No.
Date 07.30.21

**Figure 3.2-1**

Filename: J:\Prj\2560\2560EX018.dwg Plot Date: 25 August 2021 - 2:02 PM

Source:

# Conceptual Roundabout Design

S Main St / I-5 NB Ramps

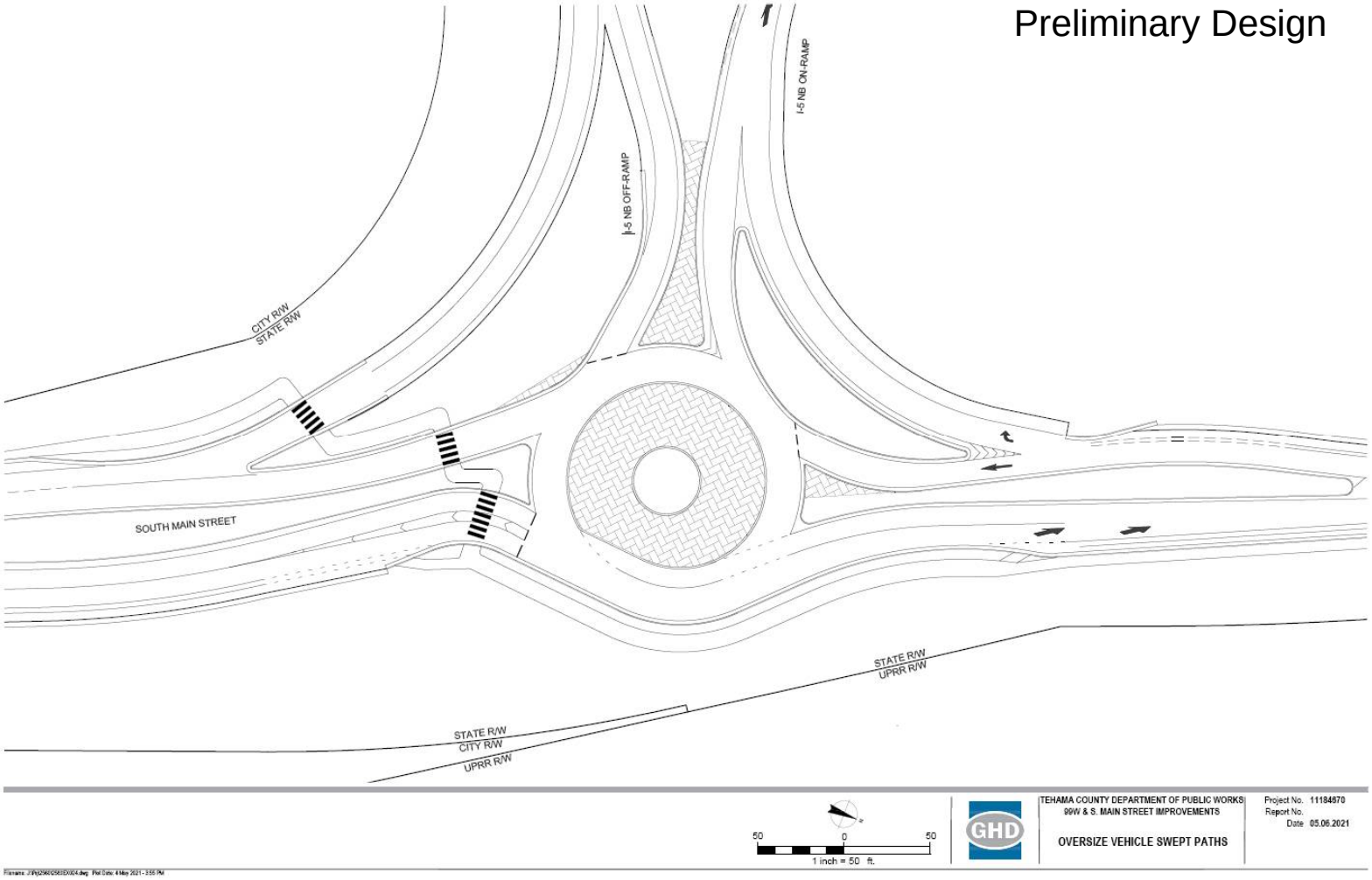



**Figure 3.2-1**
Conceptual Roundabout Design

Attachment: Presentation-South Main-99W (19942 : Informational Presentation 99W & Gyle Road to South

# **Conceptual Traffic Signal Alternative (Widened Intersection)**

S. Main St / NB I-5 Ramps

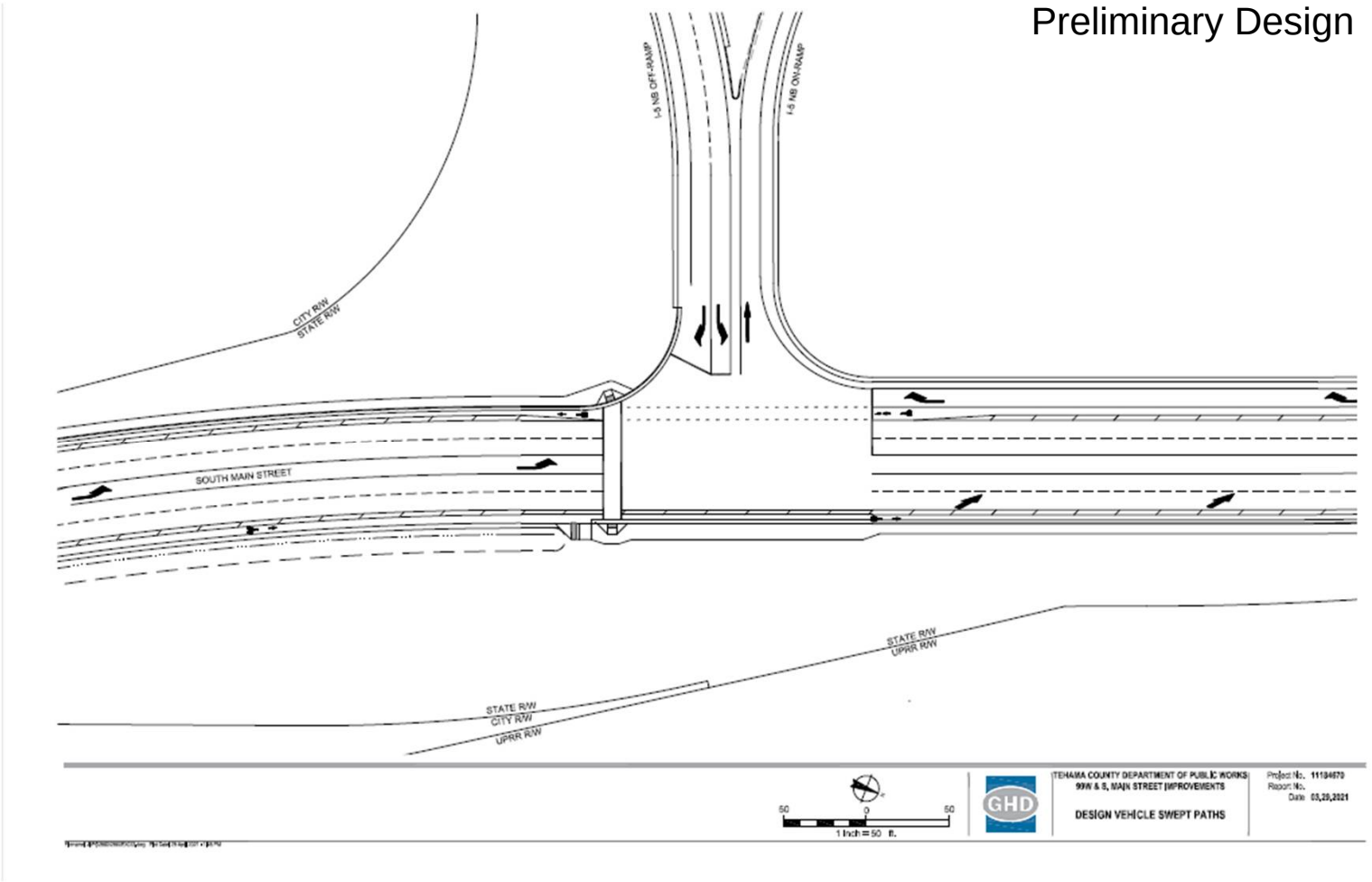


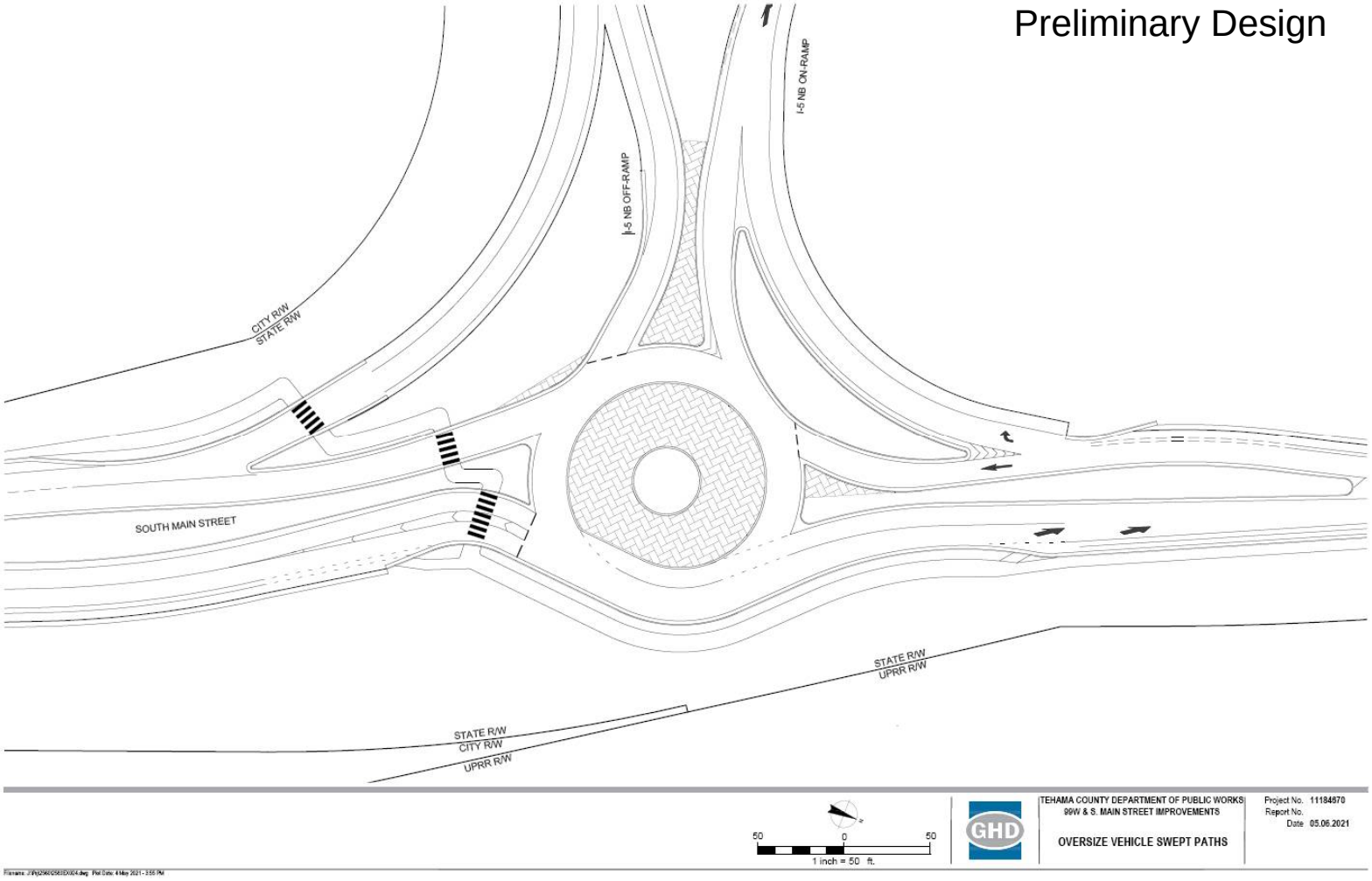

**Figure 3.2-2**

Conceptual Traffic Signal Alternative

Attachment: Presentation-South Main-99W (19942 : Informational Presentation 99W & Gyle Road to South

# **Roundabout Alternative,** S Main St / I-5 NB Ramps

Preliminary Design




Attachment: Presentation-South Main-99W (19942 : Informational Presentation 99W & Gyle Road to South

# SECTION 4.0 ENVIRONMENTAL IMPACT ANALYSIS (CHECKLIST)

## 4.1 AESTHETICS

Except as provided in Public Resources Code §21099 (Transit-Oriented Infill Projects), would the project:

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

### REGULATORY CONTEXT

There are no federal regulations pertaining to aesthetics that apply to the proposed project.

#### STATE

**California Scenic Highway Program**

The California Scenic Highway Program, administered by the California Department of Transportation (Caltrans), was established in 1963 to preserve and protect the natural beauty of scenic highway corridors in the State. The Scenic Highway System includes a list of highways that have been designated as scenic highways as well as a list of highways that are eligible for designation as scenic highways. Local jurisdictions can nominate scenic highways for official designation by identifying and defining the scenic corridor of the highway and adopting a Corridor Protection Program that includes measures that strictly limit development and control outdoor advertising along the scenic corridor.

#### LOCAL

**Tehama County**

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| Open Space and Conservation Element | | |
|---|---|---|
| **Goal** | OS-11 | To protect the scenic views and aesthetic qualities of Tehama County. |
| **Policy** | OS-11.2 | The County shall strive to protect the aesthetic and scenic beauty of its regional locations. |
| | OS-11.3 | The County shall consider the visual impacts of development within areas of significant topography, and shall work to minimize the visual impacts resulting from development of ridgelines. |
| | OS-11.4 | New development should be designed to be compatible with surrounding development in ways that contribute to the desired character of the surrounding area. |
| **IM** | OS-11.1a | Identify public viewing areas and corresponding scenic viewsheds on the County's designated scenic highways (State Routes 89, 172, 36, 32). Protect these areas from visually intrusive development that would alter the qualities of the view shed by establishing guidelines regulating development heights and lighting. |
| | OS-11.2a | Develop view shed preservation standards. Require that new development be designed to integrate building design, natural landforms, and vegetation in order to minimize alteration of scenic vistas. |
| | OS-11.2b | To the extent feasible, new development will be required to retain existing trees and vegetation and ensure that these resources are incorporated into project design wherever feasible. |
| | OS-11.4b | All new structures shall be designed to minimize glare potential including the use of low-emissive glazing, the pre-finishing of metallic surfaces to avoid hot-spots, and non-reflective window treatments and exterior surfaces. The use of mirrored coatings, industrial brushed or polished features, aluminum, or other non-weathering materials shall be strictly prohibited. Reflectivity may be reduced or mitigated through the use of deep overhangs or other methods to provide shading or shadowing. |

## DISCUSSION OF IMPACTS

### Questions A and C

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as mountains, hills, valleys, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. Scenic resources in the project area include creeks and streams, trees, other vegetation, and open space. The project area is visible to people living and working in the area and to travelers on local roadways.

The study area encompasses a mix of urban and rural land uses. Current land uses in the vicinity of the I-5/South Main Street interchange are primarily commercial and include a hotel, gas station/mini-mart, medical offices, and a hospital. South of the City of Red Bluff, land uses adjacent to 99W include a Walmart distribution center, fire station, numerous small commercial and industrial businesses, churches, a mobile home park, and single-family residences. The agricultural uses consist primarily of orchards, with some irrigated grazing lands. The Union Pacific Railroad tracks parallel the east side of South Main Street and 99W for approximately six miles, between the I-5/South Main Street interchange and the community of Proberta.

Principal viewers in the project area include motorists on 99W, South Main Street, and the I-5/South Main Street interchange, people residing in the area, and local business employees and patrons.

***I-5/South Main Street Interchange Improvements***
Improvements in the Red Bluff city limits include reconstructing and widening a ±0.95-mile section of South Main Street, installing a two-way left turn lane, upgrading the traffic signal at Sister Mary Columba Drive, installing bicycle and pedestrian facilities, and installing a roundabout at the I-5/South Main Street interchange. If it is determined that a roundabout is not feasible at this location, the signalized intersection would be improved.

Views from South Main Street and the I-5 interchange are dominated by commercial development with buildings of varied visual character and mixed age; travelers also have views of open space in the background. The majority of improvements in the City of Red Bluff (i.e., roadway widening, bicycle/pedestrian facilities, and improvements to an existing traffic signal) are consistent with existing improvements in this area and would not impact the existing visual character of the area in the long-term. However, replacement of the existing traffic signals at the I-5/South Main Street interchange with a roundabout has a potential to result in visual impacts (see **Photo 1**).



**Photo 1:** *Overview of the I-5/South Main Street Intersection, from the south. The roundabout would be constructed in this area. The I-5 northbound ramps are on the left side of the photo, the railroad tracks are on the far right (August 26, 2021).*

The roundabout would have a larger paved footprint than the signalized intersection (see **Figures 3.2-1, 3.2-2, and 3.2-3**). Six to twelve trees and several shrubs in the landscaped area at the interchange would be removed to accommodate the roundabout. Although no landscaping or visual treatment plans have been prepared, it is anticipated that low-maintenance hardscape would be emphasized over vegetation, although some vegetation could be planted in the median strips and on the east side of the roundabout.

The center island of the roundabout will include traversable truck aprons with a stamped concrete finish around the outer edge, while the center will most likely be hardscaping and could include decorative rock and concrete, and may be designed to provide a visual gateway to the City of Red Bluff; the Red Bluff City Council has expressed interest in incorporating a gateway feature such as a sign or art piece into the roundabout design. The median strips will most likely include smaller, matching decorative rock and cobble. Some areas of the medians will need to be traversable by large trucks and will also include traversable stamped concrete to match the center island. Extensive outreach has been conducted regarding the proposed project, including two heavily publicized community workshops. Workshop invitations were hand-delivered to ±90 businesses in the area, mailed to about 220 businesses and residents, and posted on City and County social platforms. In addition, an article regarding the first workshop was published in a local newspaper. No concerns were expressed regarding visual impacts.

Given the low visual sensitivity of the area, visual impacts from a roundabout would be less than significant. Further, final design and lighting plans for the roundabout will be reviewed and approved by Tehama County, the City of Red Bluff, and Caltrans to ensure that lighting would not adversely affect day or nighttime views in the area.

In the event it is determined that a roundabout is not feasible in this location, improvements would include widening the intersection and relocating the existing traffic signals (see **Figure 3.2-3**). Visual impacts would be similar to existing conditions, and impacts associated with widening the intersection and relocating the signals would be less than significant.

***99W Improvements***

Improvements within the ±10.35-mile 99W corridor, from Gyle Road north to the Red Bluff city limits, include guardrail improvements and structural roadway repairs/pavement overlay. Roadway improvements would not result in permanent visual impacts.

The guardrail work would consist of replacing and, in some locations, extending the existing guardrail (See **Photo 2**). Gravel shoulder backing would be installed behind the guardrail. No trees would be removed to accommodate the guardrail improvements, although some low branches may need to be pruned. Because the guardrails would be replaced/extended in the same locations as the existing guardrails, the guardrail improvements would not significantly change the visual character of the area.



**Photo 2:** *View of 99W, looking southeast. Existing guardrail (typical) to be upgraded. The Walmart distribution facility is in the background. (April 12, 2020)*

The proposed project would have short-term visual impacts during construction due to the use of construction equipment, grading/earthwork, and staging of construction equipment and materials. However, this is a temporary impact and would cease when the project is complete. Therefore, impacts would be less than significant because the project does not include any components that would impede the view of a scenic vista or significantly change the existing visual character of the study area. Further, impacts during construction would be temporary and cease at completion of the project.

**Question B**

According to Caltrans' Scenic Highway Program, 99W is not designated or eligible as a State Scenic Highway. The nearest officially designated State Scenic Highway is Route 151 (Shasta Dam Boulevard) located approximately 37.5 miles north of the project area. Therefore, there would be no impact to scenic resources within a designated State Scenic Highway.

**Question D**

As discussed under Questions A and C above, construction of a roundabout at the I-5/South Main Street interchange would require existing light standards to be relocated/replaced. It is possible that the number of light standards could be increased from four to up to eight; however, all lighting would be shielded and directed downward and would meet Caltrans standards to ensure that lighting does not result in a hazard to vehicular traffic. In addition, as required by Caltrans Standard Specifications, use of temporary lighting during construction must not obscure the visibility of or conflict with existing signs, lights, and traffic control devices or otherwise interfere with public safety. Therefore, compliance with existing regulations related to lighting and glare ensures that the proposed project would not adversely affect day or nighttime views in the area. Impacts would be less than significant.

## CUMULATIVE IMPACTS

Potential cumulative projects in the area include growth according to the build-out projections in the City's and County's General Plan. As documented above, the proposed project does not include any features that would result in a significant permanent change to the visual character of the area. In addition, the proposed project would include only temporary construction lighting that would cease at the completion of construction. Therefore, the project's aesthetic impacts would not be cumulatively considerable.

## MITIGATION

None necessary.

## DOCUMENTATION

**Caltrans.** 2021. California Road System – Functional Classification. https://www.arcgis.com/apps/webappviewer/index.html?id=026e830c914c495797c969a3e5668538. Accessed August 2021.

_____. 2018. Standard Specifications. https://dot.ca.gov/-/media/dot-media/programs/design/documents/f00203402018stdspecs-a11y.pdf. Accessed August 2021.

# 4.2 AGRICULTURE AND FOREST RESOURCES

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) or result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| d. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations pertaining to agriculture or forest resources that apply to the proposed project.

### STATE

#### California Farmland Mapping and Monitoring Program (FMMP)

The FMMP was established in 1982 to provide data to decision makers to assist them in making decisions for the best utilization of California's farmland. Under the FMMP, the Department of Conservation (DOC) is responsible for mapping, monitoring, and reporting on the conversion of the State's farmland to and from agricultural use.

#### Williamson Act

The Williamson Act (California Land Conservation Act of 1965) was enacted as a means to protect agricultural uses in the State. Under the Williamson Act, local governments can enter into contracts with private landowners to ensure that specific parcels are restricted to agricultural and related open space uses. In return, landowners receive reduced property tax assessments.

#### Forest Land and Timberland

PRC §12220(g) defines Forest Land as *"land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."*

PRC §4526 defines timberland as *"land, other than land owned by the federal government, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."* Government Code §51104(g) defines Timberland Production Zone as *"an area which has been zoned pursuant to [Government Code] §51112 or §51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h)."*

### LOCAL

#### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| Agriculture and Timber | | |
|---|---|---|
| **Goal** | AG-1 | To preserve and protect agricultural lands. |
| | AG-2 | To preserve and protect timberlands. |
| **Policy** | AG-1.1 | The County shall provide for the protection of agricultural lands from nonagricultural development pressures and uses that will adversely impact or hinder existing or foreseeable agricultural operations through a separation utilizing natural buffers and land use transition areas that mitigate or prevent land use conflicts with the development interest providing the buffers. |
| | AG-2.1 | The County shall provide for the conservation of commercial timberland resources and related habitat. |
| | AG-2.2 | The County shall protect timberlands from adjacent development that has the potential to adversely impact timber growing and harvesting operations. |

## DISCUSSION OF IMPACTS

**Questions A, B, and D**

According to the *Important Farmland in California* map published by the FMMP, several properties adjacent to the 99W roadway corridor are designated as prime farmland, unique farmland, farmland of statewide importance, farmland of local importance, and grazing land. These parcels are also zoned by the County for agricultural uses, and some of the properties are under a Williamson Act contract. A review of historic aerial photos shows that these properties have been used for agricultural purposes for many years.

As stated in Section 3.2 (Project Components/Physical Improvements), it is anticipated that all work on 99W would occur within the existing road prism and no widening of the roadway would occur. The project does not include any components that would directly or indirectly result in a conversion of farmland.

Because the proposed project would not convert prime farmland, unique farmland, or farmland of statewide importance, would not conflict with zoning or a Williamson Act contract, and does not include any components that would have a direct or indirect effect on farmland, impacts would be less than significant.

**Question C**

According to the City's and County's Zoning Maps, the project site and surrounding area are not designated as timberland and are not zoned for timberland production. Areas in which improvements would occur do not meet the definition of forest land as defined in PRC §12220(g) or timberland as defined in PRC §4526. Therefore, the proposed project would have no impact on forest land or timberland.

## CUMULATIVE IMPACTS

As stated above, the proposed project would not result in the conversion of agricultural or forest land. In addition, the proposed project would not interfere with current agricultural uses in the area. Therefore, no cumulative impacts would occur.

## MITIGATION

None necessary.

## DOCUMENTATION

**Tehama County.** 2009. Tehama County General Plan, Chapter 7.0 (Agriculture and Timber Element). https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

_____. 2021. Tehama County Regional Viewer. https://planningsites.org/TehamaMaps/. Accessed July 2021.

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# 4.3 AIR QUALITY

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in 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? | ☐ | ☐ | ☒ | ☐ |

## REGULATORY CONTEXT

### FEDERAL

#### Federal Ambient Air Quality Standards

The U.S. Environmental Protection Agency (USEPA), under the federal Clean Air Act (CAA), establishes maximum ambient concentrations for criteria air pollutants (CAP), known as the National Ambient Air Quality Standards (NAAQSs). The NAAQSs are designed to protect the health and welfare of the populace with a reasonable margin of safety. **Table 4.3-1** identifies the seven CAPs as well as characteristics, health effects and typical sources for each CAP:

**TABLE 4.3-1**
**Federal Criteria Air Pollutants**

| Pollutant | Characteristics | Primary Effects | Major Sources |
|---|---|---|---|
| **Ozone ($O_3$)** | Ozone is a colorless or bluish gas formed through chemical reactions between two major classes of air pollutants: reactive organic gases (ROG) and oxides of nitrogen ($NO_X$). | • Respiratory symptoms.<br>• Worsening of lung disease leading to premature death.<br>• Damage to lung tissue.<br>• Crop, forest, and ecosystem damage. | Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills. |

| Pollutant | Characteristics | Primary Effects | Major Sources |
|---|---|---|---|
| | These reactions are stimulated by sunlight and temperature; thus, ozone occurs in higher concentrations during warmer times of the year. | • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals. | |
| **Carbon Monoxide (CO)** | Carbon monoxide is an odorless, colorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline and wood. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of carbon monoxide. | • Chest pain in patients with heart disease.<br>• Headache.<br>• Light-headedness.<br>• Reduced mental alertness. | Motor vehicle exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces. |
| **Nitrogen Dioxide ($NO_2$)** | Nitrogen dioxide is a reddish-brown gas formed when nitrogen ($N_2$) combines with oxygen ($O_2$). Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition.<br><br>Of the seven types of nitrogen oxide compounds, $NO_2$ is the most abundant in the atmosphere and is related to traffic density. | • Respiratory symptoms.<br>• Damage to lung tissue.<br>• Worsening of cardiovascular disease.<br>• Precursor to ozone and acid rain.<br>• Contributes to global warming and nutrient overloading which deteriorates water quality.<br>• Causes brown discoloration of the atmosphere. | Automobile and diesel truck exhaust, petroleum-refining operations, industrial sources, aircraft, ships, railroads, and fossil-fueled power plants. |
| **Sulfur Dioxide ($SO_2$)** | Sulfur dioxide is a colorless, nonflammable gas that results mainly from burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. | • Respiratory symptoms.<br>• Worsening of cardiovascular disease.<br>• Damage to a variety of materials, including marble, iron, and steel.<br>• Damages crops and natural vegetation.<br>• Impairs visibility.<br>• Precursor to acid rain. | Petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and large ships, and fuel combustion in diesel engines. |
| **Particulate Matter ($PM_{2.5}$ and $PM_{10}$)** | Particulate matter is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols that are small enough to remain suspended in the air for a long period of time. | • Premature death.<br>• Hospitalization for worsening of cardiovascular disease.<br>• Hospitalization for respiratory disease<br>• Asthma-related emergency room visits. | Dust- and fume-producing construction activities, power plants, steel mills, chemical plants, unpaved roads and parking lots, woodburning stoves and fireplaces, wildfires, motor vehicles, and other combustion sources. Also a result of photochemical processes. |

| Pollutant | Characteristics | Primary Effects | Major Sources |
|---|---|---|---|
| | Particulate matter with a diameter of 10 microns or less ($PM_{10}$) is inhalable into the lungs and can induce adverse health effects.<br>Fine particulate matter is defined as particles that are 2.5 microns or less in diameter ($PM_{2.5}$). | • Increased symptoms, increased inhaler usage | |
| **Lead** | A heavy metal that occurs both naturally in the environment and in manufactured products. | • Impaired mental functioning in children<br>• Learning disabilities in children<br>• Brain and kidney damage.<br>• Reproductive disorders.<br>• Osteoporosis. | Lead-based industrial production (e.g., battery production and smelters), recycling facilities, combustion of leaded aviation gasoline by piston-driven aircraft, and crustal weathering of soils followed by fugitive dust emissions. |

## STATE

### State Ambient Air Quality Standards

The California CAA establishes maximum concentrations for the seven federal CAPs, as well as the four additional air pollutants identified below. The four additional standards are intended to address regional air quality conditions, not project-specific emissions. These maximum concentrations are known as the California Ambient Air Quality Standards (CAAQSs). The California Air Resources Board (CARB) has jurisdiction over local air districts and has established its own standards for each CAP under the CAAQS. For areas within the State that have not attained air quality standards, the CARB works with local air districts to develop and implement attainment plans to obtain compliance with both federal and State air quality standards.

**Visibility-Reducing Particles.** Visibility-reducing particles vary greatly in shape, size, and chemical composition, and come from a variety of natural and manmade sources. Major sources include wildfires, residential fireplaces and woodstoves, windblown dust, ocean sprays, biogenic emissions, dust and fume-producing construction, industrial and agricultural operations, and fuel combustion. Primary effects include visibility impairment, respiratory symptoms, and worsening of cardiovascular disease.

**Sulfate ($SO_4$).** Sulfate is oxidized to sulfur dioxide ($SO_2$) during the combustion process and is subsequently converted to sulfate compounds in the atmosphere. Major sources include industrial processes and the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. Primary effects include respiratory symptoms, worsening of cardiovascular disease, damage to a variety of materials, including marble, iron, and steel, damage to crops and natural vegetation, and visibility impairment.

**Hydrogen Sulfide ($H_2S$).** Hydrogen sulfide is a colorless gas with the odor of rotten eggs. Major sources include geothermal power plants, petroleum refineries, and wastewater treatment plants. Primary effects include eye irritation, headache, nausea, and nuisance odors.

**Vinyl Chloride (chloroethene).** Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. It is also listed as a toxic air contaminant because of its carcinogenicity. Most vinyl chloride is used to make PVC plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated solvents. Primary effects include dizziness, drowsiness, headaches, and liver damage.

**Table 4.3-2** provides the federal and State ambient air quality standards:

**TABLE 4.3-2**
**Federal and State Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards | National Standards |
|---|---|---|---|
| Ozone ($O_3$) | 8 Hour | 0.070 ppm (137µg/$m^3$) | 0.070 ppm (137µg/$m^3$) |
| | 1 Hour | 0.09 ppm (180 µg/$m^3$) | – |
| Carbon Monoxide (CO) | 8 Hour | 9 ppm (10 mg/$m^3$) | 9 ppm (10 mg/$m^3$) |
| | 1 Hour | 20 ppm (23 mg/$m^3$) | 35 ppm (40 mg/$m^3$) |
| Nitrogen Dioxide ($NO_2$) | 1 Hour | 0.18 ppm (339 µg/$m^3$) | 100 ppb (188 µg/$m^3$) |
| | Annual Arithmetic Mean | 0.030 ppm (57 µg/$m^3$) | 0.053 ppm (100 µg/$m^3$) |
| Sulfur Dioxide ($SO_2$) | 24 Hour | 0.04 ppm (105 µg/$m^3$) | 0.14 |
| | 3 Hour | – | – |
| | 1 Hour | 0.25 ppm (665 µg/$m^3$) | 75 ppb (196 µg/$m^3$) |
| | Annual Arithmetic Mean | – | 0.030 ppm |
| Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | 20 µg/$m^3$ | – |
| | 24 Hour | 50 µg/$m^3$ | 150 µg/$m^3$ |
| Particulate Matter – Fine ($PM_{2.5}$) | Annual Arithmetic Mean | 12 µg/$m^3$ | 12 µg/$m^3$ |
| | 24 Hour | – | 35 µg/$m^3$ |
| Sulfates | 24 Hour | 25 µg/$m^3$ | – |
| Lead (Pb) | Calendar Quarter | – | 1.5 µg/$m^3$ |
| | 30 Day Average | 1.5 µg/$m^3$ | – |
| | Rolling 3-Month Average | None | 0.15 µg/$m^3$ |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/$m^3$) | – |
| Vinyl Chloride (chloroethene) | 24 Hour | 0.01 ppm (26 µg/$m^3$) | – |
| Visibility-Reducing Particles | 8 Hour | – | – |

*Source: CARB 2016. Notes: mg/$m^3$=milligrams per cubic meter; ppm=parts per million; ppb=parts per billion; µg/$m^3$=micrograms per cubic meter*

### Toxic Air Contaminants

In addition to the California CAPs, Toxic Air Contaminants (TACs) are another group of pollutants regulated under the California CAA. TACs are less pervasive in the urban atmosphere than the CAPs, but are linked to short-term (acute) and long-term (chronic or carcinogenic) adverse human health effects, including cancer, birth defects, neurological damage, and death. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), grading and demolition of structures (asbestos), and diesel-motor vehicle exhaust. Under Assembly Bill 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987, facilities found to release high volumes of toxic air pollution are required to conduct a detailed health risk assessment that estimates emission impacts to the neighboring community and recommends mitigation to minimize TACs.

## LOCAL

### Tehama County Air Pollution Control District (TCAPCD)

The TCAPCD has the responsibility of enforcing federal and state air quality regulations in Tehama County. The TCAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs, and it regulated agricultural burning. All projects in Tehama County are subject to applicable TCAPCD rules and regulations in effect at the time of construction. Descriptions of specific rules applicable to the proposed project may include, but are not limited to:

- TCAPCD Rule 4:24, Fugitive Dust Emissions, controls fugitive dust emissions to the atmosphere emitted from significant man-made fugitive dust sources.
- TCAPCD Rule 4:26, Cutback and Emulsified Asphalt, limits emissions of volatile organic compounds (VOCs) from the use of cutback and emulsified asphalt in paving, construction, or maintenance of streets and highways, driveways, and parking lots.
- TCAPCD Rule 4:39, Architectural Coatings, limits the quantity of VOCs in architectural coatings applied within the District.

In Tehama County, only the Tuscan Buttes area at or above 1,800 feet is currently designated a non-attainment area for the federal 8-hour ozone standard. The project site is not located in the federal non-attainment area. Tehama County is designated a non-attainment area for State ozone and $PM_{10}$ standards; the County is designated as an attainment or unclassified area for all other federal and State ambient air quality standards. As shown in **Table 4.3-3**, Tehama County has adopted air quality thresholds for emissions of Reactive Organic Gases (ROG), Oxides of Nitrogen (NOx), and Particulate Matter, 10 microns in size ($PM_{10}$) to determine the level of significance for projects subject to CEQA review (TCAPCD Air Quality Planning and Permitting Handbook, April 2015).

**TABLE 4.3-3**
**Thresholds of Significance for Criteria Pollutants of Concern**

| Level | ROG | $N_{OX}$ | $PM_{10}$ |
|---|---|---|---|
| Level A | ≤ 25 lbs/day | ≤ 25 lbs/day | ≤ 80 lbs/day |
| Level B | > 25 lbs/day | > 25 lbs/day | >80 lbs/day |
| Level C | > 137 lbs/day | > 137 lbs/day | > 137 lbs/day |

*Source: 2015, Tehama County Air Pollution Control District Air Quality Planning and Permitting Handbook*

All discretionary projects in Tehama County are required to implement Standard Mitigation Measures (SMMs) to achieve a reduction in emissions and contribute to a reduction in cumulative impacts. Projects that generate unmitigated emissions above Level B must implement Best Available Mitigation Measures (BAMMs) in addition to the SMMs. If a project is not able to reduce emissions below the Level C threshold, additional mitigation measures are required. If after applying SMMs, BAMMs, and additional mitigation measures, the project emissions still exceed the Level C threshold, an Environmental Impact Report is required.

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Open Space and Conservation** | | |
|---|---|---|
| **Goal** | OS-2 | To maintain, protect, and improve the air quality in Tehama County at acceptable levels as defined by state and federal standards. |
| **Policy** | OS-2.1 | The County shall require new development projects to incorporate appropriate measures to reduce impacts to air quality. |

| | | |
|---|---|---|
| | OS-2.6 | The County shall promote improved air quality benefits through energy conservation measures for new and existing development. |
| **IM** | OS-2.1a | Require project proponents to coordinate with Tehama County Air Pollution Control District (TCAPCD) on appropriate methodologies for evaluating project emissions and air quality impacts (e.g., emissions modeling software, TCAPCD's thresholds of significance, etc.). |
| | OS-2.1b | Require all new development projects that exceed TCAPCD's thresholds of significance to incorporate design, construction, and/or operational features that will result in a reduction in emissions when compared to an "unmitigated baseline" project. The measures should consider cost-effectiveness, maximum cost, and the provision of credits for emissions reductions already in place. |
| | OS-2.1c | Monitor all new development required air quality mitigations. If mitigations are not being managed properly, take the appropriate steps to correct the situation. |

## DISCUSSION OF IMPACTS

**Question A and B**

As discussed under Regulatory Context, for areas within the State that have not attained air quality standards, the CARB works with local air districts to develop and implement attainment plans to obtain compliance with both federal and State air quality standards. The Northern Sacramento Valley Planning Area (NSVPA) 2018 Triennial Air Quality Attainment Plan serves as the air quality plan for the region. As discussed above, areas above 1,800 feet in elevation in the Tuscan Buttes area are currently designated non-attainment for federal ozone standards; the proposed project is not located in this area. All areas in Tehama County are designated non-attainment for State ozone and $PM_{10}$ standards; the County is designated as an attainment or unclassified area for all other federal and State ambient air quality standards.

**Construction Emissions**

Project emissions were estimated using Version 2020.4.0 of the California Emissions Estimator Model (CalEEMod). CalEEMod provides default values when site-specific inputs are not available. CalEEMod does not directly calculate ozone emissions. Instead, the emissions associated with ozone precursors (ROG and $NO_X$) are calculated. For the proposed project, site-specific inputs and assumptions include, but are not limited to, the following:

- Emissions from construction are based on all construction-related activities associated with the proposed uses, including but not limited to grading, use of construction equipment, material hauling, trenching, and re-paving.
- Construction would start in April 2023 and occur over a period of approximately twelve months (although the project is anticipated to be constructed in phases as funding becomes available).
- Total land disturbance would be approximately 64 acres; 15,000 cubic yards (CY) of material would be imported; 12,000 CY would be exported.
- The total area to be paved/re-paved would be 46 acres.
- The total weight of demolition debris (pavement) to be removed from the project site would be approximately 8,000 tons.
- The total area receiving architectural coatings would be 100,000 square feet.

Output files, including all site-specific inputs and assumptions, are provided in **Appendix A**.

The proposed project would result in the temporary generation of ROG, $NO_x$, $PM_{10}$, and other regulated pollutants during construction. ROG and $NO_x$ emissions are associated with employee vehicle trips, delivery of materials, and construction equipment exhaust. $PM_{10}$ would be generated during site preparation, excavation, paving, and from exhaust associated with construction equipment.

**Table 4.3-4** shows the highest daily levels of project construction emissions regardless of construction phase.

**TABLE 4.3-4**
**Projected Construction Emissions**

| Pollutants of Concern | | | | | |
|---|---|---|---|---|---|
| **ROG** | **$NO_X$** | **$PM_{10}$** | **$PM_{2.5}$** | **CO** | **$SO_2$** |
| Maximum lbs/day | Maximum lbs/day | Maximum lbs/day | Maximum lbs/day | Maximum lbs/day | Maximum lbs/day |
| 26.19 | 30.57 | 16.53 | 8.52 | 24.53 | 0.06 |

As shown in **Table 4.3-4,** construction of the proposed project would not exceed the County's Level A threshold for $PM_{10}$. The project would exceed the County's Level A thresholds for ROG and $NO_X$ but would not exceed the Level C thresholds (refer to **Table 4.3-3**). Therefore, **MM 4.3.1** is included to minimize emissions during construction. Compliance with federal, state, and local regulations, including but not limited to those identified under Regulatory Context above, and implementation of **MM 4.3.1** would reduce temporary impacts during construction to a less-than-significant level.

**Operational Emissions**

The proposed project is needed in order to improve vehicle circulation and safety in order to meet the needs of a growing community and the associated increase in vehicle traffic, and to reduce the need for costly maintenance on deteriorating roadway surfaces.

A transportation project would be considered growth-inducing if it encouraged or facilitated land use or development that changes the location, rate, type, or amount of growth in an area (Caltrans *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*). Although growth is anticipated in the project area, the proposed project does not include a general plan amendment or rezone that would change anticipated development patterns in the area. Therefore, the project would not result in growth-inducing impacts.

In addition, signalized or stop-controlled street, highway, and freeway ramp intersections have been found to be pollution hot spots, mainly due to due to frequent deceleration and acceleration, and duration of idling at intersections. Changing from a signalized intersection to a roundabout would reduce idling, thereby reducing CO, $NO_X$, $PM_{2.5}$, $PM_{10}$, carbon dioxide, and hydrocarbon emissions. Studies show that roundabouts can reduce localized pollutant concentrations compared to intersections with stop and signal control by 20 percent or more, depending on site-specific conditions (CARB, 2017). In addition, the addition of bicycle/pedestrian improvements may encourage alternative transportation, thereby reducing vehicle miles traveled (VMT). Therefore, the project is expected to have neutral or beneficial operational impacts.

For both construction and operational emissions, the proposed project would not result in significant impacts associated with ozone (O3), lead (Pb), hydrogen sulfide (H2S), vinyl chloride, or visibility reducing particles as discussed below.

**Ozone.** CalEEMod does not directly calculate ozone emissions. Instead, the emissions associated with ozone precursors (ROG and $NO_X$) are calculated. As noted above, installation of a roundabout is anticipated to reduce emissions. As shown in Table 4.3-4, project construction

would generate ROG and $NO_x$ emissions; however, **MM 4.3.1** is included to reduce ROG and $NO_x$ emissions. Therefore, the potential for ozone production/emissions is less than significant.

**Lead.** Elevated levels of airborne lead at the local level are usually found near industrial operations that process materials containing lead, such as smelters and battery manufacturing/recycling facilities. These conditions are not applicable to the proposed project; however, aerially deposited lead (ADL) may be present in soils along the roadway, and ADL could become airborne during earth-disturbing activities. As discussed below, impacts associated with ADL would be less than significant.

**Hydrogen Sulfide.** Hydrogen sulfide is formed during the decomposition of organic material in anaerobic environments, including sewage treatment processes. The project would not result in an increase in wastewater generation and does not include any other components that would generate hydrogen sulfide; therefore, there would be no impact.

**Vinyl Chloride.** Vinyl chloride is used to manufacture polyvinyl chloride (PVC) plastic and other vinyl products. Additionally, vinyl chloride is produced during the microbial breakdown of chlorinated solvents (e.g., engine cleaner, degreasing agent, adhesive solvents, paint removers, etc.). The potential for vinyl chloride exposure is primarily limited to areas in close proximity to PVC production facilities. Because PVC manufacturing facilities are absent from the project area, and project implementation would not result in an increase of chlorinated solvents, there is no potential for vinyl chloride emissions.

**Visibility-Reducing Pollutants.** Visibility-reducing pollutants generally consist of sulfates, nitrates, organics, soot, fine soil dust, and coarse particulates. These pollutants contribute to the regional haze that impairs visibility, in addition to affecting public health. According to the California Regional Haze Management Plan, natural wildfires and biogenic emissions are the primary contributors to visibility-reducing pollutants. For the proposed project, visibility-reducing pollutants (e.g., $PM_{2.5}$ and $PM_{10}$), would be generated only during construction activities; however, **MM 4.3.1** would minimize fugitive dust emissions during construction. Therefore, potential impacts with respect to visibility-reducing pollutants would be less than significant.

**Air Quality Attainment Plan**

Due to the regional nature of the ozone problem, the air pollution control districts and air quality management districts of the seven counties located in the NSVPA originally prepared an Air Quality Attainment Plan in 1991, and have updated the plan triennially since then. Most recently, the Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVAQEEP) prepared the NSVPA 2018 Triennial Air Quality Attainment Plan (2018 AQAP). The 2018 AQAP constitutes the region's State Implementation Plan (SIP). The 2018 AQAP was adopted by the TCAPCD Board of Directors on June 9, 2020, and includes updated control measures for the three-year period of 2019 through 2021. Stationary source measures have been incorporated into the TCAPCD rules. Non-stationary source measures include grant funding through the Carl Moyer Program for the purchase/replacement of cleaner-than-required engines and equipment, motor vehicle registration fees, and public education programs.

As stated in the Tehama County Air Quality Planning and Permitting Handbook (2015), development projects are considered consistent with the AQAP if:

- The project does not require a general plan amendment or rezone, and projected emissions of ROG and $NO_X$ from the proposed project are equal to or less than the emissions anticipated for the site if developed under the existing land use designation;
- The project does not exceed the "project alone" significance criteria;
- The lead agency for the project requires the project to implement any applicable emission reduction measures contained in and/or derived from the AQAP; and
- The project complies with all applicable district rules and regulations.

The proposed project consists of roadway improvements, and no general plan amendment or rezone is required. **MM 4.3.1** is included to reduce construction-related emissions, there are no stationary source control measures that would apply to the project, and the project would comply with applicable district rules and regulations.

Therefore, compliance with applicable State and local regulations, including but not limited to those identified under Regulatory Context above, and implementation of **MM 4.3.1** ensures that impacts are less than significant and that the project complies with the NSVPA AQAP.

**Questions C and D**

Sensitive receptors are individuals or groups of people that are more affected by air pollution than others, including young children, elderly people, and people weakened by disease or illness. Locations that may contain high concentrations of sensitive receptors include residential areas, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. As stated above, the proposed project does not have any components that would result in long-term operational impacts. Sensitive receptors in the project area include single-family residences and a mobile home park adjacent to the 99W corridor, a hospital on Sister Mary Columba Drive, and a multi-family residential complex on Sutter Street. Construction activities would occur as close as ±40 feet from some of the single-family residences, ±250 feet from the hospital, and ±150 feet from the multi-family residential complex.

As discussed under Questions A and B above, the proposed project would generate $PM_{10}$ and other pollutants during construction. Although these emissions would cease with completion of construction work, sensitive receptors adjacent to construction areas could be exposed to elevated dust levels and other pollutants. **MM 4.3.1** is included to minimize potential impacts on sensitive receptors. In addition, demolition activities and earth-disturbing activities could release airborne lead and asbestos particles that could affect sensitive receptors in the area, construction workers, and visitors to the site as described below.

***Asbestos-Containing Material***
Due to the age of guardrail supports and associated structural members, asbestos-containing materials may be present on the structures that would be demolished. As required by **MM 4.3.2**, sampling and testing of suspect structural components would be conducted as needed to meet Caltrans requirements. If asbestos levels exceed permissible standards, the contractor would be required to address health and safety, notification, removal, handling, containment, and disposal requirements for asbestos in accordance with Caltrans standards.

***Naturally Occurring Asbestos***
Naturally occurring asbestos is known to be present in serpentinite and ultramafic rock throughout the State. A review of Department of Conservation records showed that there are no mapped asbestos sites in the project area. In addition, the Geologic Map of California shows that there are no serpentinite or ultramafic rocks in the project area. Therefore, there would be no impacts associated with naturally occurring asbestos.

***Lead-Based Paint***
Lead-based paint may be present on guardrails, roadway striping (particularly yellow paint), or other facilities that would be removed/demolished. As required by **MM 4.3.2**, sampling and testing of suspect paints would be conducted as needed to meet Caltrans requirements. If lead levels exceed permissible standards, the contractor would be required to address health and safety, notification, removal, handling, containment, and disposal requirements for lead-based paints in accordance with Caltrans standards.

***Aerially Deposited Lead***
Aerially deposited lead (ADL) from historical use of leaded gasoline is known to occur along roadways throughout California. As of January 1, 1992, California banned the use of leaded gasoline in motor vehicles (California Code of Regulations §2253.4 *et seq.*). The potential for

ADL is highest along major transportation routes (e.g., freeways, highways, and arterial streets in heavily populated urban areas) that were heavily traveled prior to the mid-1980s. South Main Street was constructed prior to 1905. The road was relocated with construction of 99W. 99W was a moderately trafficked roadway until the completion of I-5 in 1968. Therefore, soils adjacent to the roadway may have elevated concentrations of ADL-contaminated soil.

Project implementation would require both off-site disposal and on-site re-use of soil potentially containing ADL. **MM 4.3.3** requires field and laboratory testing for ADL adjacent to the road corridor as needed to meet Caltrans requirements. On-site re-use and off-site disposal of soils exceeding permissible levels of ADL would be conducted in accordance with the DTSC and Caltrans requirements. Implementation of **MM 4.3.3** ensures that impacts associated with ADL would be less than significant.

Further, **MM 4.3.4** addresses the inadvertent discovery of asbestos or lead-containing materials during construction. See Section 4.9 (Hazards and Hazardous Materials) for a discussion on potential impacts associated with treated wood waste (TWW). Compliance with federal, state, and local regulations, and implementation of **MM 4.3.1 through MM 4.3.4** ensures that construction workers and sensitive receptors in the project area are not adversely affected by air pollutants; therefore, impacts would be less than significant.

**Question D**

The project does not include any components that would result in the generation of long-term odors or other emissions adversely affecting a substantial number of people. Construction activities that have the potential to emit odors and similar emissions include operation of diesel equipment, generation of fugitive dust, and paving (asphalt). Odors and similar emissions from construction would be intermittent and temporary, and generally would not extend beyond the construction area. Due to the temporary and intermittent nature of construction odors, impacts during construction would be less than significant.

## CUMULATIVE IMPACTS

By its very nature, air pollution is largely a cumulative impact. If a project's individual emissions contribute toward exceedance of the NAAQS or the CAAQS, then the project's cumulative impact on air quality would be considered significant. In developing attainment designations for criteria pollutants, the USEPA considers the region's past, present, and future emission levels. In addition, local air districts determine suitable significance thresholds based on an area's designated nonattainment status, which also considers the region's past, present, and future emissions levels.

The proposed project combined with future development within the project area could lead to cumulative impacts to air quality. However, as stated under Regulatory Context, all projects in the County are subject to TCQPCB rules, and mitigation measures are imposed as necessary.

As discussed above, the proposed project is subject to State and local regulations adopted for the protection of air quality. With implementation of **MM 4.3.1** through **MM 4.3.5,** the proposed project would have a less-than-significant cumulative impact on local and regional air quality.

## MITIGATION

**MM 4.3.1** The following measures shall be implemented throughout construction:

a. All material excavated, stockpiled, or graded shall be covered or sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of ambient air quality standards. Watering shall occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.

b. Haul vehicles transporting soil into or out of the property shall be covered.

c. All non-paved areas with vehicle/construction equipment traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions.

d. All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved roads.

e. All land clearing, grading, earth moving, and excavation activities on the project site shall be suspended when winds are causing excessive dust generation.

f. Paved streets in and adjacent to the construction site shall be swept or washed at the end of the day to remove excessive accumulations of silt and/or mud resulting from activities on the development site.

g. When not in use, motorized construction equipment shall not be left idling for more than five minutes.

h. A publicly visible sign with a telephone number and person to contact regarding dust complaints shall be posted near construction activities. The telephone number of the District shall also be visible to ensure compliance with District Rule 4.1 (Nuisance) and 4:24 (Fugitive Dust Emissions).

i. Designated parking areas shall be provided for construction workers in order to reduce dust emissions.

**MM 4.3.2** Prior to demolition of the existing guardrails, other structural components, and painted surfaces, a comprehensive survey shall be completed by a qualified professional in locations where asbestos and lead-based paint are suspected, as needed to meet Caltrans requirements. Removal or disturbance of materials containing asbestos or lead-based paint shall be conducted by the project contractor in accordance with Caltrans and OSHA regulations, and shall be conducted by trained and authorized personnel and disposed of at a licensed facility that is approved to receive asbestos- and lead-containing waste material.

**MM 4.3.3** Aerially Deposited Lead (ADL) testing shall be conducted prior to construction as needed to meet Caltrans requirements. If soil is determined to contain lead concentrations exceeding the regulated threshold level, the project contractor shall be responsible for managing ADL-containing soils during construction in accordance with Caltrans and Department of Toxic Substances Control requirements.

**MM 4.3.4** In the event previously undetected asbestos or lead-containing materials are discovered during construction or demolition, activities that may affect the materials shall cease until results of additional evaluations are reviewed. Alternatively, the County can assume that the materials are hazardous. Any identified asbestos or lead-containing material shall be handled and disposed of in accordance with applicable hazardous materials regulations.

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## 4.4 BIOLOGICAL RESOURCES

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community, including oak woodland, identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☒ | ☐ | ☐ |
| c. Have a substantial adverse effect on state or federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal wetlands, 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? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

### FEDERAL

#### Federal Clean Water Act

*Section 404*

Under Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into wetlands and waters of the U.S. The USACE requires that a permit be obtained prior to the placement of structures within, over, or under navigable waters and/or prior to discharging dredged or fill material into waters below the ordinary high-water mark (OHWM). There are several types of permits issued by the USACE that are based on the project's location and/or level of impact. Regional general permits are issued for recurring activities at a regional level. Nationwide permits (NWPs) authorize a wide variety of minor activities that have minimal effects. Projects that are not covered under a regional general permit and do not qualify for a NWP are required to obtain a standard permit (e.g., individual permit or letter of permission).

*Section 401*

Under Section 401 of the CWA, a project requiring a USACE Section 404 permit is also required to obtain a State Water Quality Certification (or waiver) to ensure that the project will not violate established State water quality standards. The RWQCB regulates waters of the State and has a policy of no-net-loss of wetlands. The RWQCB typically requires mitigation for impacts to wetlands before it will issue a water quality certification.

### Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 requires that all federal agencies ensure that any action they authorize, fund, or carry out will not likely jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of critical habitat. Projects that would result in "take" of any federally listed species are required to obtain authorization from National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project.

### Federal Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (MBTA) of 1918, as amended, migratory bird species listed in CFR Title 50, §10.13, including their nests and eggs, are protected from injury or death, and any project-related disturbances. The MTBA provides protections for nearly all native bird species in the U.S., including non-migratory birds.

### Fish and Wildlife Conservation Act

Under the Fish and Wildlife Conservation Act of 1980, as amended, the USFWS maintains lists of migratory and non-migratory birds that, without additional conservation action, are likely to become candidates for listing under the FESA. These species are known as Birds of Conservation Concern and represent the highest conservation priorities.

### Bald and Golden Eagle Protection Act

This Act provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds and their occupied and unoccupied nests.

### Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), also known as the Sustainable Fisheries Act, requires the identification of Essential Fish Habitat (EFH) for federally managed fishery species and implementation of appropriate measures to conserve and enhance EFH that could be affected by project implementation. All federal agencies must consult with NMFS on projects authorized, funded, or undertaken by that agency that may adversely affect EFH for species managed under the MSFCMA.

## STATE

### California Endangered Species Act

Under the California Endangered Species Act (CESA), the Fish and Game Commission is responsible for listing and delisting threatened and endangered species, including candidate species for threatened or endangered status. California Department of Fish and Wildlife (CDFW) provides technical support to the Commission, and may submit listing petitions and assist with the evaluation process. CDFW maintains documentation on listed species, including occurrence records. In addition, CDFW maintains a list of fully protected species, most of which are also listed as threatened or endangered. CDFW also maintains a list of species of special concern (SSC). SSC are vulnerable to extinction but are not legally protected under CESA; however, impacts to SSC are generally considered significant under CEQA.

CESA prohibits the take of State-listed threatened and endangered species, but CDFW has the authority to issue incidental take permits under special conditions when it is demonstrated that impacts are minimized and mitigated. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take. One exception allows the collection of fully protected species for scientific research.

**California Fish and Game Code §1600-1616 (Streambed Alteration)**

California Fish and Game Code §1600 *et seq.*, requires that a project proponent enter into a Streambed Alteration Agreement (SAA) with CDFW prior to any work that would divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; and/or deposit or dispose of material into any river, stream, or lake. The SAA will include conditions that minimize/avoid potentially significant adverse impacts to riparian habitat and waters of the state.

**California Fish and Game Code §3503 and 3503.5 (Nesting Bird Protections)**

These sections of the Code provide regulatory protection to resident and migratory birds and all birds of prey within the State and make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code.

**California Fish and Game Code §1900-1913 (Native Plant Protection Act)**

The Native Plant Protection Act (NPPA) includes measures to preserve, protect, and enhance native plants that are listed as rare and endangered under the CESA. The NPPA states that no person shall take, possess, sell, or import into the state, any rare or endangered native plant, except in compliance with provisions of the Act.

**Oak Woodlands Conservation Act**

The State of California provides for oak protection through the Oak Woodlands Conservation Act (Act), last amended in 2005. The Act applies only when the lead agency is a county and the project is located in an unincorporated county area. The Act requires a determination of whether the project may result in the conversion of oak woodlands that will have a significant effect on the environment as well as implementation of oak woodland mitigation measures, if necessary.

## LOCAL

**Tehama County**

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Open Space and Conservation** | | |
|---|---|---|
| **Goal** | OS-3 | To protect, preserve, and enhance fish and wildlife species by maintaining healthy ecosystems. |
| **Policy** | OS-3.1 | The County shall preserve and protect environmentally-sensitive and significant land and water valuable for their plant and wildlife habitat, natural appearance, and character. |
| | OS-3.2 | The County shall protect areas identified by the California Department of Fish and Game and the California Natural Diversity Data Base as critical riparian zones. |
| | OS-3.4 | The County shall endeavor to provide for wildlife circulation in and around new development projects, major transportation facilities, roads, railroads, and canals. |
| **IM** | OS-3.1f | Require that prior to any public or private development project in areas identified to contain or possibly contain special-status species – based on the |

| | |
|---|---|
| | Land Use Map, data provided in the Biological Resource section of the General Plan EIR or other suitable technical material available at the time – a biological survey be conducted by the project applicant to identify potentially occurring special-status species or their habitat using protocol acceptable to the regulatory agencies with authority over these species, or species presence shall be inferred. The results of the survey shall be documented in a Biological Resources Report. |
| OS-3.1g | For each project in which unavoidable removal of wetland habitat or other waters of the U.S. will occur, the County shall require the project proponent to develop a compensation plan prior to construction. |
| OS-3.4a | Review projects through the entitlement process and CEQA analysis to ensure that they comply with this policy if the site contains unique habitat, creeks and/or wooded corridors. |
| OS-3.4b | The effect on wildlife movement shall be analyzed prior to the approval of proposed development that encroaches upon vital corridors. The analysis shall include consultation with the CDFG to properly evaluate current wildlife movement and migration. |
| OS-3.4c | In such cases where habitat preserves are crossed by a roadway, or where two adjacent preserves are separated by a roadway, the roadway shall be designed or upgraded with wildlife passable fencing separating the roadway from the preserve and/or shall incorporate design features that allow for the movement of wildlife across or beneath the road without causing a hazard for vehicles and pedestrians on the roadway. |

## DISCUSSION OF IMPACTS

**Question A**

The following evaluation of potential impacts on special-status species is based on records searches and field studies conducted by ENPLAN biologists and detailed in the *Biological Assessment:* (ENPLAN, 2021a), the *Natural Environment Study* (NES) (ENPLAN, 2021b), and the *Aquatic Resource Delineation Report* (ENPLAN, 2021c) prepared for the Tehama County 99W/South Main Street Reconstruction Project, and consultation with the USFWS.

The Biological Study Area (BSA) for the project includes the ±85 acre planned disturbance footprint (i.e., the paved road corridor, driveway encroachments, roundabout construction footprint, and staging areas) and, where accessible, areas within ±100 feet of the project footprint. The BSA was evaluated with respect to the potential for direct and indirect impacts to special-status species and their habitats. The records searches included review of California Natural Diversity Database (CNDDB) and USFWS records, critical habitat GIS data maintained by the USFWS and National Marine Fisheries Service (NMFS), and essential fish habitat (EFH) data maintained by NMFS. Botanical/natural community field surveys were completed by an ENPLAN biologist on May 7, 2019, and April 21 and September 24, 2020; wildlife field surveys were conducted on September 24 and November 12, 2020.

**Appendix B** provides key biological data developed for the project, including the records search results, a list of plant species observed during the field studies, and an evaluation of the potential for special-status plant and wildlife species to be affected by project implementation.

**Special Status Plant Species**

USFWS records identify one federally listed plant species (slender Orcutt grass) as potentially occurring in the vicinity of the BSA. No critical habitat for the federally listed plant species is designated in or adjacent to the BSA (see **Appendix B**). Review of the CNDDB records found that two special-status plant species have been broadly mapped in the project area and

encompass portions of the BSA: legenere and Stony Creek spurge. Six additional special-status plant species have been reported within five miles of the BSA: Ahart's dwarf rush, Ahart's paronychia, Boggs Lake hedge-hyssop, dwarf downingia, Red Bluff dwarf rush, and silky cryptantha. Four non-special status species have also been reported within five miles of the BSA: Henderson's bentgrass, Mendocino tarplant, hogwallow starfish, and broad-lobed leptosiphon. CNPS records identify four additional special-status plants in the search radius: adobe lily, hairy Orcutt grass, Hoover's spurge, and Greene's tuctoria.

As documented in **Appendix B**, the BSA contains potentially suitable habitat for adobe lily, Ahart's dwarf rush, Ahart's paronychia, Boggs Lake hedge-hyssop, dwarf downingia, Greene's tuctoria, hairy Orcutt grass, Hoover's spurge, legenere, Red Bluff dwarf rush, slender Orcutt grass, and silky cryptantha. These plants would have been identifiable at the time the time the botanical surveys were conducted. None of these nor any other special-status plant species were observed in or adjacent to the BSA during the botanical surveys. A list of vascular plant species observed during the botanical surveys is included in **Appendix B**.

**Special-Status Wildlife Species**

USFWS records identify eight federally listed animal species as potentially being present in the project vicinity: yellow-billed cuckoo, giant garter snake, California red-legged frog, delta smelt, valley elderberry longhorn beetle (VELB), conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Review of the USFWS species list identified critical habitat designated in the BSA for vernal pool fairy shrimp (see **Appendix B**); however, neither seasonal wetlands nor vernal pools are present within the boundaries of the designated critical habitat that overlaps the project site; therefore, there would be no impacts on designated critical habitat. However, other wetlands potentially capable of supporting vernal pool fairy shrimp and vernal pool tadpole shrimp are present in the project area. Additionally, potential habitat for the valley elderberry longhorn beetle was observed near the project footprint. Potential impacts to the fairy shrimp, tadpole shrimp, and VELB are evaluated below.

Additionally, NMFS identifies Central Valley spring-run (CVSR) chinook salmon, Sacramento River winter-run (SRWR) chinook salmon, California Central Valley (CCV) steelhead, and southern distinct population segment (sDPS) green sturgeon in both the USGS Gerber and Red Bluff East quadrangles. Critical habitat is identified in both of these quadrangles for CVSR and SRWR chinook salmon, CCV steelhead, and sDPS Green Sturgeon. NMFS also identifies Essential Fish Habitat (EFH) for chinook salmon in the Gerber and Red Bluff East quadrangles.

Designated critical habitat for SRWR chinook salmon and sDPS green sturgeon is limited to the Sacramento River. Designated critical habitat for CVSR chinook salmon includes three streams that cross under 99W within the project corridor: Red Bank Creek (just north of Riverside Avenue), Elder Creek (just north of Gerber Road), and McClure Creek (just north of Gyle Road). Designated critical habitat for CCV steelhead includes the three streams identified above as well as Oat Creek (just north of Flores Avenue).

Based on discussions between ENPLAN, Caltrans, and NMFS staff, it has been determined that the proposed project would have no effect on listed salmonids, their critical habitats, or EFH because no in-water work would be undertaken in fish-bearing streams and no work would be undertaken on the bridges spanning the streams noted above. Likewise, the project would have no effect on CCV steelhead or critical habitat for CCV steelhead. Further, the project would have no effect on SRWR chinook salmon or sDPS green sturgeon or critical habitat for these species because no work would occur in or adjacent to the Sacramento River and there is no suitable habitat for these species in the BSA.

In addition to the federally listed species identified above, CNDDB records show that 16 special-status animal species have been documented within a five-mile radius of the BSA: bank swallow, burrowing owl, Crotch bumble bee, Northwest/North Coast clade foothill yellow-legged frog, least Bell's vireo, pallid bat, Swainson's hawk, tricolored blackbird, western mastiff bat, western pond

turtle, western red bat, western spadefoot, western yellow-billed cuckoo, white-tailed kite, yellow-breasted chat, and yellow warbler.

CNDDB records show that the following nine non-status animal species have also been reported within the search radius: Antioch Dunes anthicid beetle, Blennosperma vernal pool andrenid bee, California linderiella, hoary bat, long-eared myotis, osprey, Sacramento anthicid beetle, silver-haired bat, and Yuma myotis.

As documented in **Appendix B,** no special-status wildlife species were observed during the field surveys, although a number of common wildlife species were observed on-site including western gray squirrel, western fence lizard, a pair of red-shouldered hawks, European starling, and turkey vulture.

Nine special-status animal species have the potential to occur in the BSA: valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, burrowing owl, Swainson's hawk, pallid bat, western mastiff bat, western red bat, and western pond turtle. Further information on these species is provided below. In addition, designated critical habitat for vernal pool fairy shrimp is discussed below.

***Critical Habitat for Vernal Pool Fairy Shrimp***

Designated critical habitat for the vernal pool fairy shrimp is located within the project area and overlaps the study area at Coyote Creek by approximately 4.16 acres (See **Figure 4.4-1**). Project implementation in and near this designated critical habitat would include repaving the 99W roadway, and extending and replacing guardrails over Coyote Creek. Guardrail replacement at Coyote Creek would occur within the designated critical habitat boundary. Guardrails would also be replaced near the main entrance to the Wal-Mart distribution facility, north of Coyote Creek, where a diverted stream crosses under 99W in a constructed channel. This work would be over 300 feet from the designated critical habitat.

No vernal pools or other habitats with the potential to support vernal pool fairy shrimp are present in the work area within the boundary of designated critical habitat. Further, the designated critical habitat is located in and west of the road corridor, while the overall drainage flow is east toward the Sacramento River; therefore, the designated critical habitat is upslope of the project area, and would not be affected by runoff from the project area. Therefore, the project would not impact the designated critical habitat.

***Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp***

Federally listed vernal pool branchiopods that could potentially occur in the project site are vernal pool fairy shrimp (*Branchinecta lynchi*; FT) and vernal pool tadpole shrimp (*Lepidurus packardi*; FE). Seasonal wetlands in the BSA provide potentially suitable habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp.

Due to timing constraints and seasonal conflicts, field surveys for branchiopods were not conducted; instead, Tehama County has decided to assume presence of these federally listed species. Project implementation has the potential to directly and indirectly affect vernal pool branchiopods and their habitats.

A total of approximately 0.20 acres of vernal pool branchiopod habitat is expected to be directly impacted by project implementation. The project would permanently impact Seasonal Wetland 1 (1:SW) (0.017 acres), Seasonal Wetland 2 (2:SW) (0.001 acres), and Seasonal Wetland 3 (3:SW) (0.182 acres), a total of 0.20 acres of seasonal wetland (see **Figure 4.4-2**). Seasonal Wetland 1 extends outside of the project boundary, and there is a potential that an additional 0.04 acres of seasonal wetland could be indirectly affected through increased sedimentation or other water quality degradation, a change in inundation rates or duration, or other hydrologic changes.




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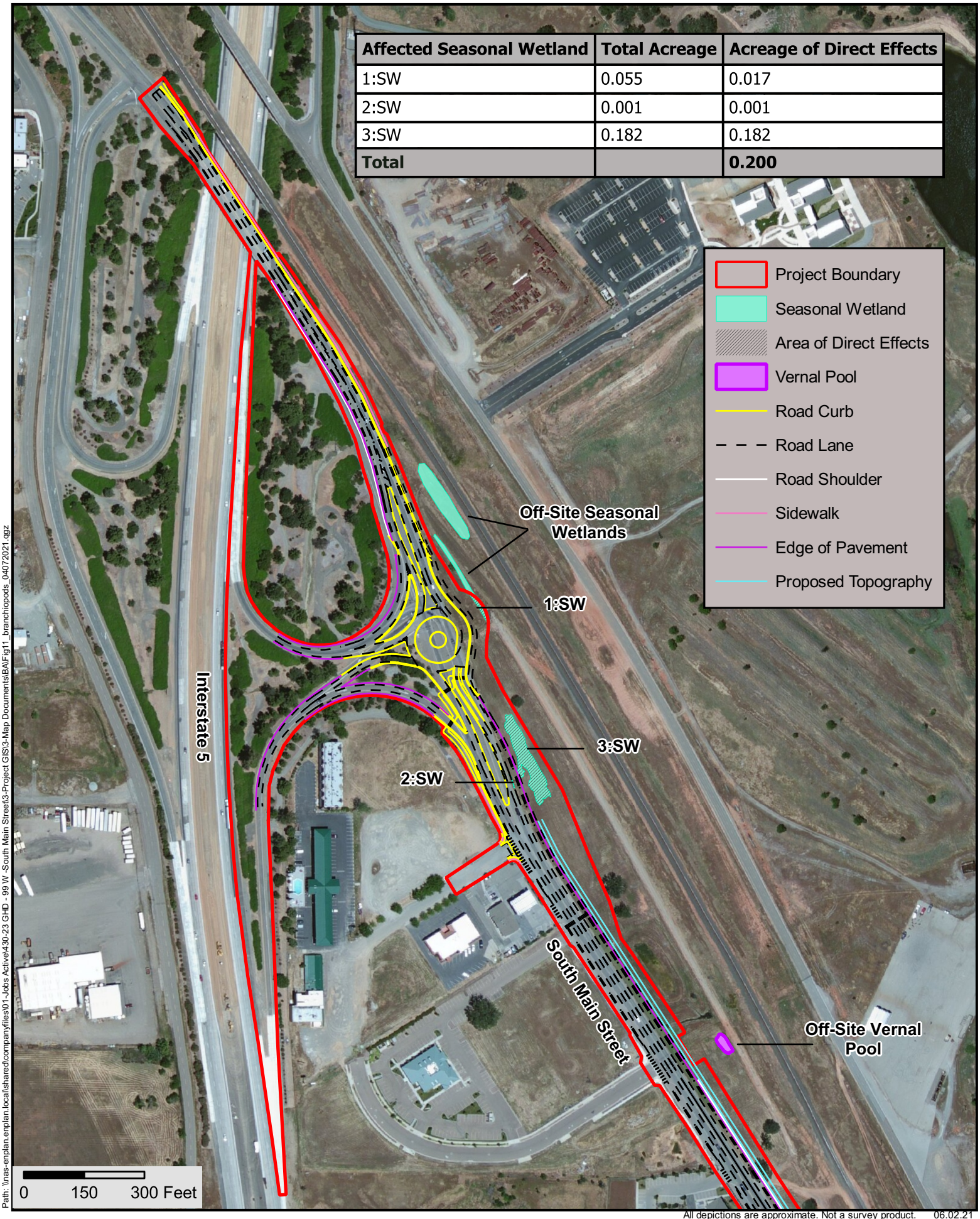
All depictions are approximate. Not a survey product. 06.02.21

0 500 1,000 Feet

Figure 4.4-1

**Critical Habitat - Vernal Pool Fairy Shrimp**

ENPLAN




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All depictions are approximate. Not a survey product. 06.02.21

Figure 4.4-2

**Branchiopod Habitat in Project Site and Vicinity**

ENPLAN

**MM 4.4.1** requires that all construction personnel receive training from a qualified biologist regarding identification of sensitive habitats and special-status species that have a potential to be present in the project site and procedures to be implemented in the event that special-status species are encountered during construction activities.

**MM 4.4.2** requires installation of exclusionary fencing around wetlands and other waters that are designated for preservation. Fencing/flagging locations would be determined by a qualified biologist in consultation with the project engineer and County staff.

**MM 4.4.3** requires that direct and indirect impacts to the 0.24 acres of seasonal wetlands be offset at a 3:1 ratio through purchase of 0.72 vernal pool credits from a USFWS-approved conservation bank. Additional conservation measures proposed within **MM 4.4.3** would ensure impacts to vernal pool branchiopods are less than significant.

***Valley Elderberry Longhorn Beetle***

The valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*) is a federally threatened (FT) insect found on elderberry shrubs throughout the Central Valley of California. One elderberry shrub is located within the project footprint and others were observed within 165 feet of the road corridor. **Figure 4.4-3** shows the locations of elberberry shrubs located within 165 feet of the project boundary. The shrub within the project footprint is located along the northwest bank of Red Bank Creek, under the 99W bridge spanning Red Bank Creek. Elderberry shrubs with a base diameter of one inch or greater are considered habitat for the valley elderberry longhorn beetle. The onsite elderberry stem measures approximately 4 inches in diameter at its base; however, the stem has been previously cut to less than one foot above the ground. Stems forming regrowth from the cut measure approximately 1 inch in diameter; no bore holes were observed in either the base or stems of this shrub.

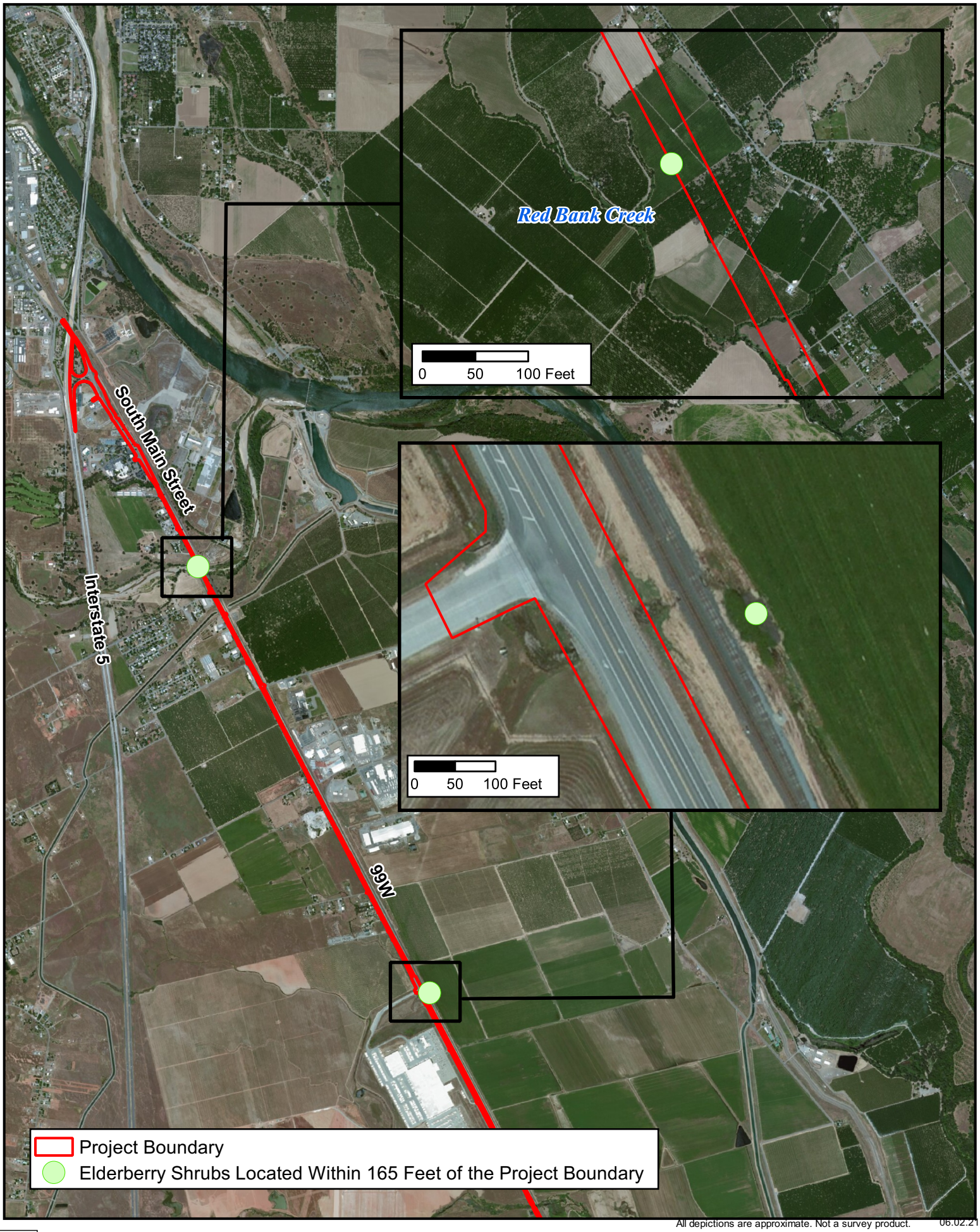
Red Bank Creek is classified as an intermittent stream, with a narrow corridor of riparian habitat along both banks. The subject elderberry shrub is located just above the riparian corridor. The shrub has low habitat value for VELB and is very unlikely to host the beetle. Due to the low quality of habitat that this shrub provides and distance to known habitat, the VELB is not expected to be present in the action area; however, **MM 4.4.4** is included to minimize the potential for effects on VELB.

An elderberry cluster was also observed an estimated 100 feet from the project corridor. The cluster is outside the 99W road ROW, on lands not accessible to the field biologists. The shrubs are separated from the project area by the Union Pacific Railroad and fences. It is possible that other elderberries are present within 20 to 165 feet of the project area, but could not be detected due to visual barriers and lack of access. Elderberry shrubs located within 165 feet of the project area may be subject to indirect impacts; however, implementation of **MM 4.4.4** would ensure that impacts to the VELB are less than significant.

***Burrowing Owl***

The burrowing owl (*Athene cunicularia*) is a California State SSC and a year-round resident of open, dry grassland and desert habitats. Burrowing owls may also occupy habitats with grass, forb, and shrub stages of pinyon-juniper and ponderosa pine species.

As the name “burrowing” owl suggests, these owls nests in old burrows of ground squirrels or other small mammals, or may dig their own burrow in soft soils. Where burrows are scarce, pipes, culverts, and nest boxes may be used instead (Zeiner *et al*., 1988). The largest threat facing the burrowing owl is loss of habitat. Once abundant throughout open grasslands and prairies, this species has now become increasingly relegated to airports, golf courses, vacant lots, industrial parks, and similar urbanized habitats.




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All depictions are approximate. Not a survey product. 06.02.21

0 1,500 3,000 Feet

Figure 4.4-3

**Elderberry Shrub Locations**

ENPLAN

Open grasslands, vacant lots, and agricultural fields are present in and adjacent to the BSA, and provide potential nesting and foraging habitat for the burrowing owl. Direct effects could include mortality resulting from construction equipment operating in an area with an active nest with eggs or chicks. Indirect effects could include nest abandonment by adults in response to loud noise levels, or a reduction in the amount of food available to young birds due to changes in feeding behavior by adults.

Most birds expected to occur in the BSA nest between February 1 and August 31. Therefore, removal of potential nesting habitat or limiting construction activities to other times of the year (before February 1 or after August 31) is unlikely to affect nesting birds. Implementation of **MM 4.4.5** ensures that project activities are consistent with State and federal requirements for the protection of nesting birds and do not lead to "take" of burrowing owls.

***Swainson's Hawk***

Swainson's hawk (*Buteo swainsoni*) is a State threatened (ST) species and is distributed across the western U.S., Canada, and Mexico, and generally winters in South America. Within their range they inhabit open prairies, plains, grassland, and farmland. Scattered groves of trees provide adequate nesting sites. This species has seen a serious decline throughout much of its range. Within California, Swainson's hawk is an uncommon resident and migrant of the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Although the causes of declining numbers are not well understood, habitat loss is likely a large contributor.

Similar to the burrowing owl, Swainson's hawk has the potential to be present in grassland, farmland, and other open habitats that are present throughout and adjacent to the BSA, particularly along the 99W corridor. However, implementation of **MM 4.4.5** ensures that project activities are consistent with State and federal requirements for the protection of nesting birds and do not lead to "take" of Swainson's hawk.

***Other Birds of Conservation Concern***

Nesting habitat in the project area could be used by other bird species protected under the Migratory Bird Treaty Act and California Fish and Game Code §3503. **MM 4.4.5** minimizes the potential for impacts on other bird species that may nest in the project area.

***Bat Species***

**Pallid Bat.** The pallid bat (*Antrozous pallidus*) is a California State SSC and is present throughout California year-round at low elevations. Habitat types occupied by the pallid bat include grasslands, shrublands, woodlands, and forests; however, the species is most common in open, dry habitats. Daytime roost sites include caves, rock crevices, mines, and occasionally hollowed trees and buildings. Pallid bats are extremely sensitive to disturbances near their roost sites, and noise and vibration could cause abandonment of roost colonies and thus decreased health of individuals and a decline in successful reproduction.

**Western Mastiff Bat.** The western mastiff bat (*Eumops perotis*) is a California State SSC and a year-round nocturnal forager throughout southern and central California. The western mastiff bat prefers open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban habitats. This species roosts in crevices found in rock outcrops and buildings. Nursery roosts can be found in the same locations between April and September, and females produce one young per year.

**Western Red Bat.** The western red bat (*Lasiurus blossevillii*) is a California State SSC. The California range is concentrated in the west, from Shasta County to the Mexican border, west of the Sierra Nevada/Cascade ranges. This species can often be seen at dusk foraging above streams and rivers; daytime roosts are generally nearby in riparian trees and sometimes shrubs. The species has a strong preference for broad riparian corridors, i.e.,

those extending back 100 to 300 feet from streams/rivers. Some individuals may migrate between summer and winter habitats, overwintering in western lowlands and coastal regions south of San Francisco Bay. Females produce two or three young per year and generally raise them in maternal colonies in locations similar to those describe for roosts above.

Although neither bat roosts nor individuals were observed during field surveys, the BSA crosses streams in numerous locations along the 99W corridor. These areas provide ample foraging habitat for the western red bat, and nearby large patches of riparian habitat may provide roosting opportunities.

The project does not include demolition or removal of natural features, structures or vegetation that could provide suitable roosting habitat for bats. Indirect effects on bats are not anticipated because any bats roosting nearby would be accustomed to elevated noise levels and human activity.

***Western Pond Turtle***

The western pond turtle (*Emys marmorata*), a California State SSC, is found in a variety of habitats (e.g., ponds, reservoirs, streams, rivers, ditches, sloughs) from sea level to approximately 6,000 feet in elevation. Pond turtles associate with permanent or nearly permanent quiet-water environments, including ponds or slow-flowing streams with deep pools. The presence of suitable basking sites is an important habitat component for western pond turtles. Basking sites may include partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Suitable upland habitat (sandy banks or grassy open fields) for egg-laying is required. CNDDB records identify western pond turtle ±1.5 miles northeast of Gerber near the Sacramento River. One perennial stream, Coyote Creek, is present in the BSA and has the potential to support the western pond turtle. However, no work would occur in the creek. In addition, BMPs would be implemented throughout construction to control erosion and sedimentation and minimize the potential for indirect impacts. Therefore, potential impacts on western pond turtle would be less than significant.

Implementation of **MM 4.4.1 through MM 4.4.5** and BMPs for erosion and sediment control will minimize/avoid direct and indirect effects to special-status species and their habitats; therefore, impacts to special-status species and their habitats would be less than significant.

**Question B**

Review of CNNDB natural community records did not identify any sensitive natural communities within or adjacent to the BSA. Seven natural communities are mapped within a five-mile radius of the project area: Central Valley Drainage Fall Run Chinook Stream, Central Valley Drainage Valley Floor River, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Oak Riparian Forest, Great Valley Willow Shrub, and Northern Hardpan Vernal Pool. The closest community, Great Valley Valley Oak Riparian Forest, is located ±0.5 miles east of the northern portion of the project area. Due to the distance from the project area, the project would have no impact on the seven natural communities listed above.

Other records reviewed for sensitive natural communities included those maintain by the USFWS and NMFS. As discussed under Question A, critical habitat for vernal pool fairy shrimp would not be impacted by the proposed project. In addition, it has been determined that the proposed project would have no effect on listed salmonids, their critical habitats, or EFH because no in-water work would be undertaken in fish-bearing streams and no work would be undertaken on the bridges spanning the three streams.

Habitat types in the project area include urban, annual grassland, valley foothill riparian, and riverine. Each habitat type is described in further detail below.

**Urban**
The majority of the roadway improvements would take place within the paved road ROW and graveled road shoulders. The road shoulders are predominantly unvegetated, but may support a low density of introduced weedy plant species such as yellow star-thistle, peppergrass, and bindweed. This habitat zone has virtually no wildlife value. The urban habitat just outside the road corridor contains a mixture of native and horticultural species occurring in association with nearby residences and businesses. The mosaic of planted and native vegetation outside of the road ROW provides potential habitat for a variety of wildlife species such as western gray squirrels, raccoons, moles, voles, and various bird species.

**Annual Grassland**
The onsite annual grassland is predominantly located in the northeastern portion of the project area. Dominant species in this habitat type include ripgut brome, soft chess, Bermuda grass, medusahead, foxtail fescue, annual ryegrass, and annual bluegrass. A variety of forbs are also intermixed, including California poppy, dove weed, and yellow star-thistle. Several valley oaks, some with diameters of over two feet, occur within the grassland habitat in and adjacent to the study area. Inclusions of seasonal wetland and vernal pool habitats are also present within the onsite annual grassland; these seasonally wet features support a variety of plant species adapted to these specialized environments. A number of common wildlife species were observed on-site including western gray squirrels, western fence lizards, a pair of red-shouldered hawks, European starlings, and turkey vultures. These species may forage and/or nest within and surrounding the project area.

**Valley Foothill Riparian**
Valley foothill riparian habitat is present along both banks of Red Bank Creek and extends under the 99W bridge over Red Bank Creek. Valley foothill riparian habitat comprises 0.056 acres of the project area. Representative plants in the narrow riparian corridors include valley oak, Himalayan blackberry, willow, California grape, and Fremont cottonwood. Although no wildlife species were observed in this habitat during field surveys, it is likely an important resource reservoir for a variety of species, both resident and migratory.

**Riverine**
The project area contains a total of 17 open channel riverine features of varying size and structure: two ephemeral, 14 intermittent, and one perennial. Several other drainages pass through the study area, but are fully enclosed in corrugated pipes or box culverts as they pass through the study area. The largest of such features is the ±45-foot-wide Corning Canal, which is contained within elevated berms on both sides of the study corridor, but is siphoned underneath 99W and the Union Pacific Railroad; no surface water is visible from 99W. The two ephemeral streams are located between the on- and off-ramps of the South Main Street interchange. They drain roadside runoff, eventually entering an intermittent stream that flows west under I-5.

The 14 intermittent streams vary greatly in size and structure, and are located throughout the project corridor. Although all of the intermittent streams have a defined bed and bank, their substrates and vegetation are highly variable between features. Those with minimal flow have silty bottoms and are vegetated with herbaceous species such as water speedwell (*Veronica anagallis-aquatica*) and winged water-starwort (*Callitriche marginata*). Other intermittent streams contain gravel and/or cobbles beds with sparse vegetation, and banks with a moderate density of species such as Himalayan blackberry (*Rubus armeniacus*), Fremont cottonwood (*Populus fremontii* subsp. *fremontii*), and Goodding's black willow (*Salix gooddingii*). Only one intermittent stream is flanked on both banks by a narrow corridor of woody riparian vegetation where it crosses through the project boundary: Red Bank Creek. The remaining streams are channelized as they flow through the project area, with only sparse or no woody riparian vegetation on their banks.

The only perennial stream within the project area is Coyote Creek. Coyote Creek is characterized by an open channel with freshwater emergent vegetation on its shallow channel

edges, including tules (*Schoenoplectus acutus*), water-weed (*Ludwigia* sp.) and other species. The stream banks are vegetated with Himalayan blackberry, a few willows, and fig (*Ficus carica*).

The majority of the project area consists of paved road and graveled road shoulders, which are included in the urban habitat type; these areas have very low habitat value. Construction activities would occur within the existing 99W road prism, and no impacts are expected to riverine features or riparian habitat within the 99W project corridor. Agricultural fields and orchards are present adjacent to the 99W corridor but are not expected to be affected by project implementation. Potential impacts to wetlands and other waters of the U.S./State are discussed under Question C below.

Habitat degradation could occur if sediment-laden water enters surface waters in and downstream of the project area. As identified in Section 1.7 (Regulatory Requirements), in addition to implementing Caltrans' BMPs for erosion and sediment control, the County is required to obtain coverage under the RWQCB NPDES permit for *Discharges of Storm Water Runoff Associated with Construction Activity* which requires development of a SWPPP that includes BMPs to control erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat. Measures that may be implemented to minimize erosion include, but are not limited to, limiting construction to the dry season; use of straw wattles, silt fences, and/or gravel berms to prevent sediment from discharging off-site; and revegetating temporarily disturbed sites upon completion of construction. Implementation of BMPs would ensures that indirect impacts to aquatic habitats would be less than significant.

The introduction and spread of noxious weeds during construction activities also has the potential to adversely affect sensitive habitats. Three noxious weed species were observed in the project area during the botanical surveys: Italian thistle, yellow star-thistle, and bindweed. Other noxious weeds could be introduced into the project area with imported fill material, erosion control materials, or by unwashed construction vehicles. Similarly, weeds could be exported offsite in soil or on unwashed construction vehicles. As required by **MM 4.4.6,** the potential for introduction and spread of noxious weeds would be avoided/minimized by using only certified weed-free erosion control materials, mulch, and seed; limiting any import or export of fill material to material that is known to be weed free; and requiring the construction contractor to thoroughly wash all construction vehicles and equipment at a commercial wash facility before entering and upon leaving the job site. Implementation of **MM 4.4.6** would reduce potential impacts related to the introduction and spread of noxious weeds to a less-than-significant level.

Implementation of BMPs for erosion control/spill prevention, compliance with conditions of regulatory agency permits, and implementation of **MM 4.4.1, MM 4.4.2, and MM 4.4.6** would ensure that the project's impacts on sensitive natural communities would be less than significant.

**Question C**

As discussed in the preliminary *Aquatic Resources Delineation Report: 99W/South Main Street Reconstruction* (ENPLAN, 2021) (**Appendix C**) ENPLAN conducted field investigations on May 13, 2019; April 11, 12, and 25, 2020; September 24, 2020; and November 12, 2020, to identify potential USACE jurisdictional wetlands and other waters of the U.S. and State.

As a result of the field investigation, 24 features were delineated on the site: one perennial stream, 14 intermittent streams, two ephemeral streams, three seasonal wetlands, and four constructed ditches. In total, ±0.969 acres of waters were delineated on the site, consisting of approximately 0.067 acres of perennial stream, 0.600 acres of intermittent stream, 0.018 acres of ephemeral stream, 0.200 acres of seasonal wetlands, and 0.084 acres of constructed ditches.

As discussed under Question A above, the project is expected to directly impact 0.20 acres and indirectly impact 0.04 acres of seasonal wetland. To offset impacts to 0.24 acres of seasonal wetland (which is assumed to support federally listed vernal pool species), **MM 4.4.3** requires the purchase of

0.72 vernal pool creation credits from a USFWS-approved conservation bank. Additional conservation measures are included in **MM 4.4.3**.

In addition, an intermittent stream in the northern portion of the study area near Liberty Street on the east side of South Main Street (identified as 2:IS in Figure 5 in the Delineation Report) may be impacted by the proposed project. This stream enters the study area through a culvert at the east edge of the roadway and flows toward the east through another culvert that exits opposite the Union Pacific railroad tracks. Approximately 0.006 acres of on-site intermittent stream may be directly impacted. The four on-site constructed ditches have the potential to be directly impacted by project implementation; the constructed ditches total 0.084 acres in total.

Mitigation for impacts to waters subject to state and federal jurisdiction would be in accordance with permit requirements to ensure compliance with the state and federal no-net-loss policies. Due to the preliminary nature of the project design, impact calculations may not be exact and further analysis may be necessary following completion of the project design.

In addition to conditions of resource agency permits, **MM 4.4.2** requires that exclusionary fencing be installed at the outer edge of the construction area where it abuts or approaches wetlands and other waters of the U.S. and/or State that are designated for preservation. As noted above, potential indirect effects will be minimized/avoided by implementing BMPs for erosion and sediment control in accordance with existing Caltrans and other State agency requirements.

Therefore, compliance with regulatory agency permit conditions, implementation of BMPs for erosion and sediment control, and implementation of **MM 4.4.1, MM 4.4.2, and MM 4.4.3** ensures that impacts to wetlands and other waters would be less than significant.

**Question D**

The majority of work would occur in and adjacent to paved and graveled areas within road ROWs that have minimal potential to serve as wildlife migration corridors. Further, the project does not include installation of fencing or other permanent structures that could impede the movement of wildlife. Temporary impacts to wildlife could occur due to increased human activity, increased noise levels, and temporary loss of vegetation that may provide food and shelter for wildlife.

According to the CDFW records, the study area is not within a critical winter range, summer range, fall holding area, or fawning ground for deer. Daytime movement of terrestrial wildlife species along stream corridors throughout the study area may be temporarily affected during construction activities due to increased noise and human activity; however, this impact is not significant because it would be temporary and wildlife species would alter their routes to move around the construction areas or would use the stream corridors during non-working hours. There is a slight possibility that wildlife could be trapped in open trenches and pipes during construction. **MM 4.4.7** is included to prevent the inadvertent entrapment of wildlife.

Therefore, because construction activities that may impede the movement of wildlife would cease at completion of the project and **MM 4.4.7** would prevent the inadvertent entrapment of wildlife, the proposed project would have a less-than-significant impact on the movement of any migratory fish or wildlife species and would not impact migratory wildlife corridors or impede the use of native wildlife nursery sites.

**Question E**

As discussed under Regulatory Context above, the County's General Plan includes broad objectives related to the conservation of natural resources. **Mitigation Measures MM 4.4.1 through MM 4.4.7** are included to ensure consistency with the General Plan. There are no other local policies or ordinances related to the protection of biological resources that would apply to the proposed project. Impacts are considered less than significant with implementation of **MM 4.4.1 through MM 4.4.7**

**Question F**

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA) when a project results in the "take" of a federally listed threatened or endangered wildlife species. Regional HCPs address the "take" of listed species at a broader scale to avoid the need for project-by-project permitting. A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. There are no HCPs, NCCPs or other habitat conservation plans that apply to the proposed project. Therefore, there would be no impact.

## CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area, including growth resulting from build-out of the City's and County's General Plan, are anticipated to permanently remove plant and wildlife resources. As development in the area continues, sensitive plant and wildlife species native to the region and their habitat, including State and federally listed species, will be lost through conversion of existing open space to urban development. With continued conversion of natural habitat to human use, the availability and accessibility of remaining foraging and natural habitats in this ecosystem would dwindle, and those remaining natural areas may not be able to support additional plant or animal populations. The conversion of plant and wildlife habitat on a regional level as a result of cumulative development would potentially result in a regionally significant cumulative impact on special-status species and their habitats.

However, all development projects are required to comply with federal, State, and local regulations, including but not limited to those identified under Regulatory Context above. In addition, all projects are required to implement appropriate BMPs to control erosion and sedimentation and prevent damage to streams, watercourses and aquatic habitat, and must implement appropriate mitigation measures to reduce project-specific impacts. Compliance with the conditions of regulatory agency permits, implementation of BMPs for spill prevention and erosion control, and implementation of **MM 4.4.1 through MM 4.4.7** would avoid, reduce, or mitigate potential impacts to biological resources. These measures ensure that the proposed project's contribution to cumulative regional impacts to biological resources would be less than significant.

## MITIGATION

**MM 4.4.1** **Conduct Worker Environmental Awareness Program**

Prior to commencement of any earth disturbance (e.g., clearing, grading, trenching, etc.), all contractors, work crews, and any onsite personnel shall receive training from a qualified biologist regarding protective measures for special-status plant and animal species and sensitive habitats that could exist in the project area. If new personnel are added to the project, the County shall ensure that they receive the mandatory training before starting work. At a minimum, the training shall include the following:

a. A review of the special-status species that could occur in the project study area, their life history and habitat requirements, the locations where the species could occur, the laws and regulations that protect these species, procedures to be implemented in the event that these species are encountered during construction, and the consequences of noncompliance with those laws and regulations.

b. A review of vernal pools, wetlands, and waters of the U.S. and State that occur in the study area and the location of the sensitive habitats.

c. A review of applicable mitigation measures, standard construction measures, best management practices, and resource-agency permit conditions that apply to the protection of special-status species and sensitive habitats.

**MM 4.4.2** **Install Exclusionary Fencing to Avoid Impacts to Special-Status Species and Sensitive Habitats**

Prior to commencement of any earth disturbance (e.g., clearing, grading, trenching, etc.), high-visibility fencing, flagging, or other markers shall be installed at the following locations:

a. Along the outer edge of the construction zone adjacent to vernal pools, wetlands, and other waters of the U.S. and/or State. Should full avoidance of jurisdictional waters be impossible, permits may be required as determined by the federal and/or state regulatory agency.

b. Around the elderberry shrub adjacent to the northern bridge abutment, just under the west side of the bridge over Red Bank Creek.

c. Around other elderberry shrubs with basal diameters of one inch or greater that are identified in or adjacent to the work area during construction.

Fencing/flagging locations shall be determined by a qualified biologist in consultation with the project engineer and County staff. No construction activities (e.g., clearing, grading, trenching, etc.), including vehicle parking and materials stockpiling, shall occur within the fenced/flagged areas. The exclusionary fencing/flagging shall be periodically inspected by a qualified biologist throughout project construction to ensure the fencing/flagging is properly maintained. The fencing shall be removed upon project completion.

**MM 4.4.3** **Avoid/Minimize/Offset Impacts on Vernal Pool Branchiopods**

Potential impacts to vernal pool branchiopods and their habitat shall be avoided/ minimized and offset as follows:

a. Direct and indirect effects on all seasonal wetland or vernal pool habitats that may support federally listed vernal pool branchiopods shall be offset through the purchase of vernal pool conservation credits from a U.S. Fish and Wildlife Service (USFWS)-approved conservation bank at a 3:1 ratio. The project is expected to directly impact 0.20 acres and indirectly impact 0.04 acres of seasonal wetland, requiring the purchase of 0.72 vernal pool creation credits; however, the actual number of credits to be purchased shall be based on final project design. Proof of purchase shall be submitted to Caltrans and the US Department of the Army, Corps of Engineers, prior to commencement of construction.

b. No herbicides or insecticides shall be used within 250 feet of any seasonal wetland or vernal pool habitats. Any such chemicals that may be used in the project area shall be applied using a backpack sprayer or similar direct application method. A qualified biologist shall periodically monitor the work area to confirm compliance. Any unauthorized effects shall be immediately reported to Caltrans and the US Department of the Army, Corps of Engineers.

**MM 4.4.4** **Avoid/Minimize Impacts on Valley Elderberry Longhorn Beetle**

Potential impacts on valley elderberry longhorn beetle (VELB) shall be mitigated as follows:

a. As much as feasible, all construction-related activities within 50 meters (165 feet) of an elderberry shrub shall be conducted outside of the flight season of the VELB (March - July).

b. No trimming of elderberry shrubs is proposed. In the unlikely event that trimming becomes necessary for project implementation, trimming shall occur between

November and February and shall avoid the removal of any branches or stems that are one-inch in diameter or larger.

c. Herbicides shall not be used within the drip-line of elderberry shrubs. Insecticides shall not be used within 30 meters (98 feet) of an elderberry shrub. Any such chemicals that may be used in the project area shall be applied using a backpack sprayer or similar direct application method.

d. A qualified biologist shall periodically monitor the work area to assure that all avoidance and minimization measures are implemented.

**MM 4.4.5** **Avoid Impacts on Special-Status Birds and Nesting Birds**

To avoid impacts on special-status birds and nesting birds, including raptors protected under State and federal regulations, one of the following shall be implemented (removal of raptor nests at any time of year is prohibited unless appropriate permits are obtained).

a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31, when birds are not nesting; or

b. If vegetation removal or ground disturbance activities occur during the nesting season (February 1 – August 31), a pre-construction nesting survey shall be conducted by a qualified biologist to identify active nests in and adjacent to the work area.

Surveys shall begin prior to sunrise and continue until vegetation and nests have been sufficiently observed. The survey shall consider acoustic impacts and line-of-sight disturbances occurring as a result of the project in order to determine a sufficient survey radius to avoid nesting birds. At a minimum, the survey report shall include a description of the area surveyed, date and time of the survey, ambient conditions, bird species observed in the area, a description of any active nests observed, any evidence of breeding behaviors (e.g., courtship, carrying nest materials or food, etc.), and a description of any outstanding conditions that may have impacted the survey results (e.g., weather conditions, excess noise, the presence of predators, etc.).

The results of the survey shall be submitted electronically to the California Department of Fish and Wildlife at R1CEQARedding@wildlife.ca.gov upon completion. The survey shall be conducted no more than one week prior to the initiation of construction. If construction activities are delayed or suspended for more than one week after the pre-construction survey, the site shall be resurveyed.

If active nests are found, appropriate actions shall be implemented to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

**MM 4.4.6** **Avoid/Minimize Introduction and Spread of Noxious Weeds**

The potential for introduction and spread of noxious weeds shall be avoided/minimized by:

a. Using only certified weed-free erosion control materials, mulch, and seed;

b. Precluding the use of rice straw in riparian areas;

c. Limiting any import or export of fill to material known to be weed free.

d. Requiring the construction contractor to thoroughly wash all equipment at a commercial wash facility prior to entering and upon leaving the job site.

**MM 4.4.7** **Avoid Inadvertent Entrapment of Wildlife**

To prevent the inadvertent entrapment of wildlife, the construction contractor shall ensure that, at the end of each workday, trenches and other excavations that are over one-foot deep have been backfilled or covered with plywood or other hard material. If backfilling or covering is not feasible, one or more wildlife escape ramps constructed of earth fill or wooden planks shall be installed in the open trench. Pipes shall be inspected for wildlife prior to capping, moving, or placing backfill over the pipes to ensure that animals have not been trapped. If animals have been trapped, they shall be allowed to leave the area unharmed.

## DOCUMENTATION


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# 4.5 CULTURAL RESOURCES

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c. Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☒ | ☐ | ☐ |

## REGULATORY CONTEXT

### FEDERAL

#### Section 106 of the National Historic Preservation Act (NHPA)

Section 106 of the NHPA and its implementing regulations require federal agencies to take into account the effects of their activities and programs on historic properties. A historic property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and material remains related to such a property (NHPA Sec. 301[5]). A resource is considered eligible for listing in the NRHP if it meets the following criteria as defined in CFR Title 36, §60.4:

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*
>
> - *That are associated with events that have made a significant contribution to the broad patterns of our history;*
> - *That are associated with the lives of persons significant in our past;*
> - *That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> - *That has yielded, or may be likely to yield, information important to prehistory or history.*

Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP. In addition to meeting at least one of the criteria outlined above, the property must also retain enough integrity to enable it to convey its historic significance. To retain integrity, a property will always possess several, and usually most, of the seven aspects of integrity noted above. If a site is determined to be an eligible or historic property, impacts are assessed in terms of "effects." An undertaking is considered to have an adverse effect if it results in any of the following:

1. Physical destruction or damage to all or part of the property;
2. Alteration of a property;
3. Removal of the property from its historic location;
4. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
5. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; and
6. Neglect of a property that causes its deterioration; and the transfer, lease, or sale of the property.

If a project will adversely affect a historic property, feasible mitigation measures must be incorporated. The State Historic Preservation Officer (SHPO) must be provided an opportunity to review and comment on these measures prior to commencement of the proposed project.

### STATE

#### California Environmental Quality Act (CEQA)

CEQA requires that projects financed by or requiring the discretionary approval of public agencies in California be evaluated to determine potential adverse effects on historical and archaeological resources (California Code of Regulations [CCR], §15064.5).

Historical resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Pursuant to §15064.5 of the CCR, a property may qualify as a historical resource if it meets any of the following criteria:

1. The resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR).
2. The resource is included in a local register of historic resources, as defined in §5020.1(k) of the Public Resources Code (PRC), or is identified as significant in a historical resources survey that meets the requirements of §5024.1(g) of the PRC (unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant).
3. The lead agency determines that the resource may be a historical resource as defined in PRC §5020.1(j), or §5024.1, or may be significant as supported by substantial evidence in light of the whole record. Pursuant to PRC §5024.1, a resource may be eligible for inclusion in the CRHR if it:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
    - Has yielded, or may be likely to yield, information important in prehistory or history.

Resources must retain integrity to be eligible for listing on the CRHR. Resources that are listed in or formally determined eligible for listing in the NRHP are included in the CRHR, and thus are significant historical resources for the purposes of CEQA (PRC §5024.1(d)(1)).

A unique archaeological resource means an artifact, object, or site that meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Open Space and Conservation** | | |
|---|---|---|
| **Goal** | OS-10 | To preserve the historic and archaeological resources of the County for their scientific, educational, aesthetic, recreational, and cultural values. |
| **Policy** | OS-10.1 | The County should protect and preserve significant archaeological and cultural resources. |
| | OS-10.4 | The County shall encourage and support inter-agency cooperation to protect historic, archaeological, and cultural resources. |
| **IM** | OS-10.1a | Refer all new development proposals on undisturbed land to the Northwest Information Center at California State University, Chico for an evaluation of potential impacts to archaeological and cultural resources. |

| | |
|---|---|
| OS-10.1b | Encourage the nomination and registration of significant historic, archaeological, and cultural sites, resources, and buildings to the National Register of Historic Places and inclusion in the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest. |
| OS-10.1d | Require appropriate surveys and site investigations when needed as part of the initial environmental assessment for development projects in accordance with the California Environmental Quality Act (CEQA). Surveys and investigations shall be performed under the supervision of a professional archaeologist or other person qualified in the appropriate field, and approved by the County. It is recognized that Timber Harvest Plans have been declared by the State to be functionally equivalent to environmental assessments required by CEQA. |
| OS-10.1e | Impose the following conditions on all discretionary projects in areas which do not have a significant potential for containing archaeological or paleontological resources: "The Planning Dept. shall be notified immediately if any prehistoric, archaeological, or paleontological artifact is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. |
| OS-10.4a | Consult with local, State, and federal agencies as well as local Native American communities in cases where new development may result in disturbance to historic, archaeological, and/or cultural resources. |

## DISCUSSION OF IMPACTS

**Questions A, B, and C**

The proposed 99W/South Main Street Reconstruction Project involves funding from the Federal Highway Administration (FHWA). The FHWA is the federal lead agency for NEPA compliance; however, the FHWA has delegated certain oversight responsibilities to Caltrans. Pursuant to the January 1, 2014, *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA), Caltrans has on-going responsibilities for Section 106 compliance. Therefore, cultural resource studies for the proposed project were completed in coordination with the Caltrans Office of Local Assistance.

As further described below, work conducted by ENPLAN included establishment of an appropriate study area boundary, a records search, Native American consultation, and field evaluation, resulting in preparation of an Archaeological Survey Report (ASR).

**Area of Direct Impact (ADI) / Area of Potential Effects (APE)**

The Area of Direct Impacts (ADI) is a term used to describe known areas of planned direct impact, such as those depicted on engineering plans. The Area of Potential Effects (APE) is generally a broader geographic area, and may include additional properties that could be indirectly affected by visual, audible, or atmospheric intrusions; shadow effects; vibrations from construction activities; or change in access or use. Cultural resource studies for the proposed project focused on the broader APE and encompassed enough area to satisfy the concerns of agencies that have cultural resources review responsibilities for the project. The APE also encompasses enough area to satisfy USACE permitting requirements.

The APE includes all potential direct and indirect effects to cultural resources that may result from the proposed project. The APE encompasses ±85 acres along 11.3 miles of roadway, including the ±0.95-mile section of South Main Street to be improved between the I-5 overpass and the southern border of the Red Bluff city limit, as well as the ±10.35-mile segment of 99W between Red Bluff and Gyle Road.

The vertical APE (associated with the potential for buried cultural resources) is based upon the existing topography, geological history, site development history, and the engineering design of the project. The vertical APE of a project is related to the proposed excavations associated with the project. The maximum anticipated depth of vertical disturbance associated with the proposed roadway improvements, with the exception of areas where potential traffic signal installation is proposed, is four feet. Excavation may reach a maximum depth of 14 feet for the construction of the potential traffic signal foundations.

**Records Search**

The following sources were consulted to obtain information concerning known archaeological sites, historic properties, and historic activities within and/or adjacent to the study area: the Northeastern Center of the California Historical Resources Information System at California State University, Chico (NEIC/CHRIS); National Register of Historic Places (NRHP); the California Register of Historical Resources (CRHP); National Historic Landmarks; California Historical Landmarks; California Inventory of Historic Resources; California Points of Historical Interest; Caltrans Bridge Inventory, Built Environment Resources Directory; and, the Office of Historic Preservation Directory of Properties in Historic Property Data Files.

The NEIC/CHRIS records search identified the following:

- 16 cultural studies have been completed within a 0.5-mile radius of the APE, 3 of which included portions of the APE.
- 7 prehistoric archaeological resources have been mapped within a 0.5-mile radius of the APE, none of which are within the APE.
- No built environment resources have been previously recorded within a 0.5-mile radius of the APE.

**Native American Consultation**

Native American consultation was initiated in February 2019. In response to ENPLAN's request for information, on February 19, 2019, the Native American Heritage Commission (NAHC) indicated that a search of the Sacred Lands File did not reveal any known Native American cultural resources within the vicinity of the APE. The NAHC also provided contact information for five Native American tribes ethnographically affiliated within the project area: Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of the Maidu Indians, Paskenta Band of the Nomlaki Indians, Redding Rancheria, and the Wintu Tribe of Northern California. On February 26, 2019, ENPLAN contacted the Native American representatives identified by the NAHC with a request to provide comments on the proposed project. Follow-up telephone calls were place on April 2, 2021, to these representatives.

Ms. Ellen Ehni of the Wintu Tribe of Northern California responded on April 5, 2021, and requested that the project information be re-sent. Ms. Ehni stated that either Chairperson Wade McMaster or another qualified tribal representative would contact us if they have any concerns regarding the project. Tim Spillane of Natural Investigations Company re-sent the project information letter on the same day. No further response was provided by the Wintu Tribe. No other comments or concerns were reported by any other Native American representative or organization.

**Field Evaluation**

Archaeological fieldwork was completed by an ENPLAN archaeologist on January 21 and 23, and June 17, 2021. Intensive surveys were conducted in the area surrounding the proposed roundabout, all staging areas, all areas within the APE within 500 feet of a previously recorded site, all areas surrounding proposed guardrail improvements, and other areas of proposed earth-disturbing activities. Remaining areas where no earth disturbance is proposed were surveyed at a reconnaissance level. Transects in areas intensively surveyed were spaced at intervals no greater than five meters apart. All exposed ground surfaces within the APE were carefully examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, historic-era ceramics,), historic debris (e.g., metal, glass, ceramics), or any sign of former features (e.g., midden, postholes, foundations). Ground disturbances (e.g., animal burrows, cutbanks) were visually inspected for cultural material. Photographs of the APE and items of interest were taken with a digital camera. A handheld Trimble TDC100 global positioning system (GPS) unit with sub-meter accuracy was used to record locational data.

**Conclusions and Mitigation**

As a result of the cultural resources survey and consultation efforts, one previously unrecorded cultural resource, a historical segment of Old South Main Street, was identified within the APE. Although the road segment is historic in age, it was abandoned and bypassed by 1952 and further truncated with the construction of I-5 by 1970. What remains of the segment is not long enough to convey any significance it may have had, and it was determined that this resource represent a type of minor, ubiquitous, or fragmentary infrastructural element that is exempt from Section 106 evaluation under the 2014 programmatic agreement. No other cultural resources were identified within the APE as a result of the cultural resources evaluation.

The geoarchaeological analysis indicated that the APE is underlain by Latest-Pleistocene/Early Holocene-aged (15,000 to 7,000 years ago) soils. Due to the age of these soils, it is unlikely they would contain buried archaeological resources. Based on the age of the soils, extent of prior disturbance within the APE, and the relatively shallow depth anticipated for the majority of the work, proposed improvements in previously undisturbed areas have a low to moderate potential to encounter buried historic and prehistoric resources.

Further, Caltrans has determined that the proposed project would not result in physical destruction or damage to a cultural resource, would not change the character of the use or of physical features within the property's setting as a whole, and would not result in the introduction of visual, atmospheric, or audible elements out of character with existing conditions.

**MM 4.5.1** ensures that potential impacts to cultural resources that may be inadvertently discovered during construction would be less than significant. **MM 4.5.2** ensures that impacts on human remains that could be encountered during subsurface investigations would be less than significant.

## CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area have the potential to impact cultural resources. Archaeological and historic resources are afforded special legal protections designed to reduce the cumulative effects of development. Cumulative projects and the proposed project are subject to the protection of cultural resources afforded by the *CEQA Guidelines* Section 15064.5 and related provisions of the PRC. In addition, projects with federal involvement are subject to Section 106 of the NHPA.

Given the non-renewable nature of cultural resources, any impact to protected sites could be considered cumulatively considerable. As discussed above, implementation of **MM 4.5.1** and **MM 4.5.2**, ensures that the proposed project's cumulative impacts to cultural resources would be less than significant.

## MITIGATION

**MM 4.5.1** In the event of any inadvertent discovery of cultural resources (i.e., burnt animal bone, midden soils, projectile points or other humanly modified lithics, historic artifacts, etc.), all work within 50 feet of the find shall be halted until a professional archaeologist can evaluate the significance of the find in accordance with PRC §21083.2(g) and §21084.1, and CEQA Guidelines §15064.5(a). If any find is determined to be significant by the archaeologist, the County shall meet with the archaeologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by an archeologist outlining recovery of the resource, analysis, and reporting of the find shall be prepared. The Treatment Plan shall be reviewed and approved by the County prior to resuming construction.

**MM 4.5.2** In the event that human remains are encountered during construction activities, all construction activities (ground-disturbing or not) shall stop within 50 feet (15 meters) of the find, and the County-Designated (CD) Archaeologist shall be immediately contacted. The CD-Archaeologist, in coordination with Tehama County, shall ensure that the requirements of §15064.5 (e) (1) of the CEQA Guidelines and §7050.5 of the Health and Safety Code are met. These requirements provide that (1) the Tehama County coroner shall be contacted to determine whether investigation of the cause of death is required and (2), if the remains are determined to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of the find. Together with representatives of the people of most likely descent, as identified by the NAHC, the CD-Archaeologist shall make an assessment of the discovery and recommend/implement mitigation measures as necessary.

## DOCUMENTATION

**ENPLAN**. 2021. Archaeological Survey Report for the Tehama County 99W/South Main Street Reconstruction Project, Red Bluff, Tehama County, California. Prepared for Tehama County (Confidential Document).

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.6 ENERGY

Would the project:

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

## REGULATORY CONTEXT

There are no federal or local regulations pertaining to energy that apply to the proposed project.

## STATE

### California Environmental Quality Act (CEQA)

Section 15126.2(b) of the CEQA Guidelines states that if analysis of a project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the effects must be mitigated. The Guidelines provide suggestions of topics that may be included in the energy analysis, including identification of energy supplies that would serve the project and energy use for all project phases and components. In addition to building code compliance, other relevant considerations may include the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. The energy use analysis may be included in related analyses of air quality, GHG emissions, transportation, or utilities at the discretion of the lead agency.

## DISCUSSION OF IMPACTS

### Questions A and B

The project does not include any components that would result in a permanent increase in energy use. Energy consumption during construction would occur from diesel and gasoline used for construction equipment, haul trucks, and construction workers travelling to and from the work site. The project would comply with State regulations that require the use of fuel-efficient equipment and that restrict idling of vehicles when not in use. In addition, fuel consumption associated with construction activities is a temporary demand that would cease once construction is complete. The project does not include additional maintenance activities or other components that would result in a long-term increase in energy consumption. Compliance with existing State regulations ensures that the project does not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.

## CUMULATIVE IMPACTS

Completion of the proposed project and other potential cumulative projects in the region, including growth resulting from build-out of the City's and County's General Plan, could result in potentially significant impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources. However, all new development projects in the State are required to comply with State regulations that require the use of fuel-efficient equipment during construction. Compliance with State regulations ensures that the project's cumulative impacts on energy resources would be less than significant.

## MITIGATION

None necessary.

## DOCUMENTATION

**California Air Resources Board**. 2016. In-Use Off-Road Diesel-Fueled Fleets Regulation Overview. https://ww3.arb.ca.gov/msprog/ordiesel/faq/overview_fact_sheet_dec_2010-final.pdf. Accessed February 2021.

_____. 2016. Mobile Source Strategy. https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf. Accessed March 2020.

# 4.7 GEOLOGY AND SOILS

Would the project:

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

## REGULATORY CONTEXT

### FEDERAL

#### National Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction (NEHR) Act was passed in 1977 to reduce the risks to life and property from future earthquakes in the United States. The Act established the National Earthquake Hazards Reduction Program, which was most recently amended in 2004. The Federal Emergency Management Agency (FEMA) is designated as the lead agency of the program. Other NEHR Act agencies include the National Institute of Standards and Technology, National Science Foundation, and the U.S. Geological Survey (USGS).

## STATE

### California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (PRC §2621 *et seq.*) was passed in 1972 to reduce the risk to life and property from surface faulting in California. The Act prohibits the siting of most structures intended for human occupancy on the surface trace of active faults. Before a project can be permitted in a designated Alquist-Priolo Fault Study Zone, a geologic investigation must be prepared to demonstrate that proposed buildings would not be constructed across active faults.

### California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (SHMA) of 1990 (PRC §2690–2699.6) addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction and seismically induced landslides. The SHMA also addresses expansive soils, settlement, and slope stability. Under the SHMA, cities and counties may withhold development permits for sites within seismic hazard areas until geologic/geotechnical investigations have been completed and measures to reduce potential damage have been incorporated into development plans.

### California Building Standards Code

Title 24 of the CCR, also known as the California Building Standards Code (CBSC), provides minimum standards for building design and construction, including excavation, seismic design, drainage, and erosion control. The CBSC is based on the International Building Code (IBC) used widely throughout the country. The CBSC has been modified for California conditions to include more detailed and/or more stringent regulations.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Open Space and Conservation Element** | | |
|---|---|---|
| **Goal** | OS-12 | To protect and maximize the present and future productive, economic, and environmental values of the County's soil resources. |
| **Policy** | OS-12.1 | The County shall recognize the need to protect and conserve areas where soils have high resource values, especially in terms of potential agricultural productivity. |
| | OS-12.2 | The County shall exercise an appropriate degree of regulation designed to minimize soil erosion, including the administration of standards for grading and site clearance related to development projects. |
| | OS-12.3 | The County shall continue to encourage sound soil management, erosion prevention and control programs and projects, including the use of windbreaks, minimum tillage practices, grazing management, and riparian area rehabilitation. |
| **Safety Element** | | |
| **Goal** | SAF-4 | To minimize the threat of personal injury and property damage due to seismic and geologic hazards. |
| **Policy** | SAF-4.1 | The County shall require that all construction comply with the California Building Code, including the requirements for seismic design. |
| | SAF-4.2 | The County shall require that all new development and redevelopment projects that have the potential for seismic or geological hazards, including |

| | | |
|---|---|---|
| | | liquefaction, landslides, and expansive soils, be subject to geotechnical evaluation prior to approval. |
| **IM** | SAF-4.1a | Ensure that the requirements of the California Building Code, including seismic requirements, are included as part of the building permits issuance and inspection process. |
| | SAF-4.2a | Require applicants to submit a geotechnical report prepared by a licensed soils or geotechnical engineer for any new development or redevelopment project subject to expansive soils or other potential seismic or geologic hazards. The report shall address any potential seismic or geologic hazards and recommend measures to mitigate for those hazards. |
| | SAF-4.2b | Require a soils report, prepared by a licensed soils engineer, for all projects within areas of identified soil limitations. Soils reports shall evaluate the shrink/swell and liquefaction potential of sites and recommend measures to minimize unstable soil hazards. |
| | SAF-4.4a | All development proposals shall be referred to the County Planning Department, County Building and Safety Department, and Road Department/ Public Works Department to review and comment on any potential seismic or geologic impacts or potential hazards. The environmental review for development proposals shall include a full inventory of potential soil, seismic, or geologic concerns; an assessment of potential project impacts; and identification of any mitigation and/or monitoring measures. Issues that are related to liquefaction and potential ground failure, if any, shall be addressed. Project design, grading, and building design and construction techniques shall be used, where appropriate, to minimize these hazards. The applicant shall be responsible for providing any and all studies pertaining to potential seismic and geologic hazards and per County requirements. |
| | SAF-4.4c | Review and ensure that any specific plans are consistent with the goals and policies of the General Plan and shall identify any potential geologic, soil, and/or seismic hazards and include measures to reduce the risk of these hazards. |

## DISCUSSION OF IMPACTS

**Question A**

**i and ii)**

According to the Alquist-Priolo Earthquake Fault Zoning Maps, the closest Special Study Zone is the Hat Creek Fault Zone, approximately 55.5 miles northeast of the I-5/South Main Street interchange improvements. According to the California Geological Survey, the I-5/South Main Street interchange improvements are located within the Corning fault; a potentially active fault. From the I-5/South Main Street interchange to the south, the Corning fault follows the general trend of the I-5 corridor. The Corning fault could produce moderate to strong ground shaking in the area that could cause significant structural damage, although earthquake activity has not been a serious hazard in the County's history.

Further, the project does not include any structural components that would be at high-risk of damage due to an earthquake or would increase the likelihood of a seismic event or increase the exposure of people or structures to risks associated with a seismic event; therefore, there would be no impact.

**iii)**

Liquefaction results from an applied stress on the soil, such as earthquake shaking or other sudden change in stress condition, and is primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength and ground failure may occur. This is most likely to occur in alluvial (geologically recent, unconsolidated sediments) and stream channel deposits, especially when the groundwater table is high.

According to the U.S. Department of Agriculture, Natural Resources Conservation Service, there are 27 different soil types in the study area and some of these soils may be subject to liquefaction, although there is no known history of liquefaction in the study area. Improvement plans for the proposed project would be prepared by a registered professional engineer to ensure special design and/or construction methods are implemented to reduce or eliminate potential impacts. With implementation of standard engineering design measures, the potential for liquefaction is less than significant.

**iv)**

According to the 2018 Tehama County Multi-Jurisdictional Hazard Mitigation Plan, there have been no recorded landslide events in Tehama County since 1960. According to the Tehama County Slope Failure Map, the project area is at low risk of landslide hazards. Further, the proposed project does not include extensive grading on steep slopes; therefore, potential impacts associated with landslides are less than significant.

**Question B**

Construction of the proposed project would involve grading, excavation, and installation of project components, which would result in the temporary disturbance of soil and would expose disturbed areas to potential storm events. This could generate accelerated runoff, localized erosion, and sedimentation. In addition, construction activities could expose soil to wind erosion that could adversely affect on-site soils and the revegetation potential of the area.

As discussed in Section 4.4 (Biological Resources) under Question B, in addition to implementing Caltrans' BMPs for erosion and sediment control, the County is required to obtain coverage under the RWQCB NPDES permit for *Discharges of Storm Water Runoff Associated with Construction Activity,* which requires development of a SWPPP that includes BMPs to control erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat. Because BMPs for erosion and sediment control would be implemented in accordance with existing requirements, the potential for soil erosion and loss of top soil would be less than significant.

**Questions C and D**

See discussion under Question A(iii) and (iv) and Question B above. Unstable soils consist of loose or soft deposits of sands, silts, and clays. In the project area, unstable soils can occur near streams and creeks. Some soils have a potential to swell when they absorb water and shrink when they dry out. These expansive soils generally contain clays that expand when moisture is absorbed into the crystal structure. Although some of the soils in the project area may have a high shrink-swell potential, improvement plans for the proposed project would be prepared by a registered professional engineer to ensure any special design or construction methods are implemented to avoid/minimize potential impacts. Therefore, impacts would be less than significant.

**Question E**

The proposed project does not include the installation or use of alternative wastewater disposal systems. Therefore, there would be no impact.

**Question F**

Paleontological resources include fossils and the deposits that contain fossils. Fossils are evidence of ancient life preserved in sediments and rock, such as the remains of animals, animal tracks, plants, and other organisms. According to the California Geological Survey, rock formations within the

project site are relatively young and date to the Pleistocene-Holocene and Pliocene-Pleistocene. According to the NRCS Soil Survey, the parent material of the majority of the soils on site consists of alluvium derived from sedimentary rock. Younger alluvial deposits generally have a low potential to harbor paleontological resources because they consist of sediments that are too young to produce fossils. Further, the project area has no unique geological features, and the majority of work would be conducted in previously disturbed areas. Therefore, the potential for the inadvertent discovery of paleontological resources is low and impacts would be less that significant.

## CUMULATIVE IMPACTS

Completion of the proposed project and other potential cumulative projects in the region, including growth resulting from build-out of the City's and County's General Plans, could result in increased erosion and soil hazards and could expose additional structures and people to seismic hazards. In addition, cumulative projects have the potential to destroy paleontological resources and unique geologic features.

All development projects in the County must implement BMPs for erosion control in accordance with the County's Erosion and Sediment Control Standards and conditions of applicable regulatory agency permits to ensure that potential impacts associated with soil erosion are minimized/avoided. In addition, pursuant to existing State regulations, incorporation of standard seismic safety and engineering design measures are required for all public infrastructure projects. Further, all discretionary projects are analyzed to determine potential effects on paleontological resources and unique geologic features. Therefore, the proposed project's cumulative impacts are less than significant.

## MITIGATION

None necessary.

## DOCUMENTATION


**California Department of Conservation**. 2020. Alquist-Priolo Earthquake Fault Zoning Act. http://www.conservation.ca.gov/CGS/rghm/ap/. Accessed July 2021.

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**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

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**University of Southern California, Southern California Earthquake Center.** 1999. Recommended Procedures for Implementing DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California. https://www.tugraz.at/fileadmin/user_upload/Institute/IAG/Files/33_Liquefaction_Mitigation-DMG_SP117.pdf. Accessed July 2021.

**U.S. Department of Agriculture, Natural Resource Conservation Service.** 2021. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed July 2021.

_____. 1967. Soil Survey of Tehama County, California.

# 4.8 GREENHOUSE GAS EMISSIONS

Would the project:

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

## REGULATORY CONTEXT

### FEDERAL

#### U.S. Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. EPA,* 549 U.S. 497 (2007), the Supreme Court found that greenhouse gas emissions (GHGs) are air pollutants covered by the federal Clean Air Act (CAA). In reaching its decision, the Court also acknowledged that climate change is caused, in part, by human activities. The Supreme Court's ruling paved the way for the regulation of GHG emissions by the USEPA under the CAA. The USEPA has enacted regulations that address GHG emissions, including, but not limited to, mandatory GHG reporting requirements, carbon pollution standards for power plants, and air pollution standards for oil and natural gas.

### STATE

#### California Executive Order (EO) S-3-05

EO S-03-05 was signed by the Governor on June 1, 2005, and established the goal of reducing statewide GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

#### Assembly Bill 32 (Global Warming Solutions Act of 2006)

As required by AB 32 (2006), CARB adopted the initial Climate Change Scoping Plan in 2008 that identified the State's strategy to achieve the 2020 GHG emissions limit via regulations, market-based mechanisms, and other actions. AB 32 requires that the Scoping Plan be updated every five years. CARB's first update to the Climate Change Scoping Plan (2014) addressed post-2020 goals and identified the need for a 2030 mid-term target to establish a continuum of actions to maintain and continue reductions. Executive Order B-30-15 (2015) extended the goal of AB 32 and set a GHG reduction goal of 40 percent below 1990 levels by 2030. In December 2017, CARB adopted the second update to the Scoping Plan that includes strategies to achieve the 2030 mid-term target and substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The 2017 Scoping Plan Update recommends that local governments aim to achieve a community-wide goal of no more than 6 MT $CO_2e$ per capita by 2030 and no more than 2 MT $CO_2e$ per capita by 2050, which is consistent with the State's long-term goals.

#### Senate Bill 32/Assembly Bill 197

These two bills were signed into legislation on September 8, 2016. As set forth in EO B-30-15, SB 32 requires CARB to reduce GHG emissions to 40 percent below the 1990 levels by 2030. AB 197 requires

that GHG emissions reductions be achieved in a manner that benefits the state's most disadvantaged communities. AB 197 requires CARB to prioritize GHG emission reductions in a manner that benefits the state's most disadvantaged communities and to consider social costs when adopting regulations to reduce GHG emissions.

**Renewables Portfolio Standard**

In 2002, SB 1078 was passed to establish the State's Renewables Portfolio Standard (RPS) Program, with the goal of increasing the amount of electricity generated and sold to retail customers from eligible renewable energy resources. SB 350 (2015) codified a target of 50 percent renewable energy by 2030, and requires California utilities to develop integrated resource plans that incorporate a GHG emission reduction planning component beginning January 1, 2019. SB100 (2018) codified targets of 60 percent renewable energy by 2030 and 100 percent renewable energy by 2045.

**California Executive Order B-55-18**

EO B-55-18 was issued by the Governor on September 10, 2018. It sets a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets.

**Senate Bill 375 (Sustainable Communities and Climate Protection Act of 2008)**

Under SB 375, the CARB sets regional targets for the reduction of GHG emissions from passenger vehicles and light duty trucks. Each Metropolitan Planning Organization (MPO) in the State, or Regional Transportation Planning Agency for regions without a MPO, must include a Sustainable Communities Strategy in the applicable Regional Transportation Plan that demonstrates how the region will meet the GHG emissions reduction targets.

**Mobile Source Strategy**

CARB's Mobile Source Strategy, adopted in 2016, describes the State's strategy for containing air pollutant emissions from vehicles, and quantifies growth in vehicle miles traveled that is compatible with achieving state climate targets. The Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risks from transportation emissions, and reduce petroleum consumption over the next fifteen years.

**Senate Bill 210 (2019), Heavy-Duty Vehicle Inspection and Maintenance Program**

Under SB 210, heavy-duty diesel trucks will have to pass a smog check to ensure vehicle emission controls are maintained in order to register or operate in California. Upon implementation of the Program, CARB must provide mechanisms for out-of-state owners of heavy-duty vehicles to establish and verify compliance with State regulations for heavy-duty diesel trucks prior to entering the State.

**Senate Bill 44 (2019), Medium- and Heavy-Duty Vehicles: Comprehensive Strategy**

SB 44 requires CARB to update the State's Mobile Source Strategy no later than January 1, 2021, to include a comprehensive strategy to reduce emissions from medium- and heavy-duty vehicles in order to meet federal ambient air quality standards and reduce GHG emissions from this sector. The Bill also requires CARB to establish emission reduction goals for 2030 and 2050 for medium- and heavy-duty vehicles.

**CEQA Guidelines**

§15064.4 of the California Environmental Quality Act (CEQA) Guidelines states that the lead agency should focus its GHG emissions analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A lead agency has the discretion to determine whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative or performance-based standard.

The GHG analysis should consider: 1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, 2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and 3) the extent to which the project complies with any regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an Environmental Impact Report (EIR) must be prepared for the project. To determine transportation-generated greenhouse gas emissions in particular, lead agencies may determine that it is appropriate to use the same method used to determine the transportation impacts associated with a project's VMT.

In *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, which involved the Newhall Ranch project, the California Supreme Court concluded that a legally appropriate approach to assessing the significance of GHG emissions was to determine whether a project was consistent with "*'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions' (CEQA Guidelines §15064.4(a)(2), (b)(3)… §15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)"* (62 Cal.4th at p. 229.)

**Greenhouse Gases Defined**

**Table 4.8-1** provides descriptions of the GHGs identified in California Health and Safety Code §38505(g) (HSC).

**TABLE 4.8-1**
**Greenhouse Gases**

| Greenhouse Gas | Description |
|---|---|
| Carbon dioxide ($CO_2$) | $CO_2$ is the primary greenhouse gas emitted through human activities. In 2019, $CO_2$ accounted for about 80 percent of all U.S. greenhouse gas emissions from human activities. The main human activity that emits $CO_2$ is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation, although certain industrial processes and land-use changes also emit $CO_2$. |
| Methane ($CH_4$) | $CH_4$ is the second most prevalent greenhouse gas emitted in the United States from human activities. Methane is emitted by natural sources such as wetlands, as well as human activities such as the raising of livestock; the production, refinement, transportation, and storage of natural gas; methane in landfills as waste decomposes; and in the treatment of wastewater. |
| Nitrous oxide ($N_2O$) | In 2019, $N_2O$ accounted for about 7 percent of all U.S. greenhouse gas emissions from human activities. Nitrous oxide is naturally present in the atmosphere as part of the Earth's nitrogen cycle. Human activities such as agricultural soil management (adding nitrogen to soil through use of synthetic fertilizers), fossil fuel combustion, wastewater management, and industrial processes are also increasing the amount of $N_2O$ in the atmosphere. |
| Hydrofluorocarbons (HFCs) | HFCs are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products such as refrigerants, aerosol propellants, solvents, and fire retardants. They are released into the atmosphere through leaks, servicing, and disposal of equipment in which they are used. |
| Perfluorocarbons (PFCs) | PFCs are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane ($CF_4$), perfluoroethane ($C_2F_6$), perfluoropropane ($C_3F_8$), perfluorobutane ($C_4F_{10}$), perfluorocyclobutane ($C_4F_8$), perfluoropentane ($C_5F_{12}$), and perfluorohexane ($C_6F_4$). |

| Greenhouse Gas | Description |
|---|---|
| | Perfluorocarbons are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors. |
| Sulfur hexafluoride ($SF_6$) | $SF_6$ is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. $SF_6$ is primarily used in magnesium processing and as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all $SF_6$ produced worldwide. |
| Nitrogen trifluoride ($NF_3$) | $NF_3$ is a colorless, odorless, nonflammable gas that is highly toxic by inhalation. It is one of several gases used in the manufacture of liquid crystal flat-panel displays, thin-film photovoltaic cells and microcircuits. |

Source: *U.S. Environmental Protection Agency, 2021.*

### LOCAL

#### Tehama County

The Tehama County Air Pollution Control District prepared an Air Quality Planning and Permitting Handbook (Guidelines for Assessing Air Quality Impacts) in April 2015. The Handbook states that the TCAPCD threshold for GHG emissions is 900 metric tons per year (MT/yr) $CO_2e$. If a project exceeds this threshold, mitigation measures must be considered.

## DISCUSSION OF IMPACTS

#### Question A

Gases that trap heat in the atmosphere create a greenhouse effect that results in global warming and climate change. These gases are referred to as greenhouse gases (GHGs). As described in **Table 4.8-1**, some GHGs occur both naturally and as a result of human activities, and some GHGs are exclusively the result of human activities. The atmospheric lifetime of each GHG reflects how long the gas stays in the atmosphere before natural processes (e.g., chemical reactions) remove it. A gas with a long lifetime can exert more warming influence than a gas with a short lifetime. In addition, different GHGs have different effects on the atmosphere. For this reason, each GHG is assigned a global warming potential (GWP) which is a measure of the heat-trapping potential of each gas over a specified period of time.

Gases with a higher GWP absorb more heat than gases with a lower GWP, and thus have a greater effect on global warming and climate change. The GWP metric is used to convert all GHGs into $CO_2$ equivalent ($CO_2e$) units, which allows policy makers to compare impacts of GHG emissions on an equal basis. The GWPs and atmospheric lifetimes for each GHG are shown in **Table 4.8-2**.

**TABLE 4.8-2**
**Greenhouse Gases: Global Warming Potential and Atmospheric Lifetime**

| GHG | GWP (100-year time horizon) | Atmospheric Lifetime (years) |
|---|---|---|
| $CO_2$ | 1 | 50 -200 |
| $CH_4$ | 25 | 12 |
| $N_2O$ | 298 | 114 |
| HFCs | Up to 14,800 | Up to 270 |
| PFCs: | 7,390-12,200 | 2,600 – 50,000 |
| $SF_6$ | 22,800 | 3,200 |
| $NF_3$ | 17,200 | 740 |

Source: *U.S. Environmental Protection Agency, 2020.*

**Thresholds of Significance**

As stated under Regulatory Context, §15064.4 of the CEQA Guidelines gives lead agencies the discretion to determine whether to use a model or other method to quantify GHG emissions and/or to rely on a qualitative or performance-based standard.

For a quantitative analysis, a lead agency could determine a less-than-significant impact if a project did not exceed an established numerical threshold. For a qualitative/performance-based threshold, a lead agency could determine a less-than-significant impact if a project complies with State, regional, and/or local programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

If a qualitative approach is used, lead agencies should still quantify a project's construction and operational GHG emissions to determine the amount, types, and sources of GHG emissions resulting from the project. Quantification may be useful in indicating to the lead agency and the public whether emissions reductions are possible, and if so, from which sources. For example, if quantification reveals that a substantial portion of a project's emissions result from mobile sources (automobiles), a lead agency may consider whether design changes could reduce the project's vehicle miles traveled (OPR, 2018).
As stated above, TCAPCD has established a numerical threshold of significance of 900 MT/year $CO_2e$. The proposed project does not include any components that would result in a permanent increase in GHG emissions above existing levels, either directly or indirectly; therefore, only GHGs associated with construction activities were considered.

**Project GHG Emissions**

GHG emissions for the proposed project were estimated using the CalEEMod.2020.4.0 software. CalEEMod is a statewide model designed to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. As noted above, the project does not include any components that would result in an increase in operational emissions over existing levels, and only construction-related GHG emissions were considered.

Site-specific inputs and assumptions for the proposed project include, but are not limited to, the following. Output files and site-specific inputs are provided in **Appendix A**.

- Emissions from construction are based on all construction-related activities associated with the proposed uses, including but not limited to grading, use of construction equipment, material hauling, trenching, and re-paving.
- Construction would start in April 2023 and occur over a period of approximately twelve months (although the project is anticipated to be constructed in phases as funding becomes available).
- Total land disturbance would be approximately 64 acres; 15,000 cubic yards (CY) of material would be imported; 12,000 CY would be exported.
- The total area to be paved/re-paved would be 46 acres.
- The total weight of demolition debris (pavement) to be removed from the project site would be approximately 8,000 tons.
- The total area receiving architectural coatings would be 100,000.

Construction of the proposed project would emit GHG emissions as shown in **Table 4.8-3**, primarily from the combustion of diesel fuel in heavy equipment.

**TABLE 4.8-3**
**Estimated Greenhouse Gas Emissions (Metric Tons)**

| Carbon Dioxide ($CO_2$) | Methane ($CH_4$) | Nitrous Oxide ($N_2O$) | Carbon Dioxide Equivalent ($CO_2e$) |
|---|---|---|---|
| 390.28 | 0.1 | 0.008 | 395.35 |

*Source: CalEEMod, 2021. Note: Total values may not add due to rounding (see Appendix A).*

As indicated in Table 4.8-3, $CO_2e$ associated with construction of the proposed project would not exceed the referenced numerical threshold of 900 MT/year of $CO_2e$. As discussed in Section 4.3 (Air Quality), changing from a signalized intersection to a roundabout would reduce idling, thereby reducing carbon dioxide emissions. In addition, the proposed bicycle/pedestrian improvements may encourage alternative transportation, thereby reducing vehicle miles traveled (VMT). Therefore, potential impacts associated with GHG emissions would be less than significant.

**Question B**

See discussion under Regulatory Context and Question A above. The project would not exceed the County's threshold for GHG emissions. In addition, the project would comply with applicable State regulations pertaining to GHG emissions including but not limited to those identified under Regulatory Context above. Therefore, the project would not conflict with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

## CUMULATIVE IMPACTS

GHG emissions and global climate change are, by nature, cumulative impacts. Unlike criteria pollutants, which are pollutants of regional and local concern, GHGs are global pollutants and are not limited to the area in which they are generated. As discussed under Regulatory Context above, the State legislature has adopted numerous programs and regulations to reduce statewide GHG emissions. As documented above, construction-related GHG emissions would not exceed the referenced numerical threshold of 900 MT/year $CO_2e$, and there would be no permanent increase in VMT, energy use, or GHG emissions as a result of the project. Therefore, the proposed project's contribution to cumulative GHG emissions would be less than significant.

## MITIGATION

None necessary.

## DOCUMENTATION


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**California Environmental Protection Agency, Air Resources Board.** 2018. California Global Warming Solutions Act of 2006 (AB 32) Scoping Plan Website. https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm. Accessed July 2021.

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## 4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☒ | ☐ | ☐ |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 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 area or, where such a plan has not been adopted, within two miles of a public airport or a 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? | ☐ | ☐ | ☒ | ☐ |

## REGULATORY CONTEXT

### FEDERAL

#### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) is the primary federal law for the regulation of solid waste and hazardous waste in the United States and provides for the "cradle-to-grave" regulation that requires businesses, institutions, and other entities that generate hazardous waste to track such waste from the point of generation until it is recycled, reused, or properly disposed of. The U.S. Environmental Protection Agency (USEPA) has primary responsibility for implementing the RCRA.

#### USEPA's Risk Management Plan

Section 112(r) of the federal CAA (referred to as the USEPA's Risk Management Plan) specifically covers "extremely hazardous materials" which include acutely toxic, extremely flammable, and highly explosive substances. Facilities involved in the use or storage of extremely hazardous materials must implement a Risk Management Plan (RMP), which requires a detailed analysis of potential accident factors and implementation of applicable mitigation measures.

#### Federal Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Act (OSHA) prepares and enforces occupational health and safety regulations with the goal of providing employees a safe working environment. OSHA regulations apply to the work place and cover activities ranging from confined space entry to toxic chemical exposure.

#### U.S. Department of Transportation

The United States Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA, discussed previously.

### STATE

#### California Code of Regulations (CCR), Title 22, Definition of Hazardous Material

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22, §66260.10, of the CCR as: *"A substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed."*

#### Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the State Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

#### California Occupational Safety and Health Administration (Cal/OSHA)

The California Occupational Safety and Health Administration (Cal/OSHA) has primary responsibility for developing and enforcing state workplace safety regulations, including requirements for safety training,

availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

### Regional Water Quality Control Board

The SWRCB and RWQCBs regulate hazardous substances, materials, and wastes through a variety of state statutes, including the Porter-Cologne Water Quality Control Act and underground storage tank cleanup laws. The Regional Boards regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge waste within the State must file a report of waste discharge with the appropriate regional board. The proposed project is located within the jurisdiction of the CVRWQCB.

### Hazardous Materials Emergency Response/Contingency Plan

Chapter 6.95, §25503, of the California Health and Safety Code requires businesses that handle/store a hazardous material or a mixture containing a hazardous material to establish and implement a Business Plan for Emergency Response (Business Plan). A Business Plan is required when the amount of hazardous materials exceeds 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases. A Business Plan is also required if federal thresholds for extremely hazardous substances are exceeded. The Business Plan includes procedures to deal with emergencies following a fire, explosion, or release of hazardous materials that could threaten human health and/or the environment.

### California Accidental Release Prevention Program (CalARP)

The goal of the California Accidental Release Prevention Program (CalARP) is to prevent accidental releases of substances that pose the greatest risk of immediate harm to the public and the environment. Facilities are required to prepare a Risk Management Plan in compliance with CCR Title 19, Division 2, Chapter 4.5, if they handle, manufacture, use, or store a federally regulated substance in amounts above established federal thresholds; or if they handle a state regulated substance in amounts greater than state thresholds and have been determined to have a high potential for accident risk.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Safety Element** | | |
|---|---|---|
| **Goal** | SAF-3 | To protect the people and property within Tehama County against fire related loss and damage. |
| | SAF-9 | To minimize the risk of personal injury, property damage, and environmental degradation resulting from the use, transport, disposal, and release or discharge of hazardous materials. |
| **Policy** | SAF-9.1 | The County shall ensure that the use, transport, and disposal of hazardous materials comply with all federal, state, and local regulations and requirements. |
| | SAF-9.2 | The County shall implement safety measures regarding the transport, use, storage, and disposal of hazardous materials within the County. |

## DISCUSSION OF IMPACTS

**Question A**

The project would not result in an increase in long-term impacts related to the transport, use, or disposal of hazardous materials. During construction, it is anticipated that limited quantities of hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., would temporarily be brought into areas where improvements are proposed. There is a possibility of accidental release of hazardous substances into the environment, such as spilling fuels used for construction equipment. However, construction contractors are required to comply with applicable federal and State environmental and workplace safety laws, including those identified in Caltrans' Standard Specification 14-11.03 (Hazardous Waste Management). Additionally, construction contractors are required to implement BMPs for the storage, use, and transportation of hazardous materials. Therefore, impacts would be less than significant.

**Question B**

See Section 4.3 (Air Quality), Questions C and D for a discussion regarding potential impacts associated with asbestos and lead.

***Treated Wood Waste***

The wooden sign posts and guardrail supports to be replaced may have been treated with preserving chemicals that may include, but are not limited to, arsenic, chromium, copper, creosote, and pentachlorophenol. These chemicals are known to be toxic or carcinogenic and require specific handling prescribed by State and federal regulations.

When the treated wood has reached the end of its usefulness, it is regarded as treated wood waste (TWW). If TWW is not properly disposed of, the chemicals it contains can contaminate surface water and groundwater. This poses a risk to human health and the environment. Regulations that allowed alternative management standards for disposal of TWW to California Class II and III landfills as a non-hazardous waste expired on January 1, 2021. TWW must now be managed as a hazardous waste and must be transported to a Class I hazardous waste landfill, or to an authorized out-of-state landfill, for disposal.

According to the March 4, 2021, Caltrans Construction Procedure Directive CPD 21-2 (Treated Wood Waste Management Update), all TWW for Caltrans projects must be transported to a RCRA Subtitle C hazardous waste facility for disposal. Facilities currently permitted to accept TWW include Clean Harbors in Buttonwillow, California; US Ecology in Beatty, Nevada; US Ecology in Grandview, Idaho; and Chemical Waste Management of the Northwest in Arlington, Oregon.

DTSC has recognized that transitioning to the new State regulations will significantly affect the transportation and disposal of TWW and has agreed to issue temporary Disposal Facility Variances to allow TWW to be disposed in composite-lined landfills. The County will include provisions in the construction contract to ensure the proper removal and disposal of TWW in accordance Caltrans and DTSC requirements. **MM 4.9.1** reduces environmental impacts that could result from TWW removal to a less than significant level. As stated under Question A, compliance with existing State and federal regulations minimizes potential risks associated with hazardous materials.

**Question C**

The schools nearest to the project site are the Shasta College Tehama Campus, approximately 0.15 miles east of proposed improvements at the I-5/South Main Street interchange, Metteer Elementary School on Kimball Road, approximately 0.52 miles west of the I-5/South Main Street interchange improvements, and Gerber School on Chard Avenue, approximately 0.5 miles west of proposed improvements on 99W.

As described in Section 4.3 (Air Quality) under Questions C and D and under Questions A and B above, construction activities would involve use of relatively small quantities of materials such as

diesel, gasoline, oils, and other engine fluids, and may involve handling and removal of asbestos- and lead-containing materials and TWW. However, existing State standards govern the removal, handling, use, transport, and/or disposal of hazardous materials, and mitigation measures are included to avoid/minimize potential risks associated with hazardous substances. Therefore, impacts would be less than significant.

**Question D**

The Cortese list is prepared in accordance with California Government Code §65962.5. The following databases were reviewed to locate "Cortese List" sites.

- List of Hazardous Waste and Substances sites from the Department of Toxic Substances Control (DTSC) EnviroStor database.
- SWRCB GeoTracker Database
- List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- List of Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board.

Review of the above records identified two active clean-up sites and one active Class III non-municipal landfill as described below:

**Diamond Lands Mill**
The Diamond Lands Mill site is located at 1 Diamond Avenue approximately 0.5 miles east of proposed improvements on 99W. Formerly owned by Diamond International Corporation and Roseburg Forest Products Company, the site was used as a lumber mill and processing facility. In 1997, the Regional Water Quality Control board issued a closure letter for a case involving the removal of two gasoline Underground Storage Tanks (USTs) and one diesel UST in 1987. Remediation included treatment of onsite contaminated soils, groundwater extraction and treatment, and groundwater sampling.

An environmental investigation completed by CH2M HILL in 2002 indicated that polyaromatic hydrocarbons and motor oil were present in the soil. A subsequent report completed by CH2M HILL in 2012 concluded that fill and burn material remaining on site will not pose a risk to human health in an industrial setting and will not adversely impact groundwater. The case has been inactive since November 2016. Due to the distance between the clean-up site the project site, there would be no impact.

**Union Pacific Railroad Company (UPRR) – Former Engine House**
The UPRR Former Engine House site is located at Finnell Avenue and Stoner Avenue in the community of Gerber, approximately 0.6 miles east of proposed improvements on 99W. Former uses on the site include locomotive fueling, maintenance, and railcar loading/unloading. During debris removal in April 2016, UPRR contractors encountered soil with petroleum odor and staining. Groundwater monitoring conducted on the site between 2016 and 2019 revealed that pollutants are limited to diesel and motor oil in the soil in the vicinity of the former oil sump, and the groundwater plume is limited to the area of the former oil sump. The site was evaluated for case closure in 2020. According to the CVRWQCB, the nature and extent of pollutants in the soil and groundwater are adequately defined and there is no ongoing release. Therefore, the project would not impact or be impacted by the UPRR clean-up site.

In addition, the following Class III non-municipal solid waste landfill was identified:

**Reynolds Consumer Products Class III Non-Municipal Landfill**
The Reynolds Consumer Products site is located at 1000 Diamond Avenue, approximately 0.4 miles east of the proposed improvements on 99W. Industrial and manufacturing activities by

various companies have occurred at the site for over 100 years. The landfill was first operated in 1957 as an open burn dump until 1965, when it began operating as a landfill.

The landfill operates under CVRWQCB Order R5-2014-0024, Waste Discharge Requirements for Reynolds Class III Solid Waste Landfill. This order also includes a Monitoring and Reporting Program and the Standard Provisions and Reporting Requirements for WDRs for Nonhazardous Solid Waste Discharges Regulated by CCR Title 27, Section 20005 (*et seq.*). According to the Semiannual Monitoring Report for January 1 to June 30, 2021 (Fishbeck, 2021), wet season and dry season inspections were conducted on several occasions during the monitoring period. No concerns were identified and no corrective actions were required. The landfill is subject to annual inspections by the CVRWQCB and Tehama County. No violations or areas of concern are noted in the CVRWQCB case file or CalRecycle Solid Waste Information System (SWIS) for the landfill. Therefore, the project would not impact or be impacted by the landfill.

As documented above, the project is not located on or in proximity to a hazardous materials site, and there would be no impact.

**Question E**

According to the Federal Aviation Administration (FAA), the nearest public airports are the Red Bluff Municipal Airport, approximately 1.45 miles west of the I-5/South Main Street interchange improvements, and the Corning Airport, approximately 2.5 miles south of the southern project boundary at Gyle Road. The Tehama County Airport Land Use Compatibility Plan establishes safety zones that include areas on the airport property and areas adjacent to the airport property. The project study area is not within an Approach Zone or Airport Overflight Safety Area for the Red Bluff Airport. In addition, the project is not within the existing or future Airport Zones for the Corning Airport. Therefore, the proposed project would not result in a safety hazard associated with the airports. There would be no impact.

**Question F**

The proposed project does not involve a use or activity that could interfere with long-term emergency response or emergency evacuation plans for the area. A temporary increase in traffic could occur during construction and could interfere with emergency response times. There are multiple driveways and roads along 99W that would be affected by the proposed project during construction. In addition, construction activities at the I-5/South Main Street interchange have a potential to hinder emergency access and interfere with emergency response times.

However, construction-related traffic would be spread over the duration of the construction schedule and would be minimal on a daily basis. In addition, in accordance with Caltrans' Standard Specifications, a traffic control plan is required for all projects to assure that adequate consideration is given to the safety and convenience of motorists, transit, bicyclists, pedestrians, and workers during construction. The plan must be consistent with the California Manual on Uniform Traffic Control Devices (MUTCD). Issues to be addressed in the traffic control plan include types and locations of temporary traffic control measures (i.e., signs, cones, flaggers, etc.) that would be implemented during the work, maintaining access for emergency vehicles, speed limits and enforcement, construction scheduling, etc. Compliance with Caltrans' requirements for a traffic control plan ensures that the proposed project would not interfere with emergency response vehicles or an emergency evacuation plan; therefore, impacts during construction would be less than significant.

**Question G**

The proposed project does not include any development or improvements that would increase the long-term risk of wildland fires or expose people or structures to wildland fires. However, equipment used during construction activities may create sparks that could ignite dry grass. Also, the use of power tools may increase the risk of wildland fire hazard. In accordance with CalOSHA regulations (Division 1, Chapter 4, Subchapter 4, Article 36 (Fire Protection and Prevention), a fire protection

program must be followed throughout all phases of construction. Implementation of the fire protection program ensures that impacts would be less than significant.

## CUMULATIVE IMPACTS

Hazard-related impacts from the proposed project are site specific and have the potential to affect only a limited area on a temporary basis during completion of the improvements. Use and storage of hazardous materials during completion of the improvements would take place in designated staging areas. Completion of the proposed improvements requires implementation of mitigation measures to reduce the potential for adverse impacts associated with hazards and hazardous materials. These measures ensure that impacts are less than significant and that activities do not result in impacts that would be cumulatively considerable.

## MITIGATION

**MM 4.9.1** Treated wood waste (TWW) shall be handled, stored, transported, and disposed of in accordance with Caltrans requirements. All personnel that may come into contact with TWW must receive, at a minimum, training on procedures for identifying and segregating treated wood waste; safe handling practices; proper storage of TWW prior to disposal; and proper disposal methods.

## DOCUMENTATION


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## 4.10 HYDROLOGY AND WATER QUALITY

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | ☐ | ☐ | ☒ | ☐ |
| b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that 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? | ☐ | ☐ | ☒ | ☐ |

## REGULATORY CONTEXT

### FEDERAL

#### Clean Water Act (CWA)

The CWA (33 USC §1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality and was established to *"restore and maintain the chemical, physical, and biological integrity of the Nation's waters."* Pertinent sections of the Act are as follows:

1. Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
2. Section 401 (Water Quality Certification) requires an applicant for any federal permit that would authorize a discharge to waters of the U.S to obtain certification from the state that the discharge will comply with other provisions of the Act.
3. Section 402 establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the U.S. This permit program is administered by the SWRCB and is discussed in detail below.
4. Section 404, jointly administered by the USACE and USEPA, establishes a permit program for the discharge of dredged or fill material into waters of the U.S.

#### Federal Anti-Degradation Policy

The federal Anti-Degradation Policy is part of the CWA (Section 303(d)) and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that protects designated uses of water bodies (e.g., fish and wildlife, recreation, water supply, etc.). The water quality necessary to support the designated use(s) must be maintained and protected.

#### Safe Drinking Water Act (SDWA)

Under the 1974 Safe Drinking Water Act, most recently amended in 1996, USEPA regulates contaminants of concern to domestic water supply, which are those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are classified as either primary or secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially.

#### Federal Emergency Management Agency (FEMA)

FEMA is responsible for mapping flood-prone areas under the National Flood Insurance Program (NFIP). Communities that participate in the NFIP are required to adopt and enforce a floodplain management ordinance to reduce future flood risks related to new construction in a flood hazard area. In return, property owners have access to affordable federally funded flood insurance policies.

#### National Pollutant Discharge Elimination System (NPDES)

Under Section 402(p) of the CWA, the USEPA established the NPDES to enforce discharge standards for both point-source and non-point-source pollution. Dischargers can apply for individual discharge permits, or apply for coverage under the General Permits that cover certain qualified dischargers.

### STATE

#### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §13000 *et seq.*) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of waters of the State. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater, and to both point and non-point sources of pollution. The Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface

waters that may impair a beneficial use of surface or groundwater of the state. The RWQCBs enforce waste discharge requirements identified in the Report.

**State Anti-Degradation Policy**

In 1968, as required under the Federal Anti-Degradation Policy, the SWRCB adopted an Anti-Degradation Policy, formally known as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Water Board Resolution No. 68-16). Under the Anti-Degradation Policy, any actions that can adversely affect water quality in surface or ground waters must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial use of the water, and not result in water quality less than that prescribed in water quality plans and policies.

**National Pollution Discharge Elimination System**

Pursuant to the federal CWA, the responsibility for issuing NPDES permits and enforcing the NPDES program was delegated to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). NPDES permits are also referred to as waste discharge requirements (WDRs) that regulate discharges to waters of the United States. Below is a description of relevant NPDES general permits.

***Construction Activity***

Discharges from construction sites that disturb one acre or more of total land area are subject to the NPDES permit for *Discharges of Storm Water Runoff associated with Construction Activity* (currently Order No. 2009-009-DWQ, amended by 2010-0014-DWQ & 2012-006-DWQ), also known as the Construction General Permit. The permitting process requires the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP). Coverage under the Construction General Permit is obtained by submitting a Notice of Intent (NOI) to the SWRCB and preparing the SWPPP prior to the beginning of construction. The SWPPP must include BMPs to reduce pollutants and any more stringent controls necessary to meet water quality standards. Dischargers must also comply with water quality objectives (WQO) as defined in the applicable Basin Plan. If Basin Plan objectives are exceeded, corrective measures are required.

***Dewatering Activities (Discharges to Surface Waters and Storm Drains)***

Construction dewatering activities that involve the direct discharge of relatively pollutant-free wastewater that poses little or no threat to the water quality of waters of the U.S., are subject to the provisions of CVRWQCB Order R5-2016-0076-01 (NPDES No. CAG995002), *Waste Discharge Requirements, Limited Threat Discharges to Surface Water*, as amended. WDRs for this order include discharge prohibitions, receiving water limitations, monitoring, and reporting, etc. Coverage is obtained by submitting a NOI to the applicable RWQCB.

***Dewatering Activities (Discharges to Land)***

Construction dewatering activities that are contained on land and do not enter waters of the U.S. are authorized under SWRCB Water Quality Order No. 2003-003-DWQ, provided that the dewatering discharge is of a quality as good as or better than the underlying groundwater, and there is a low risk of nuisance.

**Water Quality Control Plans (Basin Plans)**

Each of the State's RWQCBs is responsible for developing and adopting a basin plan for all areas within its region. The Plans identify beneficial uses to be protected for both surface water and groundwater. Water quality objectives for all waters addressed through the plans are included, along with implementation programs and policies to achieve those objectives. Waste discharge requirements (WDRs) were adopted in order to attain the beneficial uses listed for the Basin Plan areas.

### Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), enacted in September 2014, established a framework for groundwater resources to be managed by local agencies in areas designated by the Department of Water Resources as "medium" or "high" priority basins. Basins were prioritized based, in part, on groundwater elevation monitoring conducted under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. The SGMA requires local agencies in medium- and high-priority basins to form Groundwater Sustainability Agencies (GSAs) and be managed in accordance with locally-developed Groundwater Sustainability Plans (GSPs). Medium- and high-priority basins must be managed under a GSP by January 31, 2022.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| | | |
|---|---|---|
| **Safety Element** | | |
| **Goal** | SAF-5 | To minimize and reduce the risk of personal injury and property damage resulting from flooding. |
| **Policy** | SAF-5.2 | The County shall require that adequate drainage facilities exist for both existing and new development. |
| **IM** | SAF-5.1a | Strongly discourage any projects that would result in new or increased flooding impacts on adjoining parcels or upstream and downstream areas not designed and intended to accommodate the increase in flood waters. |
| | SAF-5.3c | The County shall require that all new developments do not exceed the cumulative rate of peak runoff over pre-development levels. |
| **Land Use Element** | | |
| **Goal** | LU-10 | To promote development patterns that recognize the need to preserve water resources, consistent with other stated goals. |
| **Policy** | LU-10.1 | The County shall actively promote the implementation of the County's Groundwater Management Plan (GWMP). |
| **IM** | LU-10.1a | Implement the recommended management and monitoring actions of the GWMP and identify and quantify the water production, water quality, and groundwater recharge activities occurring within the County. |
| **Open Space Element** | | |
| **Goal** | OS-1 | To ensure that water supplies of sufficient quality and quantity will be available to serve the needs of the Tehama County, now and into the future. |
| **Policy** | OS-1.1 | The County shall protect and conserve water resources and supply systems through sound watershed management. |
| | OS-1.3 | Surface water quality and stream flows for water supply, water recharge, recreation, and aquatic ecosystem maintenance shall be protected while respecting adjudicated and appropriated (California recognized water rights) rights of use. |
| **IM** | OS-1.1c | Ensure that projects adhere to the regulations of the State of California Reclamation Board, California Department of Fish and Game, Regional Water Quality Control Board, and U.S. Government. |
| | OS-1.3a | Protect surface and ground water from major sources of pollution, including hazardous materials contamination and urban runoff. |

| | |
|---|---|
| OS-1.3f | Require development to incorporate runoff control measures into their site design or to participate in an area-wide runoff control management effort consistent with standards developed by the Public Works Department. |
| OS-1.3g | Establish and require the use of best management practices to protect receiving waters from the adverse effects of construction activities, sediment and urban runoff. |

## DISCUSSION OF IMPACTS

**Questions A and E**

The proposed project has the potential to temporarily degrade water quality due to increased erosion during project construction; however, as discussed under Regulatory Context above the SWRCB Construction General Permit requires implementation of an effective SWPPP that includes BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat. The project must also comply with Caltrans' requirements for stormwater and water pollution control in accordance with Caltrans' manuals and guidance documents. The County must also obtain a State Water Quality Certification from the CVRWQCB to ensure that the project will not violate established State water quality standards. The County also must file a Report of Waste Discharge for any discharge of waste to land or surface waters that may impair a beneficial use of surface or groundwater of the State.

As discussed under Regulatory Context above, the SGMA established a framework for groundwater resources to be managed by local agencies in areas designated by the Department of Water Resources as medium or high priority basins. The project site is located within the Sacramento Valley – Red Bluff Groundwater Basin, which is currently designated a medium priority basin (DWR, 2021); however, the project does not have any components that would directly or indirectly affect groundwater levels. Compliance with resource-agency permit requirements and Caltrans' Standard Specifications ensures that the project would not violate any water quality standards or water discharge requirements or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

**Question B**

The proposed project would not use groundwater for construction or operation. Roadway improvements on 99W include repaving existing roads within the existing road prism, which would not increase the area of impervious surfaces. However, driveways may be paved as part of the project, and installation of a roundabout also would increase impervious surfaces and decrease the area available for water penetration. However, the increase in impervious surfaces (approximately 1.3 acres) represents a very small percentage of the entire surface area of the hydrologic region. In addition, the open space areas surrounding the project site would continue to provide for groundwater recharge. Therefore, the proposed project would not substantially interfere with groundwater recharge and would not impede sustainable groundwater management of the basin; impacts would be less than significant.

**Question C**

The project does not include any in-water work that would alter the course of a stream or river. In addition, the project does not include replacement or modification of any culverts or other existing drainage features along the 99W corridor.

As stated under Question B, the project would increase the amount of impervious surfaces, primarily at the I-5 interchange, which would increase surface runoff. However, improvement plans for the project would be prepared by a licensed engineer in accordance with County and/or Caltrans' design standards for storm drain systems. The drainage system would convey runoff from roadway areas to the local storm drain system, which could include gutters, roadside ditches/channels, inlet structures, and/or drainage pipes. Hydraulic criteria used to design the storm drain system would ensure that runoff does not impede or redirect flood flows or exceed the capacity of the existing storm drain

system, and would not result in substantial erosion/siltation or flooding on- or off-site. Impacts would be less than significant.

**Question D**

A seiche is a large wave generated in an enclosed body of water in response to ground shaking. The largest body of water close to the project site is the Sacramento River, about 0.42 miles northeast of the proposed I-5/South Main Street interchange improvements. It is not expected that seismic activity could create a large wave in the Sacramento River that would inundate the project area. Given that the Pacific Ocean is approximately 90 miles west of the project area, there is no risk of inundation of the project area by tsunami.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Tehama County (Panels 06103C0786H, 06103C0788H, 06103C0789H, 06103C1150h, and 06103C1145H, effective September 29, 2011), the proposed I-5 Interchange and proposed roundabout are not located within a flood hazard zone. Several areas on 99W between the Red Bluff city limits and Gyle Road are located within 100-year flood hazard areas. The FIRM maps also show areas in the 500-year flood zone on 99W just south of the Red Bluff city limit (see **Figure 4.10-1**).

As stated in Section 4.9 (Hazards and Hazardous Materials) under Question A, during construction, it is anticipated that limited quantities of hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., would temporarily be brought into areas where improvements are proposed.

There is a possibility of accidental release of hazardous substances in flood zones due to project inundation. In accordance with Caltrans requirements, stockpiling materials, storing liquid waste containers, washing vehicles and equipment, and fueling/maintaining vehicles and equipment must be done at least 100 feet from a concentrated flow of stormwater, a drainage course, or an inlet within the floodplain; or at least 50 feet outside the floodplain. Compliance with existing state regulations minimizes the potential for release of pollutants due to inundation by a flood. Impacts would be less than significant.

## CUMULATIVE IMPACTS

All projects in the City and County are required to comply with the State Water Board's General Construction permit and/or the County's regulations for erosion and sediment control, and Caltrans' requirements for work on a State Highway. These regulations are intended to control erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat, as well as to avoid the creation of unstable slopes or filled areas that could adversely influence stormwater runoff. Cumulatively considerable projects are also subject to conditions of regulatory agency permits and County regulations. Compliance with existing regulatory agency requirements ensures that the proposed project's cumulative impacts to hydrology and water quality are less than significant.

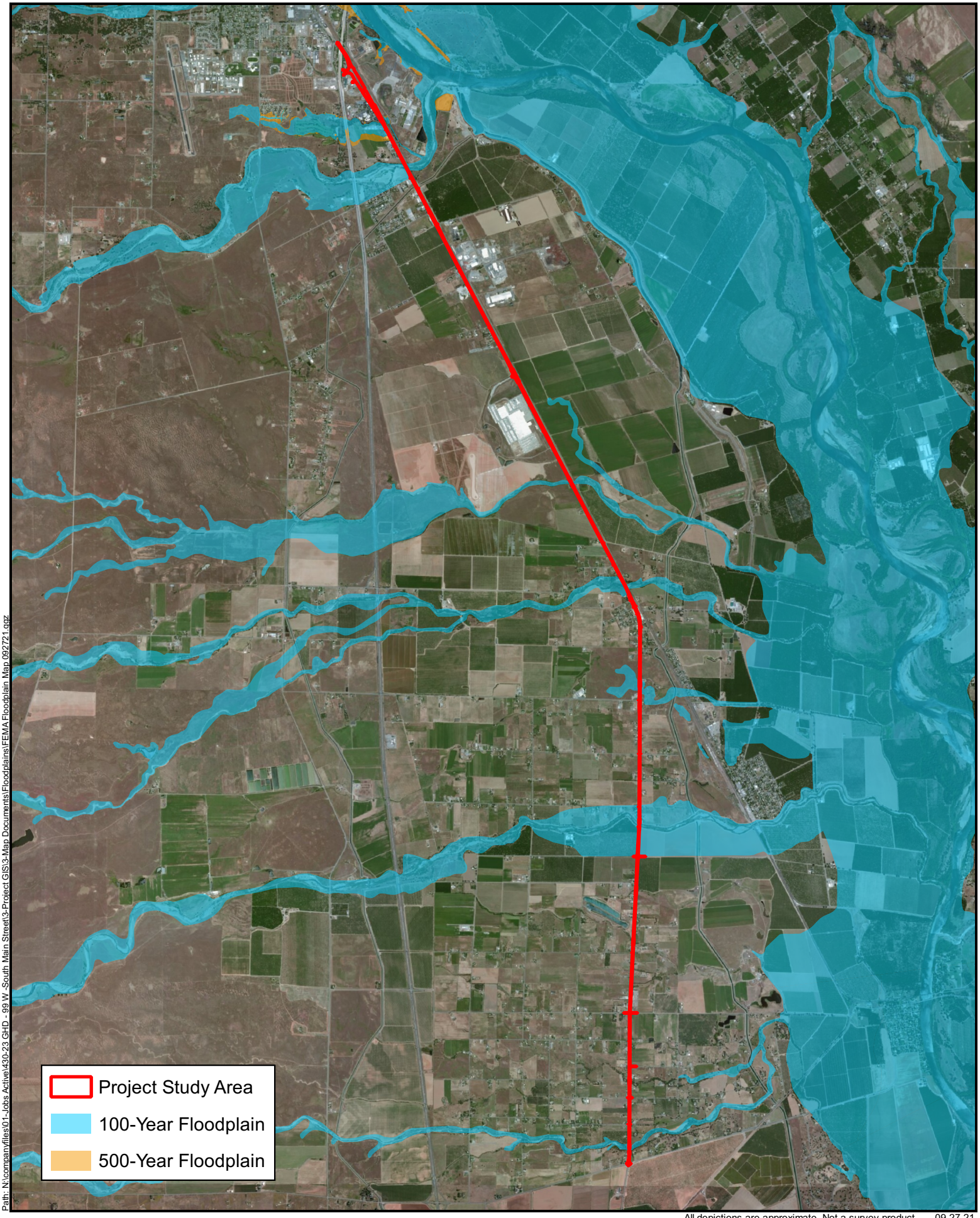
## MITIGATION

None necessary.

## DOCUMENTATION

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Path: N:\companyfiles\01-Jobs Active\430-23 GHD - 99 W -South Main Street\3-Project GIS\3-Map Documents\Floodplains\FEMA Floodplain Map 0927721.qgz

All depictions are approximate. Not a survey product. 09.27.21

0 3,000 6,000 Feet

Figure 4.10-1

# FEMA Flood Hazard Zones

ENPLAN

**California Department of Water Resources.** 2021. Sustainable Groundwater Management Act, Basin Prioritization Dashboard. https://gis.water.ca.gov/app/bp-dashboard/final/. Accessed July 2021.

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**Central Valley Regional Water Quality Control Board.** 2016. Water Quality Control Plan for the Sacramento and San Joaquin River Basins. https://www.epa.gov/sites/production/files/2015-03/documents/ca5-plan-sacramento-sanjoaquin.pdf. Accessed July 2021.

**Federal Emergency Management Agency.** 2021. National Flood Hazard Map (Panels 06103C0786H, 06103C0788H, 06103C0789H, 06103C1150h, and 06103C1145H, effective September 29, 2011). https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed July 2021.

**Tehama County.** 2009. Tehama County Code of Ordinances, Chapter 18.5 (Erosions and Sediment Control). https://library.municode.com/ca/banning/codes/code_of_ordinances?nodeId=TIT18GRERSECO_CH18.15ERSECO. Accessed July 2021.

# 4.11 LAND USE AND PLANNING

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations pertaining to land use and planning that apply to the proposed project.

### STATE

#### California Government Code

California Government Code (CGC) §65300 *et seq.* contains many of the State laws pertaining to the regulation of land uses by cities and counties. These regulations include requirements for general plans, specific plans, subdivisions, and zoning. State law requires that all cities and counties adopt General Plans that include seven mandatory elements: land use, circulation, conservation, housing, noise, open space, and safety. A General Plan is defined as a comprehensive long-term plan for the physical development of the county or city, and any land outside its boundaries that is determined to bear relation to its planning. A development project must be found to be consistent with the General Plan prior to project approval.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| Land Use Element | | |
|---|---|---|
| **Goal** | LU-3 | To promote a development pattern which, whenever possible, maximizes the use of existing infrastructure prior to the construction of new infrastructure. Develop a land use pattern which, to the maximum extent feasible, minimizes the expenditure of public funds for infrastructure construction and maintenance. |
| | LU-5 | To promote a development pattern that will accommodate growth, consistent with other stated goals and for the growth projected for the planning period (2008-2028). |
| **Policy** | LU-3.1 | The County shall require the use of existing infrastructure for new development whenever possible. |
| **IM** | LU-3.1a | Require the use of existing infrastructure for all new development. If existing infrastructure is not available or adequate, require new development to pay their reasonable fair-share towards the construction or expansion of infrastructure for roads, water, sewer, drainage and other infrastructure necessary for the completion of the development. |

## DISCUSSION OF IMPACTS

### Question A

Land use impacts are considered significant if a proposed project would physically divide an existing community (a physical change that interrupts the cohesiveness of the neighborhood). The proposed project does not include any components that would create a barrier for existing or planned development; therefore, there would be no impact.

### Question B

As discussed in each resource section of this Initial Study, the proposed project is consistent with applicable objectives and policies of the Tehama County General Plan and regulations of the regulatory agencies identified in Section 1.7 of this Initial Study. Where necessary, mitigation measures are included to reduce impacts to less than significant levels. Therefore, with implementation of the Mitigation Measures identified in Section 1.10, the proposed project would not conflict with any plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. No additional mitigation measures are necessary.

## CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area, including population growth resulting from build-out of the City's and County's General Plans, would be developed in accordance with local and regional planning documents. Thus, cumulative impacts associated with land use compatibility are expected be less than significant. In addition, with implementation of the recommended mitigation measures, the proposed project is consistent with the General Plan land use designations, goals, and policies, and would not contribute to the potential for adverse cumulative land use effects.

## MITIGATION

No additional mitigation necessary.

## DOCUMENTATION

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

_____. 2020. Tehama County Code of Ordinances. Title 17, Zoning. https://library.municode.com/ca/tehama_county/codes/code_of_ordinances?nodeId=TIT17ZO. Accessed July 2021.

# 4.12 MINERAL RESOURCES

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

### FEDERAL

There are no federal or local regulations pertaining to mineral resources that apply to the proposed project.

### STATE

#### Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA), Chapter 9, Division 2 of the Public Resources Code (PRC), provides a comprehensive surface mining and reclamation policy to ensure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. Mineral Resource Zones (MRZs) are applied to sites determined by the California Geological Survey (CGS) as being a resource of regional significance, and are intended to help maintain mining operations and protect them from encroachment of incompatible uses.

## DISCUSSION OF IMPACTS

#### Questions A and B

A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. The designation is applied to sites determined by the California Geological Survey as being a resource of regional significance, and is intended to help maintain any mining operations and protect them from encroachment of incompatible uses. The California Geological Survey did not identify any active mining operations within a two-mile radius of the project site. Further, there are no known mineral resources of value in the project area. Therefore, there would be no impact on mineral resources.

## CUMULATIVE IMPACTS

As documented above, the proposed project would not result in impacts to mineral resources; therefore, the proposed project would not cumulatively contribute to adverse impacts to mineral resources.

## MITIGATION

None necessary.

## DOCUMENTATION

**California Department of Conservation, Division of Mine Reclamation**. 2021. Mines Online Maps. https://maps.conservation.ca.gov/mol/index.html. Accessed July 2021.

_____. California Geological Survey. Mineral Land Classifications. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed July 2021.

# 4.13 NOISE

Would the project result in:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or of 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 area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations pertaining to noise that apply to the proposed project.

### STATE

#### California Department of Transportation

For local agency projects that receive federal funding, noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, "Noise Control," which states the following:

- Do not exceed 86 dBA Lmax (highest instantaneous sound level) at 50 feet from the job site activities from 9:00 PM to 6:00 AM.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

#### California Government Code §65302(f)

California Government Code §65302(f) requires a Noise Element to be included in all city and county General Plans. The Noise Element must identify and appraise major noise sources in the community (e.g., highways and freeways, airports, railroad operations, local industrial plants, etc.). A noise contour diagram depicting major noise sources must be prepared and used as a guide for establishing land use patterns to minimize the exposure of residents to excessive noise. The Noise Element must include implementation measures and possible solutions that address existing and foreseeable noise levels.

### LOCAL

#### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| Noise Element | | |
|---|---|---|
| **Goal** | N-2 | Develop strategies for abating excessive noise exposure through cost-effective mitigation measures in combination with appropriate zoning to avoid incompatible land uses. |
| **Policy** | N-2.4 | The County shall restrict construction activities to the hours as determined in the Countywide Noise Control Ordinance, if such an Ordinance is adopted. |
| **IM** | LU-2.4a | Restrict construction activities to the hours as determined by the County's Noise Control Ordinance unless an exemption is received from the County to cover special circumstances. Special circumstances may include emergency operations, short-duration construction, etc. |
| | LU-2.4b | Require all internal combustion engines that are used in conjunction with construction activities be muffled according to the equipment manufacturer's requirements. |

### NOISE FUNDAMENTALS

Commonly used technical acoustical terms are defined as follows:

**Ambient Noise** The distinctive pre-project acoustical characteristics of a given area consisting of all noise sources audible at that location.

**Attenuation** The reduction of noise.

**A-Weighting** The sound level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

**Decibel, or dB** The fundamental unit of measurement that indicates the intensity of a sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.

## DISCUSSION OF IMPACTS

**Question A**

Some individuals and groups of people are considered more sensitive to noise than others and are more likely to be affected by the existence of noise. A sensitive receptor is defined as any living entity or aggregate of entities whose comfort, health, or well-being could be impaired or endangered by the existence of noise. Locations that may contain high concentrations of noise-sensitive receptors include residential areas, schools, parks, churches, hospitals, and long-term care facilities. The effects of noise on people can include annoyance, nuisance, and dissatisfaction; interference with activities such as speech, sleep, and learning; and physiological effects such as hearing loss or sudden startling.

A common method to predict human reaction to a new noise source is to compare a project's predicted noise level to the existing environment (ambient noise level). A change of 1 dBA generally cannot be perceived by humans; a 3-dBA change is considered to be a barely noticeable difference; a 5-dBA change is typically noticeable; and a 10-dBA increase is considered to be a doubling in loudness and can cause an adverse response (Caltrans, 2013).

**Operational**

The proposed project does not include any components that would result in a permanent increase in noise levels in the area. With implementation of the roundabout, resulting noise levels are expected to be somewhat less than noise levels associated with the existing signalized intersection because

less vehicle braking and acceleration would occur. Therefore, operational impacts would be less than significant.

**Construction**

Project construction would temporarily increase noise levels and vibration at nearby noise-sensitive land uses. Sensitive receptors in the project area include single-family residences and a mobile home park adjacent to the 99W corridor, a hospital on Sister Mary Columba Drive, and a multi-family residential complex on Sutter Street. Construction activities would occur as close as ±40 feet from some of the single-family residences, ±250 feet from the hospital, and ±150 feet from the multi-family residential complex.

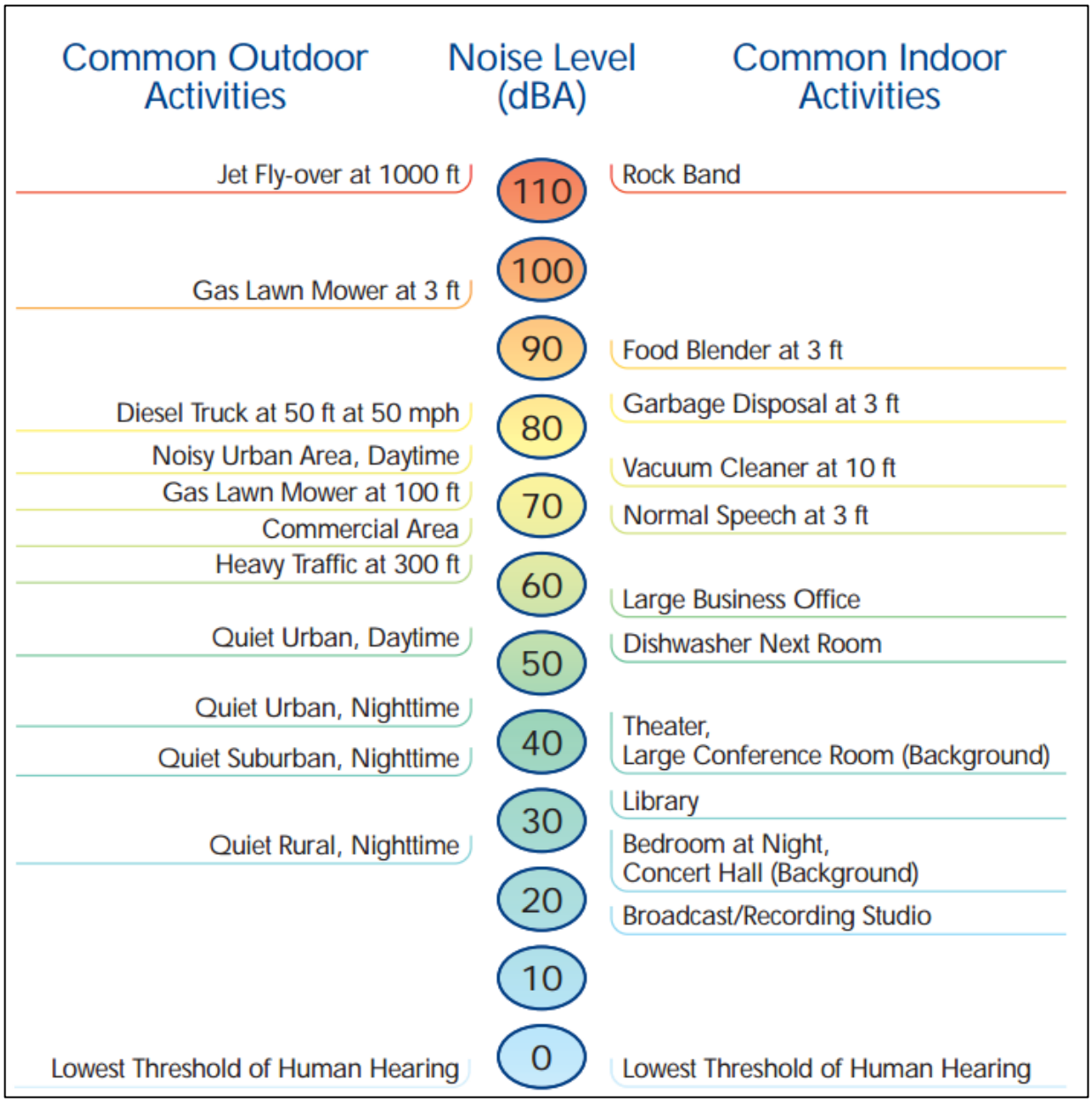
Noise impacts resulting from construction activities would depend on: 1) the noise generated by various pieces of construction equipment; 2) the timing and duration of noise-generating activities; 3) the distance between construction noise sources and noise-sensitive receptors; and 4) existing ambient noise levels. **Figure 4.13-1** shows noise levels of common activities to enable the reader to compare construction-noise with common activities. Noise levels from construction-related activities would fluctuate, depending on the number and type of construction equipment operating at any given time. As shown in **Table 4.13-1**, construction equipment anticipated to be used for project construction typically generates maximum noise levels ranging from 74 to 89 decibels (dBA) at a distance of 50 feet.

**TABLE 4.13-1**
**Examples of Construction Equipment**
**Noise Emission Levels**

| Equipment | Typical Noise Level (dBA) 50 feet from Source |
|---|---|
| Roller | 74 |
| Concrete Vibrator | 76 |
| Pump | 76 |
| Saw | 76 |
| Backhoe | 80 |
| Air Compressor | 81 |
| Generator | 81 |
| Compactor | 82 |
| Concrete Pump | 82 |
| Compactor (ground) | 83 |
| Crane, Mobile | 83 |
| Concrete Mixer | 85 |
| Dozer | 85 |
| Excavator | 85 |
| Grader | 85 |
| Loader | 85 |
| Jack Hammer | 88 |
| Truck | 88 |
| Paver | 89 |
| Scraper | 89 |

*Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. Federal Highway Administration, 2017.*

**Figure 4.13-1**
Noise Levels of Common Activities



Noise from construction activities generally attenuates at a rate of 6 dBA per doubling of distance, assuming the intervening ground is a smooth surface without much vegetation. If the receptor is far from the noise source, other factors come into play. For example, barriers such as fences or buildings that break the line of sight between the source and the receiver typically reduce sound levels by at least 5 dBA. Likewise, wind can reduce noise levels by 20 to 30 dBA over long distances. At an attenuation rate of 6 dBA, 74-89 dBA noise levels would increase to ±76-91 dBA. Noise levels would be ±64-79 dBA at 150 feet and ±60-75 dBA at 250 feet.

Because it is a logarithmic unit of measurement, a decibel cannot be added or subtracted arithmetically. The combination of two or more identical sound pressure levels at a single location involves the addition of logarithmic quantities as shown in **Table 4.13-2.** A doubling of identical sound sources results in a sound level increase of approximately 3 dB. Three identical sound sources would result in a sound level increase of approximately 4.8 dB. For example, if the sound from one backhoe resulted in a sound pressure level of 80 dB, the sound level from two backhoes would be 83 dB, and the sound level from three backhoes would be 84.8 dB.

**TABLE 4.13-2**
**Cumulative Noise: Identical Sources**

| Number of Sources | Increase in Sound Pressure Level (dB) |
|---|---|
| 2 | 3 |
| 3 | 4.8 |
| 4 | 6 |
| 5 | 7 |
| 10 | 10 |
| 15 | 11.8 |
| 20 | 13 |

*Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. The Engineering Toolbox, 2019.*

In addition, as shown in **Table 4.13-3**, the sum of two sounds of a different level is only slightly higher than the louder level. For example, if the sound level from one source is 80 dB, and the sound level from the second source is 89 dB, the level from both sources together would be 89.5 dB.

**TABLE 4.13-3**
**Cumulative Noise: Different Sources**

| Sound Level Difference between two sources (dB) | Decibels to Add to the Highest Sound Pressure Level |
|---|---|
| 0 | 3 |
| 1 | 2.5 |
| 2 | 2 |
| 3 | 2 |
| 4 | 1.5 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 0.5 |
| 9 | 0.5 |
| 10 | 0.5 |
| Over 10 | 0 |

*Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. The Engineering Toolbox, 2019.*

With two pieces of equipment with a noise level of 91 dBA operating simultaneously within 40 feet of a sensitive receptor, noise levels could reach approximately 94 dBA at the exterior of single-family residences where improvements would occur. As noted above, assuming typical California construction methods, interior noise levels are about 10 to 15 dBA lower than exterior levels within residential units with the windows partially open, and approximately 20 to 25 decibels lower than exterior noise levels with the windows closed. Interior noise levels could reach up to 74 dBA when equipment operates within 40 feet of a residence, provided that the windows were closed.

In addition, OSHA regulations (Title 29 CFR, §1926.601(b)(4)(i) and (ii) and §1926.602(a)(9)(ii)) require a reverse signal alarm audible to be used when a motor vehicle, earthmoving, or compacting equipment has an obstructed view to the rear unless the vehicle is backed up only when an observer signals that it is safe to do so. Although these regulations require an alarm to be only at a level that is distinguishable from the surrounding noise level (±5 dB), some construction vehicles are pre-equipped with non-adjustable alarms that range from 97-112 dBA. At a distance of 40 feet, 97-112 dBA noise levels would increase to 99-114 dBA; such noise levels could temporarily be experienced at the exteriors of some of the single-family residences. Depending on the decibel level of the alarm, interior noise levels could reach 74 to 94 dBA, provided that the windows were closed.

The exposure to loud noises (above 85 dB) over a long period of time may lead to hearing loss. The longer the exposure, the greater the risk for hearing loss, especially when there is not enough time for the ears to rest between exposures. Hearing loss can also result from a single extremely loud sound at very close range, such as sirens and firecrackers (Centers for Disease Control, 2018). Even when noise is not at a level that could result in hearing loss, excessive noise can affect quality of life, especially during nighttime hours. Although the County does not have specific thresholds for construction noise, the California Division of Safety and Health and OSHA have established thresholds for exposure to noise in order to prevent hearing damage. The maximum allowable daily noise exposure is 90 dBA for 8 hours, 95 dBA for 4 hours, 100 dBA for 2 hours, 105 dBA for 1 hour, 110 dBA for 30 minutes, and 115 dBA for 15 minutes (Caltrans, 2013).

In the worst-case scenario, interior noise levels due to construction equipment operation could reach approximately 74 dBA, and could reach approximately 94 dBA if reverse signal alarms are used. However, construction equipment does not operate continuously throughout the entire work day. In addition, given the linear nature of the project, construction equipment would be operating adjacent to a particular residence for a relatively short duration and would then proceed to the next work area. In addition, reverse signal alarms are needed only intermittently, and each occurrence involves only seconds of elevated noise levels. Therefore, while construction noise may reach considerable levels for short instances, much of the time the construction noise levels at the nearby residences will be moderate.

Additionally, as stated under Regulatory Context above, Caltrans Standard Specifications restrict noise levels to no more than 86 dBA Lmax (maximum noise level) at 50 feet from construction-related activities between 9:00 PM and 6:00 AM and require that internal combustion engines be equipped with the manufacturer-recommended muffler.

In order to ensure consistency with Caltrans requirements and minimize potential noise impacts during nighttime hours, **MM 4.13.1** requires that construction activities that occur between the hours of 9:00 PM and 6:00 AM not exceed 86 dBA Lmax at 50 feet. **MM 4.13.2** requires that construction equipment be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds. Further **MM 4.13.3** requires that any stationary equipment, such as generators and compressors, be located at the furthest practical distance from nearby noise-sensitive land uses.

Therefore, because implementation of the roundabout would result in a decrease in vehicle noise as compared to a signalized intersection; and **MM 4.13.1 through MM 4.13.3** minimize potential noise impacts during construction, impacts would be less than significant. Further, construction noise is a temporary impact that would cease at completion of the project.

**Question B**

Excessive vibration during construction may occur when high vibration equipment (e.g., compactors, large dozers, etc.) is operated. The proposed project may require limited use of such equipment during construction. Potential effects of ground-borne vibration include perceptible movement of building floors, rattling windows, shaking of items on shelves or hangings on walls, and rumbling sounds. In extreme cases, vibration can cause damage to buildings. Both human and structural responses to ground-borne vibration are influenced by various factors, including ground surface, distance between the source and the receptor, and duration.

The most common measure used to quantify vibration amplitude is the peak particle velocity (PPV). PPV is a measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. Although there are no federal, state, or local regulations for ground-borne vibration, Caltrans has developed criteria for evaluating vibration impacts, both for potential structural damage and for human annoyance. The Caltrans Transportation and Construction Vibration Guidance Manual (2020), was referenced in the analysis of construction-related vibration impacts.

**Table 4.13-4** identifies the potential for damage to various building types as a result of ground-borne vibration. Transient sources include activities that create a single isolated vibration event, such as blasting. Continuous, frequent, or intermittent sources include jack hammers, bulldozers, and vibratory rollers.

**TABLE 4.13-4**
**Structural Damage Thresholds from Ground-Borne Vibration**

| Structure Type | Vibration Level (Inches per Second PPV) | |
|---|---|---|
| | Transient Sources | Continuous/Frequent/ Intermittent Sources |
| Older residential structures | 0.5 | 0.3 |
| Newer residential structures | 1.0 | 0.5 |
| Historic and some old buildings | 0.5 | 0.25 |
| Newer industrial/commercial buildings | 2.0 | 0.5 |

*Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.*

**Table 4.13-5** indicates the potential for annoyance to humans as a result of ground-borne vibration.

**TABLE 4.13-5**
**Human Response to Ground-Borne Vibration**

| Human Response | Vibration Level (Inches per Second PPV) | |
|---|---|---|
| | Transient Sources | Continuous/Frequent/ Intermittent Sources |
| Barely Perceptible | 0.04 | 0.01 |
| Distinctly Perceptible | 0.25 | 0.04 |
| Strongly Perceptible | 0.9 | 0.10 |
| Disturbing | 2.0 | 0.4 |

*Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.*

**Table 4.13-6** indicates vibration levels for various types of construction equipment that may be used for the proposed project.

**TABLE 4.13-6**
**Examples of Construction Equipment Ground-Borne Vibration**

| Equipment Type | Inches per Second PPV at 25 feet |
|---|---|
| Bulldozer (small) | 0.003 |
| Bulldozer (large) | 0.089 |
| Jackhammer | 0.035 |
| Loaded trucks | 0.076 |
| Vibratory roller | 0.210 |

*Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.*

Vibration levels from construction equipment use at varying distances from the source can be calculated using the following formula:

$PPV_{Equipment} = PPV_{Ref} \times (25/D)^n$, where D = distance from the equipment and n is a constant (1.1)

Based on this equation, a vibratory roller at a distance of 40 feet would generate a PPV of 0.125 inches per second, while a jackhammer would generate a PPV of up to 0.02 inches per second.

As shown in **Table 4.13-4**, vibration levels would not be at a level that would cause structural damage. As shown in **Table 4.13-5**, these vibration levels would be distinctly perceptible to strongly perceptible but would not rise to a level that would be considered disturbing. Because increased ground-borne vibration is temporary and would cease at completion of the project, impacts would be less than significant.

**Question C**

As stated in Section 4.9 (Hazards and Hazardous Materials) under Question E, the nearest public airports are the Red Bluff Municipal Airport, approximately 1.45 miles west of the I-5 Interchange improvements, and the Corning Airport, approximately 2.5 miles south of the southern project boundary at Gyle Road. The project does not include the development of sensitive land uses that would be affected by airport noise. There would be no impact.

## CUMULATIVE IMPACTS

The proposed project would result in a temporary increase in daytime noise and ground-borne vibration levels during construction activities. However, all construction would take place in compliance with applicable policies governing noise levels. With implementation of **MM 4.13.1 through MM 4.13.3**, the project's cumulative noise impacts would be less than significant.

## MITIGATION

**MM 4.13.1** Construction activities between the hours of 9:00 PM and 6:00 AM shall not exceed 86 dB Lmax at 50 feet.

**MM 4.13.2** Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

**MM 4.13.3** Stationary construction equipment (generators, compressors, etc.) shall be located at the farthest practical distance from nearby noise-sensitive land uses.

## DOCUMENTATION


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# 4.14 POPULATION AND HOUSING

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to population or housing that apply to the proposed project.

## DISCUSSION OF IMPACTS

**Questions A and B**

The project does not include construction of new homes or businesses and would not displace people or housing. As stated in Section 4.3 (Air Quality) under Questions A and B, a transportation project would be considered growth-inducing if it encouraged or facilitated land use or development that changes the location, rate, type, or amount of growth in an area (Caltrans *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*). Although growth is anticipated in the project area, the proposed project does not include a general plan amendment or rezone that would change anticipated development patterns in the area in a manner that would induce population growth. Therefore, there would be no impact.

## CUMULATIVE IMPACTS

As documented above, the proposed project would not induce population growth or displace people or housing; therefore, the proposed project would not contribute to adverse impacts associated with cumulative impacts to population and housing.

## MITIGATION

None necessary

## DOCUMENTATION

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.15 PUBLIC SERVICES

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 following public services:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Fire protection? | ☐ | ☐ | ☐ | ☒ |
| b. Police protection? | ☐ | ☐ | ☐ | ☒ |
| c. Schools? | ☐ | ☐ | ☐ | ☒ |
| d. Parks? | ☐ | ☐ | ☐ | ☒ |
| e. Other public facilities? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to public services that apply to the proposed project.

## DISCUSSION OF IMPACTS

**Questions A through E**

The proposed project does not include the construction of houses or businesses that would increase the number of residents in the area thereby triggering the need for new or expanded public services. In addition, as discussed in Section 4.14 under Question A, the proposed project would not have growth-inducing impacts. There would be no impact.

## CUMULATIVE IMPACTS

As described above, the proposed project would not increase the demand for long-term public services; therefore, no cumulatively considerable impacts would occur.

## MITIGATION

None necessary

## DOCUMENTATION

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.16 RECREATION

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. 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. Include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to recreation that apply to the proposed project.

## DISCUSSION OF IMPACTS

**Questions A and B**

The proposed project does not include the construction of houses or businesses that would increase the use of existing parks or require the construction of new or expanded parks or recreational facilities. Further, as stated in Section 4.14 (Population and Housing), the project would not have growth-inducing impacts. Therefore, there would be no impact.

## CUMULATIVE IMPACTS

The proposed project would not impact any existing recreational facilities and would not require the construction or expansion of recreational facilities; therefore, no cumulatively considerable impacts to recreational facilities would occur.

## MITIGATION

None necessary

## DOCUMENTATION

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.17 TRANSPORTATION

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? | ☐ | ☐ | ☐ | ☒ |
| b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) (criteria for analyzing transportation impacts – vehicle miles traveled)? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☒ | ☐ |

## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations pertaining to transportation/traffic that apply to the proposed project.

## STATE

### CEQA Guidelines

SB 743 of 2013 (CEQA Guidelines §15064.3 *et seq.*) was enacted as a means to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs. Pursuant to SB 743, traffic congestion is no longer considered a significant impact on the environment under CEQA. The new metric bases the traffic impact analysis on vehicle-miles travelled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in any other measure.

### Caltrans Design Standards

Because funding for the project is provided through the Caltrans Local Assistance Program, the project is subject to Caltrans design standards for roadways, and appurtenant improvements (e.g., signs, bridge rails, drainage, etc.) as well as standard specifications for construction activities.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| **Transportation and Circulation Element** | | |
|---|---|---|
| **Goal** | CIR-1 | To provide for the development and long-range planning of Tehama County's roadway system and for the safe and efficient movement of people and goods throughout the County. |
| **Policy** | CIR-1.3 | The County should maintain and upgrade existing roads, as feasible, to meet the needs of County residents, visitors, and through traffic. |
| | CIR-1.5 | The County shall utilize contemporary design standards and apply appropriate functional classifications in the construction of new roadways and for the reconstruction of existing roadways within the County. |
| | CIR-1.7 | The County shall work with local, state, tribal and federal agencies to assure opportunities for meaningful input in the review of proposed project roads and roadway improvements. |
| | CIR-1.9 | The County shall continue to work with the California Department of Transportation to adopt practical and fair policies for access management and right-of-way acquisition for the improvement of highways, including Interstate 5, Highway 99, and Highway 36, and incorporate and evaluate options to further implement such policies with development standards within the County's Land Development and Engineering Design Ordinance and other development codes. |
| | CIR-1.10 | The County shall work with the California Department of Transportation to evaluate opportunities for the incremental addition of lanes, including increased numbers of passing lanes, and will work with CALTRANS and the local transportation planning agency in the consideration and implementation of access management policies to protect traffic efficiency and safety and to facilitate future highway improvements. |
| **IM** | CIR-1.3c | Proposed projects shall be required to reserve or dedicate sufficient rights-of-ways, or shall be required to design projects to maintain opportunities for the |

| | | |
|---|---|---|
| | | future expansion of interchanges, intersections, roadways and transit needs as determined by the County Public Works Department. |
| | CIR-1.5a | Require that all new and reconstructed roadways meet the standards pursuant to Caltrans' Traffic Manual and Highway Design Manual or the Tehama County Land Development Standards. |
| | CIR-1.5b | Investigate the feasibility of using traffic calming design features in future residential developments and in areas with traffic issues. |
| | CIR-1.10a | Work with CALTRANS, the local transportation planning agency, and incorporated cities, in the consideration of highway improvements, new public roads, interchanges, and parallel route locations to reduce the adverse impacts of growth and development on the existing and planned roadway network. |

## DISCUSSION OF IMPACTS

**Questions A and B**

Although a temporary increase in VMT would occur during construction, this is a temporary impact that would cease at completion of the project. As stated in Section 4.3 (Air Quality) under Questions A and B, the proposed project does not include the construction of housing or commercial/industrial development that would cause a permanent increase in traffic or VMT in the area.

As stated in Section 4.14 (Population and Housing) under Questions A and B, a transportation project would be considered growth-inducing if it encouraged or facilitated land use or development that changes the location, rate, type, or amount of growth in an area (Caltrans *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*). Although growth is anticipated in the project area, the proposed project does not include a general plan amendment or rezone that would change anticipated development patterns in the area.

The Governor's Office of Planning and Research (OPR) published a Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, 2018). The Advisory identifies transportation projects that would not likely lead to a substantial or measurable increase in vehicle travel, including, but not limited to:

- Rehabilitation/replacement/and repair of highways/roadways that do not add additional motor vehicle capacity;
- Installation/reconfiguration of traffic lanes that are not for through traffic (e.g., turn lanes);
- Timing of signals to optimize vehicle, bicycle, and pedestrian flow;
- Installation of roundabouts or traffic circles;
- Bicycle or pedestrian facilities on existing streets or within existing public ROW.

Proposed improvements are consistent with those identified above, and it is not expected that the project would lead to an increase in VMT. In addition, the project would not conflict with programs, plans, ordinance, or policies that address the circulation system, including those identified under Regulatory Context above. Therefore, impacts would be less than significant.

**Question C**

The project includes converting the I-5/South Main Street interchange from a signalized intersection to a roundabout. Based on public comments submitted during various public workshops for the project, there is a perception that roundabouts may pose a risk for increased traffic hazards, particularly for older drivers. According to the Insurance Institute for Highway Safety (IIHS), roundabouts have been shown to significantly decrease the number of vehicle crashes, particularly those with serious injuries. Roundabouts force drivers to slow down, and the most severe types of intersection crashes (t-bone crashes and head-on collisions) are unlikely. Collisions that do occur tend to be minor. The IIHS states that several IIHS studies in various communities show that drivers' opinions regarding roundabouts become more favorable once drivers become familiar with them. The project does not have any other design features that would increase hazards in the area. Impacts would be less than significant.

**Question D**

As discussed in Section 4.9 under Question F, there are multiple driveways and roads along 99W that would be affected by the proposed project during construction. In addition, construction activities at the I-5 interchange have a potential to hinder emergency access to properties in the area.

In accordance with Caltrans' Standard Specifications, a traffic control plan is required for all projects. The plan must be consistent with the (MUTCD) and must address maintaining access for emergency vehicles throughout construction. Implementation of the traffic control plan ensures that impacts would be less than significant.

## CUMULATIVE IMPACTS

As documented above, the project would not result in an increase in traffic or VMT and would not conflict with programs, plans, ordinances, or policies addressing the circulation system. Further, the project would not increase hazards due to design features or incompatible uses. Therefore, project implementation would not cumulatively contribute to impacts related to transportation.

## MITIGATION

None necessary.

## DOCUMENTATION


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**State of California, Governor's Office of Planning and Research.** 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. http://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf. Accessed September 2021.

**Tehama County Transportation Commission.** 2019. Initial Study/Environmental Checklist, 2019 Tehama County Regional Transportation Plan. https://tehamartpa.org/wp-content/uploads/2020/06/Final-Initial-Study.pdf. Accessed September 2021.

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.18 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code (PRC) 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:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. A resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? | ☐ | ☒ | ☐ | ☐ |
| 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 PRC section 5024.1? In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☒ | ☐ | ☐ |

## REGULATORY CONTEXT

There are no federal or local regulations pertaining to tribal cultural resources that apply to the proposed project.

### STATE

#### California Environmental Quality Act

Assembly Bill 52 of 2014 (Public Resources Code [PRC] §21084.2) establishes that *"a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."* In order to determine whether a project may have such an effect, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if:

1. The tribe requested to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographical area; and

2. The tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation.

The consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Pursuant to PRC §21084.3, lead agencies must, when feasible, avoid damaging effects to a tribal cultural resource and must consider measures to mitigate any identified impact.

PRC §21074 defines “tribal cultural resources” as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the CRHR; or are included in a local register of historical resources as defined in PRC §5020.1(k). A historical resource described in §21084.1, a unique archaeological resource as defined in §21083.2(g), or a “nonunique archaeological resource” as defined in §21083.2(h) may also be a tribal cultural resource if it meets this criteria.
2. A resource determined by the lead agency, taking into consideration the significance of the resource to a California Native American tribe, to be significant pursuant to criteria set forth in PRC §5024.1(c).

## DISCUSSION OF IMPACTS

**Questions A and B**

See discussion in Section 1.8 (Tribal Cultural Resources Consultation) and Section 4.5 (Cultural Resources) under Questions A and B. No concerns were expressed by any tribes during the Native American consultation process. **Mitigation Measures MM 4.5.1 and 4.5.2** address the inadvertent discovery of cultural resources and human remains. These measures ensure that impacts to tribal cultural resources are less than significant.

## CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area have the potential to impact tribal cultural resources. Tribal cultural resources are afforded special legal protections designed to reduce the cumulative effects of development. Potential cumulative projects and the proposed project would be subject to the protection of tribal cultural resources afforded by Public Resources Code §21084.3. Given the non-renewable nature of tribal cultural resources, any impact to tribal cultural sites, features, places, landscapes or objects could be considered cumulatively considerable. As discussed above, the proposed project will not adversely impact tribal cultural resources with implementation of **MM 4.5.1 and MM 4.5.2.** Therefore, the proposed project would have less than significant cumulative impacts to tribal cultural resources.

## MITIGATION

Implementation of **MM 4.5.1 and MM 4.5.2.**

## DOCUMENTATION

**ENPLAN**. 2021. Archaeological Survey Report for the Tehama County 99W/South Main Street Reconstruction Project, Red Bluff, Tehama County, California. Prepared for Tehama County (Confidential Document).

# 4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction 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 that 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? | ☐ | ☐ | ☐ | ☒ |

## REGULATORY CONTEXT

There are no federal or local regulations pertaining to utilities and service systems that apply to the proposed project.

### STATE

#### California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act (CIWMA) of 1989 is designed to increase landfill life and conserve other resources through increased source reduction and recycling. Goals of the CIWMA include diverting approximately 50 percent of solid waste from landfills and identifying programs to stimulate local recycling in manufacturing and the purchase of recycled products. The CIWMA requires cities and counties to prepare Solid Waste Management Plans and Source Reduction and Recycling Elements to implement CIWMA goals

#### Caltrans Standards

Because funding for the project is provided through the Caltrans Local Assistance Program, the project is subject to Caltrans standard specifications. Section 14-10 of the Specifications includes requirements for solid waste disposal and/or recycling of paint waste, concrete, metal scraps, timber, pipe, packaging materials, and other trash and debris. Specific requirements are included in bid documents for the applicable project.

## DISCUSSION OF IMPACTS

**Questions A through C**

As discussed in Section 4.14 under Question A, the proposed project would not induce population growth in the area, either directly or indirectly; therefore, the proposed project would not result in the need for new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities, and would not result in an increased demand for water supplies or wastewater treatment. In addition, it is anticipated that no water, wastewater, electric power, natural gas, or telecommunications facilities would need to be relocated to accommodate the proposed project. Therefore, there would be no impact.

**Questions D and E**

The proposed project would not result in a long-term demand for additional solid waste disposal services. Solid waste would be generated during construction, mainly from removal of pavement in public road ROWs and removal of guardrails. Construction debris would be disposed of at the Tehama County/Red Bluff Landfill, located on Plymire Road, approximately 4.72 miles northwest of the I-5 Interchange improvements, or at another landfill licensed to accept construction/demolition waste.

The Tehama County/Red Bluff Landfill is permitted through the California Integrated Waste Management Board (CIWMB). The maximum permitted throughput is 700 tons per day. The Landfill is subject to periodic inspections by Tehama County Sanitary Landfill Agency (TCSLA) to ensure compliance with the CIWMB. The Tehama County/Red Bluff Landfill has a projected operational life to 2046.

The project is subject to Caltrans' regulations, which require the contractor to submit a solid waste disposal and recycling report to ensure compliance with applicable solid waste regulations.

In addition, **MM 4.3.2, 4.3.3, 4.3.4, and 4.9.1** require disposal of materials containing asbestos, lead, and/or TWW at a facility that is specifically licensed to accept these hazardous wastes. The construction contractor would be responsible for disposing of all construction waste. The County would ensure through contractual obligations that the contractor complies with all federal, State and local statutes related to solid waste disposal. Therefore, there would be no impact.

## CUMULATIVE IMPACTS

Utility and service systems in the area would not experience a permanent increase in demand for services over existing conditions. Although solid waste would be generated during construction, no permanent increase in solid waste generation would occur. Therefore, the proposed project would have less than significant cumulative impacts to utility and service systems.

## MITIGATION

None necessary

## DOCUMENTATION

**CalRecycle.** 2021. SWIS Facility/Site Activity Details - Tehama County/Red Bluff Landfill. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/754?siteID=3778. Accessed July 2021.

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.20 WILDFIRE

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

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

## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations pertaining to wildfire that apply to the proposed project.

### STATE

#### California Department of Forestry and Fire Protection (CAL FIRE)

The Bates Bill (AB 337), enacted in 1992, required CAL FIRE to work with local governments to identify high fire hazard severity zones throughout each county in the State. CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) Maps for State Responsibility Areas (SRA) in November 2007. Pursuant to California Government Code §51175-51189, CAL FIRE also recommended FHSZs for Local Responsibility Areas (LRA). Over the years, CAL FIRE has updated the maps and provided new recommendations to local governments based on fire hazard modeling.

The fire hazard model considers wildland fuels (natural vegetation that burns during the wildfire); topography (fires burn faster as they burn up-slope); weather (fire burns faster and with more intensity when air temperature is high, relative humidity is low, and winds are strong); and ember production and movement (how far embers move and how receptive the landing site is to new fires). The model recognizes that some areas of California have more frequent and severe wildfires than other areas.

#### California Fire Code

California Fire Code, Part 9, Chapter 49 (Wildland-Urban Interface Fire Areas), and California Building Code Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) include standards for new construction in Wildland-Urban Interface Fire Areas (fire hazard severity zones). The purpose of the standards is to prevent a building from being ignited by flying embers that can travel as much as a mile away from a wildfire and to contribute to a systematic reduction in fire-related losses through the use of performance and prescriptive requirements.

## LOCAL

### Tehama County

The County's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

| Safety Element | | |
|---|---|---|
| **Goal** | SAF-3 | To protect the people and property within Tehama County against fire related loss and damage. |
| **Policy** | SAF-3.1 | The County shall require accepted fire-resistive construction practices, including but not limited to site design and layout; use of appropriate landscaping and building materials; and the installation of automatic fire sprinklers on new and redevelopment projects to the extent permitted by law |
| | SAF-3.2 | The County shall require new developments in State Responsibility Areas and other fire prone areas to mitigate all hazards to acceptable levels. |
| **IM** | SAF-3.2a | Review development proposals to determine if new development projects are located in State Responsibility Areas or fire prone areas. If development is permitted in these areas, ensure that mitigation measures are required that ensure the health and safety of Tehama County citizens. |

## DISCUSSION OF IMPACTS

According to the FHSZ maps prepared by CAL FIRE, proposed improvements are not located in a State Responsibility area or in a high fire hazard severity zone.

### Question A

See discussion in Section 4.9 under Question F. Impacts would be less than significant.

### Questions B and C

Proposed improvements would occur primarily in paved areas that are devoid of heavy vegetation or other flammable materials. The project does not include components that could exacerbate fire risks in the long-term. As stated in Section 4.9 (Hazards and Hazardous Materials) under Question G, CalOSHA regulations require implementation of a fire protection program throughout all phases of construction to minimize potential fire risks during construction. There are no factors such as slope or prevailing winds that would increase the potential for a wildfire in the area that could result in pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. Therefore, impacts would be less than significant.

### Question D

As discussed in Section 4.7 (Geology and Soils) under Question A(iv), the project area is at low risk of landslide hazards. Although some sections of 99W are in a designated flood hazard area, the project does not include any components that would increase flood risks. Therefore, there is a low potential for downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes; therefore, the potential for post-fire impacts would be less than significant. *Also see discussion in Section 4.7 (Geology and Soils) under Questions B and C and Section 4.10 (Hydrology and Water Quality) under Question C.*

## CUMULATIVE IMPACTS

Potential cumulative projects in the area include development under the City's and County's General Plans. The proposed project and all other projects that could impede emergency response vehicles or

evacuation plans must implement temporary traffic control measures to ensure that emergency access is maintained throughout construction. Discretionary projects must also consider wildfire risk and implement design standards or construction mitigation as necessary. In the long term, the proposed project would not contribute individually or cumulatively to increased risks associated with wildfire. Therefore, the project's cumulative impact associated with wildfire risks would be less than significant.

## MITIGATION

None necessary.

## DOCUMENTATION

**California Department of Forestry and Fire Protection (CAL FIRE).** 2021. Fire Hazard Severity Zone Map Viewer. https://egis.fire.ca.gov/FHSZ/. Accessed February 2021.

**Tehama County.** 2009. Tehama County General Plan. https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf. Accessed July 2021.

# 4.21 MANDATORY FINDINGS OF SIGNIFICANCE

| Issues and Supporting Evidence | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of rare or endangered plants or animals, 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 that will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

## DISCUSSION OF IMPACTS

**Question A**

As discussed in the applicable environmental resource section above, project implementation could result in temporarily increased air emissions, possible effects to special-status wildlife species and their habitat, impacts to wetlands and other waters of the U.S./State, disturbance of nesting birds (if present), potential introduction and spread of invasive weeds, impacts to cultural and tribal cultural resources (if present), temporarily increased risk of exposure to contaminated materials, and temporarily increased noise and vibration levels. However, mitigation measures are included to reduce all potential impacts to less than significant levels (see Section 1.10).

**Question B**

The potential cumulative impacts of the proposed project have been analyzed within the discussion of each environmental resource area above. As documented, implementation of the mitigation measures identified in Section 1.10 ensures that the project's impacts are not cumulatively considerable.

**Question C**

As discussed in the applicable environmental resource sections above, the proposed project could result in adverse effects on human beings due to temporarily increased air emissions, temporarily increased risk of exposure to contaminated materials, and temporarily increased noise and vibration levels. However, mitigation measures are included to reduce all potential impacts to less than significant levels.

## MITIGATION

Implementation of the MMs identified in Section 1.10 (Proposed Mitigation Measures).

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# SECTION 6.0 ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AB | Assembly Bill |
| ADI | Area of Direct Impact |
| ADL | Aerially Deposited Lead |
| AQAP | Air Quality Attainment Plan |
| APCD | Air Pollution Control District |
| APE | Area of Potential Effects |
| ASR | Archaeological Survey Report |
| BIOS | Biogeographic Information and Observation System |
| BMP | Best Management Practice |
| BSA | Biological Study Area |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalARP | California Accidental Release Prevention |
| CalEPA | California Environmental Protection Agency |
| CAL FIRE | California Department of Forestry and Fire Protection |
| Cal/OSHA | California Occupational Safety and Health Administration |
| Caltrans | California Department of Transportation |
| CAP | Criteria Air Pollutants |
| CARB | California Air Resources Board |
| CBSC | California Building Standards Code |
| CCR | California Code of Regulations |
| CDFW | California Department of Fish and Wildlife |
| CDSH | California Division of Safety and Health |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| $CH_4$ | Methane |
| CIWMB | California Integrated Waste Management Board |
| CNDDB | California Natural Diversity Data Base |
| CO | Carbon Monoxide |
| $CO_2$ | Carbon Dioxide |
| $CO_2e$ | Carbon Dioxide Equivalent |
| County | Tehama County |
| CRHR | California Register of Historical Resources |
| CGS | California Geological Survey |
| CVRWQCB | Central Valley Regional Water Quality Control Board |
| CWA | Clean Water Act |
| CY | Cubic Yards |

| | |
|---|---|
| dBA | Decibels |
| DBH | Diameter at Breast Height |
| DOC | Department of Conservation |
| DTSC | California Department of Toxic Substances Control |
| EA-AP | Exclusive Agriculture-Agricultural Preserve |
| EFH | Essential Fish Habitat |
| EO | Executive Order |
| FEMA | Federal Emergency Management Act |
| FESA | Federal Endangered Species Act |
| FHSZ | Fire Hazard Severity Zone |
| FHWA | Federal Highway Administration |
| GHG | Greenhouse Gas Emissions |
| GP | General Plan |
| GWP | Global Warming Potential |
| $H_2S$ | Hydrogen Sulfide |
| HCP | Habitat Conservation Plan |
| HFC | Hydrofluorocarbons |
| HSC | California Health and Safety Code |
| IBC | International Building Code |
| IS | Initial Study |
| I-5 | Interstate-5 |
| LBP | Lead-Based Paint |
| LRA | Local Responsibility Area |
| MACT | Maximum Achievable Control Technology |
| MBTA | Migratory Bird Treaty Act |
| MCL | Maximum Contaminant Level |
| $mg/m^3$ | Milligrams per Cubic Meter |
| MND | Mitigated Negative Declaration |
| MPO | Metropolitan Planning Organization |
| MRZ | Mineral Resource Zone |
| MSFCMA | Magnuson-Stevens Fishery Conservation and Management Act |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |

| | |
|---|---|
| NCCP | Natural Community Conservation Plan |
| NEIC/CHRIS | Northeast Information Center of the California Historical Resources Information System |
| NEHRA | National Earthquake Hazards Reduction Act |
| NEPA | National Environmental Policy Act |
| $NF_3$ | Nitrogen Trifluoride |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| $N_2$ | Nitrogen |
| $N_2O$ | Nitrous Oxide |
| $NO_2$ | Nitrogen Dioxide |
| $NO_X$ | Oxides of Nitrogen |
| NPDES | National Pollutant Discharge Elimination System |
| NPPA | California Native Plant Protection Act |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NSVPA | Northern Sacramento Valley Planning Area |
| NWI | National Wetlands Inventory |
| NWP | Nationwide Permit |
| | |
| $O_3$ | Ozone |
| OHWM | Ordinary High-Water Mark |
| OSHA | Occupational Safety and Health Act |
| | |
| Pb | Lead |
| PCN | Pre-Construction Notification |
| PF | Public Facilities |
| PFC | Perfluorocarbons |
| PJD | Preliminary Jurisdictional Determination |
| $PM_{2.5}$ | Particulate Matter, 2.5 microns in size |
| $PM_{10}$ | Particulate Matter, 10 microns in size |
| PPB | Parts per Billion |
| PPM | Parts per Million |
| PPV | Peak Particle Velocity (PPV) |
| PRC | Public Resources Code |
| Project | 99W/South Main Street Reconstruction Project |
| PVC | Polyvinyl Chloride |
| | |
| RCRA | Resource Conservation and Recovery Act |
| RMP | Risk Management Plan |
| ROG | Reactive Organic Gases |
| RWQCB | Regional Water Quality Control Board |

| | |
|---|---|
| SAA | Streambed Alteration Agreement |
| SB | Senate Bill |
| SCS | Sustainable Communities Strategy |
| SDWA | Safe Drinking Water Act |
| $SF_6$ | Sulfur Hexafluoride |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SMARA | The Surface Mining and Reclamation Act |
| $SO_2$ | Sulfur Dioxide |
| $SO_4$ | Sulfates |
| SRA | State Responsibility Area |
| SSC | Species of Special Concern |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| SVAB | Sacramento Valley Air Basin |
| SVAQEEP | Sacramento Valley Air Quality Engineering and Enforcement Professionals |
| TAC | Toxic Air Contaminants |
| TCAPCD | Tehama County Air Pollution Control District |
| TMDL | Total Maximum Daily Loads |
| TWW | Treated Wood Waste |
| USACE | United States Army Corps of Engineers |
| USDOT | United States Department of Transportation |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| VMT | Vehicle Miles Travelled |
| WDRs | Waste Discharge Requirements |
| WQO | Water Quality Objectives |
| $\mu g/m^3$ | Micrograms per Cubic Meter |

# Appendix A .....

## CalEEMod
## Air Quality/Greenhouse Gas Emissions Reports

# Appendix B .....

## Biological Resources Documentation

# Appendix C .....

## Preliminary Aquatic Resources Delineation Report with:

*Appendix A: Figures*

*Appendix E: Representative Photos*