

# Yuba-70 Safety Project

*Yuba County  
03-YUB-70-PM 16.2/25.8  
03-4F380/E-FIS: 0314000153*

## **Public Draft Environmental Impact Report/ Environmental Assessment**



**Prepared by the  
State of California, Department of Transportation**



The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.

**April 2019**

## **General Information about This Document**

### **What's in this document:**

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Yuba County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA). The Department is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

### **What you should do:**

- Please read this document.
- Additional copies of this document and the related technical studies are available for review at Caltrans District 3, 703 B Street, Marysville, CA 95901. Copies of this document can also be reviewed at the Yuba County Library at 303 Second Street, Marysville, and at the Yuba County Government Center at 915 8<sup>th</sup> Street in Marysville. This document may be downloaded at the following website:  
<http://www.dot.ca.gov/d3/projects/subprojects/4F380/index.html>.
- We'd like to hear what you think. If you have any comments about the proposed project, please send your written comments to the Department by the deadline.
- Send comments via postal mail to:  
Rajpreet Bihala, Environmental Planner  
Department of Transportation, District 3  
703 B Street, Marysville, CA 95901
- Send comments via email to: [Rajpreet.Bihala@dot.ca.gov](mailto:Rajpreet.Bihala@dot.ca.gov).
- Be sure to send comments by the deadline: May 31, 2019.

### **What happens next:**

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

### **Alternative formats:**

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Cameron Knudson, Project Manager, Department of Transportation, District 3, 703 B Street; (530) 218-1820 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.



SCH# 2018062043  
03-YUB-70-PM 16.2/25.8  
03-4f380/E-FIS


Improve State Route 70 in Yuba County from 0.2 mile north of Laurellen Road (Postmile 16.2) to south Honcut Creek Bridge  
(Postmile 25.8)

**DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to: (State) Division 13, California Public Resources Code  
(Federal) 42 USC 4332(2)(C), 49 USC 303

THE STATE OF CALIFORNIA  
Department of Transportation

4-12-19  
Date

  
Amarjeet Benipal  
District Director  
California Department of Transportation  
CEQA/NEPA Lead Agency

# Summary

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## S.1 NEPA Assignment

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (Public Law 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the California Department of Transportation (Caltrans) entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of 5 years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under NEPA. Caltrans is also the lead agency under CEQA. In addition, FHWA’s responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will

be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

## **S.2 Introduction**

Caltrans is proposing the Yuba 70 Safety Project (proposed project) to modify the existing lanes and shoulders, construct left turn lanes and pockets, and a clear recovery zone (CRZ). Accordingly, project documentation is being prepared in compliance with both CEQA and NEPA. Caltrans is the lead agency under both CEQA and NEPA.

## **S.3 Overview of Project Area**

State Route (SR) 70 is an Interregional Road System Route and the primary north-south travel route through Yuba County. Yuba County is dominated by agricultural land and mountainous terrain, and has experienced moderate growth over the last several decades, most of which is concentrated in Marysville. The proposed project would extend 9.6 miles on SR 70 (Post Mile 16.2 to 25.8) from Laurellen Road to Honcut Creek Bridge in Yuba County, California. SR 70 in Yuba County north of Marysville, is a two-lane rural highway through agricultural land. Figures 1 and 2 show the project location and project vicinity.

According to the Yuba County 2030 General Plan, all of the land surrounding the project area is designated as Natural Resources. The intent of the Natural Resources land use designation is to conserve and provide natural habitat, watersheds, scenic resources, cultural resources, recreational amenities, agricultural and forest resources, wetlands, woodlands, minerals, and other resources for sustainable use, enjoyment, extraction, and processing. Most of the land within the study area is zoned as Exclusive Agriculture Zone, and a few parcels are zoned as Agricultural Industrial, Agricultural/Rural Residential, and Rural Commercial.

The project vicinity contains several projects in the planning stages. These projects, which are listed in Table S-1, are within 2 miles of SR 70.

**Table S-1. Planned Projects in the Vicinity of SR 70**

<b>Name and Address</b>	<b>Jurisdiction</b>	<b>Description</b>	<b>Status</b>
SR 70 Simmerly Slough Bridge Replacement near Marysville	Yuba County	Replace bridge	Completion Year 2020
SR 70 widening, Segments 4 & 5	Yuba County	Widening of SR 70 from PM 16.2 to PM 25.8 from Laurellen Road to Honcut Creek Bridge north of Marysville	Completion Year TBD
SR 70 in and near Marysville, SR 70, from Marysville Underpass to north of Laurellen Road	Yuba County	Roadway rehabilitation	Completion Year 2021
Marysville Medical Arts District Transportation Development at 5th Street, from SR 70 to J Street, including the Medical Arts District. Also 2nd St.) from SR 70 to J Street, including the Medical Arts District.	Yuba County	Extend and realign	Completion Year 2025
Bridge Preventive Maintenance at various bridges in Yuba County	Yuba County	Conduct preventative maintenance	Completion Year 2022
SR 70 Corridor Improvements, Segment 1	Butte County	Improve safety on SR 70 corridor by providing continuous passing opportunities for vehicles from Ophir Road to Palermo Road. The corridor has experienced higher than average collision rates with the majority of accidents attributed to the lack of passing lanes.	Completion Year 2022
SR 70 Corridor Improvements, Segment 2	Butte County	Improve safety on SR 70 corridor by providing continuous passing opportunities for vehicles from Palermo Road to just north of Cox Lane. The corridor has experienced higher than average collision rates with the majority of accidents attributed to the lack of passing lanes.	Completion Year 2022
SR 70 Corridor Improvements Segment 3	Butte County	Widening and other improvements	Completion Year 2023
Rio d'Oro Specific Plan, approximately 11 miles north of the project area between Palermo Road to the south and Ophir Road to the north	Butte County	Residential, commercial, and developed parkland between Palermo Road to the south and Ophir Road to the north	Completion Year 2035
Highway Improvements to SR 70 in Marysville from PM 14.9 to PM 15.6	Yuba County	Highway improvements, bridge replacement, and undercrossings from 14 <sup>th</sup> Street to 0.1 mile south of Cemetery Road	Completion Year 2026
Camp Fire Debris Clean Up	Butte County	Truck trips from ongoing debris removal in Paradise, Butte County.	Ongoing
Hard Rock Casino	Yuba County	New casino and hotel development approximately 9 miles south of the project limits, on 40-Mile Road, between SR 70 and SR 65.	Completion Year 2019

## **S.4 Purpose and Need**

### **S.4.1 Project Purpose**

The purpose of the proposed project is to significantly reduce traffic fatalities, reduce injury-type collisions, address operational needs by bringing SR70 up to current design standards and improve overall safety within the project limits.

### **S.4.2 Project Need**

The project is needed because there are operational and safety concerns along the corridor. Between August 6, 2010, and August 5, 2013, this segment of SR 70 had 85 reported collisions, and there were 7 fatalities. Although the total collision rate is about 65 percent of the statewide average for similar facilities, the actual fatality collision rate is more than 4.5 times the statewide average. The seven fatal collisions can be summarized as follows: two involved tractor-trailers being struck while making left or right turns, three involved cross-centerline head-on collisions, one involved an unsafe passing movement, and one involved a pedestrian who was struck. The fatal accident rate for this segment was approximately 350 percent higher than the statewide average (Fehr & Peers 2019). The proposed project is intended to address cross-centerline collisions/fatalities. Additionally, there are approximately 200 access points in this segment—private driveways, business driveways, and paved and unpaved agricultural access. The numerous access points are potential sites of injury because of the turning movements onto and off of SR70 which is exacerbated by agricultural equipment and slow turning trucks. These types of vehicles take increased time to decelerate or accelerate in association with a turning movement versus a passenger vehicle or pickup truck and because of this increased time these movements impact vehicles further upstream or downstream on the approach to the access point. The project elements such as widened shoulders, the CRZ, two-way left-turn lanes (TWLTLs), and new striping and signage would serve the additional purpose of reducing the injury rate within the project limits.

Furthermore, most of the existing shoulder widths of zero to four feet do not meet current standards, and obstacles such as roadside ditches, trees, fixed objects, and utility poles are located within 20 feet of the traveled way. A striped median would allow refuge for drivers turning across traffic and would also serve as separation from opposing traffic. The rumble strips would alert drivers if they are drifting into the median. A deceleration lane/right-turn lane allows drivers to separate from the traffic flow and slow down before turning off from the highway, and the acceleration lane allows drivers to approach traffic speed before merging. The proposed unpaved shoulders would reduce vehicle off-tracking and overcorrection. In order to reduce unsafe passing, signed slow-moving vehicle lanes would be provided in each direction.

## S.5 Proposed Action

The project under consideration in this EIR/EA is a modification the existing lanes and shoulders. The existing roadway has 12-foot lanes throughout. Within the project limits, the proposed project includes:

- A CRZ with a minimum width of 20 feet that includes paved shoulders 8–14 feet wide and an unpaved shoulder 6 feet wide.
- Signed slow-moving vehicle lanes less than 1 mile long at up to three locations in each direction throughout the project limits.
- At county-maintained roads and certain agriculture-related businesses, designated TWLTLs, a deceleration lane/right-turn lane for right turns from SR 70, and acceleration lanes for right turns onto SR 70.
- A median/TWLTL or a median barrier to separate opposing traffic (discussed further below).

Two build alternatives have been developed for the roadway improvements.

**Alternative 1** proposes the addition of a 14-foot-wide paved median striped as a TWLTL. This TWLTL would create a refuge for drivers turning left in and out of traffic. At county-maintained roads and certain agriculture-related businesses, the TWLTL would be striped as a left-turn lane.

**Alternative 2** would separate traffic with a paved 14-foot median and concrete barrier. Vehicles entering the highway from homes and businesses would be able turn right onto SR 70 only. There will be median openings at major county road intersections with left- and u-turn lanes.

## S.6 Joint California Environmental Quality Act/National Environmental Policy Act Documentation

The proposed project is subject to Federal, as State environmental review requirements because Caltrans proposes the use of Federal funds from FHWA and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. Under CEQA, Caltrans is the lead agency. FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the MOU dated December 23, 2016 and executed by FHWA and Caltrans. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the USDOT Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions (CE) that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, quite often a "lower level" document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of Federal, State, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

## **S.7 Potential Environmental Consequences and Avoidance, Minimization and/or Mitigation Measures**

Project impacts would occur in the following resource areas: farmlands, community impacts, traffic/transportation, visual/aesthetics, water quality, geology/soils, paleontology, hazardous waste and materials, air quality, noise, natural communities, plant species, animal species, endangered species, and invasive species. The project would not contribute to cumulatively considerable effects to the resources analyzed. Project effects under NEPA are discussed fully in Chapter 2, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures*. Table S-3, located at the end of this summary, summarizes the impacts of the project under NEPA. Chapter 3, *California Environmental Quality Act Evaluation*, addresses impacts under CEQA. Table S-4, which follows Table S-3, summarizes the significance of impacts under CEQA.

## **S.8 Coordination with Other Public Agencies**

### **S.8.1 Notice of Preparation**

A Notice of Preparation (NOP) was published on June 14, 2018. It was filed with the State Clearinghouse and sent to the appropriate elected officials, agencies, and interested parties. A copy of the NOP is included in Appendix A, *Notice of Preparation*.

A public scoping meeting for the EIR/EA was held on June 28, 2018, from 5:00 p.m. to 6:30 p.m. at the Caltrans District 3 building at 703 B Street in Marysville, California. The meeting was announced in the NOP. The purpose of the scoping meeting was to provide information about the proposed project. Maps and other project information were presented during the meeting, and Caltrans staff were on hand to answer questions and receive comments regarding the scope and content of the EIR/EA.



### S.8.2 Necessary Permits and Approvals

In addition to the completion of CEQA and NEPA documentation and project approvals by the lead and responsible agencies, the following permits, licenses, agreements, and certifications (PLACs) are required for project construction (Table S-2).

**Table S-2. Permits and Approvals**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Status</b>
Central Valley Regional Water Quality Control Board	Section 401 Water Quality Certification and coverage under the existing Caltrans National Pollutant Discharge Elimination System Permit (Order No. 00-06-DWQ)	Not yet initiated
U.S. Army Corps of Engineers	Section 404 authorization for fill of waters of the United States	Not yet initiated
Feather River Air Quality Management District	Formal notification prior to construction	Not yet initiated
California Department of Fish and Wildlife	Streambed Alteration Agreement	Not yet initiated

Table S-3. Comparison of Alternatives

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
<b>HUMAN ENVIRONMENT</b>				
<b>Land Use</b>				
Consistency with Yuba County General Plan	Consistent with policy	Consistent	Consistent	None required
Consistency with Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy	Not consistent	Consistent	Consistent	None required
<b>Farmland</b>				
Effects on farmland	No effect	68.88 acres of important farmland would be acquired	68.88 acres of important farmland would be acquired	None required
<b>Growth</b>				
Potential to induce growth	No effect	Does not induce growth; improves safety for planned growth	Does not induce growth; improves safety for planned growth	None required
<b>Community Impacts</b>				
Effects on community character, population, and cohesion	No effect	Minimal due to the distance from established neighborhoods and small amount of displacement properties; some benefits include improved traffic operations, and enhanced safety that may increase urbanization	Minimal due to the distance from established neighborhoods and small amount of displacement properties; some benefits include improved traffic operations, and enhanced safety that may increase urbanization	None required
Effects on relocation and real property acquisition	No effect	6 single family residences and 3 commercial properties would be acquired.	6 single family residences and 3 commercial properties would be acquired.	None required
Effects on environmental justice populations	No effect	No effect due to lack of environmental justice populations residing in the study area and available data	No effect due to lack of environmental justice populations residing in the study area and available data	None required

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
<b>Utilities/Emergency Services</b>				
Effects on public and private utilities	No effect	Planned or accidental temporary service interruptions during relocation of utilities during construction	Planned or accidental temporary service interruptions during relocation of utilities during construction.	Coordination with utility service providers prior to, during, and after construction to minimize disruption of services to customers in the area
Effects on police, fire, and emergency service providers	Shoulders create unsafe passing conditions for emergency service providers	Temporary delays in access could disrupt normal operations and emergency services during construction; benefits include improved response times of emergency services	Temporary delays in access could disrupt normal operations and emergency services during construction; benefits include improved response times of emergency services	A Transportation Management Plan (TMP) would be developed for use during project construction. The TMP would utilize strategies described in Caltrans' Transportation Management Plan Guidelines (TMP Guidelines) (Caltrans 2015), selected in accordance with the scale and scope of the project. The TMP Guidelines identify the general categories of public information, motorist information, incident management, construction strategies, demand management, and alternate routes or detours; Any required closures would be coordinated with emergency service providers so as not to hinder emergency responses
<b>Traffic and Transportation/Pedestrian and Bicycle Facilities</b>				
Existing (2018) operations	6 highway segments would operate at a deficient LOS during PM and 4 highway segments during AM hours	3 segments would worsen operation	3 segments would worsen operation	None required
Opening Year (2023) operations	Operations would worsen during opening year, and LOS would remain the same.	3 highway segments operating at unacceptable LOS during AM hours; 4 highways segments operating at unacceptable LOS during PM hours	3 highway segments operating at unacceptable LOS during AM hours; 4 highways segments operating at unacceptable LOS during PM hours	None required
Horizon Year (2043) operations	AM peak hour conditions would have 1 segment worsen in both the northbound and southbound direction. The PM peak hour would have all segments worsening; 3 highway segments would operate at an unacceptable LOS	3 highway segments would operate at an unacceptable LOS during AM hours and 5 segments operating at unacceptable LOS during PM hours	3 highway segments would operate at an unacceptable LOS during AM hours and 5 segments operating at unacceptable LOS during PM hours	None required

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
	during AM and/or PM hours; 1 intersection would operate at an unacceptable LOS during PM 2-hour peak period			
<b>Visual/Aesthetics</b>				
Effects on scenic resources, visual character, and visual quality	No effect	Removal of trees and mature shrubs will have a greater effect in the beginning, but with replanting in and around the cleared zones, the vegetated character of the roadway would be re-established. Addition of the roadway widening will have a moderate impact on the scenic quality. While the project proposes additional lighting at intersections, this is not a substantial change from the existing condition.	Removal of trees and mature shrubs will have a greater effect in the beginning, but with replanting in and around the cleared zones, the vegetated character of the roadway would be re-established. Addition of the roadway widening will have a moderate impact on the scenic quality. While the project proposes additional lighting at intersections, this is not a substantial change from the existing condition.	Replace or Relocate Site Features and Landscaping Affected by the Project Apply Minimum Lighting Standards
<b>Cultural Resources</b>				
Effects on cultural resources	No effect	Low potential for buried archaeological sites, with an increased potential in areas adjacent to drainages and creeks	Low potential for buried archaeological sites, with an increased potential in areas adjacent to drainages and creeks	Implement Plan to Address Discovery of Unanticipated Buried Cultural Resources or Human Remains
<b>PHYSICAL ENVIRONMENT</b>				
<b>Hydrology and Floodplain</b>				
Impact drainage, flood flows, and floodplain encroachment	No effect	New impervious surfaces would increase post-project flows compared to pre-project flows; Cross culverts for drainage would be replaced as necessary to provide improved drainage capacity; No significant floodplain encroachment	New impervious surfaces would increase post-project flows compared to pre-project flows; Cross culverts for drainage would be replaced as necessary to provide improved drainage capacity; No significant floodplain encroachment	Compliance with necessary permits and requirements from regulatory agencies; side slopes of 4H:1V or less for the CRZ, which would maintain pre-project sheet-flow drainage patterns; permanent best management practices (BMPs) will be evaluated

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
<b>Water Quality</b>				
Increased runoff from added impervious surfaces	No effect	Addition of new impervious surfaces	Addition of new impervious surfaces	The proposed project would be designed in accordance with NPDES Permit requirements
Water quality impacts during construction and operation	No effect	Potential for short-term discharges of sediments, oil, grease, and chemical pollutants into nearby storm drains or Honcut Creek generated during construction; Potential long-term impacts from increased impervious area, operation and maintenance activities	Potential for short-term discharges of sediments, oil, grease, and chemical pollutants into nearby storm drains or Honcut Creek generated during construction; Potential long-term impacts from increased impervious area, operation and maintenance activities	Implement a Storm Water Pollution Prevention Plan and Caltrans' Best Management Practices to Avoid and Minimize Potential Effects on Water Quality Implementation of the SWPPP, erosion and sediment control BMPs, Caltrans SWMP, applicable guidelines and requirements in the 2015 Caltrans Standard Specifications (CSS), and stormwater guidance measures will minimize the potential for construction-related surface water pollution and ensure that water quality will not be compromised during construction Permanent treatment BMP and design measures from Caltrans' Project Planning Design Guide (PPDG) Improved storm drainage facilities would minimize the potential for discharges of pollutants to nearby storm drains and Honcut Creek
<b>Geology/Soils/Seismic/Topography</b>				
Risk of seismic hazard	No effect	Low risk of ground-shaking or failure	Low risk of ground-shaking or failure	Conduct Geotechnical Investigation and comply with recommended design parameters in accordance with Caltrans' Highway Design Manual (HDM) Minimize Impacts from Seismic Events
Risk of landslides	No effect	low risk for landslides	low risk for landslides	Conduct Geotechnical Investigation and comply with recommended design parameters in accordance with Caltrans' Highway Design Manual (HDM)
Increase in soil erosion rates and/or loss of topsoil	No effect	Ground disturbance could increase erosion and loss of topsoil; The potential is increased because of the low strength of the soils	Ground disturbance could increase erosion and loss of topsoil; The potential is increased because of the low strength of the soils	Implement GEO-2: Minimize Soil Instability The proposed project would be designed in accordance with NPDES Permit requirements Implementation of the SWPPP, erosion and sediment control BMPs, Caltrans SWMP, applicable guidelines and requirements in the 2015 Caltrans Standard Specifications (CSS) would be implemented to prevent any construction materials or debris from entering

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
				surface waters or channels within the project vicinity. To prevent silt and sediment from entering surface waters, pollution prevention and erosion control BMPs would be implemented prior to, during, and after construction.
Effects from subsurface road conditions	Would not improve; The highway may be more susceptible to cracking as a result of the low strength and high shrink-swell potential of the underlying soils	Measures would be implemented to address soil issues to minimize the risk of expansive, low strength soils	Measures would be implemented to address soil issues to minimize the risk of expansive, low strength soils	Minimization measures in the Geotechnical Design Report, such as use of subgrade enhancement geotextile and cementitious binder, as well as BMPs, would be implemented to address soil issues, minimizing the risk to construction workers or the traveling public Minimize Soil Instability
<b>Paleontology</b>				
Damage to paleontological resources	No effect	Low to no potential to affect paleontological resources within the existing paved portion of the project area; low to moderate potential to impact paleontological resources in pervious areas disturbed at depths between 1-4 feet	Low to no potential to affect paleontological resources within the existing paved portion of the project area; low to moderate potential to impact paleontological resources in pervious areas disturbed at depths between 1-4 feet	Implement Construction Training Stop Work if Paleontological Resources are Discovered Prepare Mitigation Plan if Resources are Discovered
<b>Hazardous Waste/Materials</b>				
Exposure to hazardous materials to humans or the environment	No effect	Potential exposure of humans and the environment to hazardous conditions from accidental release of hazardous materials during construction; Potential exposure of humans to lead chromate or other harmful chemicals from construction activities; Risk of encountering contaminated soil and exposure to hazardous chemicals from past pesticide/herbicide use during ground-disturbing activities	Potential exposure of humans and the environment to hazardous conditions from accidental release of hazardous materials during construction; Potential exposure of humans to lead chromate or other harmful chemicals from construction activities; Risk of encountering contaminated soil and exposure to hazardous chemicals from past pesticide/herbicide use during ground-disturbing activities	Avoid and Minimize the Potential for Effects from Hazardous Waste or Materials during Project Construction Conduct Sampling, Testing, Removal, Storage, Transportation, and Disposal of Yellow/White Traffic Striping along Existing Roadways Perform Soil Testing and Dispose of Contaminated Soils Appropriately Develop a Lead Compliance Plan Develop and Implement Plans to Address Worker Health and Safety

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
<b>Air Quality</b>				
Project-level conformity CO	No effect	Would not worsen the air quality in the project area	Would not worsen the air quality in the project area	None required
Project-level conformity PM <sub>2.5</sub>	No effect	The project is located in attainment-maintenance area for PM <sub>2.5</sub> , however it is exempt from all conformity requirements under the Table 2 item of 40 CFR 93.126	The project is located in attainment-maintenance area for PM <sub>2.5</sub> , however it is exempt from all conformity requirements under the Table 2 item of 40 CFR 93.126	None required
Roadway Vehicle Emissions/Criteria Pollutant Emissions		Overall, emissions are not anticipated to be substantially higher with the proposed project. Operational air quality impacts would not be substantial. PM <sub>10</sub> and PM <sub>2.5</sub> , criteria pollutants would be slightly higher compared to the No-Build, or would not change. NO <sub>x</sub> concentrations in the Build conditions of opening (2023) and design (2043) years would be slightly higher or similar in comparison with those in the No-Build condition. However, the concentrations of NO <sub>x</sub> in both the future Build years (2023 and 2043) and future No-Build emissions would be lower than those in existing conditions (2018).	Overall, emissions are not anticipated to be substantially higher with the proposed project. Operational air quality impacts would not be substantial. PM <sub>10</sub> and PM <sub>2.5</sub> , criteria pollutants would be slightly higher compared to the No-Build, or would not change. NO <sub>x</sub> concentrations in the Build conditions of opening (2023) and design (2043) years would be slightly higher or similar in comparison with those in the No-Build condition. However, the concentrations of NO <sub>x</sub> in both the future Build years (2023 and 2043) and future No-Build emissions would be lower than those in existing conditions (2018).	None required
Construction	No effect	Temporary construction emissions would result from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction activities. Emissions from construction equipment powered by gasoline and diesel engines include CO, NO <sub>x</sub> , VOCs, directly emitted PM <sub>10</sub> and PM <sub>2.5</sub> , and toxic air contaminants such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in temporary increases in emissions	Temporary construction emissions would result from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction activities. Emissions from construction equipment powered by gasoline and diesel engines include CO, NO <sub>x</sub> , VOCs, directly emitted PM <sub>10</sub> and PM <sub>2.5</sub> , and toxic air contaminants such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in temporary increases in emissions from traffic	Implement Dust Control Measures Adhere to FRAQMD Rule 3.16 (Fugitive Dust) Implement Fugitive Dust Control Plan



Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
		from traffic during the delays; Construction activities may disturb naturally occurring asbestos-containing soil/rock units, if present at the site	during the delays; Construction activities may disturb naturally occurring asbestos-containing soil/rock units, if present at the site	
<b>Noise</b>				
Traffic noise	No effect, however future planned projects in the area would result in an increase in traffic noise	Under the design year, there would be no traffic noise impacts due to small increase in traffic noise levels predicted to occur; Traffic noise impacts at residences are predicted to occur because predicted noise levels approach or exceed the noise abatement criterion; there is no noise abatement criterion for agricultural and agricultural-related businesses	Under the design year, there would be no traffic noise impacts due to small increase in traffic noise levels predicted to occur; Traffic noise impacts at residences are predicted to occur because predicted noise levels approach or exceed the noise abatement criterion; there is no noise abatement criterion for agricultural and agricultural-related businesses	Noise abatement was considered. A noise barrier would not be feasible due to driveway access requirements to residences along the entire corridor. Noise barriers were therefore not evaluated further in this analysis.
Construction noise	No effect	Temporary increase in noise levels due to operation of construction equipment, construction activities, and implementation of detours; Construction noise would be intermittent and overshadowed by local traffic noise	Temporary increase in noise levels due to operation of construction equipment, construction activities, and implementation of detours; Construction noise would be intermittent and overshadowed by local traffic noise	None required
<b>Energy</b>				
Energy demands	No effect	Temporary energy consumption during construction for use of construction equipment and onroad vehicles	Temporary energy consumption during construction for use of construction equipment and onroad vehicles	None required
<b>BIOLOGICAL ENVIRONMENT</b>				
<b>Natural Communities</b>				
Effects on Valley Foothill Riparian	No effect	Permanent loss of up to 0.24 acres and temporary disturbance due to vegetation trimming and removal	Permanent loss of up to 0.47 acres and temporary disturbance due to vegetation trimming and removal	Install Fencing and/or Flagging to Protect Sensitive Biological Resources Compensate for Impacts on Valley Foothill Riparian

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
Effects on Wildlife Corridors	No effect	Wider road could result in increased potential for animals killed from vehicle strikes; Temporary restriction of wildlife movement in the culvert due to the presence of construction activity; The bridge over South Honcut Creek provides an alternate crossing outside the work area, which also provides more opportunities for cover, forage and water	Wider road could result in increased potential for animals killed from vehicle strikes; Temporary restriction of wildlife movement in the culvert due to the presence of construction activity; The bridge over South Honcut Creek provides an alternate crossing outside the work area, which also provides more opportunities for cover, forage and water	None required
<b>Wetlands and Other Waters</b>				
Effects on Wetlands and Other Waters	No effect	Permanent loss of up to 0.58 acres and temporary impacts due to project construction; All temporarily disturbed riparian wetland would be restored to pre-project contours and conditions	Permanent loss of up to 0.82 acres and temporary impacts due to project construction; All areas temporarily disturbed of the riparian wetland would be restored to pre-project contours and conditions	Implement water quality BMPs and SWPPP to protect water quality and prevent erosion, sedimentation, and construction-related surface water pollution in drainages and wetlands Compensate for Impacts on Riparian Wetland
<b>Plant Species</b>				
Effects on Special-Status Plants	No effect	The study area has low potential to support non-listed special-status plants; Removal of native oak trees in riparian wetland and valley foothill riparian natural communities and as many as 74 mature oak trees in landscaped areas or in ruderal habitat	The study area has low potential to support non-listed special-status plants; Removal of native oak trees in riparian wetland and valley foothill riparian natural communities and as many as 74 mature oak trees in landscaped areas or in ruderal habitat	Install Fencing and/or Flagging to Protect Sensitive Biological Resources Compensate for Impacts on Valley Foothill Riparian Compensate for Impacts on Riparian Wetland
<b>Animal Species</b>				
Effects on Non-Listed Special-Status Species	No effect	Permanent loss of 12.23 acres of potential northern harrier nesting and foraging habitat; Temporary construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs, nestlings, or otherwise lead to nest abandonment	Permanent loss of 13.62 acres of potential northern harrier nesting and foraging habitat; Temporary construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs, nestlings, or otherwise lead to nest abandonment	Install Fencing and/or Flagging to Protect Sensitive Biological Resources Compensate for Impacts on Valley Foothill Riparian Compensate for Impacts on Riparian Wetland Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds

Summary

Impact	No Build	Alternative 1	Alternative 2	Avoidance, Minimization, and/or Mitigation Measures
				Avoid and Minimize the Spread of Invasive Plant Species during Project Construction and Restore Temporarily Disturbed Habitat
Effects on Migratory Birds	No effect	Removal of nesting and foraging habitat due to construction noise/activities; extension of the box culvert south of Honcut Creek could result in the injury to nesting birds, or removal or destruction of nests	Removal of nesting and foraging habitat due to construction noise/activities; extension of the box culvert south of Honcut Creek could result in the injury to nesting birds, or removal or destruction of nests	Install Fencing and/or Flagging to Protect Sensitive Biological Resources Compensate for Impacts on Valley Foothill Riparian Compensate for Impacts on Riparian Wetland Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds Avoid and Minimize the Spread of Invasive Plant Species during Project Construction and Restore Temporarily Disturbed Habitat
<b>Threatened and Endangered Species</b>				
Effects on valley elderberry longhorn beetle	No effect	Removal of a portion of the elderberry shrub cluster; however, the shrub is not functioning as habitat for valley elderberry longhorn beetle there would be no direct impact on the species	Removal of a portion of the elderberry shrub cluster; however, the shrub is not functioning as habitat for valley elderberry longhorn beetle there would be no direct impact on the species	
Effects on Swainson's Hawk	No effect	Removal of a minor amount of nesting and foraging habitat; However, this would be a minimal impact due to the limited scope of the project construction and the lack of occupied nests in the project area	Removal of a minor amount of nesting and foraging habitat; However, this would be a minimal impact due to the limited scope of the project construction and the lack of occupied nests in the project area	Install Fencing and/or Flagging to Protect Sensitive Biological Resources Compensate for Impacts on Valley Foothill Riparian Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds Avoid and Minimize the Spread of Invasive Plant Species during Project Construction and Restore Temporarily Disturbed Habitat
<b>Invasive Species</b>				
Introduction and spread of invasive plant species	No effect	During construction, areas where temporary disturbance occurs would be more susceptible to introduction and colonization or spread of invasive plants	During construction, areas where temporary disturbance occurs would be more susceptible to introduction and colonization or spread of invasive plants	Avoid and Minimize the Spread of Invasive Plant Species during Project Construction and Restore Temporarily Disturbed Habitat

Table S-4. Summary of CEQA Impacts

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
3.2.1—Aesthetics							
a) Have a substantial adverse effect on a scenic vista	NA	LTS	LTS	NA	NA	NA	NA
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	LTS	LTS	NA	NA	NA	NA
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	NA	LTS	LTS	NA	NA	NA	NA
3.2.2—Agriculture and Forest Resources							
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	NA	LTS	LTS	NA	NA	NA	NA
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract	NA	No Impact	No Impact	NA	NA	NA	NA
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))	NA	No Impact	No Impact	NA	NA	NA	NA
d) Result in the loss of forest land or conversion of forest land to non-forest use	NA	No Impact	No Impact	NA	NA	NA	NA
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use	NA	LTS	LTS	NA	NA	NA	NA
3.2.3—Air Quality							
a) Conflict with or obstruct implementation of the applicable air quality plan	NA	LTS	LTS	NA	NA	NA	NA
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard	NA	LTS	LTS	NA	NA	NA	NA
c) Expose sensitive receptors to substantial pollutant concentrations	NA	LTS	LTS	NA	NA	NA	NA
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people	NA	LTS	LTS	NA	NA	NA	NA

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
3.2.4—Biological Resources							
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service	NA	LTS	LTS	NA	NA	NA	NA
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service	NA	LTS	LTS	NA	NA	NA	NA
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	NA	LTS	LTS	NA	NA	NA	NA
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	NA	LTS	LTS	NA	NA	NA	NA
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.5—Cultural Resources							
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5	NA	LTS	LTS	NA	NA	NA	NA
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5	NA	LTS	LTS	NA	NA	NA	NA
c) Disturb any human remains, including those interred outside of dedicated cemeteries	NA	LTS	LTS	NA	NA	NA	NA
3.2.6—Energy							
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation	NA	LTS	LTS	NA	NA	NA	NA
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NA	No Impact	No Impact	NA	NA	NA	NA

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
3.2.7—Geology and Soils							
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 ii) Strong seismic ground shaking iii) Seismic-related ground failure, including liquefaction iv) Landslides	NA	LTS	LTS	NA	NA	NA	NA
b) Result in substantial soil erosion or the loss of topsoil	NA	LTS	LTS	NA	NA	NA	NA
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	NA	LTS	LTS	NA	NA	NA	NA
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	NA	LTS	LTS	NA	NA	NA	NA
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	NA	No Impact	No Impact	NA	NA	NA	NA
f) directly or indirectly destroy a unique paleontological resource or site of unique geologic feature	NA	LTS	LTS	NA	NA	NA	NA
3.2.8—Greenhouse Gas Emissions							
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	NA	LTS	LTS	NA	NA	NA	NA
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.9—Hazards and Hazardous Materials							
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	NA	LTS	LTS	NA	NA	NA	NA
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	NA	LTS	LTS	NA	NA	NA	NA
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	NA	No Impact	No Impact	NA	NA	NA	NA

Summary

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment	NA	LTS	LTS	NA	NA	NA	NA
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area	NA	No Impact	No Impact	NA	NA	NA	NA
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	NA	LTS	LTS	NA	NA	NA	NA
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	NA	LTS	LTS	NA	NA	NA	NA
<b>3.2.10—Hydrology and Water Quality</b>							
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	NA	LTS	LTS	NA	NA	NA	NA
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	NA	LTS	LTS	NA	NA	NA	NA
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: <ul style="list-style-type: none"> <li>i. result in substantial erosion or siltation on- or off-site;</li> <li>ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;</li> <li>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</li> <li>iv. impede or redirect flood flows</li> </ul>	NA	LTS	LTS	NA	NA	NA	NA
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	NA	LTS	LTS	NA	NA	NA	NA
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	NA	LTS	LTS	NA	NA	NA	NA
<b>3.2.11—Land Use and Planning</b>							
a) Physically divide an established community	NA	No Impact	No Impact	NA	NA	NA	NA
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	NA	No Impact	No Impact	NA	NA	NA	NA



Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
3.2.12—Mineral Resources							
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	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.13—Noise							
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies	NA	LTS	LTS	NA	NA	NA	NA
b) Generation of excessive groundborne vibration or groundborne noise levels	NA	LTS	LTS	NA	NA	NA	NA
c) For a project within the vicinity of a private airstrip or an airport land use plan, or where such a plan has been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.14—Population and Housing							
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)	NA	LTS	LTS	NA	NA	NA	NA
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NA	LTS	LTS	NA	NA	NA	NA
3.2.15—Public Services							
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: <ul style="list-style-type: none"><li>• Fire protection</li><li>• Police protection</li><li>• Schools</li><li>• Parks</li><li>• Other public facilities</li></ul>	NA	LTS	LTS	NA	NA	NA	NA

Summary

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
3.2.16—Recreation							
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	NA	No Impact	No Impact	NA	NA	NA	NA
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.17—Transportation/Traffic							
a) Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	NA	No Impact	No Impact	NA	NA	NA	NA
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	NA	LTS	LTS	NA	NA	NA	NA
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	NA	LTS	LTS	NA	NA	NA	NA
d) Result in inadequate emergency access	NA	LTS	LTS	NA	NA	NA	NA
3.2.18—Tribal Cultural Resources							
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:  a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or  b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	NA	No Impact	No Impact	NA	NA	NA	NA
3.2.19—Utilities and Service Systems							
a) Require or result in the construction of new or expanded water, wastewater treatment facilities or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	NA	LTS	LTS	NA	NA	NA	NA
b) Have sufficient water supplies available to serve the project reasonably foreseeable future development during normal, dry and multiple dry years	NA	LTS	LTS	NA	NA	NA	NA

## Summary

Impact	Significance before Mitigation			Mitigation Measures	Significance after Mitigation		
	No Build	Alt. 1	Alt. 2		No Build	Alt. 1	Alt. 2
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	NA	LTS	LTS	NA	NA	NA	NA
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	NA	LTS	LTS	NA	NA	NA	NA
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NA	No Impact	No Impact	NA	NA	NA	NA
<b>3.2.20—Wildfire</b>							
a) Substantially impair an adopted emergency response plan or emergency evacuation plan	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	No Impact	No Impact	NA	NA	NA	NA
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	NA	No Impact	No Impact	NA	NA	NA	NA
<b>3.2.21—Mandatory Findings of Significance</b>							
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory	NA	LTS	LTS	NA	NA	NA	NA
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)	NA	LTS	LTS	NA	NA	NA	NA
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly	NA	LTS	LTS	NA	NA	NA	NA

LTS = Less than Significant.

NA = Not Applicable.

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## List of Abbreviated Terms

23 USC 327	23 United States Code Section 327
AB 32	Assembly Bill 32
AB 52	Assembly Bill 52
ACHP	Advisory Council on Historic Preservation
ADA	1990 Americans with Disabilities Act
ADL	aerially deposited lead
APE	area of potential effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASR	Archaeological Survey Report
ATCM 93105	CCR Title 17, §93105 – Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations
ATS	average travel speed
BAU	business-as-usual
BMPs	best management practices
CAFE	Corporate Average Fuel Economy
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	categorical exclusions
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH <sub>4</sub>	methane
CIA	Community Impact Assessment
CIH	Certified Industrial Hygienist
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
COZEEP	Construction Zone Enhanced Enforcement Program
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CRZ	Clear Recovery Zone
CSS	2015 Caltrans Standard Specifications
CTP	California Transportation Plan
CVC	California Vehicle Code
CWA	Clean Water Act
dBA	A-weighted decibels
Department	California Department of Transportation
DP-30	Caltrans Director's Policy 30
DSA	Disturbed Soil Area
EIR/EA	Environmental Impact Report/Environmental Assessment
EIS	Environmental Impact Statement

EO	Executive Order
EPACT92, 102nd Congress	Energy Policy Act of 1992
H.R.776.ENR	
ESAs	Environmentally Sensitive Areas
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FWHA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRMS	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FR	Federal Register
Framework	Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle ( <i>Desmocerus californicus dimorphus</i> )
FRAQMD	Feather River Air Quality Management District
FTA	Federal Transit Administration
FTIPs	Federal Transportation Improvement Programs
GHG	greenhouse gas
Guidelines	U.S. EPA's Section 404(b)(1) Guidelines
H <sub>2</sub> S	hydrogen sulfide
HCM	Highway Capacity Manual 6th edition
HDM	Highway Design Manual
HEPA	High Efficiency Particulate Air
HFC-134a	s, s, s, 2-tetrafluoroethane
HFC-152a	difluoroethane
HFC-23	fluoroform
HPSR	Historical Properties Survey Report
HRER	Historical Resources Evaluation Report
HUC	hydrologic unit code
IPCC	Intergovernmental Panel on Climate Change
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
L <sub>eq</sub> (h)	hourly equivalent sound level
LOS	Level of Service
LSAA	Lake or Streambed Alteration Agreement
MLD	Most Likely Descendent
MMTCO <sub>2</sub> e	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MRZ	mineral resource zone
MS4	municipal separate storm sewer systems
MSATs	mobile source air toxics
MTIP	Metropolitan Transportation Improvement Program
MTP	Metropolitan Transportation Plan
MTP/SCS	2016 Metropolitan Transportation Plan/Sustainable Communities Strategy
mya	million years ago
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NNL	National Natural Landmarks

NO <sub>2</sub>	nitrogen dioxide
NOA	Notice of Availability
NOA	Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries Service	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
O <sub>3</sub>	ozone
OHWM	ordinary high water mark
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
PA	Programmatic Agreement
Pb	lead
P-C	Production-Consumption
PCBs	polychlorinated biphenyls
PER	Paleontological Evaluation Report
PG&E	Pacific Gas and Electric Company
Pilot Program	Surface Transportation Project Delivery Pilot Program
PIR	Paleontological Identification Report
PLACs	permits, licenses, agreements, and certifications
PM	Post Mile
PM	particulate matter
PM <sub>10</sub>	particles of 10 micrometers or smaller
PM <sub>2.5</sub>	particles of 2.5 micrometers and smaller
PPDG	Project Planning Design Guide
PRC	Public Resources Code
proposed project	Yuba 70 Safety Project
PSI	preliminary site investigation
PSR	Project Study Report
PTSF	percent time spent following
RAP	Relocation Assistance Program
RCRA	Resource Conservation and Recovery Act of 1976
Resources Agency	California Natural Resources Agency
ROW	right-of-way
RPS	Renewable Portfolio Standards
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCBs	Regional Water Quality Control Boards
SACOG	Sacramento Area Council of Governments
Safeguarding California Plan	Safeguarding California: Reducing Climate Risk
SB	Senate Bill
SB 32	Senate Bill 32
SB 97	Senate Bill 97
SB 375	Senate Bill 375
SB 391	Senate Bill 391
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SF <sub>6</sub>	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLR	sea-level rise

SLR Guidance	State of California Sea-Level Rise Interim Guidance Document
SMARA	Surface Mining and Reclamation Act
SO <sub>2</sub>	sulfur dioxide
SR	State Route
SWMP	Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TASAS	Traffic Accident Surveillance and Analysis System
TCEs	temporary construction easements
TCR	Transportation Concept Report
TMDLs	Total Maximum Daily Loads
TMP	Traffic Management Plan
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
TWLTL	two-way left-turn lane
TWW	treated wood waste
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
UAIC	United Auburn Indian Community
Uniform Act	Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VHD	vehicle hours of delay
VHT	vehicle hours of travel
VIA	Visual Impact Assessment
VMT	vehicle miles of travel
WDRs	Waste Discharge Requirements
WIE	white improved earthenware
WPCP	Water Pollution Control Program
WSE	water surface elevation

# Chapter 1      Proposed Project

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## 1.1 Introduction

The California Department of Transportation (Caltrans) proposes a safety project on State Route (SR) 70 (Post Mile [PM] 16.2/25.8) from Laurellen Road to Honcut Creek Bridge [Bridge No. 16 0020] in Yuba County, California, north of Marysville. The total length of the project is 9.6 miles. Figures 1-1 and 1-2 show the project location and project vicinity.

Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA) for this project. Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

The proposed project is consistent with the Caltrans 2014 Transportation Concept Report (TCR), a 20-year planning document that evaluates current and projected conditions along the route and communicates the vision for its development. The proposed project is included in the Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan (MTP) 2035, which proposes planned safety improvements for SR 70. The proposed project is also included in the SACOG 2019 Metropolitan Transportation Improvement Program (MTIP) as project CAL20678 (Sacramento Area Council of Governments 2019:86).

## 1.2 Project Background

### 1.2.1 Overview of SR 70 in the Project Limits

SR 70 is an Interregional Road System Route. This route primarily serves to move people or goods from outside the immediate region through Yuba County. Transporting agricultural commodities to markets has made SR 70 a vital economic link to local farmers and agriculture-related businesses. Additionally, SR 70 has become a “gateway” route used to access multiple recreational destinations in the Sierra Nevada and serves as an alternative route to and from Nevada when Interstate 80 is closed due to an accident or weather conditions.

SR 70, north of Marysville in Yuba County, is a two-lane rural highway through agricultural land. The highway presently has standard 12-foot lanes, with shoulder widths less than 8 feet in most areas. There are currently left-turn lanes at county road intersections. This portion of SR 70 runs through what is commonly called District 10, which is short for Reclamation District 10. This area encompasses approximately 12,000 acres and includes 23 miles of levees. Forming the District’s boundaries are Honcut Creek to the north, the Marysville Levee to the south, the Feather River to the west, and the Union Pacific Railroad tracks to the east. The area includes 50 businesses (31 farms, 13 agriculture-related businesses, and 6 other) and over 450 residences. Extensive farming activities take place throughout the project limits, therefore farming and harvesting equipment share the road with the traveling public. Clusters of houses share frontage with the highway throughout the project limits.

### 1.2.2 Interim Fixes

Multiple interim fixes and improvements have been completed on this segment.

- A TWLTL was constructed from approximately Noble Road north through Woodruff Lane in 2007, and additional lane markings were added.
- In 2009 the segment from PM 16.4 to PM 25.8 (aside from the portion from Noble Road through Woodruff Lane) was cold planed and paved, and an open asphalt course was placed to assist in reducing accidents due to wet pavement, and centerline rumble strips were installed to alert drivers who might drift and cross over the centerline of the roadway into opposing traffic.
- In 2018, new and improved signs were installed on the corridor, including oversized R3-9B, Two Way Left Turn Only, R4-1, and Do Not Pass signs.

Caltrans has taken the following actions in this corridor within approximately the last year:

- Conducted local outreach and press conferences along with California Highway Patrol (CHP) to highlight the safety concerns such as speeding and unsafe passing.
- Provided additional signage (speed limits, no passing) in the larger size as allowed by the California Manual on Uniform Traffic Control Devices for higher speed roadways.
- Implemented the new District-wide striping protocols, which call for the 6-inch extruded style pavement markings.

### 1.2.3 Past Improvement Efforts

The project limits include a section of SR 70 north of Marysville with a cross section that does not meet current standards for shoulder width and clear recovery zone (CRZ). In 2007, between PM 18.9/20.0, the highway was widened, and a two-way left-turn lane (TWLTL) was installed under Contract 03-4A570. In 2009, centerline ground-in rumble strips were also installed through the project limits, but cross-centerline collisions have continued to occur (see traffic section for details).

On March 30, 2015, a Project Study Report (PSR) was approved for proposed safety improvements on SR 70. Improvements consisted of two standard 12-foot lanes, 8-foot shoulders, a TWLTL where feasible, left-turn pockets at all county-maintained roads, and a 20-foot CRZ. This proposed safety project included two alternatives, a 3-lane and 5-lane widening with standard 8-foot shoulders and a TWLTL where feasible, as well as providing width for a 20-foot CRZ.

Improving this segment of SR 70 has been studied for several years, and numerous reports have been prepared. These studies include the *State Routes 70 and 99 Corridor Study* (1990), the *State Routes 70 and 99 Major Investment Study* (California Department of Transportation 1995), the *Draft Marysville By-Pass Value Analysis Study* (Value Management Strategies 2001), the *Marysville By-pass to Oroville Freeway Project* (California Department of Transportation 1993), and the *State Route 70 Transportation Concept Report* (California Department of Transportation



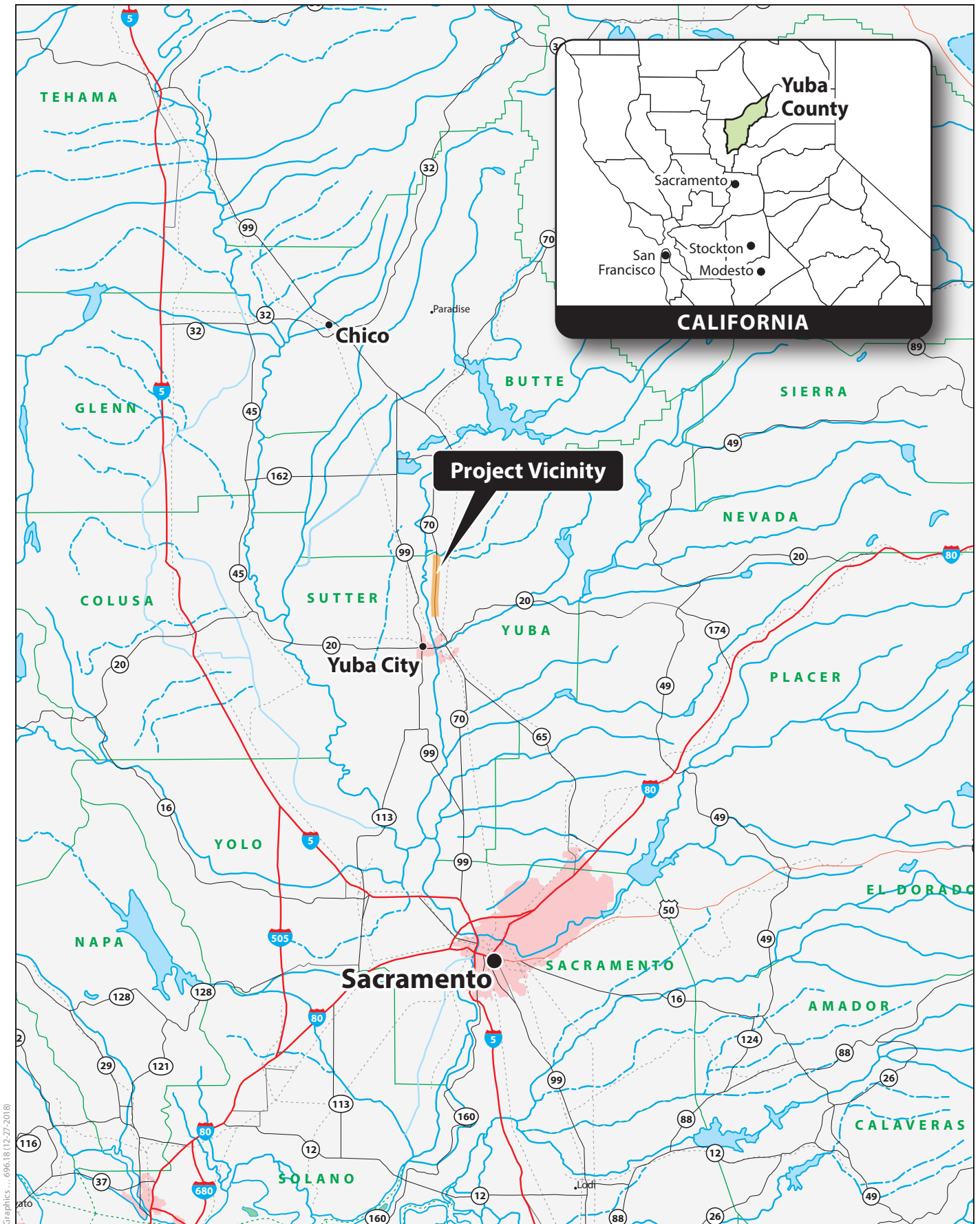


Figure 1-1  
Project Vicinity



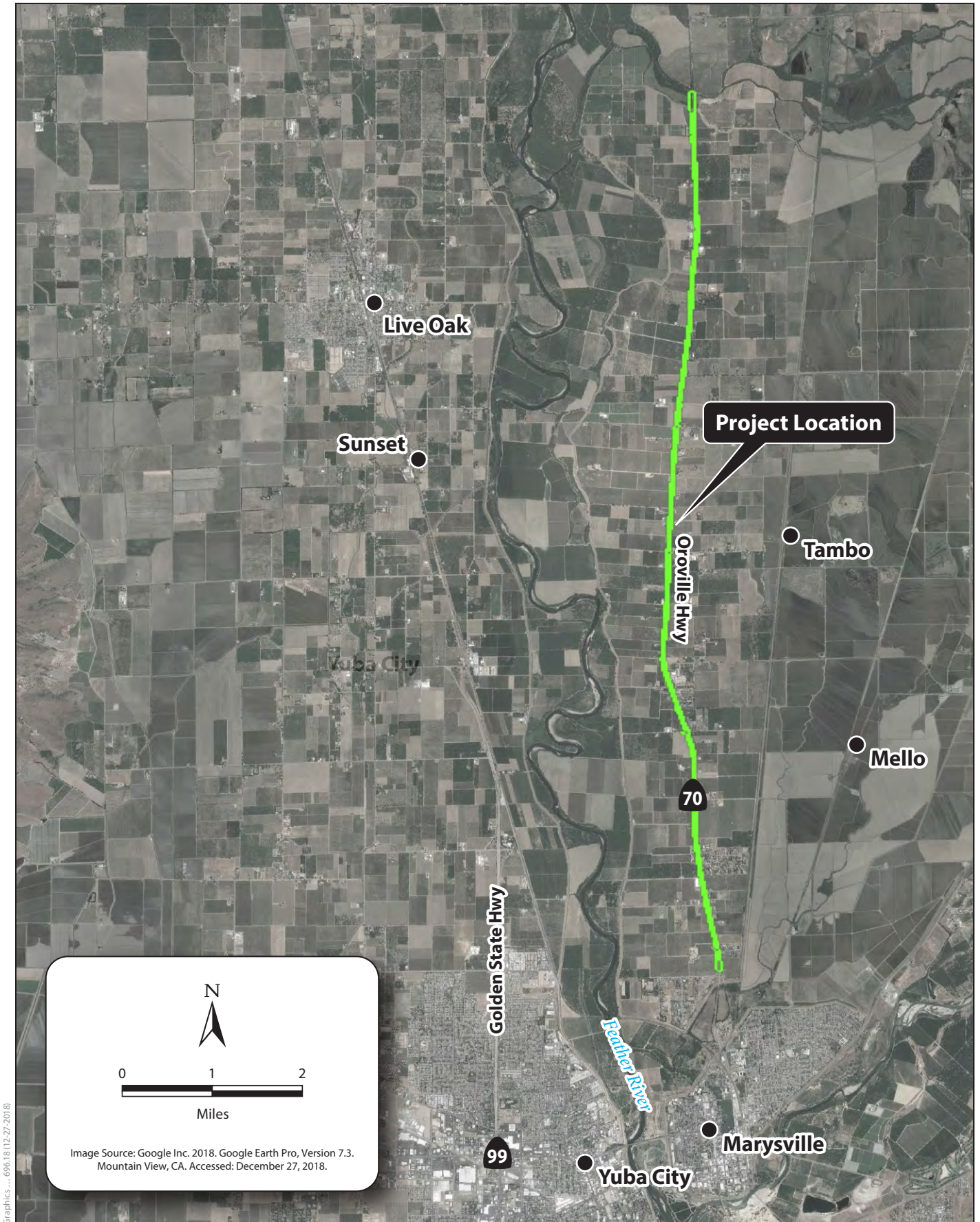


Figure 1-2  
Project Location

2014). Several alternatives have been considered through the course of these studies, including highway widening, highway realignment, and new freeway construction.

While the various studies mentioned above considered various ways to improve SR 70 between Marysville and Oroville, the generally accepted vision was to construct a four-lane “Marysville By-Pass to Oroville Freeway” beginning at the SR 65/SR 70 split and extending to the southern limits of Oroville. This freeway was to provide regional connectivity between Sacramento, Marysville, Oroville, and Chico. Due to lack of funding and significant environmental impacts identified in the *Draft Marysville By-Pass Value Analysis Study* (Value Management Strategies 2001), the proposed by-pass and freeway were determined to be unviable and were not carried forward into the final stages of project development.

## **1.2.4 Project Refinement**

### **1.2.4.1 Refinement from First Public Outreach Meeting**

A public outreach meeting was held for the project on April 11, 2017, at the Caltrans District 3 Office. At the time, the safety project presented consisted of a 14-foot-wide paved strip between opposing traffic striped as a TWLTL, 12-foot lanes, 8-foot shoulders, and a 20-foot CRZ centered around the existing roadway centerline. The proposal would impact 187 acres and displace 43 residences/businesses, and utility relocation costs would be \$113 million. The meeting was well-attended by the public. Caltrans was represented by the project manager, the project engineer, and environmental and right-of-way (ROW) staff. A presentation was given by the project manager to explain the need for the safety project. Caltrans staff were available to answer questions and receive written comments from the public.

The comments received at the first public outreach meeting resulted in modifications to the proposed project with the goal of reducing ROW impacts and utility relocation costs. While maintaining the safety aspects of the project, a 14-foot-wide paved strip between opposing traffic striped as a TWLTL, 12-foot lanes and 8-foot shoulders, and a 20-foot CRZ, the centerline of the proposed design would either be to the left or the right of the existing road’s centerline. This proposal would impact 154 acres and displace 31 residences/businesses, and utility relocation costs would be \$113 million.

## **1.2.5 Refinement from Second Public Outreach Meeting**

A second public outreach meeting was held for the project on November 11, 2017, at the Caltrans District 3 Office. As with the first meeting, Caltrans was represented by the project manager as well as the project engineer and environmental and ROW staff. The project manager delivered a presentation that explained the need for the safety project. The meeting was well-attended by the public, and Caltrans staff were available to answer questions and receive written comments from the public.

The comments received at the second public outreach meeting resulted in further refinement of the project design. While maintaining the safety aspects of the project, a 14-foot-wide paved strip

between opposing traffic striped as a TWLTL, 12-foot lanes and 8-foot shoulders, and a 20-foot CRZ, the purpose of the revision was to further reduce ROW acquisition and the overall impacts on land owners near the project. Utilities were evaluated with the goal of reducing impacts on overhead Pacific Gas and Electric Company (PG&E), Comcast, and AT&T facilities as well as underground utilities.

A group of District 10 residents began meeting monthly with Caltrans staff to help incorporate community concerns into the project where possible. An outcome of this interaction was the incorporation of school bus stops into the shoulder design, an increase in the unpaved shoulder width to facilitate movement of farm equipment, deceleration/right-turn lanes for vehicles exiting the highway, and acceleration lanes for right turns onto the highway at county-maintained roads and agriculture-related businesses. This proposal would impact 67 acres and displace nine residences/businesses, and its utility relocation costs would be \$3 million.

### **1.2.6 Refinement from Third Public Outreach Meeting**

A third public outreach meeting was held for the project on June 28, 2018, at the Caltrans District 3 Office. The revised design was presented, and again Caltrans staff were available to answer questions and receive written comments from the public.

The comments received at the third public outreach meeting resulted in modifications to the proposed project and in the creation of alternatives to be studied. The deceleration/right-turn lanes for vehicles exiting the highway and acceleration lanes for right turns onto the highway would occur only at county-maintained roads, and their lengths would be reduced. While both alternatives have incorporated the safety aspects of the project and include a 14-foot-wide paved strip between opposing traffic, 12-foot lanes and 8-foot shoulders, and a 20-foot CRZ, the centerline of the proposed design would either be to the left or the right of the existing road's centerline. Additionally, the proposed project would also include rumble strips on the left and right edge of the traveled way for both directions of traffic.

### **1.2.7 Refinement from Traffic Study**

With the traffic report dated March 2019 (Fehr & Peers 2019), the proposed project now includes the addition of signed slow-moving vehicle lanes, all less than 1 mile long, at several locations in each direction throughout the project limits.

Alternative 1 proposes that the 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, which would create a refuge for drivers turning left in and out of traffic. At county-maintained roads and certain agriculture-related businesses, the TWLTL would be striped as a left-turn lane.

Alternative 2 proposes that the 14-foot-wide paved strip between opposing traffic lanes that includes a concrete barrier to separate traffic. Vehicles entering the highway from homes and businesses could only turn right onto SR 70; at major intersections with major county roads, there would be median openings with left-turn/U-turn lanes.

## 1.3 Purpose and Need

### 1.3.1 Project Purpose

The purpose of the proposed project is to significantly reduce traffic fatalities, reduce injury-type collisions, address operational needs by bringing SR70 up to current design standards and improve overall safety within the project limits.

### 1.3.2 Project Need

The project is needed because there are operational and safety concerns along the corridor. Between August 6, 2010, and August 5, 2013, this segment of SR 70 had 85 reported collisions, and there were 7 fatalities. Although the total collision rate is about 65 percent of the statewide average for similar facilities, the actual fatality collision rate is more than 4.5 times the statewide average. Of the seven fatal collisions, two involved tractor-trailers being struck while making left or right turns, three involved cross-centerline head-on collisions, one involved an unsafe passing movement, and one involved a pedestrian who was struck. The fatal accident rate for this segment was approximately 350 percent higher than the statewide average (Fehr & Peers 2019). Figures 1-3 and 1-4 show the number of collisions and the collision types in the project area, and Table 1-1 summarizes collision data.

The proposed project is intended to address cross-centerline collisions/fatalities. Additionally, there are approximately 200 access points in this segment—private driveways, business driveways, and paved and unpaved agricultural access. The numerous access points are potential sites of injury because of the turning movements onto and off of SR70 which is exacerbated by agricultural equipment and slow turning trucks. These types of vehicles take increased time to decelerate or accelerate in association with a turning movement versus a passenger vehicle or pickup truck and because of this increased time these movements impact vehicles further upstream or downstream on the approach to the access point. The project elements such as widened shoulders, the CRZ, TWLTLs, and new striping and signage would serve the additional purpose of reducing the injury rate within the project limits.

**Table 1-1. Summary of Collision Analysis**

Number of Accidents				Accident Rates					
				Actual			Statewide Average		
Total	Fatal	Injury	Fatal + Injury	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
85	7	32	39	0.054	0.3	0.65	0.014	0.42	1.01

Source: Fehr & Peers (2019).

Note: The collision rate is in collisions per million vehicle-miles.

Furthermore, most of the existing shoulder widths, of zero to four feet, do not meet current standards, and obstacles such as roadside ditches, trees, fixed objects, and utility poles are located within 20 feet of the traveled way. A striped median would allow refuge for drivers turning across traffic and would also serve as separation from opposing traffic. The rumble strips



would alert drivers if they are drifting into the median. Deceleration lanes/right-turn lanes allow drivers to separate from the traffic flow and slow down before turning off from the highway, and the acceleration lane allows drivers to approach traffic speed before merging. The proposed unpaved shoulders would reduce vehicle off-tracking and overcorrection. In order to reduce unsafe passing, signed slow-moving vehicle lanes would be provided in each direction.

### 1.3.3 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the action evaluated:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

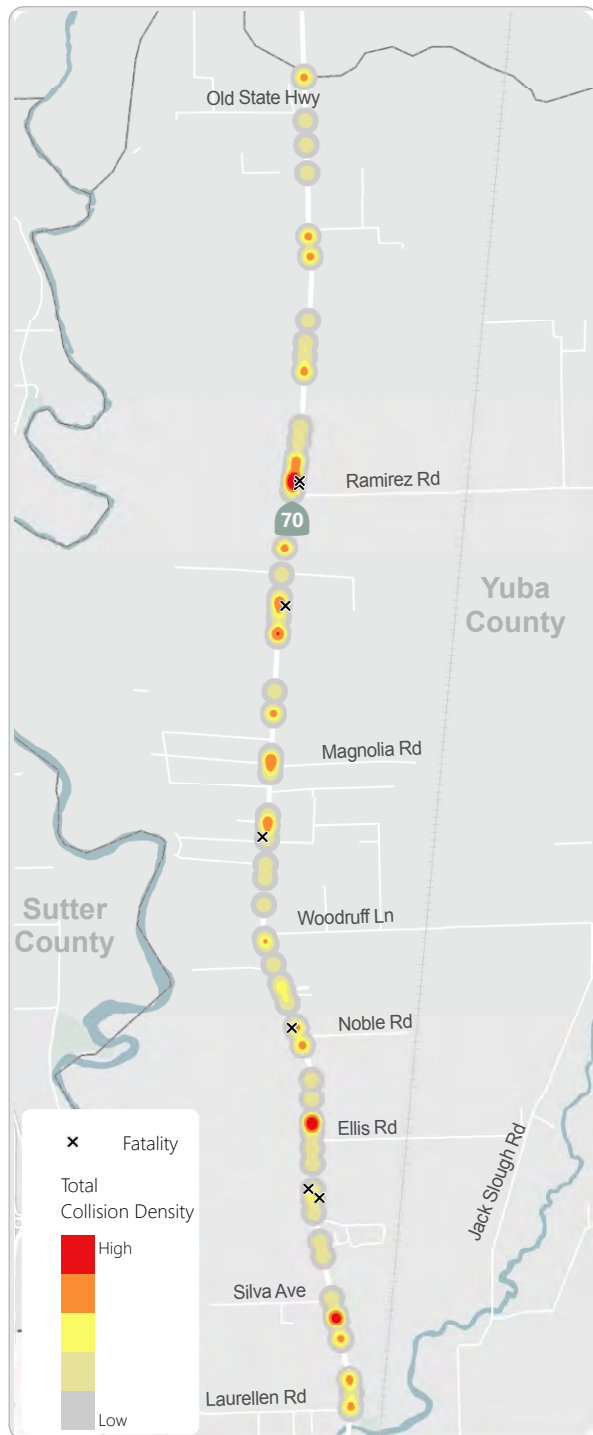
The need of this project is very specific regarding the number, type and severity of accidents. The purpose of the project includes specific safety features and will not require additional future improvements, therefore the project has independent utility. The project also connects logical termini in that the area studied encompasses a broad enough area to fully address environmental issues. The Office of Traffic Safety has established the project limits based on traffic collision data that show higher-than-statewide-average fatalities between PM 16.2 and PM 25.8.

The proposed project would connect to two future projects. In the summer of 2019, EA 03-1E060, the Simmerly Slough Bridge Replacement Project, will construct a three-lane facility; the proposed project would tie-in to this project's southern end. In 2022, EA 03-3H930, the Butte 70 Safety and Capacity Project, will construct a five-lane facility that will tie-in to the north end of the proposed project. The proposed project does not conflict with other reasonably foreseeable transportation projects in this segment of SR 70.

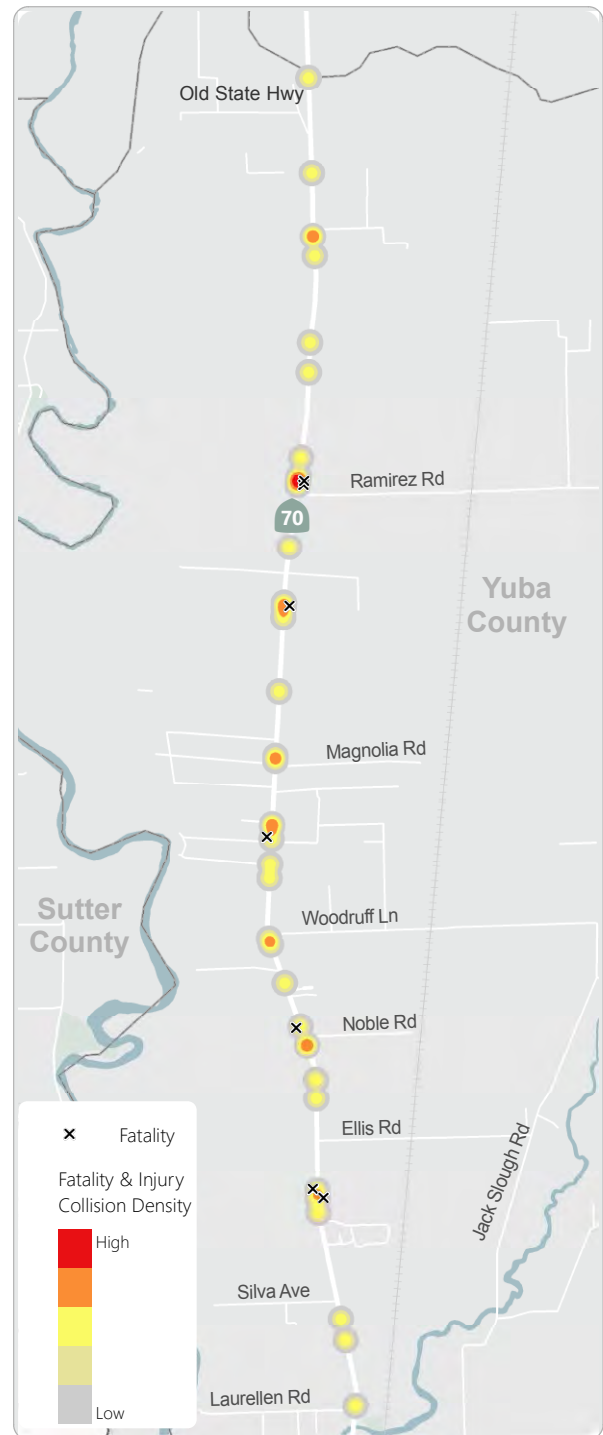
## 1.4 Project Description

The existing roadway has 12-foot lanes throughout. Within the project limits, the proposed project would include the following:

- A CRZ with a minimum width of 20 feet that includes paved shoulders with a width of up to 8–14 feet and a 6-foot unpaved shoulder.
- Signed slow-moving vehicle lanes less than 1 mile long at up to three locations in each direction throughout the project limits (discussed further below).
- At county-maintained roads and certain agriculture-related businesses, designated TWLTLs, a deceleration lane/right-turn lane for right turns from SR 70 and an acceleration lane for right turns onto SR 70.

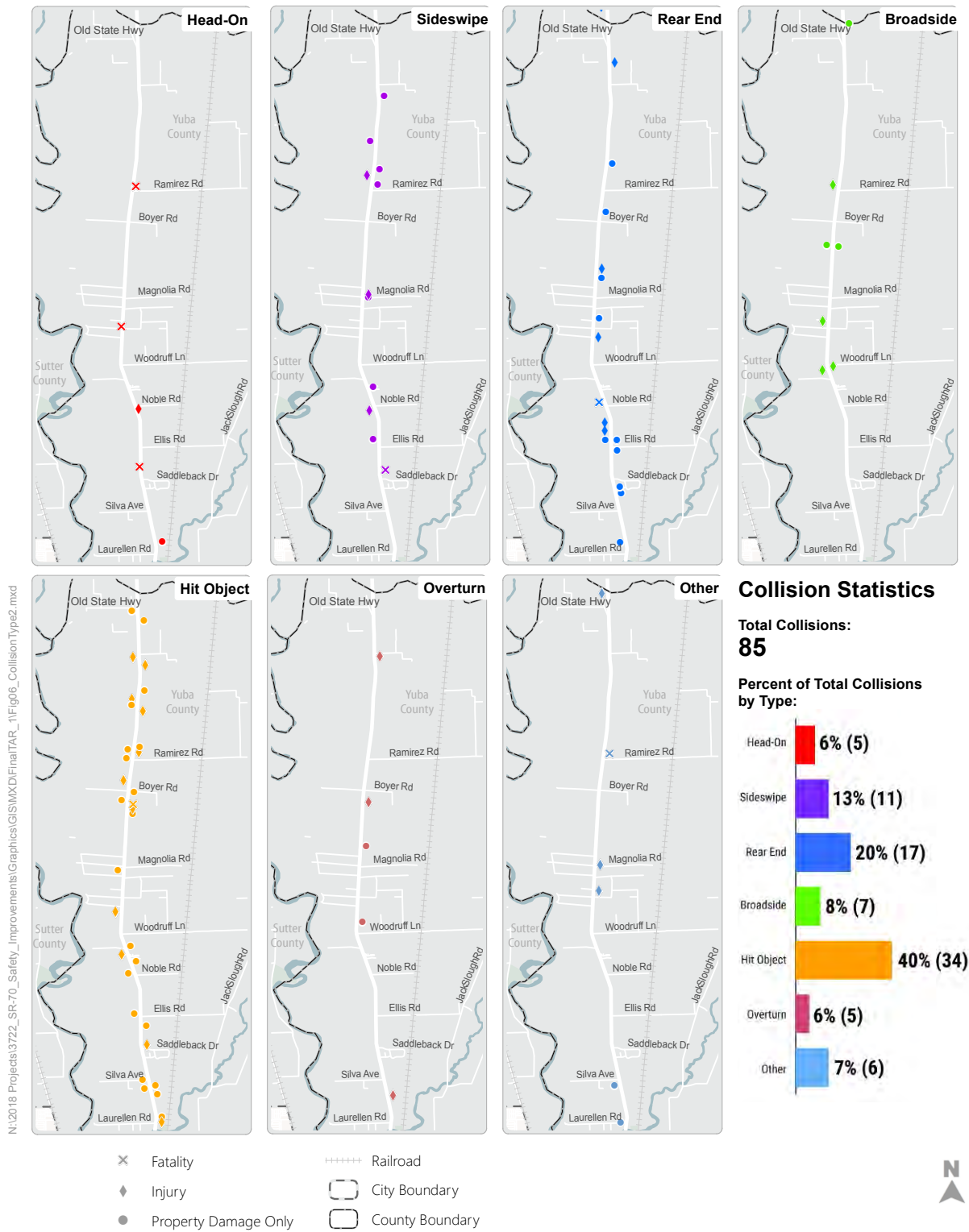


+++++ Railroad    City Boundary    County Boundary



Source: Fehr & Peers 2019

**Figure 1-3  
Collisions**



Source: Fehr & Peers 2019

**Figure 1-4**  
**Collision Type**



- A median/TWLTL or a median barrier to separate opposing traffic (discussed further below).

Benefits from the proposed project would include the following:

- The unpaved shoulder would allow slower-moving farm equipment that are wider than the lane to encroach into the shoulder rather than into traffic.
- Additional paved area at school bus stops would better separate traffic from the areas where students board and exit the bus.
- The striped median/TWLTL would better separate opposing directions of traffic and allow refuge for drivers turning across traffic, and rumble strips would alert drivers if they move into the median. A median barrier would separate opposing traffic.
- The passing opportunities would allow vehicles to overtake slow-moving vehicles.
- The deceleration lanes/right-turn lanes would allow drivers to split from the main traffic flow and slow down before exiting the highway. The acceleration lanes would allow drivers to approach traffic speed before merging.

#### **1.4.1 Slow Moving Vehicle Lanes**

The existing roadway configuration within the project limits has many sections striped to allow for passing, which, when traffic conditions allow—, reduces congestion created by the significant levels of agriculture-related traffic and other slower moving vehicles. Figure 1-5 depicts where the TWLTLs would be located for each alternative.

The current design of the proposed project includes a continuous striped median/TWLTL for the length of the project, which will effectively make this approximately 9.5-mile segment a no-passing zone. The lack of legal passing opportunity could create the potential for issues such as:

- Traffic queuing behind slower moving agricultural related traffic, especially during peak harvest season (May through September).
- The wider shoulders may allow some agricultural equipment to drive partially on the shoulder while still encroaching on the traveled way, potentially encouraging other drivers to clear the slower moving vehicles by partially entering the TWLTL. This would be in violation of the California Vehicle Code (CVC) Section 21460.5(c).
- CVC 21656 has a provision that requires slower moving vehicles with five or more vehicles behind them to turn off the roadway at the nearest place designated as a turnout or wherever sufficient area for a safe turnout exists, in order to permit the vehicles following to proceed; however, the project does not include turnouts (see discussion below)
- Illegal passing movements in violation of CVC 21460.5(c) by impatient drivers unwilling to drive for up to the 9.5-mile length of the project while following vehicles driving slightly below or at the posted regulatory speed limit. This condition has been repeatedly reported by the public for the SR 70 TWLTL segment from Noble to Woodruff and is a considerable concern for potential collisions related to the illegal passing movements.

According to the AASHTO Geometric Design of Streets and Highways, turnouts are most often used on lower volume roads where long platoons are rare; furthermore, turnouts longer than 600 feet are not recommended for high-speed roads. SR 70 within the project limits is not a good candidate for turnouts due to the volumes on the roadway. Trucks, slow moving vehicles, and/or implements of husbandry which pulled into a turnout would probably need to come to a complete stop to allow traffic to clear and then they would be reentering the traveled way with a significant speed differential in relation to through traffic, creating the potential for either rear end, run off road (due to avoidance maneuver) or illegal passing movements through the TWLTL.

Due to concerns addressed above, the project proposes to provide approximately 0.5-mile long slow moving vehicle lanes that can be used for slow moving vehicles, trucks, and/or agricultural equipment/farm vehicles. The following signage would be provided in accordance with:

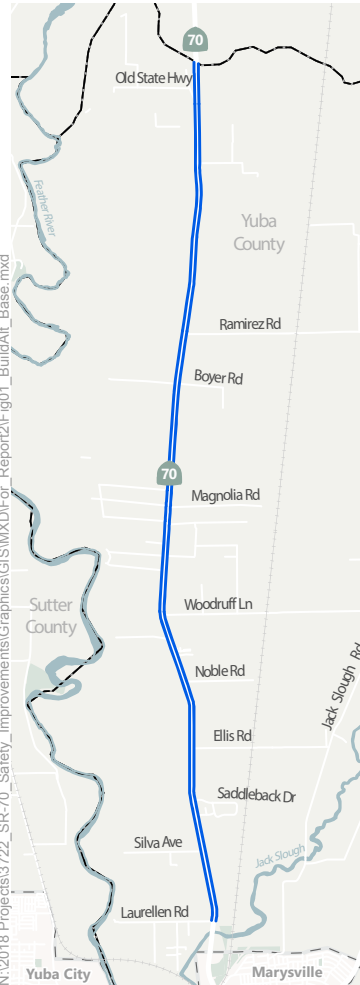
- CA MUTCD 2B.31, Trucks Use Right Lane Sign (R4-5), this is a regulatory sign.
- CA MUTCD 2D.51, Truck, Passing, or Climbing Lane Signs (D17-1 and D17-2), which includes advance notice guide signs of “Next Truck Lane X Miles” or “Truck Lane X Mile”.

Providing slow moving vehicle lanes in both directions of travel with the advance notice signage per CA MUTCD 2D.51 would minimize the potential of drivers making an illegal passing maneuver in the TWLTL. The advance notice signage would alert the drivers that slow moving vehicles, trucks, and/or agricultural equipment would be required to use the slow moving vehicle lane, allowing them to clear the slower traffic and proceed safely on SR 70.

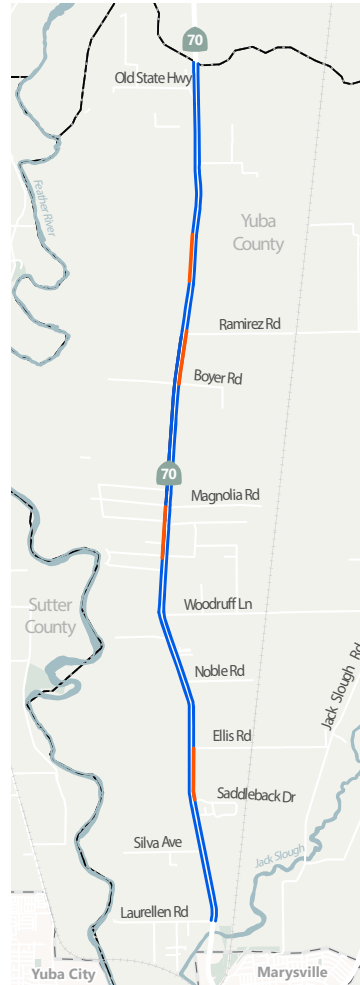
For analysis purposes, Highway Capacity Manual 6th edition (HCM) passing lane procedures are used to analyze impacts of slow moving vehicle lane. Per HCM page 15-32, for the analysis segment which includes only the length of the slow moving vehicle lane and its downstream effective length on Percent Time Spent Following (PTSF), the slow moving vehicle lane may appear to increase service flow rates but instead improves traffic operations by reducing the time a vehicle spends following a slower moving vehicle such as heavy trucks and agricultural equipment. Per HCM, the directional capacity of all two-lane highways is shown to be 1,700 passenger cars per hour with or without a slow moving vehicle lane, turnout, climbing lane, etc. which indicates that slow moving vehicle lane improvement is not a “capacity-increasing” improvement. In addition, per Transportation Research Board 1195 and FHWA/TX-16/0-6806-TTP1, slow moving vehicle lanes are constructed on two-lane roadways to improve overall traffic operations by breaking up traffic platoons and by reducing delays caused by inadequate passing opportunities over substantial lengths of highway; which further supports the fact that slow moving vehicle lane is an operational improvement and not a “capacity-increasing” improvement.

Furthermore, the SR 70 Transportation Concept Report (TCR), dated August 2014, proposes a concept facility that strives to maintain performance levels on SR 70 over a 20-year time frame, by meeting or exceeding minimum acceptable Level of Service (LOS) for each segment. LOS D is the concept LOS for the study segments of SR 70. The study segments of SR 70 design year and horizon year traffic operations degrade to below corridor concept LOS standard under existing conditions. Some segments of SR 70 would continue to operate below concept LOS standards even with the construction of the TWLTL alternatives. Strategic slow moving vehicle

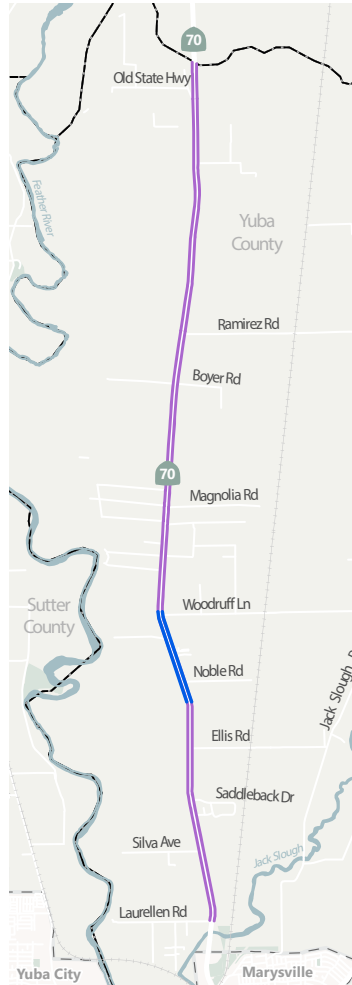
## ALTERNATIVE 1



## ALTERNATIVE 2



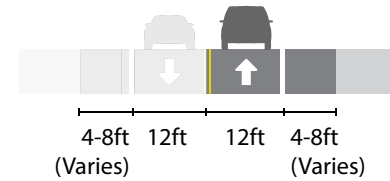
## NO BUILD



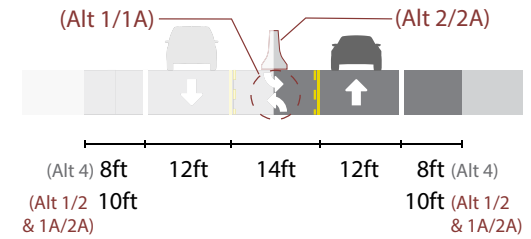
— Study Segment    □ City Boundary  
 +++++ Railroad    □ County Boundary

## Cross Sections

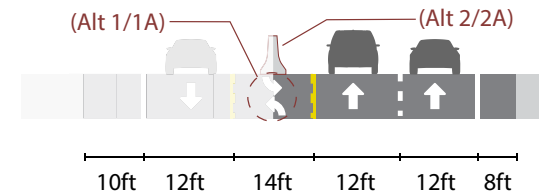
### Two Lanes



### Two Lanes with Center Turn Lane



### Two Lanes with Center Turn Lane and Passing Lane



Source: Fehr & Peers 2019.

Figure 1-5  
Project Alternatives

lane and TWLTL improvements are identified planned safety and operational improvements in the TCR and are projected to improve the design and horizon year operations.

There are two northbound and two southbound slow-moving vehicle lanes proposed that are approximately 0.5 mile each.

- Northbound
  - Between Saddleback Dr and Ellis Rd PM (17.59/17.99)
  - Between Boyer Rd and Ramirez Rd PM (22.33/22.76)
- Southbound
  - Just North of Ramirez PM (23.54/24.20)
  - Just South of Magnolia PM (20.52/21.04)

In addition, based on recommendations contained within the traffic study, Caltrans may also consider including the following slow-moving vehicle lanes:

- Northbound
  - North from Magnolia PM (20.95/21.45)
- Southbound
  - North of Ellis PM (18.19/18.69)

The locations of slow-moving vehicle lanes were chosen:

- To minimize impacts on existing driveways and/or minimize conflict points
- Based on areas of concentrated agricultural-related traffic
- To minimize design constraints and ROW acquisitions

## 1.5 Alternatives

Under evaluation for this project are two build alternatives—Alternative 1 and Alternative 2—and a No-Build (or No-Action) Alternative, as described in the subsections below.

Regardless of build alternative, the proposed project would contain standardized project measures that are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact that could potentially result from the proposed project. These measures are detailed in the *Environmental Consequences* subsections of Chapter 2, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures*.

### **1.5.1 Common Design Features of the Build Alternatives**

The construction approach would be the same for both alternatives. Construction of Alternative 1 or Alternative 2 would begin in June 2020 and end in December 2022. Both build alternatives contain the following design features:

- The CRZ (minimum width of 20 feet) would incorporate side slopes of 4:1 or less and remove any physical obstructions such as trees, utility poles, and other fixed objects.
- Roadside ditches would be constructed outside the CRZ.
- At county-maintained roads, right turns from SR 70 would have deceleration lanes/right-turn lanes, and right turns onto SR 70 would have acceleration lanes.
- There are numerous school bus stops throughout the project limits; therefore, designated areas would have the shoulder width increased to 14 feet to provide areas for buses to pull over and give students safer access on and off the bus.
- Signed slow-moving vehicle lanes less than 1 mile long would be provided at up to three locations in each direction throughout the project limits.
- Where needed, existing driveways along the corridor would be modified to conform to the widened highway.
- As warranted, driveway culverts would be replaced to convey drainage flows in the roadside ditches.
- There would be shifts in the horizontal alignment and minor adjustments in vertical profile to enhance existing non-standard features such as design speed and sight distance.
- Existing cross culverts would be extended or replaced as needed.

### **1.5.2 Unique Features of Build Alternatives**

#### **1.5.2.1 Alternative 1**

Alternative 1 proposes the addition of a 14-foot-wide paved median, striped as a continuous TWLTL. This TWLTL would create a refuge for drivers turning left in and out of traffic. At county-maintained roads and certain agriculture-related businesses, the TWLTL would be striped as a left-turn lane. Appendix B of this EIR/EA contains a typical cross section and layout of Alternative 1.

#### **1.5.2.2 Alternative 2**

Alternative 2 would separate traffic with a paved 14-foot-wide median and concrete barrier. Vehicles entering the highway from homes and businesses could only turn right onto SR 70. There would be median openings at major county road intersections with left- and U-turn lanes. Appendix B of this EIR/EA contains a typical cross section and layout of Alternative 2.

### **1.5.3 Utilities**

Both alternatives require utility relocation. There are existing PG&E gas lines between Laurellen Road PM 16.2 and Sparrow Lane PM 24.5, PG&E electrical and AT&T lines that run the length of the project limits, and Comcast lines between PM 16.2 to Woodruff Lane PM 19.7. There are multiple utility poles with multiple facilities on them on either side of the highway that result in conflicts due to highway widening and CRZ policy.

Under either alternative, utility poles would be relocated outside of the CRZ to reduce the potential for motorist collision. Anchor easements may be necessary for PG&E and AT&T pole relocation. For both alternatives it is assumed that an exception to Caltrans Encroachment and Utilities policy will be obtained and the gas lines would remain in place.

### **1.5.4 Right-of-Way**

The project work area consists of Caltrans' existing easement, additional temporary construction easements (TCEs), and the new permanently acquired ROW. All road construction activities, including equipment staging areas and work area access, would be confined to Caltrans' existing easements, TCEs, and the new ROW. The proposed project's designated work area would be cleared of any obstacles and debris prior to construction. Clearing, cutting, and trimming vegetation would be minimized whenever possible. ROW impacts would be similar for both build alternatives.

### **1.5.5 Construction Phasing and Traffic Management**

Construction would be phased and require alternating closure of northbound and southbound lanes. Night and weekend work would be required when construction activities are actively in progress. The following traffic management requirements would be adhered to:

- One-way (reversible) traffic control using flaggers in accordance with Standard Plan sheet T13 will be allowed during nighttime hours, but may be restricted during daytime peak hours and weekends.
- The maximum length of any lane closure shall be limited to 1.0 mile.
- A minimum of one paved traffic lane not less than 11 feet wide shall be open for use by public traffic at all times, and two lanes shall remain open when construction operations are not actively in progress.
- Whenever one-way traffic control is maintained, traffic may be stopped in one direction for periods not to exceed 10 minutes, after which accumulated traffic for that direction must pass through the work zone before another stoppage is made.
- Access to driveways and cross streets must be maintained during construction in accordance with traffic control standard plans or traffic handling plans.
- Pedestrian and bicycle access must be maintained during construction. Additional signs may be required to detour pedestrians and bicycle traffic.

- Portable changeable message signs will be required in direction of traffic during construction for each lane closure or shoulder closure.
- No lane closures, shoulder closures, or other traffic restrictions will be allowed on Special Days, designated legal holidays and the day preceding designated legal holidays, and when construction operations are not actively in progress.
- When closures occur within 200 feet of an intersection, flaggers shall be deployed to control all legs of the intersection.
- Work at these locations may require the assistance of Construction Zone Enhanced Enforcement Program (COZEED), but a fulltime COZEED presence is not anticipated.

#### **1.5.6 Site Restoration**

The project work area would be restored by removing any construction debris and grading to original grade and contour according to guidance from the various landowners. Where possible, the beds and banks of roadside ditches affected during construction would be returned to preconstruction condition and seeded (where necessary) with an appropriate seed mix.

#### **1.5.7 Transportation System Management and Transportation Demand Management Alternatives**

The study area does not experience peak hour congestion (LOS F conditions) and is not expected to experience peak hour congestion under horizon year (2043) conditions. As a result, no bottlenecks occur in the study area. Since congestion does not exist and will likely not occur, the need for transportation system and/or demand management is low. Potential actions to manage the transportation system and transportation demand in rural areas are listed below.

- Install CCTV cameras and/or traffic monitoring stations along the corridor to facilitate traveler information and emergency response.
- Encourage ridesharing programs and establish park-and-ride lots in adjacent cities.
- Accommodate school bus and future local bus service along the corridor.

#### **1.5.8 No-Build (No-Action) Alternative**

The No-Build Alternative would maintain the existing lane configurations, and no work would be conducted to improve operational or safety conditions within the project limits.

#### **1.5.9 Alternatives Considered but Eliminated from Further Discussion**

As described in more detail above in Section 1.2.3, *Project Refinement*, the project has been revised several times based on input from the public.

The “widen to both sides of existing centerline” alternative is not acceptable because the public opposed the amount of ROW needed for the project. After the public’s reaction to the proposal from the April 2017 workshop, Caltrans redesigned the project to reduce ROW impacts.

The “widen to either east/west (near centerline) combination” alternative is not acceptable because the public opposed the amount of ROW needed for the project. After the public’s reaction to the proposal from the November 2017 workshop, Caltrans redesigned the project to further reduce ROW and utility impacts.

## **1.6 Project Funding and Cost**

This project is funded through the Caltrans State Highway and Protection Program under the funding source 20.XX.201.010 for Safety. It has been determined that this project is eligible for federal funding. The estimated cost for both alternatives is shown below.

### **1.7 Alternative 1**

The cost of Alternative 1 is estimated as follows:

- Roadway items: \$71,229,900
- ROW: \$14,108,944
- Total capital: \$85,339,000

### **1.8 Alternative 2**

The cost of Alternative 2 is estimated as follows:

- Roadway items: \$78,056,600
- ROW: \$14,108,944
- Total capital: \$114,000,000

## **1.9 Permits and Approvals Needed**

Table 1-2 lists the permits and coordination that would likely be required for the project.



**Table 1-2. Permits and Approvals Needed**

Agency	Permit/Approval	Status
Central Valley Regional Water Quality Control Board	Section 401 Water Quality Certification and coverage under the existing Caltrans National Pollutant Discharge Elimination System Permit (Order No. 00-06-DWQ)	Not yet initiated
U.S. Army Corps of Engineers	Section 404 authorization for fill of waters of the United States	Not yet initiated
Feather River Air Quality Management District	Formal notification prior to construction	Not yet initiated
California Department of Fish and Wildlife	Streambed Alteration Agreement	Not yet initiated

## 1.10 References

California Department of Transportation. 1993. *Marysville By-Pass to Oroville Freeway Project Study Report*. Available: <http://www.bcag.org/documents/RFP%20IFB/SR%2070%20PID/Marysville%20Bypass%20Oro%20Project%20PSR.pdf>. Accessed: January 21, 2016.

California Department of Transportation. 1995. *State Routes 70 and 99 Major Investment Study*. Available: <http://www.bcag.org/documents/RFP%20IFB/SR%2070%20PID/SR%2070-99%20Major%20Investment%20Study.pdf>. Accessed: January 21, 2016.

California Department of Transportation. 2014. *State Route 70 Transportation Concept Report*. August 2014. Available: <http://www.dot.ca.gov/dist3/departments/planning/tcr/tcr70.pdf>. Accessed March 11, 2019.

Fehr & Peers. 2019. *State Route 70 Segments 4 & 5 Safety Improvements in Yuba County DRAFT Transportation Analysis Report*. February.

Value Management Strategies, Inc. 2001. *Marysville By-Pass Value Analysis Study*. Available: <http://www.bcag.org/documents/RFP%20IFB/SR%2070%20PID/Msvl%20Bypass%20to%20Oroville%20Freeway%20Value%20Analysis.pdf>. Accessed: January 21, 2016.

# Chapter 2      Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

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As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Timberlands

This project is located outside of NMFS jurisdiction, therefore an NMFS species list is not required and no effects to NMFS species are anticipated.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

## 2.1 Human Environment

### 2.1.1 Land Use

This section was prepared using information from the *Community Impact Assessment* (CIA) technical report prepared for the project (ICF 2017).

#### 2.1.1.1 Existing and Future Land Use

##### ***Affected Environment***

Yuba County is bordered on the west by Sutter County, on the east by Nevada County, on the north by Butte County, and on the south by Placer County. SR 70 is the primary north-south travel route through the county. Yuba County is dominated by agricultural land and mountainous terrain, and has experienced moderate growth over the last several decades, most of which is concentrated in Marysville.

According to the Yuba County 2030 General Plan, all of the land surrounding the study area is designated as Natural Resources. The intent of the Natural Resources land use designation is to conserve and provide natural habitat, watersheds, scenic resources, cultural resources,

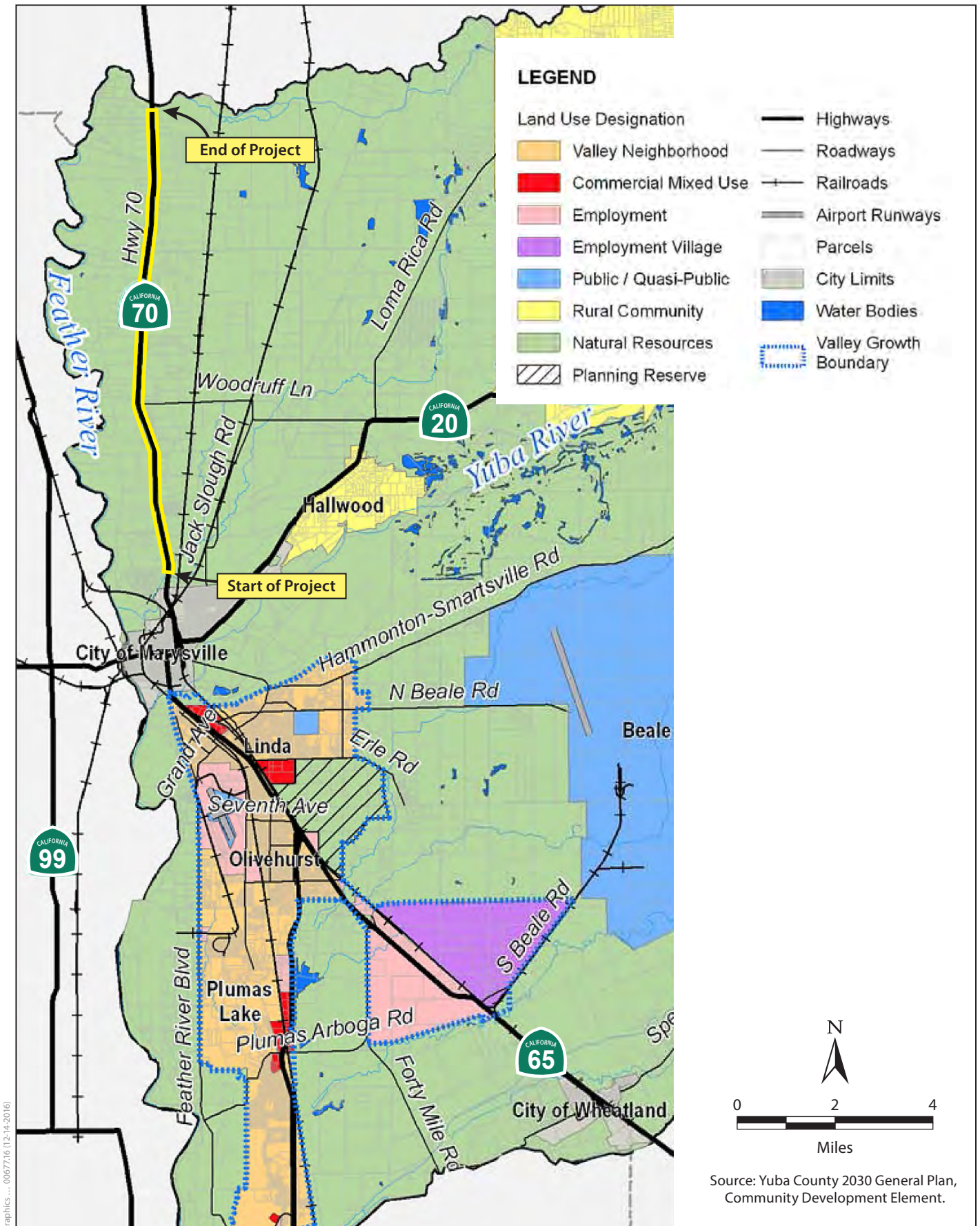
recreational amenities, agricultural and forest resources, wetlands, woodlands, minerals, and other resources for sustainable use, enjoyment, extraction, and processing. The Natural Resources land use type permits up to one unit and a second unit per parcel except for agricultural employee housing, which does not have a specific density limit. Land use designations are shown in Figure 2.1.1-1.

Most of the land within the study area is zoned as Exclusive Agriculture Zone (AE-40), which has a minimum parcel size of 40 acres. A few parcels are zoned as AI–Agricultural Industrial District, AR-10–Agricultural/Rural Residential District 10 Acres (i.e., a minimum parcel size of 10 acres), and RC–Rural Commercial District. Current zoning is showing in Figure 2.1.1-2.

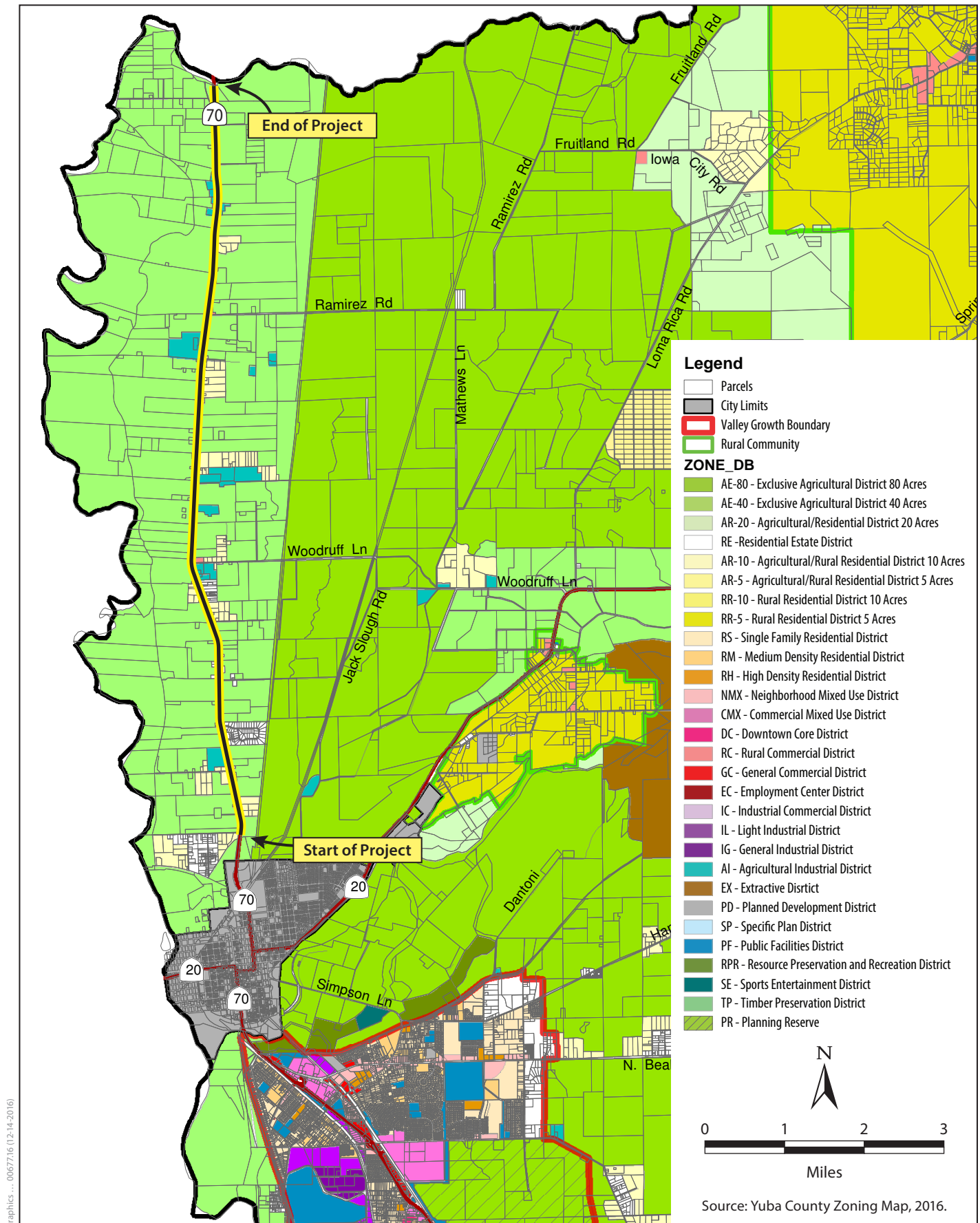
The project vicinity contains several projects in the planning stages. These projects, which are listed in Table 2.1.1-1, are within 2 miles of SR 70.

**Table 2.1.1-1. Planned Projects in the Vicinity of SR 70**

<b>Name and Address</b>	<b>Jurisdiction</b>	<b>Description</b>	<b>Status</b>
SR 70 Simmerly Slough Bridge Replacement near Marysville	Yuba County	Replace bridge	Completion Year 2020
SR 70 widening, Segments 4 & 5	Yuba County	Widening of SR 70 from PM 16.2 to PM 25.8 from Laurellen Road to Honcut Creek Bridge north of Marysville	Completion Year TBD
SR 70 in and near Marysville, SR 70, from Marysville Underpass to north of Laurellen Road	Yuba County	Roadway rehabilitation	Completion Year 2021
Marysville Medical Arts District Transportation Development at 5th Street, from SR 70 to J Street, including the Medical Arts District. Also 2nd St.) from SR 70 to J Street, including the Medical Arts District.	Yuba County	Extend and realign	Completion Year 2025
Bridge Preventive Maintenance at various bridges in Yuba County	Yuba County	Conduct preventative maintenance	Completion Year 2022
SR 70 Corridor Improvements Segment 1	Butte County	Improve safety on SR 70 corridor by providing continuous passing opportunities for vehicles from Ophir Road to Palermo Road. The corridor has experienced higher than average collision rates with the majority of accidents attributed to the lack of passing lanes.	Completion Year 2022
SR 70 Corridor Improvements Segment 2	Butte County	Improve safety on SR 70 corridor by providing continuous passing opportunities for vehicles from Palermo Road to just north of Cox Lane. The corridor has experienced higher than average collision rates with the majority of accidents attributed to the lack of passing lanes.	Completion Year 2022
SR 70 Corridor Improvements Segment 3	Butte County	Widening and other improvements	Completion Year 2023
Rio d'Oro Specific Plan, approximately 11 miles north of the project area between Palermo Road to the south and Ophir Road to the north	Butte County	Residential, commercial, and developed parkland between Palermo Road to the south and Ophir Road to the north	Completion Year 2035
Highway Improvements to SR 70 in Marysville from PM 14.9 to PM 15.6	Yuba County	Highway improvements, bridge replacement, and undercrossings from 14 <sup>th</sup> Street to 0.1 mile south of Cemetery Road	Completion Year 2026
Camp Fire Debris Clean Up	Butte County	Truck trips from ongoing debris removal in Paradise, Butte County.	Ongoing
Hard Rock Casino	Yuba County	New casino and hotel development approximately 9 miles south of the project limits, on 40-Mile Road, between SR 70 and SR 65.	Completion Year 2019



**Figure 2.1.1-1**  
**Land Use Designations**



**Figure 2.1.1-2**  
**Zoning Map**



## ***Environmental Consequences***

### **No Build Alternative**

The No Build Alternative would not affect existing land uses because the proposed project would not be constructed, avoiding conversion of existing land uses.

### **Build Alternatives**

The project includes widening SR 70 within the project limits to improve safety and reduce collisions. Other planned transportation projects described in Table 2.1.1-1 would not result in additional traffic but would accommodate growth that is planned for the area. Some temporary and permanent land acquisitions would be necessary for the build alternatives, and these are discussed in Section 2.1.4.2, Relocations and Real Property Acquisitions. The project involves changes to an existing transportation facility but would not change or add new access points and would not increase capacity. The surrounding land uses are primarily agricultural, with some rural residential and rural commercial development, and would not change as a result of the project. No changes to land use and development density are anticipated.

## ***Avoidance, Minimization, and/or Mitigation Measures***

No avoidance, minimization, or mitigation measures are required.

### **2.1.1.2 Consistency with State, Regional, and Local Plans and Programs**

#### ***Affected Environment***

##### **Yuba County General Plan**

Land use planning in the study area is governed by the Yuba County 2030 General Plan. The following general plan policies are relevant to the proposed project.

- Policy CD9.5: Rural Communities provide the opportunity for agriculture, agricultural tourism, ecological tourism, recreational and other economic activities.
- Policy 11.5: The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resources based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.
- Policy NR3.1: The County's zoning and development standards, including allowable uses and minimum lot sizes, will be designed to support agriculture-related economic activities and avoid conflict with ongoing viable agricultural operations.
- Policy NR3.2: New developments adjacent to ongoing agricultural operations shall provide written notice to landowners and residents regarding potential noise, dust, odors, and other effects of adjacent agriculture.

- Policy NR3.4: New developments adjacent to ongoing agriculture shall incorporate design, construction, and maintenance techniques to minimize conflicts with adjacent agricultural uses, including, but not limited to the use of agricultural buffers.
- Policy NR3.8: The County will support small-scale farming on Valley Neighborhood properties, where such operations are compatible with surrounding uses.

### **Sacramento Area Council of Governments**

Yuba County is part of the Sacramento Area Council of Governments (SACOG), which is responsible for releasing the region's regional transportation plan. SACOG released the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in February 2016. The proposed project is listed in the MTP/SCS as a project that would be implemented.

### ***Environmental Consequences***

Implementation of the proposed project would improve safety and reduce collisions by widening approximately 9.5 miles of SR 70, and would involve the conversion of private land not currently used for transportation purposes to transportation ROW. In addition, temporary construction easements would be obtained for construction staging and possibly for access roads. With the exception of the conversion of land to transportation uses and the use of land for construction purposes, no change in land use or underlying zoning designations within the study area would occur as a result of implementing the proposed project. Table 2.1.1-2 addresses the proposed project's consistency with relevant state, regional, and local plans and programs.

**Table 2.1.1-2. Consistency with State, Regional, and Local Plans and Programs**

<b>Plan/Element/Goal/ Objective/Policy</b>	<b>No Build Alternative</b>	<b>Build Alternatives</b>
SACOG 2016 MTP/SCS	Inconsistent. The proposed project is listed in the MTP/SCS.	Consistent. The Build Alternatives are listed in the MTP/SCS as a project that would be implemented.
Yuba County General Plan Policy CD9.5	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. The Build Alternatives would not interfere with opportunities for agriculture, agricultural tourism, ecological tourism, recreational and other economic activities. These activities would continue after implementation of the Build Alternatives.
Yuba County General Plan Policy 11.5	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. The Build Alternatives would not alter the County's support for agriculture related services in the study area. These activities would continue after implementation of the Build Alternatives.
Yuba County General Plan Policy NR3.1	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. The Build Alternatives would not alter zoning or development standards designed to support agricultural activities.
Yuba County General Plan Policy NR3.2	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. Under the Build Alternatives, Caltrans will provide written notice to the adjacent landowners as part of the CEQA/NEPA environmental review process

Plan/Element/Goal/Objective/Policy	No Build Alternative	Build Alternatives
Yuba County General Plan Policy NR3.4	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. The Build Alternatives require acquisition of farmland, but this has been minimized to the maximum extent feasible. The land that would be acquired consists of narrow strips adjacent to SR 70. There are no feasible alternative locations, and the conversion of this land for new ROW would not substantially alter the existing agricultural activities on these parcels.
Yuba County General Plan Policy NR3.8	Consistent. Under the No Build Alternative, because no new construction would occur, the project would be consistent.	Consistent. The Build Alternatives would not alter the County's support for small scale farming in the study area. These activities would continue after implementation of the Build Alternatives.

Source: Yuba County 2017; Sacramento Area Council of Governments 2016.

SACOG = Sacramento Area Council of Governments.

MTP/SCS = Metropolitan Transportation Plan/Sustainable Communities Strategy.

SR = State Route.

CEQA/NEPA = California Environmental Quality Act/National Environmental Policy Act.

## **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required.

### **2.1.1.3 References**

Sacramento Area Council of Governments. 2016. *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy*. February 18. Available: [http://www.sacog.org/sites/main/files/file-attachments/mtpscs\\_complete.pdf](http://www.sacog.org/sites/main/files/file-attachments/mtpscs_complete.pdf). Accessed: December 1, 2016.

Yuba County. 2017. Yuba County Transportation Master Plan. Available: [http://www.co.yuba.ca.us/Departments/Community%20Development/Public%20Works/documents/MasterPlan2017\\_complete%20w-plans.pdf](http://www.co.yuba.ca.us/Departments/Community%20Development/Public%20Works/documents/MasterPlan2017_complete%20w-plans.pdf). Accessed February 20, 2019.

### **2.1.2 Farmlands**

#### **2.1.2.1 Regulatory Setting**

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 United States Code [USC] 4201-4209; and its regulations, 7 Code of Federal Regulations [CFR] Part 658) require federal agencies, such as the Federal Highway Administration (FHWA), to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and



efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

### **2.1.2.2 Affected Environment**

Yuba County is one of California's mid-size agricultural counties. Important Farmland, which is farmland classified by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) as prime farmland, farmland of statewide importance, farmland of local importance, and unique farmland, comprises 83,562 acres in Yuba County (California Department of Conservation 2016). The top commodities are walnut, rice, prune/dried plum, peach/cling fruit, milk, and cattle/calves. The County's gross value from agricultural production was 231,777,000 in 2017 (Yuba County 2017).

As previously noted, the dominant land use in the study area is agriculture, with scattered rural residences. According to the FMMP, the land within the study area is classified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. Figure 2.1.1-3 shows the FMMP designated farmland in the study area. There is no Williamson Act land in the study area.

### **2.1.2.3 Environmental Consequences**

#### ***No Build Alternative***

The No Build Alternative would not affect FMMP-designated farmland because the proposed project would not be constructed, avoiding any conversion of farmland classified by the FMMP as important farmland.

#### ***Build Alternatives***

Table 2.1.2-1 below shows the acres of farmland that would be acquired under the proposed project. Appendix C also contains ROW maps that show where acquisition would take place throughout the alignment under both build alternatives. Implementing the proposed project would involve widening 9.5 miles of SR 70. Conversion of private land not currently used for transportation purposes to transportation ROW would occur and would require easements. Proposed project improvements requiring temporary construction disturbance and temporary and permanent easements would affect lands within the study area that the FMMP classifies as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. The Build Alternatives would require permanent conversion of 38.03 acres of prime farmland, 22.38 acres of farmland of statewide importance, and 3.16 acres of unique farmland, or 68.88 acres of important farmland in total (Figure 2.1.1-3). This is approximately 0.00025 percent of the County's total important farmland.



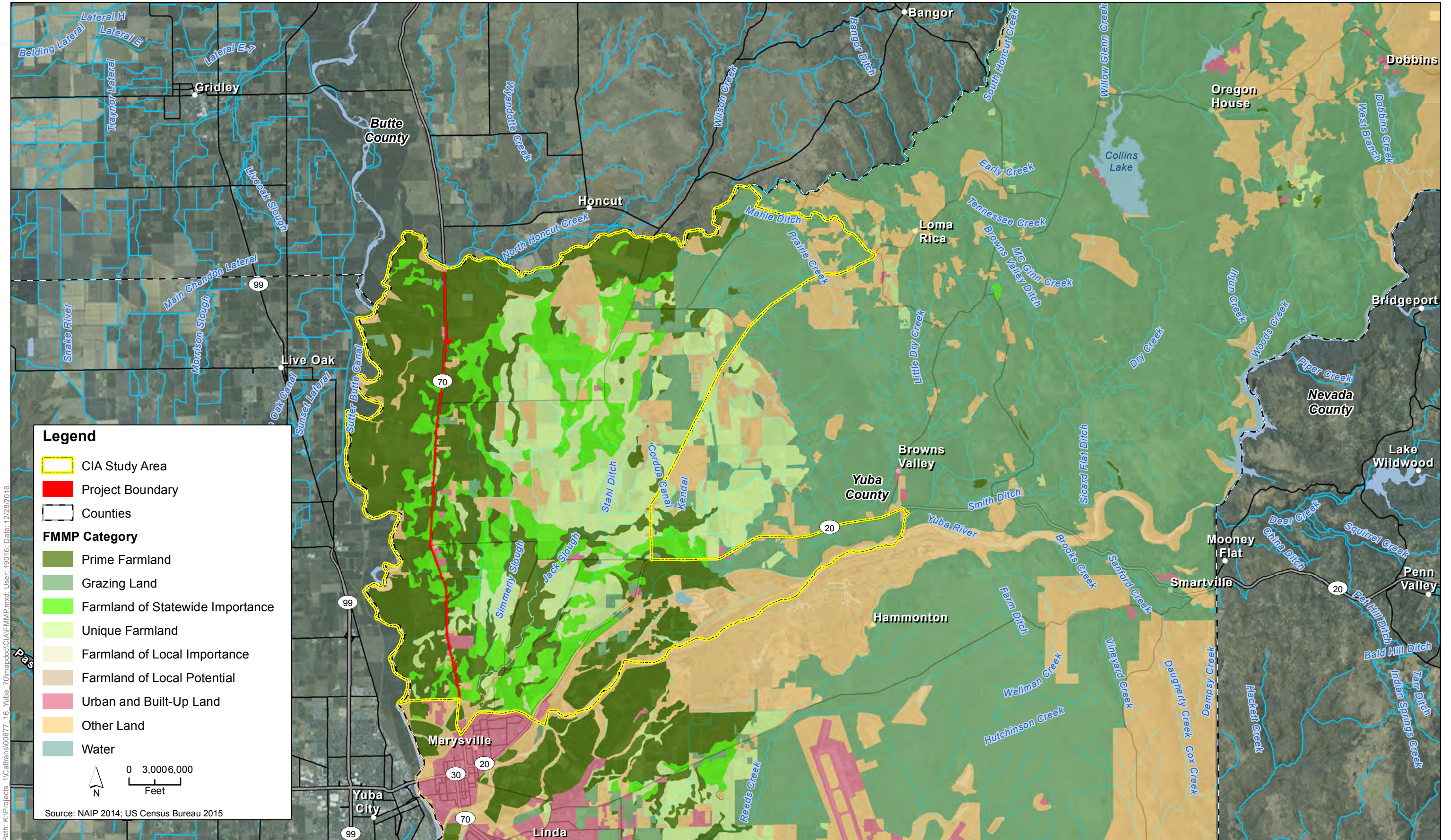


Figure 2.1.1-3  
Farmland Mapping and Monitoring Program



**Table 2.1.2-1. FMMP Important Farmland Acquisition**

<b>FMMP Categories</b>	<b>Acquisitions (acres)</b>
Prime Farmland	38.03
Farmland of Statewide Importance	22.38
Unique Farmland	3.16
Grazing Land	0.66
Urban and Built-Up Land	4.66
Other	0.89
<b>Important Farmland Total</b>	<b>68.88</b>
<b>All Acquisitions Total</b>	<b>69.77</b>

Impacts to mapped farmland are evaluated using the United States Department of Agriculture (USDA) “Farmland Conversion Impact Rating” (Form AD 1006, Appendix D), which was completed in conjunction with NRCS. Form AD 1006 helps determine the impact the project may have on farmlands within the study area. NRCS and the applicable federal agency review criteria for projects including, but not limited to, soil productivity, water conditions, proximity to other urban and rural land uses, impacts on remaining farmland after the conversion, and indirect or secondary effects of the project on agricultural and other local factors. NRCS must complete the land evaluation part of the form, and the federal agency must complete the site assessment portion. Each criterion has a set number of points it may be awarded. Once those points are added up, they are compared to the threshold score of 160 points created by USDA. Projects sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated under the FPPA (CFR 658.4 [c] [2]). NRCS will review and complete Parts II, IV, and V of the form on prior to the Final EIR/EA. The draft Form AD 1006 for the proposed project is provided in Appendix D. The total site assessment rating for the project is anticipated to be below the threshold score of 160, largely due to the location of the acquisition on each parcel along SR 70 and the small size of project encroachment relative to the rest of the parcel. With acquisition as proposed, the rest of each parcel could continue to be used for agricultural purposes. Compensation to individual landowners for property impacts would be addressed and negotiated through the ROW process, as warranted.

#### **2.1.2.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required.

#### **2.1.2.5 References**

California Department of Conservation. 2016. Table A-47 Yuba County 2014-2016 Land Use Conversion. Available: <https://www.conservacion.ca.gov/dlrp/fmmp/Pages/Yuba.aspx>. Accessed March 11, 2019.

Yuba County 2017. Yuba County 2017 Crop Report. Available: [http://www.co.yuba.ca.us/Departments/Ag/documents/Crop\\_Reports/YubaCounty\\_2017\\_CropReport.pdf](http://www.co.yuba.ca.us/Departments/Ag/documents/Crop_Reports/YubaCounty_2017_CropReport.pdf). Accessed February 17, 2019.

### **2.1.3 Growth**

#### **2.1.3.1 Regulatory Setting**

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents "...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

#### **2.1.3.2 Affected Environment**

Yuba County has experienced moderate population growth compared to other California counties. Between 2010 and 2018, Yuba County grew from 72,315 to 79,087, which is an annual growth rate of approximately 0.4% (California Department of Finance 2018). Most of this population growth has taken place in the city of Marysville and census-designated places of Linda and Olivehurst.

#### **2.1.3.3 Environmental Consequences**

##### ***No Build Alternative***

The No Build Alternative would not cause growth because the proposed project would not be constructed. Travel times, operations, and access would not change.

##### ***Build Alternatives***

The analysis of growth-related indirect impacts follows the first-cut screening guidelines provided in the California Department of Transportation's Guidelines for Preparers of Growth-Related Indirect Impact Analysis (California Department of Transportation 2006). The first-cut screening analysis focused on addressing the following considerations:

- To what extent would travel times, travel cost, or accessibility to employment, shopping, or other destinations be changed? Would this change affect travel behavior, trip patterns, or the attractiveness of some areas to development over others?
- To what extent would change in accessibility affect growth or land use change—its location, rate, type, or amount?
- To what extent would resources of concern be affected by this growth or land use change?

The potential for project implementation to influence growth is based on the first-cut screening analysis.

### **No Build Alternative**

The No Build Alternative would not cause growth because the proposed project would not be constructed. Travel times, operations, and access would not change.

### **Build Alternatives**

#### **First-Cut Screening Analysis**

*To what extent would travel times, travel cost, or accessibility to employment, shopping, or other destinations be changed? Would this change affect travel behavior, trip patterns, or the attractiveness of some areas to development over others?*

The project involves widening shoulders, providing a 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, and a clear recovery zone (CRZ) along SR 70 between 0.2 mile north of Laurellen Road and South Honcut Creek Bridge. Although the proposed project would add lanes for slow-moving vehicles, capacity would not increase and accessibility would not change (Fehr & Peers 2019). There would be no changes to land use, and no new trips would be generated.

Because SR 70 is an existing roadway in unincorporated Yuba County, the project would not provide additional access to undeveloped areas. Therefore, access to employment, shopping, or other destinations is not expected to change, even with slightly improved travel times.

*To what extent would change in accessibility affect growth or land use change—its location, rate, type, or amount?*

The project involves shoulder widening, providing a 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, and a CRZ along SR 70. The purpose of the project is to improve safety and reduce potential for collisions along this section of SR 70. The proposed project would not create additional capacity on SR 70. Widening the highway to accommodate standard shoulders, a 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, and CRZ is not anticipated to provide access to new areas or change accessibility in any way that would exert growth pressure. In addition, because this is a rural area with relatively strict land use controls to prevent the loss of agricultural land, the proposed modifications to SR 70 would not lead to additional planned or unplanned development.

*To what extent would resources of concern be affected by this growth or land use change?*

Project-related growth is not reasonably foreseeable. The project would not result in changes in accessibility or capacity because no new access points are being created and the number of lanes in each direction would stay the same. The only land use changes would be the incorporation of

slivers of ROW for the widening. Project-related growth is not anticipated to occur. Based on the above first-cut screening analysis, no additional analysis related to growth is required.

#### **2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required.

#### **2.1.3.5 References**

California Department of Transportation. 2006. *Guidance for Preparers of Growth-Related Indirect Impact Analysis*. Available: [http://www.dot.ca.gov/ser/Growth-related\\_IndirectImpactAnalysis/gri\\_guidance.htm](http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/gri_guidance.htm). Accessed: January 6, 2017.

California Department of Finance 2018. Table P-1 Total Estimated and Projected Population for California and Counties, July 1, 2010 to July 1, 2060 in 1-year Increments. Available: <http://www.dof.ca.gov/Forecasting/Demographics/projections/>. Accessed February 5, 2019.

Fehr & Peers. 2019. *State Route 70 Segments 4 & 5 Safety Improvements in Yuba County Transportation Analysis Report*. March.

### **2.1.4 Community Impacts**

#### **2.1.4.1 Community Character and Cohesion**

##### ***Regulatory Setting***

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

## ***Affected Environment***

### ***Regional Population Characteristics***

The proposed project is in unincorporated Yuba County, north of the city of Marysville. Census Tract 410, Block Groups 4 and 5 comprise the study area. As shown in Table 2.1.4-1 below, non-Hispanic Whites are the largest racial/ethnic group, and represent about 56.3% of the population in Yuba County. Hispanic/Latinos of any race make up the next largest group, accounting for 27.4% of the population in Yuba County. Individuals of Asian ancestry and people of Two or More Races make up approximately 6.3% and 5.3% of the county's population, respectively. The remaining population, in descending order, is composed of Black or African American, Native American, Native Hawaiian/Pacific Islander, and Other Race groups (Table 2.1.4.-1).

Table 2.1.4-1 also shows that the study area is sparsely populated, with a residential population of just under 300. The ethnic/racial composition of the study area is approximately 69.9% non-Hispanic White and 16.6% Hispanic/Latino. Asian individuals are the next largest group at 8.5% of the population, and those of African American and Two or More Races comprise approximately 4% and 1% of the study area population, respectively.

### ***Neighborhoods/Communities/Community Character***

The project vicinity is composed primarily of large parcels, some of which have low-density, single-family residential development. Given the distances between residences along SR 70, the area is most appropriately described as rural. The nearest community facilities, such as churches or other gathering places, are in the city of Marysville, approximately 0.5 mile south. There is one small residential neighborhood along SR 70 in the project area at Mayer Road and Saddleback Drive. There is also a mobile home park, Country Village Mobile Park, along SR 70 at Bettencourt Lane. Both of these areas are part of unincorporated Yuba County and can also be described as rural.

### ***Housing***

Table 2.1.4-2 presents the housing characteristics in the county and study area. Most of the housing units in both Yuba County and the study area are occupied, 91.7% and 77.9% respectively. The study area has a much higher percentage of owner-occupied housing units when compared to the Yuba County, 85.2% compared to 58.2%, respectively. This data could indicate more long-term residents in the study area compared to Yuba County.

**Table 2.1.4-1. Race and Ethnicity Data**

Area	Hispanic or Latino (of any race)		White		Black or African American		Native American		Asian		Native Hawaiian/ Pacific Islander		Other Race		Two or More Races		Total
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#
Yuba County	20,479	27.4	42,018	56.3	2,407	3.2	721	1.0	4,700	6.3	257	0.3	126	0.2	3,936	5.3	74,644
Study Area	237	16.6	996	69.9	56	3.9	0	0.0	121	8.5	0	0.0	0	0.0	15	1.1	1425
Census Tract 410 Block Group 4	155	15.9	629	64.4	56	5.7	0	0.0	121	12.4	0	0.0	0	0.0	15	1.5	976
Census Tract 410 Block Group 5	82	18.3	367	81.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	449

Source: American Community Survey 2017.

**Table 2.1.4-2. Housing Characteristics, Occupancy and Tenure**

Area	Total Units	Occupied Units	Percentage of Occupied Units	Vacant Units	Percentage of Vacant Units	Owner-Occupied	Percentage of Owner-Occupied	Renter Occupied	Percentage of Renter Occupied
Yuba County	28,225	25,880	91.7	2,345	8.3	15,063	58.2	10,817	41.8
Study Area	860	670	77.9	190	22.1	571	85.2	99	14.8
Census Tract 410 Block Group 4	569	419	73.6	150	26.4	389	92.8	30	7.2
Census Tract 410 Block Group 5	291	251	86.3	40	13.7	182	72.5	69	27.5

Source: American Community Survey 2017.



## ***Environmental Consequences***

### ***Regional Population Characteristics***

#### ***No Build Alternative***

There would no changes to regional population characteristics under the No Build Alternative because there would be no highway improvements constructed on this segment of SR 70.

#### ***Build Alternatives***

The proposed project would involve the widening of SR 70 for safety reasons. As discussed in Section 2.1.3, Growth, the proposed project would not increase capacity or affect growth. The proposed project would require property acquisitions, so some displacement would occur. However, these displacements would not be enough to cause changes to the sufficient replacement properties in the study area (See Section 2.1.4.2, Relocations and Real Property Acquisition, for more information on displacements and relocations). Therefore, the proposed project would not contribute to changes in the population characteristics of the region and study area.

### ***Neighborhoods/Communities/Community Character***

#### ***No Build Alternative***

There would be no changes to neighborhoods or community character under the No Build Alternative because the rural character of the study area would not change.

#### ***Build Alternatives***

The proposed project would not change the rural character of the study area because it would neither alter the zoning within the area, nor provide access to areas that are currently undeveloped. Although transportation improvements are generally capable of having urbanizing effects in an area, the extent of the project improvements would improve the existing roadway for safety purposes and is not anticipated to result in changes in land use patterns nor would it have urbanizing effects.

### ***Housing***

#### ***No Build Alternative***

There would no changes to housing under the No Build Alternative because the proposed project would not be implemented, avoiding residential acquisitions.

### ***Build Alternatives***

Both build alternatives would require acquisition of 6 single family units. See Section 2.1.4.2, Relocations and Real Property Acquisition, for a full discussion of the residential acquisitions required as part of the project. The affected properties consist of rural-residential, single-family houses that range in condition from fair to good.

As discussed in Section 2.1.4.2, there is adequate replacement housing within the replacement area (i.e., Yuba County) for those displaced, and the relocation of residents would not pose an impact on the community. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. All eligible displacees would be entitled to moving expenses. In addition, as discussed in Section 2.1.3, growth is not reasonably foreseeable and no development is anticipated to result from the project. Consequently, no change to the local housing market would occur.

### ***Avoidance, Minimization, and/or Mitigation Measures***

No avoidable, minimization, or management measures are required.

#### **2.1.4.2 Relocations and Real Property Acquisition**

##### ***Regulatory Setting***

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix E for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix F for a copy of the Department's Title VI Policy Statement.

##### ***Affected Environment***

Strips of land from parcels, along with some full parcels, would be acquired on both the west and east sides of SR 70 in the study area. Table 2.1.4-3 summarizes the number of residential and nonresidential displacements as a result of partial or full acquisitions. Table 2.1.4-4 summarizes the temporary and permanent ROW acquisitions parcel by parcel that would occur under the project.

**Table 2.1.4-3. Summary of Residential and Nonresidential Displacements**

	Single Family Units	Mobile Homes	Multifamily Units	Residential Displacements (Units/Residents)	Nonresidential Displacements (Type/Employees)
No Build Alternative	0	0	0	0	0
Alternative 1	6	0	0	18	3 (Commercial and Retail)
Alternative 2	6	0	0	18	3 (Commercial and Retail)

Source: California Department of Transportation 2019.

## ***Environmental Consequences***

### ***No Build Alternative***

There would be no property acquisitions under the No Build Alternative because the project would not be implemented.

### ***Build Alternatives***

Six single family units would be acquired under both build alternatives. Table 2.1.4-5 shows the relocation resources available for residential displaces available as of March 2019. Table 2.1.4-6 shows the relocation resources available for non-residential displaces available as of March 2019.

**Table 2.1.4-4. Summary of Relocation Resources Available to Displacees**

Relocation Resource	For Rent	For Sale	Total Units
Multi-Family Residences	36	3	39
Two Bedroom Houses	35	30	65
Three Bedroom Houses	73	65	138
Mobile Homes	0	5	5

Source: California Department of Transportation 2019.

**Table 2.1.4-5. Summary of Relocation Resources Available to Nonresidential Displacees**

Relocation Resource	For Rent-Appropriate Zoning and Site Requirements	For Sale-Appropriate Zoning and Site Requirements	Total Units
Office Complex	22	16	38
Industrial Complex	10	6	16
Special Services/Use	1	1	2
Commercial Operation	25	10	35
Industrial/Commercial Properties	12	7	19

Source: California Department of Transportation 2019.

Based upon available data, it appears that there are sufficient residential parcels available in the replacement area (i.e., Yuba County) for all parcels affected by both build alternatives, that would be equal to or better than the displacement properties.

It does not appear that the Last Resort Housing Program will be necessary, as the residential housing stock in the replacement area is ample. Should the housing market improve and prices

increase, however, the Last Resort Housing Program would be available to assist any residential displacees unable to afford comparable replacement housing.

As part of project implementation, all acquisitions would be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the California Relocation Act.

### ***Avoidance, Minimization, and/or Mitigation Measures***

No avoidance, minimization, or mitigation measures are required.

#### **2.1.4.3 References**

American Community Survey. 2017. *2017 5-year estimates*. Available: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 1, 2019.

California Department of Transportation. 2019. *Relocation Impact Statement*. March.

#### **2.1.4.4 Environmental Justice**

##### ***Regulatory Setting***

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2019, this is \$25,750 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix F of this document.

##### ***Affected Environment***

Demographic data for the study area indicate that the proportion of the population composed of minority populations (Hispanic or Latino, Black or African American, Native American, Asian, or Native Hawaiian/ Pacific Islander) is smaller than for the county as a whole, 30.1% and 43.7%, respectively (Table 2.1.4-1).

The study area has a median household income that is more than double the U.S. Census-defined poverty level for a household of four (Table 2.1.4-7). The median household income in the study area is higher than the rest of the County. In addition, data from the study area indicate that the percentage of individuals living below the poverty threshold is lower than it is for the county as a

whole. Based on block group-level poverty data, there do not appear to be low-income populations residing in the study area.

**Table 2.1.4-6. Existing Regional and Local Employment and Income Characteristics**

Area	Total Labor Force	Unemployment Rate	Median Household Income (\$)	% Families below Poverty Level	% All People below Poverty Level
Yuba County	30,889	9.9	\$51,776	16.2	18.5
Study Area	672	3.0	\$73,750	3.6	5.7
Census Tract 410 Block Group 4	449	4.5	\$73,750	5.8	6.4
Census Tract 410 Block Group 5	223	0	—	0	4.2

Source: American Community Survey 2017.

— = No available data.

## ***Environmental Consequences***

### ***No Build Alternative***

The No Build Alternative would not affect environmental justice populations because the project would not be implemented.

### ***Build Alternatives***

There are no environmental justice populations residing in the study area on the basis of available minority and low-income data. Therefore, impacts from implementation of the Build Alternatives would not be disproportionately borne by environmental justice populations and no further analysis is required.

## ***Avoidance, Minimization, and/or Mitigation Measures***

Based on the above discussion and analysis, the build alternative(s) will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

### **2.1.4.5 References**

American Community Survey. 2017. *2017 5-year estimates*. Available: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 1, 2019.

## **2.1.5 Utilities/Emergency Services**

### **2.1.5.1 Affected Environment**

#### ***Emergency Services***

The Yuba County Sheriff's Department provides police protection to unincorporated Yuba County (Yuba County Sheriff's Department 2012, 2014). The primary office is at 215 5th Street, Suite 150, in Marysville. There is also a Yuba County Sheriff Sub-Station in Brownsville (16796 Willow Glen Road), in the mountainous portion of Yuba County, and a Plumas Lake Field Station (1765 River Oaks Boulevard), south of Marysville. There are three divisions within the Yuba County Sheriff Department: operations, support services, and jail. The Operations Division is the most visible to the public and includes patrol, volunteer search teams, and a SWAT team. The Sheriff's Department Support Services Division is responsible for providing support to units and divisions within the department through a wide variety of programs and services. The division is also responsible for overseeing Animal Care Services and the Communications and Records Unit. The Jail Division is responsible for the operation of the 432-bed jail facility. The California Highway Patrol provides traffic enforcement on all highways in the county, including SR 70, and all roadways in the unincorporated county.

Fire protection and emergency services are overseen by the Yuba County Office of Emergency Services. Yuba County does not have its own fire protection or emergency services, but the cities and neighborhoods within Yuba County each have their own. The closest fire station to the study area is the Marysville Fire Department (107 9th Street Marysville), which includes the District 10 Hallwood Community Services District and the CAL FIRE Nevada-Yuba-Placer Unit, in Marysville approximately 1.7 miles south of the project area. There are 4 personnel on daily duty; the Fire Chief, a Fire Captain, a Fire Engineer, and a Firefighter (City of Marysville 2016a). The department also has an active volunteer component and a Firefighter Intern program. The department has five fire engines, one fire truck, one hazmat unit, one squad, and one water tender (City of Marysville 2016b).

Additionally, the North Tree Fire Station #20 is 3.3 miles east of SR 70, near the unincorporated community of Ramirez. The Live Oak Fire Station is 3.4 miles west of SR 70 in the community of Live Oak in Sutter County.

#### ***Utilities***

Water services in unincorporated Yuba County are provided by personal wells. Electricity and natural gas are provided by Pacific Gas & Electric, which has aerial and underground lines in the study area. AT&T provides telephone and internet service in the study area and also has underground and aerial lines traversing the study area. The Yuba-Sutter Regional Waste Management Authority (Recology) manages solid waste disposal and recycling in the county. Most properties in unincorporated Yuba County have septic systems, which is overseen by the Yuba County Environmental Health Department (Yuba County 2007).

## **2.1.5.2 Environmental Consequences**

### ***Emergency Services***

#### **No Build Alternative**

The No Build Alternative has the potential to affect emergency services. Currently, shoulders along SR 70 within the project limits are non-standard, which can create unsafe conditions for emergency service providers to bypass vehicles traveling along SR 70. These conditions would continue, and likely worsen over time, under the No Build Alternative.

#### **Build Alternatives**

The project would not result in direct impacts to medical facilities, fire or police stations, and are not anticipated to adversely affect response time for emergency services associated with fire station or police/sheriff department personnel. It is likely that the additional slow moving vehicle lanes may slightly improve response times of emergency services by implementing standard shoulder widths and a 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, allowing emergency service personnel to bypass other vehicles safely and quickly (Fehr & Peers 2019).

During construction, there may be temporary disruptions along SR 70 from shifting traffic or construction equipment. There will be times of one-way traffic control, but this would occur during off-peak times. Overall, traffic would be shifted to allow continued two-way operation of SR 70, as described in the Traffic Management Plan (TMP). Any required closures would be coordinated with emergency service providers so as not to hinder emergency responses. Delays in access, although temporary, could disrupt normal operations and may result in impacts on emergency services.

### ***Utilities***

#### **No Build Alternative**

The No Build Alternative would not affect utilities because the project would not be implemented.

#### **Build Alternatives**

The project would require the relocation of a PG&E aerial electrical line and an underground gas line, but the majority of this work would take place with minimal disruption. Additionally, aerial and underground AT&T lines would require relocation during construction. Relocation of these utilities could cause planned or accidental temporary service interruptions during construction.

### **2.1.5.3 Avoidance, Minimization, and/or Mitigation Measures**

The following measure would minimize effects on emergency services and utilities during the construction.

#### **TRA-1: Implement Traffic Management Plan**

As part of construction, Caltrans will prepare and implement a TMP to avoid and minimize any temporary delays on SR 70 during construction. The TMP will include the following elements.

- One-way (reversible) traffic control using flaggers in accordance with Standard Plan sheet T13 will be allowed during nighttime hours, but may be restricted during daytime peak hours, and weekends.
- The maximum length of any lane closure shall be limited to 1.0 mile.
- A minimum of one paved traffic lane not less than 11 feet wide, shall be open for use by public traffic at all times, and two lanes shall remain open when construction operations are not actively in progress.
- Whenever one-way traffic control is maintained, traffic may be stopped in 1 direction for periods not to exceed 10 minutes, after which accumulated traffic for that direction must pass through the work zone before another stoppage is made.
- Access to driveways and cross streets must be maintained during construction in accordance with traffic control standard plans or traffic handling plans.
- Pedestrian and bicycle access must be maintained during construction. Additional signs may be required to detour pedestrians and bicycle traffic.
- Portable changeable message signs will be required in direction of traffic during construction for each lane closure or shoulder closure.
- No lane closures, shoulder closures, or other traffic restrictions will be allowed on Special Days, designated legal holidays and the day preceding designated legal holidays, and when construction operations are not actively in progress. If traffic is rerouted to paved shoulders, make sure structural section is adequate to handle additional traffic.
- When closures occur within 200 feet of an intersection flaggers shall be deployed to control all legs of the intersection.
- Work at these locations may require the assistance of Construction Zone Enhanced Enforcement Program (COZEEP), but a full time COZEEP presence is not anticipated.
- Coordination with projects within, or nearby the project limits will be required to avoid conflicts.
- Lane closure charts will be developed prior to final design.



## **Emergency Services**

Any required closures would be coordinated with emergency service providers so as not to hinder emergency responses. Implementing the TMP described above would ensure emergency vehicles are not impeded, and in the case of natural disaster and designation of an evacuation route, the construction activity will be superseded by efforts to ensure traffic flows are maintained.

## **Utilities**

Caltrans will coordinate utility relocation work with the affected utility companies to minimize disruption of services to customers in the area during construction. If previously unknown underground utilities are encountered, Caltrans will coordinate with the utility provider to develop plans to address the utility conflict, protect the utility if needed, and limit service interruptions. Any short-term, limited service interruptions of known utilities will be scheduled well in advance, and appropriate notification will be provided to users.

### **2.1.5.4 References**

City of Marysville. 2016a. *Fire*. Available: <http://www.marysville.ca.us/index.php/fire>. Accessed: January 6, 2017.

City of Marysville. 2016b. *Station Apparatus*. Available: <http://www.marysville.ca.us/index.php/fire/aboutmarysviile-fire/station-aparatus>. Accessed: January 6, 2017.

Fehr & Peers. 2019. *State Route 70 Segments 4 & 5 Safety Improvements in Yuba County Transportation Analysis Report*. March.

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Yuba County. 2007. *Septic Program*. Available: <http://www.co.yuba.ca.us/departments/community%20development/eh/septic/septic.aspx>. Accessed: December 14, 2016.

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## **2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities**

### **2.1.6.1 Regulatory Setting**

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

### **2.1.6.2 Roadways, Pedestrian/Bicycle Facilities, and Public Transportation Facilities**

A Transportation Analysis Report was completed in March 2019 (Fehr & Peers 2019). The transportation analysis study locations are composed of highway segments and intersections. The study area extends along SR 70 from Laurellen Road to the Butte/Yuba County line. Figure 2.1.6-1 shows the highway segments and intersections in the study area. SR 70 is a regional highway that extends from SR 99 in Sutter County to US 395 near the Nevada state line. In the study area, the north-south highway connects Oroville in Butte County and Marysville in Yuba County. Adjacent land uses are primarily agricultural fields and associated facilities. Rural residential areas are located throughout the study area and concentrated on Saddleback Drive and Laurellen Road.

SR 70 is a two-lane highway from Marysville to the Butte/Yuba County line. The highway has paved shoulders that vary from 3 to 5 feet in width. Left-turn pockets are provided at Ramirez Road, Boyer Road, Magnolia Road, Woodruff Lane, Noble Road, Ellis Road, Saddleback Drive, Silva Avenue, and Laurellen Road. An approximately  $\frac{3}{4}$ -mile center turn lane exists between Noble Road and Woodruff Lane. All intersections in the study area have side street stop control. No passing lanes exist in the study area.

The study highway segments are listed below.

- Laurellen Road to Woodruff Lane
- Woodruff Lane to Ramirez Road
- Ramirez Road to Old State Highway



Source: Fehr & Peers 2019

**Figure 2.1.6-1**  
**Highway Segments and Intersections**

The study intersections are listed below.

- SR 70/Old State Highway
- SR 70/Ramirez Road
- SR 70/Woodruff Lane
- SR 70/Laurellen Road

The major cross roads are described below.

- Old State Highway is a minor rural road that provides access to SR 70 for agricultural fields and rural homes.
- Ramirez Road is an east-west rural highway that connects SR 70 with Lower Honcut Road/La Porte Road. It provides access for rural homes and adjacent agricultural fields.
- Woodruff Lane is an east-west rural highway that connects SR 70 and SR 20. In addition to providing access for rural homes and adjacent agricultural fields, the highway provides a shorter connection than traveling through Marysville for traffic traveling to and from the north on SR 70 and to and from the east on SR 20 (reduces the distance by more than 6 miles).
- Laurellen Road is a minor rural road that provides a connection to SR 70 for a rural residential community and agricultural fields.

### **2.1.6.3 Transit System**

The transit agency for Yuba County, Yuba-Sutter Transit, does not have scheduled routes in the study area. Amtrak Thruway Connecting Service provides regional bus connections to the Amtrak station in Sacramento via SR 70. However, no Amtrak stops are located in the study area. The Marysville Joint Unified School District provides bus service to school children along SR 70.

### **2.1.6.4 Bicycle System**

The SR 70 corridor does not have designated bicycle facilities. Bicycles can use the paved shoulder to travel adjacent to the motor vehicle lanes. Shoulder width along the corridor varies from 3 to 5 feet. Given that the posted speed limit for vehicle traffic is 55 miles per hour, the wider shoulders provide a more comfortable experience for bicyclists. The narrowest shoulders are located between Laurellen Road and Woodruff Lane. No parallel bicycle facilities exist near the study area.

Bicycle volume is very low along the corridor. No bicycles were observed during the 12-hour counts at 3 of the 4 study intersections. For the 24-hour count at SR 70/Laurellen Road (the intersection nearest to Marysville), 9 bicycles were observed.

### **2.1.6.5 Pedestrian System**

The SR 70 corridor does not have designated pedestrian facilities. Pedestrians can use the paved or gravel shoulder. Shoulder width along the corridor varies from 3 to 5 feet. Given that the posted speed limit for vehicle traffic is 55 miles per hour, wider shoulders are more comfortable for pedestrians. And, pedestrians are more likely to use the gravel part of the shoulder to travel as far from the vehicle lanes as possible.

Pedestrian volume is low along the corridor. No pedestrians were observed during the 12-hour counts at 3 of the 4 study intersections. Similar to the bicycle counts, pedestrians were only observed at SR 70/Laurellen Road, which is near Marysville. Four pedestrians were counted in a 24-hour period at this southern-most study intersection.

### **2.1.6.6 Freight System**

SR 70 is a Terminal Access route for truck traffic in the study area. Terminal Access routes accommodate STAA trucks. SR 70 provides access for agricultural trucks and connects industrial areas in Oroville and Marysville to the rest of the state. A Union Pacific rail line runs parallel to SR 70 between Marysville and Oroville from about  $\frac{1}{4}$  to  $1\frac{1}{2}$  mile to the east.

Daily truck volume on SR 70 is estimated at about 960 trucks per day at the Butte/Yuba County Line, which is about 6.5 percent of the total daily volume (Annual Average Daily Truck Traffic, Caltrans 2016). The truck volume is divided among 24 percent 2-axle trucks, 17 percent 3 or 4-axles trucks, and 59 percent trucks with 5 or more axles. Based on 2015 count data, the truck volume in April is about the same as the yearly average. The peak month for truck volume is August, which was 34 percent higher than the yearly average in 2015. Based on this relationship, the peak month daily truck volume in 2018 is estimated to be as high as 1,290 trucks per day.

The District 3 Goods Movement Study identified SR 70 in the study area as highest priority for improving truck mobility under the base year conditions. In addition, the bridge at the Butte/Yuba County line was identified as high deficiency for over-weight permit loads.

### **2.1.6.7 Highway Operations**

Highway operations were analyzed for existing (2018) conditions under AM and PM peak hour conditions. Table 2.1.6-1 shows the segment LOS, average travel speed (ATS), percent time spent following (PTSF), and travel time under existing (2018) conditions (Appendix G contains the traffic study and detailed analysis results).

During the AM peak hour, SR 70 would operate with LOS C or D conditions in the study area. More segments have LOS D conditions in the southbound (peak) direction than in the northbound (off-peak) direction. During the PM peak hour, all segments have LOS D conditions, and the PTSF values are about the same in both directions. During the AM peak hour, the average time to travel the 9.3 miles between Laurellen Road and Old State Highway is about 11 minutes in both directions. During the PM peak hour, the average speed is lower, so the travel time for both directions increases to 11.5 minutes.

**Table 2.1.6-1. Highway Operations – Existing (2018) Conditions**

Highway Segment	Facility Type	LOS (ATS/PTSF <sup>a</sup> )		Travel Time <sup>b</sup>	
		AM	PM	AM	PM
Northbound SR 70					
1. Laurellen Rd to Woodruff Ln	Two-Lane Highway	D (49/66%)	D (47/77%)	4.3	4.5
2. Woodruff Ln to Ramirez Rd	Two-Lane Highway	C (52/63%)	D (50/73%)	3.6	3.8
3. Ramirez Rd to Old State Hwy	Two-Lane Highway	C (51/60%)	D (49/72%)	3.1	3.2
Total				11.0	11.5
Southbound SR 70					
1. Woodruff Ln to Laurellen Rd	Two-Lane Highway	D (49/72%)	D (47/75%)	4.3	4.5
2. Ramirez Rd to Woodruff Ln	Two-Lane Highway	D (52/70%)	D (50/74%)	3.6	3.8
3. Old State Hwy to Ramirez Rd	Two-Lane Highway	D (50/67%)	D (48/72%)	3.1	3.3
Total				11.1	11.5

Source: Fehr and Peers (2019).

<sup>a</sup> For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure.

<sup>b</sup> Travel time is reported in minutes.

Highway operations were analyzed for opening year (2023) conditions under AM and PM peak hour conditions. As shown in Table 2.1.6-2 compared to existing (2018) conditions, operations under the opening year (2023) would worsen under the No Build Alternative due to increasing traffic volumes. However, the LOS would remain the same for all study segments. The three-lane cross-section under Alternatives 1 and 2 would widen shoulders and reduce left-turn delay by extending the center two-way left-turn lane to the entire segment and add two slow-moving vehicle lanes in each direction. As a result, some of the LOS will improve. However, passing zones would be eliminated.

**Table 2.1.6-2. Highway Operations – Opening Year (2023) Conditions**

Highway Segment	Alternatives 1 and 2 (ATS/PTSF <sup>a</sup> )			No Build Alternative(ATS/PTSF <sup>a</sup> )		
	Type	AM	PM	Type	AM	PM
<b>Northbound SR 70</b>						
1. Laurellen Rd to Woodruff Ln	Two-Lane	C (53/53%)	C (50/64%)	Two-Lane	D (48/66%)	D (46/80%)
2. Woodruff Ln to Ramirez Rd	Two-Lane	C (51/62%)	D (49/75%)	Two-Lane	C (51/63%)	D (49/76%)
3. Ramirez Rd to Old State Hwy	Two-Lane	B (52/46%)	C (50/58%)	Two-Lane	C (50/62%)	D (47/77%)
<b>Southbound SR 70</b>						
1. Woodruff Ln to Laurellen Rd	Two-Lane	D (50/78%)	D (48/80%)	Two-Lane	D (48/77%)	D (46/79%)
2. Ramirez Rd to Woodruff Ln	Two-Lane	D (53/66%)	D (51/69%)	Two-Lane	D (51/73%)	D (49/77%)
3. Old State Hwy to Ramirez Rd	Two-Lane	D (52/67%)	D (50/68%)	Two-Lane	D (49/72%)	D (47/77%)

Source: Fehr and Peers (2019).

<sup>a</sup> For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

Table 2.1.6-3 presents the travel time for the highway segments under opening year (2023) conditions. Compared to existing conditions, travel times under No Build Alternative would increase by 10 to 15 seconds in both directions during both peak hours. Alternatives 1 and 2 would improve Year 2023 travel times by about 5% compared to the No Build alternative.

**Table 2.1.6-3. Highway Travel Time – Opening Year (2023) Conditions**

Highway Segment	Alternatives 1 and 2		No Build Alternative	
	AM	PM	AM	PM
<b>Northbound SR 70</b>				
1. Laurellen Rd to Woodruff Ln	4.0	4.2	4.4	4.6
2. Woodruff Ln to Ramirez Rd	3.7	3.9	3.7	3.9
3. Ramirez Rd to Old State Hwy	3.0	3.1	3.1	3.3
<b>Total</b>	<b>10.7</b>	<b>11.2</b>	<b>11.2</b>	<b>11.8</b>
<b>Southbound SR 70</b>				
1. Woodruff Ln to Laurellen Rd	4.2	4.4	4.4	4.6
2. Ramirez Rd to Woodruff Ln	3.6	3.7	3.7	3.9
3. Old State Hwy to Ramirez Rd	3.0	3.1	3.2	3.3
<b>Total</b>	<b>10.8</b>	<b>11.2</b>	<b>11.3</b>	<b>11.8</b>

Source: Fehr and Peers (2019).

Note: For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

Operations under the horizon year (2043) would worsen under the No Build Alternative due to increasing traffic volumes as shown in Table 2.1.6-4. Compared to existing (2018) conditions, the AM peak hour conditions would have one segment worsening from LOS C to D in the northbound direction and one segment worsening from LOS D to E. The PM peak hour would have all segments worsening from LOS D to E.

**Table 2.1.6-4. Highway Operations – Horizon Year (2043) Conditions**

Highway Segment	Alternatives 1 and 2 (ATS/PTSF <sup>a</sup> )			No Build Alternative (ATS/PTSF <sup>a</sup> )		
	Type	AM	PM	Type	AM	PM
<b>Northbound SR 70</b>						
1. Laurellen Rd to Woodruff Ln	Two-Lane	C (52/54%)	D (48/68%)	Two-Lane	D (47/68%)	<b><u>E (44/84%)</u></b>
2. Woodruff Ln to Ramirez Rd	Two-Lane	C (50/64%)	D (47/78%)	Two-Lane	D (50/65%)	<b><u>E (47/81%)</u></b>
3. Ramirez Rd to Old State Hwy	Two-Lane	B (52/48%)	C (48/63%)	Two-Lane	C (49/65%)	<b><u>E (45/82%)</u></b>
<b>Southbound SR 70</b>						
1. Woodruff Ln to Laurellen Rd	Two-Lane	<b><u>E (49/82%)</u></b>	<b><u>E (47/83%)</u></b>	Two-Lane	<b><u>E (47/81%)</u></b>	<b><u>E (44/82%)</u></b>
2. Ramirez Rd to Woodruff Ln	Two-Lane	D (52/71%)	D (49/72%)	Two-Lane	D (50/78%)	<b><u>E (47/82%)</u></b>
3. Old State Hwy to Ramirez Rd	Two-Lane	D (51/69%)	D (47/72%)	Two-Lane	D (48/76%)	<b><u>E (45/82%)</u></b>

Source: W&S Solutions (2019).

<sup>a</sup> For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

The following highway segments would have deficient operations (worse than LOS D) for horizon year (2043) conditions under No Build Alternative:

- LOS E for all segments of Northbound SR 70 (PM)
- LOS E for southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)
- LOS E for two segments of southbound SR 70 from Old State Highway to Woodruff Lane (PM)

All northbound and southbound SR 70 segments improve to LOS D or better under Alternative 1, except the southbound SR 70 segment between Woodruff Lane to Laurellen Road. Under Alternatives 1 and 2, the southbound SR 70 segment between Woodruff Lane to Laurellen Road PTSF would worsen due to the elimination of the passing zone but the ATS is projected to improve compared to No Build alternative

Table 2.1.6-5 presents the travel time for the highway segments under horizon year (2043) conditions. Compared to existing conditions, travel times under the No Build Alternative would increase in both directions by 30 seconds during the AM peak hour and 45 seconds during the PM peak hour. Alternatives 1 and 2 would improve Year 2043 travel times by about 5% compared to the No Build alternative.

**Table 2.1.6-5. Highway Travel Time – Horizon Year (2043) Conditions**

Highway Segment	Alternatives 1 and 2 (ATS/PTSF <sup>a</sup> )		No Build Alternative (ATS/PTSF <sup>a</sup> )	
	AM	PM	AM	PM
<b>Northbound SR 70</b>				
1. Laurellen Rd to Woodruff Ln	4.1	4.4	4.5	4.8
2. Woodruff Ln to Ramirez Rd	3.8	4.0	3.8	4.0
3. Ramirez Rd to Old State Hwy	3.0	3.3	3.2	3.5
<b>Total</b>	<b>10.8</b>	<b>11.7</b>	<b>11.5</b>	<b>12.3</b>
<b>Southbound SR 70</b>				
1. Woodruff Ln to Laurellen Rd	4.3	4.5	4.5	4.8
2. Ramirez Rd to Woodruff Ln	3.6	3.9	3.8	4.0
3. Old State Hwy to Ramirez Rd	3.1	3.3		3.5
<b>Total</b>	<b>10.8</b>	<b>11.7</b>	<b>11.5</b>	<b>12.3</b>

Source: W&S Solutions (2019).

<sup>a</sup> For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

### 2.1.6.8 Intersection Operations

Intersection operations were analyzed for existing (2018) conditions under AM and PM peak hour conditions using the Synchro software and under PM peak period conditions using the SimTraffic software. Table 2.1.6-6 shows the intersection LOS and average delay under existing (2018) conditions. Under existing (2018) conditions, the study intersections have LOS C or better conditions during both peak hours. Conditions are similar during the AM and PM peak hours. Two intersections have LOS B during the morning but LOS C in the afternoon; however, the difference in average delay is about 2 seconds.



**Table 2.1.6-6. Intersection Operations – Existing (2018) Conditions**

Intersection	Traffic Control	LOS/Delay		
		AM	PM 1-Hr	PM 2-Hr
1. SR 70/Old State Hwy	Side Street Stop	C/15 (EBLR)	C/16 (EBLR)	B/10 (EBL)
2. SR 70/Ramirez Rd	Side Street Stop	B/14 (WBLR)	C/16 (WBLR)	C/17 (WBL)
3. SR 70/Woodruff Ln	Side Street Stop	B/13 (WBLR)	B/15 (WBLR)	A/6 (WBL)
4. SR 70/Laurellen Rd	Side Street Stop	B/14 (EBLR)	C/16 (EBLR)	B/14 (EBL)

Source: Fehr & Peers (2019).

Note: Delay is reported in seconds per vehicle. For Side Street Stop control, the worst lane group or movement is reported in parentheses. The AM and PM 1-hr results are from the Synchro model. The PM 2-hr results are from the SimTraffic model; the highest 15-minute delay from the two-hour analysis period is reported.

Intersection operations were analyzed for opening year (2023) conditions during the AM and PM peak hours (see Appendix G, Traffic Report for detailed analysis). For the No Build Alternative, the intersections would have LOS C or better conditions under the Synchro analysis of the AM and PM peak hours. For the SimTraffic analysis of the PM peak period, conditions would worsen to LOS D at Ramirez Road.

For horizon year (2043) conditions under AM and PM peak hour conditions, the No Build and Build Alternatives would have nearly all intersections operate at LOS C, but one intersection (Old State Highway) would operate at LOS D during the PM peak hour and LOS E during the peak 2-hour with the No Build Alternative. The PM peak period analysis in SimTraffic shows generally similar or higher LOS and delays.

### 2.1.6.9 Roadway Safety

The Traffic Accident Surveillance and Analysis System (TASAS) was queried to generate the SR 70 collision history in the project area for a three-year period from August 6, 2010 to August 5, 2013. Table 2.1.6-7 summarizes the number of collisions by severity and compares the collision rate to statewide averages. In the three-year period, 85 collisions occurred with 7 fatality-involved collisions. The total collision rate is less than the statewide average for similar facilities, and the actual collision rate is about 65 percent of the corresponding statewide average. However, the study area has a higher than average rate of fatality collisions – more than three times higher than the statewide average for similar facilities.

**Table 2.1.6-7. Collision Rate from 2010-2013**

Segment	Total Collisions	Total Fatalities	Actual Collision Rate <sup>a</sup>			Average Collision Rate <sup>a</sup>		
			F	F&I	Total	F	F&I	Total
Laurellen Road to Butte/ Yuba County Line (YUB PM 16.2 to 25.8)	85	7	<b><u>0.054</u></b>	0.30	0.65	0.014	0.42	1.01

Source: Caltrans (2018).

<sup>a</sup> The collision rate is in collisions per million vehicle-miles. “F” refers to the fatality collision rate, and “F&I” refers to the fatality and injury collision rate. Bold and underline font indicate an actual collision rate that exceeds the statewide average.

The seven fatal collisions can be summarized as follows: two involved tractor-trailers being struck while making turning movements, three involved cross centerline head on collisions, one involved an unsafe passing movement, and one involved a pedestrian that was struck.

Table 2.1.6-8 shows the collisions by type for the SR 70 corridor. The most frequent collision type is hit object (40%), followed by rear end (20%) and sideswipe (13%). The collision locations are shown on Figure 1-3 (Chapter 1, *Proposed Project*). Collisions are most frequent in the northbound direction between Magnolia Road and Ramirez Road. In the southbound direction, collisions are most frequent at Ramirez Road and between Noble Road and Ellis Road. Fatal and injury collisions are generally evenly distributed along the corridor.

**Table 2.1.6-8. Collision History by Type**

Segment	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overturn	Auto-Ped	Other
Laurellen Road to Butte/Yuba County Line (YUB PM 16.2 to 25.8)								
Northbound	3	7	12	3	19	5	1	2
Southbound	2	4	5	4	15	0	0	3
<b>Total</b>	<b>5 (6%)</b>	<b>11 (13%)</b>	<b>17 (20%)</b>	<b>7 (8%)</b>	<b>34 (40%)</b>	<b>5 (6%)</b>	<b>1 (1%)</b>	<b>5 (6%)</b>

Source: Caltrans (2018).

Figure 1-4 (Chapter 1, *Proposed Project*) shows collision locations by collision type. Three collision types have a notable pattern regarding the location. Sideswipe collisions are grouped north of Ramirez Road and between Woodruff Lane and Saddleback Drive. Rear end collisions are more frequent south of Ramirez Road, particularly between Noble Road and Silva Avenue. Hit object collisions are also more frequent near Boyer Road and Ramirez Road.

### 2.1.6.10 Environmental Consequences

#### No Build

Under the No-Build Alternative, no safety improvements would be made.

As shown in Table 2.1.6-2 compared to existing (2018) conditions, No Build Alternative operations under the opening year (2023) would worsen due to increasing traffic volumes. However, the LOS would remain the same for all study segments.

The following highway segments would have deficient operations (worse than LOS D) for horizon year (2043) conditions under No Build Alternative:

- LOS E for all segments of Northbound SR 70 (PM)
- LOS E for southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)
- LOS E for two segments of southbound SR 70 from Old State Highway to Woodruff Lane (PM)

For opening year (2023) conditions under No Build, no intersections would operate at worse than LOS D. The following intersections would have deficient operations (worse than LOS D) for horizon year (2043) conditions under No Build conditions:

- LOS E for SR 70/Old State Highway (PM 2-hour peak period)

Construction-related traffic effects would not occur.

## **Build Alternatives**

### ***Highway Operations***

The study locations that would operate worse than LOS D are summarized below by alternative. There are no deficiencies under existing (2018) conditions. With the operational improvements in Build Alternatives 1 and 2, conditions would improve to LOS D or better in the northbound direction and all but one segment in the southbound direction. For the southbound segment between Woodruff Lane and Laurellen Road, no passing lane would be added, therefore, there would be no improvement.

#### **Build Alternatives 1 and 2, Opening Year (2023)**

- **Highway Segments**

With Build Alternatives 1 and 2, signed slow moving vehicle lanes would be added to the corridor in two locations per direction. As a result, conditions would be improved to LOS D or better during both peak hours compared to No Build Alternative.

#### **Build Alternatives 1 and 2, Horizon Year (2043)**

- **Highway Segments**

- Southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)

In the Opening Year (2023), Build Alternatives 1 and 2 would provide reductions in travel times so that the average travel time would be about 10.8 minutes during the AM peak hour and 11.2 minutes during the PM peak hour, which would be lower than existing (2018) and No Build conditions.

### ***Intersection Operations***

Under the build alternatives, all intersections would operate acceptably with LOS D or better in Opening Year and Horizon Year.

Intersection operations were analyzed for opening year (2023) conditions during the AM and PM peak hours (see Appendix G, Traffic Report for detailed analysis). With the increase in traffic volumes, the delay values increase, but the LOS would remain at LOS C or better for all intersections under the build alternatives. Since all intersections would operate with LOS D or better under opening year (2023) conditions for both build alternatives, no intersections would have deficient operations. While queue lengths would increase at some locations due to the growth in volume, all queues would be contained within the storage length.

For horizon year (2043) conditions under AM and PM peak hour conditions, the build alternatives would provide LOS C or better conditions at the study intersections. In contrast, No Build Alternative would have LOS E at Old State Highway since no two-way left turn lane would be provided. Similar to opening year (2023) conditions, all queues would be contained in the proposed storage lengths.

### **Roadway Safety**

The continuous two-way left-turn lane proposed in Alternative 1 should reduce the number of head on, rear end and sideswipe collisions under all analyzed scenarios.

Drivers making a left turn from SR 70 to access homes, businesses, cross streets, agricultural areas, etc. will have a lane other than the through lane to decelerate and stop, if needed, to complete their turning movement.

Drivers making a left turn onto SR 70 from homes, businesses, cross streets, agricultural areas, etc. will have a lane to turn into and either to wait for an acceptable gap or to accelerate to join through traffic in their direction of travel.

The center lane will act as a soft median buffer for inattentive drivers to self-correct prior to entering the opposing lane of traffic.

Vehicles using the center lane signals to other drivers that they are slowing to prepare for a turn, which allows other drivers to act accordingly. Without the center lane, it may be difficult for other drivers to perceive the slowing vehicle.

The median barrier proposed in Alternative 2 would prevent head on collisions by providing a physical barrier between the directions of travel. However, hit object collisions may increase with the introduction of the fixed object (i.e., median barrier) in the traveled way. Additionally, the median barrier will require out-of-direction travel from many access points and an increase in U-turns at intersections. The increase in U-turns and left-turns at the intersections may increase broadside collisions at these locations.

The proposed cross section for Build Alternatives 1 and 2 (outside of the signed slow moving vehicle lanes) includes widening the shoulders to 10 feet. Providing 10-foot shoulders would allow parking for disabled vehicles away from mainline traffic. The wider shoulders would act as deceleration areas for drivers making right turns to and from the highway. The wider shoulders will provide pedestrians and bicyclists the ability to travel on a paved surface with more lateral clearance from high-speed vehicles. Similarly, slow-moving vehicles, such as agricultural vehicles, could use the wide shoulders to allow higher speed vehicles to pass.

Beyond the paved shoulder, the Build Alternatives 1 and 2 would provide an unpaved shoulder and flatten out the slopes for drainage areas. The existing shoulder area has many steep drainage ditches that are not recoverable for errant vehicles that leave the roadway. These changes to the CRZ should reduce the number of hit object and overturn collisions, which are associated with serious injuries or fatalities.

### **Other Modes**

As noted above, the Amtrak Thruway Connecting Service provides regional bus connections along SR 70 to and from the Sacramento Amtrak station. Since no stops are provided in the study area, the bus service would only benefit from the improvements to vehicle operations and safety. The school bus service, however, would have these benefits plus wider shoulders of 14 feet at

bus stop locations. The wider shoulders will provide enhanced safety and comfort for bus riders. For Build Alternatives 1 and 2, the shoulder would narrow to 4 feet for signed slow moving vehicle lanes, which would reduce the bicyclist and pedestrian user experience. Since two lanes would exist in this section, motor vehicles could use the left lane when passing bicyclists and pedestrians if the lane is available.

The build alternatives would be constructed to accommodate the STAA trucks as required by SR 70's designation as a Terminal Access route. Trucks would also benefit from the operational and safety benefits of the project as described above. In particular, two of the seven fatal collisions involved trucks, so safety improvements will benefit the freight system. The build alternatives would not address the deficiency at the Butte/Yuba County line bridge that was identified in the District 3 Goods Movement Study.

### Summary

Table 2.1.6-9 compares the alternatives based on the horizon year (2043) performance measures of average PM peak hour travel time in both directions, highway operations deficiencies, and intersection operations deficiencies.

**Table 2.1.6-9. Alternative Comparison Summary – Horizon Year (2043) Conditions**

Performance Measure	Build Alternatives 1 and 2	No Build
PM Peak Hour Travel Time (minutes)	11.7	12.3
Highway Operations Deficiencies	1	6
Intersection Operations Deficiencies	0	1

Source: Fehr & Peers (2019).

Compared to No Build Alternative, Build Alternatives 1 and 2 would provide a lower average travel time in both directions. The travel time savings would be about 30 seconds for Build Alternatives. The No Build Alternative would have operational deficiencies for all study highway segments. The signed slow moving vehicle lanes proposed under the Build Alternatives would reduce the deficient highway segments from 6 to 1. The Build Alternatives would eliminate the intersection operations deficiency.

The build alternatives will improve safety over the No Build Alternative through wider paved and unpaved shoulders. The wider paved shoulders may reduce rear end collisions since right-turning vehicles can use the shoulder to decelerate and slower moving vehicles (farm equipment, bicycles, etc.) can use the shoulder to allow faster-moving vehicles to pass. The changes to the unpaved shoulder and drainage areas should reduce the number of hit object and overturn collisions, which are associated with serious injuries or fatalities.

With Build Alternative 1, the center turn lane will facilitate left turns to and from the highway and also act as a soft median buffer for inattentive drivers. As a result, head on, rear end, and sideswipe collisions may be reduced. With Build Alternative 2, a median barrier would further reduce the potential for head on collisions. However, the barrier would increase out-of-direction travel for local traffic accessing the highway and would increase U-turns at intersections, which may increase broadside collisions.

### **2.1.6.11 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required.

### **2.1.6.12 References**

Fehr & Peers. 2019. *Transportation Analysis Report. State Route 70 Segments 4 & 5. Safety Improvements in Yuba County*. March.

## **2.1.7 Visual/Aesthetics**

### **2.1.7.1 Regulatory Setting**

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

### **2.1.7.2 Affected Environment**

This section was prepared using information from the *Visual Impact Assessment* (VIA) technical report prepared for the project (Caltrans 2019). The VIA assesses potential visual impacts of the project based on guidance outlined in the *Visual Impact Assessment for Highway Projects* published by the FHWA (1988). The following key terms describe visual resources in a project area. The terms are used as descriptors and as part of a rating system to assess a landscape’s visual quality.

- *Visual character* includes attributes such as form, line, color, and texture and is used to describe, not evaluate visual resources.
- *Visual quality* is evaluated by identifying the vividness, intactness, and unity present in the project area.
- *Vividness* is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
- *Intactness* is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
- *Unity* is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

- *Resource change* is one of the two major variables that determine visual impacts. Resource change refers to the evaluation of the visual character and the visual quality of the visual resources that comprise the project corridor before and after construction of a proposed project. The other major variable is viewer response, the response of viewers to changes in their visual environment.

## **Project Setting**

The project setting provides the context for determining the type and severity of changes to the existing visual environment. The project is in the northern Sacramento Valley biogeographic province, where the landscape is characterized by open space lands, orchards, and rural landscaping over terrain that is generally flat. The land uses along the project corridor are primarily orchards, fallow fields, a limited amount of row crops, and associated agricultural buildings. Small pockets of development include mostly low-density, single-family rural residences and the Country Village Senior Living Mobile Home Park. Commercial businesses are also along SR 70.

SR 70, adjoining local roadways, and associated signage also comprise the project corridor. The Sutter Buttes are notable scenic resources that are visible and can be seen in the background from the project corridor. Breaks in the orchards increase visibility of the buttes. Background views to the Sierra Nevada to the east are available from the southern project terminus near Laurellen Road, where SR 70 gains elevation to meet the Feather River levee and span the river. The Feather River lies just south of, but outside of, the project boundaries. Views from the Feather River toward the project area do not exist due to intervening levees and vegetation.

Much of this segment of SR 70 does not have street lighting, except near the entrance to Country Village Senior Living Mobile Home Park (PM 17.5) and Saddleback Drive (PM 19.3), which both have one overhead streetlight. Therefore, most of the light within the project corridor comes from interior and exterior residential lighting, nighttime security lighting for commercial development, and vehicle headlights using local roadways.

There are no roadways within or near the project area that are designated as scenic highways or routes. Therefore, implementation of the project would not damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway.

## **Viewers**

Neighbors (people with views to the road) and highway users (people with views from the road) would be affected by the project. Neighbors are made of all those who can see the roadway project or any of its components from off-site locations. In the case of this project, the number of people with views to the specific project location are the residents, business owners and farmers. Highway users are those travelling Route 70 through the project area's foreground and middle ground views along the highway are screened by roadside vegetation. The highway corridor is open in some locations to distant views of the surrounding mountains and hillsides. During the week, the viewers are local travelers, business owners and operators, farmland owners and farm equipment operators and truck drivers transporting goods. During the weekend hours, the viewers are less business/commuter oriented and more recreational tourist type motorists visiting

the local recreational areas. The awareness of visual resources by these highway users is expected to vary with their specific activity. In general, highway users in vehicles will experience the area as a cumulative sequence of views and may not focus on specific roadway features. Residents and business owners are the most sensitive to aesthetic issues due to their familiarity as well as their personal investment in the area.

### **2.1.7.3 Environmental Consequences**

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. As discussed in Project Setting above, there are no officially designated scenic roadways within or near the project corridor. Therefore, implementation of the project would not damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway.

#### **No Build Alternative**

Under the No Build Alternative, the project would not be constructed and there would be no visual impacts on the existing visual character, visual quality, or affected viewer groups.

#### **Build Alternatives**

As described in Chapter 1, *Project Description*, the Build Alternatives have the same footprint and are visually the same. Because visual impacts that would result from construction and operation for all alternatives are similar, they are discussed together.

The primary effect that this project would have on aesthetics along the highway corridor would be the removal of trees and mature shrubs along the highway required to be cleared around the road widening. The trees to be removed are outside of their biological range, do not provide optimum habitat, and do not support oak populations; however, they are considered aesthetic resources. The oak trees to be removed as part of the project were planted in clusters along Route 70.

Overall, the ground disturbance and loss of vegetation would have a minor effect on the spatial character adjacent to the roadsides. The removal of any large, established trees, shrubs, and ground covers to facilitate the project would cause a moderate adverse effect on the visual character of the site, its surroundings, and scenic resources. The effect will be higher in the beginning as the removal process starts. The site will look bare for a while until the erosion control grows, but with appropriate replanting in and around the cleared zones, the vegetated character of the roadway would be re-established. Although the accumulated tree and shrub removal due to the widening along the Route 70 corridor would result in adverse visual impacts within the project and vicinity, the project would not contribute to a significant visual impact. With implementation of the recommended avoidance, minimization, and mitigation measures (e.g., tree replanting), the impact should begin to lessen and at that time the project will not degrade the existing visual character or quality of the site and its surrounding community.

In addition, within the project vicinity, scenic vistas are available where the roadway viewing position allows visual access to the hillsides and ridgelines. The addition of the roadway



widening will have a moderate impact on the scenic quality of the project location. With implementation of the recommended avoidance, minimization, and mitigation measures, the vegetation and tree removal that is required to facilitate the widening will be kept to the minimum required. As such, the project would have a small effect on scenic vistas and not result in an adverse impact. However, it is possible that the impact will lessen as the project is finished and the roadway is replanted, but the initial impact may be noticed. Further, no new sources of light or glare are anticipated.

#### **2.1.7.4 Avoidance, Minimization, and/or Mitigation Measures**

The following standard measures to avoid or minimize visual impacts will be incorporated into the project:

##### **AES-1: Replace or Relocate Site Features and Landscaping Affected by the Project**

- Tall shrubs and screening shrubs shall be planted to the maximum feasible extent within available planting areas between the proposed widened lanes and residences.
- Areas that will require ground disturbance by removing vegetation should be restored and rectified respectively before completion of the construction project. The trees and vegetation should be protected, where feasible. Vegetation removal should be limited to the extent necessary to construct the project.
- Some vegetation that is removed will need to be replaced with appropriate vegetation that is indigenous to the area. Caltrans Environmental Branch will need to be involved.
- All disturbed areas including access roads shall be re-graded to their pre-construction profiles and contours.
- Drainage work for culvert extensions and ditch relocation will require BMPs and soil stabilization. This work shall be conducted under the guidance of the District's Landscape Architect.
- Vegetation Control shall be placed under all new and existing guardrails and signs.
- If the project requires equipment/staging areas per our Special Provision, Section 5.1 indicates that the contractor will be responsible for securing locations for staging and storage. At the end of construction all areas used for staging, access, or other construction activities shall be repaired pursuant to Section 5-1.36 "Property and Facility Preservation.

##### **AES-2: Apply Minimum Lighting Standards**

All nighttime construction lighting shall be shielded and directed to minimize direct lighting outside of the construction area.

#### **2.1.7.5 References**

Caltrans. 2019a. *Yuba Safety Project - Visual Assessment*. January 4.

## **2.1.8 Cultural Resources**

### **2.1.8.1 Regulatory Setting**

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way.

### **2.1.8.2 Affected Environment**

This section of the EA is based on the studies performed to identify and evaluate the potential for the Project effects on cultural resources, including the Historical Properties Survey Report (HPSR) (California Department of Transportation 2018a), Archaeological Survey Report (ASR) (Tremaine & Associates, Inc. 2017), and the Historical Resources Evaluation Report (HRER) (JRP Historical Consulting, LLC 2017) prepared for the proposed project. No historic properties are present in the APE, therefore, Caltrans, pursuant to Section 106 Programmatic Agreement Stipulation IX.A, has determined a Finding of No Historic Properties Affected is appropriate for the Project.

#### ***Area of Potential Effects (APE)***

In accordance with Section 106 Programmatic Agreement Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Caltrans District 3 staff on July 3, 2018.

The archaeological APE consists of both the horizontal and vertical maximum potential extent of direct impacts resulting from the project. The archaeological APE was established to encompass the entire north-south right-of-way and existing easements, covering all areas of ground-disturbing activities.

The architectural APE consists of the existing right-of-way for SR 70 as well as adjacent parcels.

#### ***Research Methodology***

##### ***Records Search and Archival Research***

On December 8, 2015, staff at the North Central California Information Center conducted a records search for the project area to identify previous sites and surveys within a 0.5-mile radius of the APE.

Thirteen prior studies have been conducted (Table 1). These show that approximately 90% of the project area was previously surveyed.

Only one historic site (P-58-1285) was noted situated within an orchard approximately 330 feet west of the APE at MP 24.001 (Appendix H). This site, also known as CA-YUB-1251H, is described as a large sparse scatter of historic debris comprised of bottle glass, white improved earthenware (WIE) fragments, a square bitters bottle fragment, a Chinese brown glazed stoneware fragment, a celadon ceramic fragment, a porcelain rice bowl fragment with bamboo style glaze, WIE with transfer print, and concrete irrigation pipe fragments (Williams et al. 2002). One prehistoric artifact, a dark gray quartzite biface or dart point, was also found, at this location, thought to possibly date to the Middle Horizon.

### **Consultation with Interested Parties**

On November 13, 2015, Tremaine requested a sacred lands search and consultant list from the Native American Heritage Commission (NAHC). On November 25, 2015, the NAHC responded that their search failed to indicate the presence of Native American resources in the immediate project area but provided a list of Native American individuals and organizations to contact for additional information, including: Ren Reynolds from the Butte Tribal Council; Gary Archuleta and Bill Cornelius from the Mooretown Rancheria of Maidu Indians; Eileen Moon, Don Ryberg, and Grayson Coney from the T'si-Akim Maidu; Cathy Bishop from the Strawberry Valley Rancheria; Art Angle and Glenda Nelson from the Enterprise Rancheria of Maidu Indians; and Gene Whitehouse, Marcos Guerrero, and Jason Camp from the United Auburn Indian Community (UAIC). Letters were sent to these individuals on February 3, 2017.

A reply was received on March 2, 2017 from Gene Whitehouse of the United Auburn Indian Community (UAIC) stating that the project area is located within the aboriginal tribal lands of the Miwok and Southern Maidu (Nisenan). The UAIC requested copies of any environmental documents and archaeological reports completed for the project and recommended that a tribal monitor be present during any ground disturbing activities. Additionally, they would like to set up a consultation meeting and stay updated on the progress of the project.

Follow-up emails were sent out on March 28, 2017 to the following individuals who had not yet replied, including: Cathy Bishop, Art Angle, Glenda Nelson, Gary Archuleta, Marcos Guerrero, and Jason Camp. Additionally, on April 10, 2017, follow-up phone calls were made to individuals with no known email address, including: Ren Reynolds, Bill Cornelius, Eileen Moon, Grayson Coney, and Don Ryberg. To date, no replies have been received.

In an effort to establish public outreach and to inquire about the local history of the APE, Tremaine contacted the Mary Aaron Museum, the Yuba Feather Historical Association Museum, and the Yuba Historical Society by mail on March 13, 2017. To date, no replies have been received.

JRP identified potential local interested parties for the proposed project and sent notification letters on August 25, 2017. Recipients of the letter were the Yuba County Museum of History; Yuba County Library, Local History Archives; Mary Aaron Memorial Museum Association; Yuba County Planning Department; and Yuba County Historical Resources Committee. A second letter was sent to Yuba County Museum of History (at a different address) on September 18, 2017. Follow-up electronic communications were sent on September 20, 2017. Kevin Perkins, Principal Planner with Yuba County Planning Department responded via email on September 20, 2017, stating that he had no information to add. No additional responses have been received.

In August and October, 2017, the owners and residents of the property at 7992 Highway 70, Ronald and Pamela Shaver, contacted Caltrans and JRP regarding the history of their property and expressing concerns about the project. Representatives from Caltrans and JRP met with Mr. and Mrs. Shaver at their property on November 20, 2017. The information and photographs provided were used in the development of the history of the property.

## **Survey Results**

### **Archaeological Resources**

An intensive pedestrian survey was conducted of the APE on March 29 and March 30, 2017. The results found that the only properties present within the APE meet the criteria for Section 106 PA Attachment 4 (**Properties Exempt from Evaluation**) and as applicable PRC 5024 MOU Stipulation VIII.C.1 and Attachment 4.

### **Built Environment Resources**

JRP identified 36 properties in the APE. Of these, 23 were previously determined ineligible for listing in the NRHP and the remaining 13 properties required formal evaluation. None of the 13 properties are eligible for listing in the HRHP or CRHR.

### **Tribal Cultural Resources**

The cultural studies and Native American consultation did not identify any tribal cultural resources within the project area.

#### **2.1.8.3 Environmental Consequences**

The archaeological APE encompasses no known NRHP-eligible, NRHP-listed, or previously unevaluated archaeological resources. The APE maintains a low potential for buried archaeological sites overall, with an increased potential in areas adjacent to drainages and creeks. Because the current survey consisted only of surface inspection there remains the possibility that previously unrecorded buried archaeological resources are present within the APE.

Similarly, the architectural APE encompasses no known NRHP-eligible, NRHP-listed, or previously unevaluated built environment resources. The 11 historic cultural resources identified in the architectural APE as a result of the 2015 and 2016 surveys are not culturally significant resources for the purposes of Section 106 of the NHPA and CEQA. In addition, there are no Section 4(f) resource types within the Project APE.

Therefore, a Finding of No Historic Properties Affected has been determined for the Project.

#### **2.1.8.4 Avoidance, Minimization, and/or Mitigation Measures**

##### **CUL-1: Implement Plan to Address Discovery of Unanticipated Buried Cultural Resources or Human Remains**

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to

overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Kendall Schinke, Caltrans District 3 Environmental Branch Manager, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

#### **2.1.8.5 References**

Tremaine & Associates, Inc. 2017. *Final Archaeological Survey Report. Yub-70 Road Widening Project, Yuba County, California*. July.

JRP Historical Consulting, LLC. 2017. *Historical Resources Evaluation Report. Yuba 70 Widening Project*. December

## **2.2 Physical Environment**

### **2.2.1 Hydrology and Floodplain**

#### **2.2.1.1 Regulatory Setting**

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

### **2.2.1.2 Affected Environment**

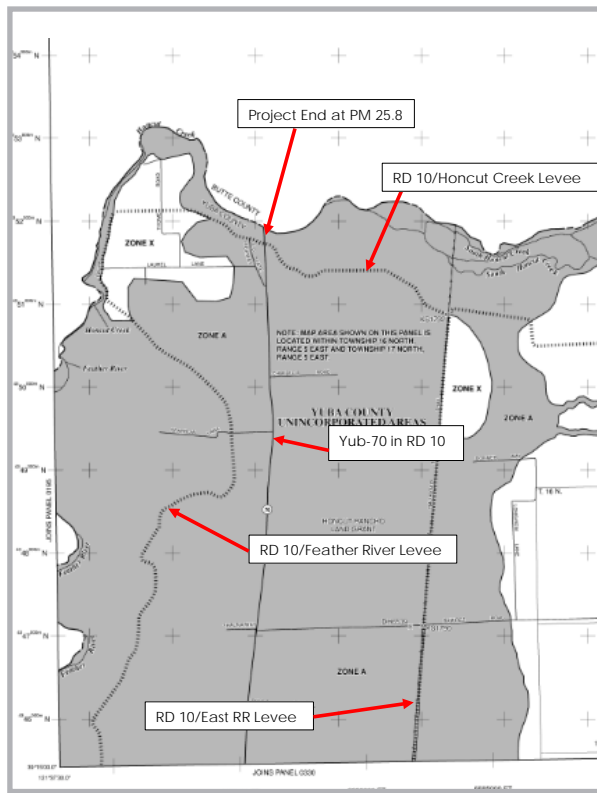
The project area is within the jurisdiction of the Central Valley Regional Water Quality Control Board. This region includes the Sacramento River and San Joaquin River basins, including all areas from the crest of the Sierra Nevada range west to the Coast Range and Klamath Mountains. The region is bounded in the north by the California-Oregon border and extends south past the headwaters of the San Joaquin River to the base of the Tehachapi Mountains. The Sacramento and San Joaquin rivers meet and form the Delta, ultimately draining into San Francisco Bay. This basin covers about one-fourth of the total area of the state—more than 30 percent of the state's land that can be irrigated—and furnishes about 51 percent of the state's water supply.

The majority of the project area is within the Lower Feather Watershed (hydrologic unit code [HUC] 1802015905), and a small northern segment of the project is within the Honcut Creek watershed (HUC 1802015901), both within the larger Honcut Headwaters-Lower Feather watershed (HUC 18020159; ESRI ND). The average annual precipitation within the Lower Feather River watershed is approximately 50 inches (eastside foothills) to 20 inches (valley floor) (Sacramento River Watershed Program 2015). The terrain, within the project area and vicinity, is generally flat, with elevations ranging from approximately 75 to 90 feet above mean sea level. The Feather River is almost entirely contained within a series of levees, with levees lining the Feather River west of the project alignment (Sacramento River Watershed Program 2015), and south of the Yuba-Butte County line. Soils in the drainage basin consist of clay, and therefore, have a low resistance to erosion. The project is located within the North Yuba groundwater sub-basin, in the eastern portion of the larger Sacramento Valley groundwater basin.

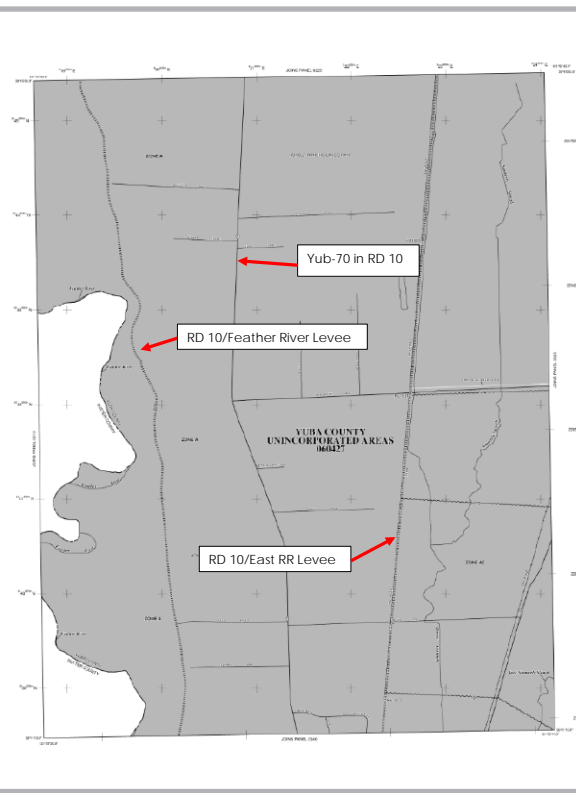
At the north end of the project area, SR 70 crosses (North and South) Honcut Creek. The creek appears to connect to the Feather River, a tributary of the Sacramento River. Jack-Simmerly Slough, which is influenced by the confluence with the Feather River, is 1000 feet south of the project area. The project area is less than 1 mile east of the Feather River, and approximately 20 miles east of the Sacramento River. The headwaters of the Feather River is the Oroville Dam at Lake Oroville and flows south to the Sacramento River (U.S. Geological Survey 2019).

Local and regional drainage runoff patterns are influenced by agricultural grading and terrain modifications. Farming practices, including grading, leveling, in-fill of drainage ditches, crop modifications, and irrigation practices have also influenced historic natural terrain and storm water runoff patterns. Drainage and storm water runoff from the highway is primarily conveyed through existing roadside ditches, which includes offsite contribution from the surrounding agricultural area. However, these ditches do not connect a natural drainage to a downstream tributary. Honcut Creek and Jack-Simmerly Slough are naturally occurring drainages that carry flow after rain events.

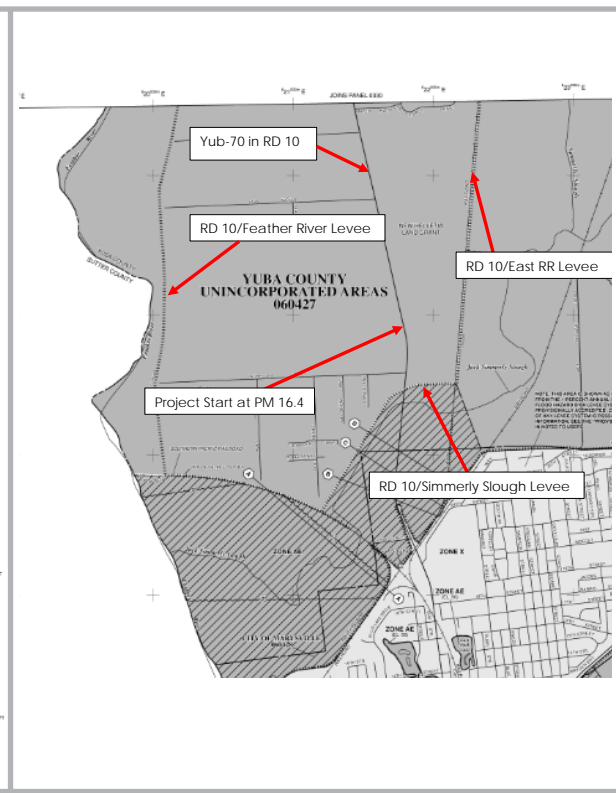
This project area is within flood zone A, a Federal Emergency Management Agency (FEMA) 100-year floodplain, as depicted on Flood Insurance Rate Maps (FIRMs). Areas within Zone A, a special flood hazard area, are subject to flooding by the 100-year storm event, however no depths or base flood elevations have been determined (Caltrans 2018) (Figure 2.2.1-1). The project area is surrounded by a system of flood control levees; the Honcut Creek levee to the



Segment of  
**FEMA FIRM Panel 06115C0225D**  
Showing Yub-70 within SFHA Zone A



Segment of  
**FEMA FIRM Panel 06115C0330D**  
Showing Yub-70 within SFHA Zone A



Segment of  
**FEMA FIRM Panel 06115C0340D**  
Showing Yub-70 within SFHA Zone A

Source: California Department of Transportation. 2018. *Memorandum: Floodplain Hydraulic Study (FHS)*. December 24. District 3 - Marysville. Pages 6–8.

**Figure 2.2.1-1**  
**FEMA Flood Zone Map**



north, SP rail road levee to the east, east Feather River levee to the west, and the Jack-Simmerly Slough north levee to the south.

The project segment has experienced numerous localized flood events over the past 50 years. Recurring minor localized flooding is typically related to inadequate cross drainage at intersecting streets and driveways which prohibits runoff within the highway shoulder drainage ditches from moving to the south within the ditches. Although the Oroville Dam on the Feather River has reduced floodwaters, during very wet rainfall years, when the water surface elevation (WSE) within the Feather River leveed area is elevated, much of basin, including the project area, can become inundated with water. This inundation is primarily due to a lack of overland drainage from farmlands being able to runoff into the Feather River levee basin to the west or to the drainage ditch that runs along the west edge of the railroad right of way to the east that eventually discharges into Jack-Simmerly Slough to the south (Caltrans 2018).

When the WSE within the Feather River levee system rises near the tops of the levees, flap gates for the discharge pipes close tightly, impeding the release of ponding water, and accumulated runoff is not able to pass into the Feather River levee system. Further, as the WSE of the Feather River is elevated, the discharge from Jack-Simmerly Slough at the south end of the basin, is impeded and the WSE of the Slough rises, inhibiting runoff from running off into Jack-Simmerly Slough. Under these conditions, surface water runoff is inhibited from discharging into the Feather River and Jack-Simmerly Slough leveed areas, resulting in flooding within the basin. The current alignment of Yub-70 within the project limits is representative of a longitudinal floodplain encroachment (Caltrans 2018).

### **2.2.1.3 Environmental Consequences**

#### **No Build Alternative**

The No Build Alternative would not change hydrology in the project area because the proposed project would not be constructed.

#### **Build Alternatives**

Environmental consequences for the two alternatives are similar, and therefore discussed together. The project would construct shoulders (minimum width of 10-feet), unpaved shoulders, establish a CRZ (minimum width of 20-feet), and provide passing opportunities in each direction of travel. The total length of the project is 9.6 miles. Roadside ditches will be constructed outside the CRZ, which will incorporate side slopes of 4:1 or less. Cross culverts for intersecting street drainage culverts and driveways would be hydraulically evaluated and replaced as necessary to provide improved drainage capacity along the northbound and southbound highway shoulder drainage ditches. Existing driveways would be modified to conform to the widened highway, as needed. As a result, driveway culverts would be replaced to convey drainage flows in the roadside ditches. Existing cross culverts would also be extended or replaced, as needed. In addition, there will be minor shifts in the horizontal alignment and minor adjustments in vertical profile to correct existing non-standard features.

The proposed project would likely exceed 1 acre of new impervious area. With new impervious surfaces, post-project flows will exceed/increase pre-project flows and could result in downstream erosion or flooding. In addition, increased impervious surfaces could reduce the ability for groundwater recharge within the localized groundwater aquifer system. However, to address the additional flows and ensure that the proposed project does not exceed existing flow conditions, the project would include stormwater runoff best management practices (BMPs) to collect and retain or detain the additional flows within the project limits, as required by the California Department of Transportation National Pollution Discharge Elimination System municipal separate storm sewer systems (MS4) permit and a Storm Water Management Plan. In addition, the proposed project would only minimally affect groundwater resources because the excavations would occur on a temporary, short-term basis during the construction period. Because the entire alignment of Yub-70 within the project limits is subject to flooding by the 100-year return storm event, the proposed project would result in a longitudinal floodplain encroachment. However, as defined by 23 CFR, Section 650.105(q:1,2), the project would not result in a significant encroachment in the 100-year floodplain. Significant encroachment would result if a highway encroachment and any direct support of likely base floodplain development would involve a significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route or result in a significant construction-or flood-related impacts.

#### **2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures**

Impacts from these activities would be avoided or minimized because all construction activities would comply with the necessary permits and requirements from regulatory agencies, including the State Water Resources Control Board, Central Valley Regional Water Quality Control Board, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Yuba County. In addition to agency coordination and permit compliance, project drainage has been considered in the design, which will include new roadside ditches, and replacing cross culverts and driveways culverts, as needed. Additional details related to permanent best management practices (BMPs) will be evaluated during subsequent project phases. The minimal increase in impervious area would not cause on- or offsite flooding. The proposed project design includes side slopes of 4H:1V or less for the CRZ, which would maintain pre-project sheet-flow drainage patterns (i.e., flow and rates) and improve storm drainage facilities.

#### **2.2.1.5 References**

California Department of Transportation. 2018. Flood Hydraulic Study Memorandum. December 24.

ESRI. No Date. USA Watershed Boundary Dataset. Available: <https://icf-eandp.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=7136a5282aa84836b09c4983a66232a6>. Accessed: February 12, 2019.

Sacramento River Watershed Program. 2015. *Lower Feather River Watershed*. Available: <http://www.sacrriver.org/aboutwatershed/roadmap/watersheds/feather/lower-feather-river-watershed>. Accessed: February 11, 2019.

U.S. Geological Survey. 2019. Geographic Names Information System: ID 223423 Feather River. Entry Date January 19, 1981. Available: [http://geonames.usgs.gov/apex/f?p=gnispq:3:0::NO::P3\\_FID:223423](http://geonames.usgs.gov/apex/f?p=gnispq:3:0::NO::P3_FID:223423). Accessed: February 12, 2019.

## **2.2.2 Water Quality and Storm Water Runoff**

### **2.2.2.1 Regulatory Setting**

#### ***Federal Requirements: Clean Water Act***

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source<sup>1</sup> unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in 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. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual

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<sup>1</sup> A point source is any discrete conveyance such as a pipe or a man-made ditch.

permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent<sup>2</sup> standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

### **State Requirements: Porter-Cologne Water Quality Control Act**

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

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

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<sup>2</sup> The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

## **State Water Resources Control Board and Regional Water Quality Control Boards**

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

- **National Pollutant Discharge Elimination System (NPDES) Program**

### **Municipal Separate Storm Sewer Systems (MS4)**

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

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

### **Construction General Permit**

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

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

### **Section 401 Permitting**

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

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

#### **2.2.2.2 Affected Environment**

The majority of the project is within the Lower Feather River watershed (HUC 1802015905), and a small northern portion is within the Honcut Creek watershed (HUC 1802015901), both within the larger Honcut Headwaters-Lower Feather watershed (HUC 18020159; ESRI ND). The segment of SR 70 within the project area crosses one drainage, Honcut Creek. The creek appears to connect to the Feather River, which is less than 1 mile east of the project area. The Jack-

Simmerly Slough is 1000 feet south of the project area. The headwaters of the Feather River is the Oroville Dam at Lake Oroville and flows south to the Sacramento River. The project is located within the North Yuba groundwater sub-basin, within the larger Sacramento Valley groundwater basin.

Local and regional drainage runoff patterns are influenced by agricultural practices and terrain modifications. Drainage and storm water runoff from the highway is primarily conveyed through existing roadside ditches, which includes offsite contribution from the surrounding agricultural area. Honcut Creek and Jack-Simmerly Slough are naturally occurring drainages that carry flow after rain events. Beneficial uses for the projects receiving waters, the Feather River (Fish Barrier Dam to Sacramento River) include: municipal and domestic supply (MUN), agricultural supply/irrigation (AGR), contact recreation (REC-1), non-contact recreation (REC-2), warm and cold freshwater habitat (WARM; COLD), warm and cold migration (MIGR), warm and cold spawning (SPWN), and wildlife habitat (WILD).

Surface and groundwater quality is a concern for both fisheries and agricultural supply use. Water in the Sacramento River Basin is generally considered to be relatively clean and acceptable for a variety of beneficial uses. Because most of the water in the Sacramento River and its major tributaries, such as the Feather River, is derived from melting snow that enters the rivers by managed discharges of water from reservoirs, much of the Sacramento River and its large tributaries have low concentrations of dissolved minerals. Although water quality of the Sacramento River is good most of the year, seasonal events, such as agricultural runoff or runoff from historical mining operations, may affect water quality. Water quality in the Lower Feather River Watershed is influenced by agricultural and municipal land and water use in the watershed. (North) Honcut Creek (Butte and Yuba Counties) is 303(d) listed as impaired for indicator bacteria and dissolved oxygen; the Lower Feather River (Lake Oroville Dam to Confluence with Sacramento River) is impaired for chlorpyrifos, group A pesticides, mercury, polychlorinated biphenyls (PCBs), and toxicity. Jack(-Simmerly) Slough is impaired for diazinon, dissolved oxygen, and toxicity. None of the expected TMDLs have sources that are linked to Caltrans activities, nor has Caltrans' been identified as a stakeholder for them; therefore, the Department has no obligation to implement permanent treatment BMPs for the pollutants causing impairment. Chlorpyrifos in the Lower Feather River is managed by the Sacramento/Feather Diazinon/Chlorpyrifos BPA TMDL, which was approved by the U.S. EPA on August 11, 2016 (State Water Board 2018).

Generally, groundwater quality in the North Yuba groundwater sub-basin is good, with consistent salinity throughout the basin. Constituents of concern for groundwater are total dissolved solids, nitrate, and several other individual chemical constituents (Sacramento River Watershed Program 2019). Unless otherwise designated by the Central Valley Regional Water Board, all groundwaters in the region are considered as suitable or potentially suitable, for municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

### **2.2.2.3 Environmental Consequences**

#### **No Build Alternative**

The No Build Alternative would not affect water quality in the project area because the proposed project would not be constructed.

#### **Build Alternatives**

Construction of the proposed project would involve land-disturbing activities, stockpiling, equipment use and storage, and potential spills that could result in temporary impacts on water resources within the project site or nearby. Construction activities may also result in eroded soil or suspended solids being temporarily introduced into waterways. These activities have the potential to violate water quality standards or WDRs if sediment- or contaminant-laden runoff from disturbed work areas enters storm drains or other pathways leading to receiving waters, or if fuel or other construction chemicals are accidentally spilled or leaked into the water. Sources of sediment include earthwork, excavation, embankment/fill construction, in-water work, uncovered or improperly covered stockpiles, unstabilized slopes, and construction equipment not properly cleaned or maintained.

The delivery, handling, and storage of construction materials and wastes, and the use of heavy construction equipment, could result in storm water contamination and thereby affect water quality. Construction activities may involve the use of chemicals and operation of heavy equipment that could result in accidental spills of hazardous materials (e.g., fuel and oil) during construction activities; these spills could enter the groundwater aquifer or nearby surface water bodies via runoff or storm drains. Constituents in fuel, oil, and grease can be acutely toxic to aquatic organisms and/or bioaccumulate in the environment. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in storm water include toxicity to aquatic organisms, such as bioaccumulation, and potential contamination of drinking supplies.

The proposed project would likely result in more than 1 acre of new impervious surfaces. An increase in impervious surface (pavement) would result in the potential for additional roadway contaminants to affect water quality. Potential sources of pollutants from the roadway include total suspended sediments, nutrients, volatile and semivolatile organics, hydrocarbons, pesticides, particulate metals, dissolved metals, pathogens, litter, biochemical oxygen demand, total dissolved solids, and targeted design constituents. Potential impacts of the proposed project on existing water quality conditions in Honcut Creek and Lower Feather River would consist of short-term discharges of sediments, oil, grease, and chemical pollutants into nearby storm drains or surface waters generated during construction.

Land-disturbing activities (e.g., vegetation clearing, excavation, and grading) could result in erosion and subsequent soil deposition to surface waters, which would temporarily increase turbidity. Contaminated soil on construction sites would be managed to prevent any pollutants from entering storm drain systems or receiving waters. Soil from areas with aerially deposited lead (ADL) may be reused as indicated by the Department of Toxic Substance Control. Generally, this would include placing contaminated soil under pavement or clean soil. If



contaminated soil cannot be reused safely, it will be transported to a licensed landfill or other disposal site. At all times, stormwater and groundwater would be prevented from mixing with and transporting contamination. If any water does come in contact with contaminated soil, it will be collected and safely disposed of.

Long-term impacts on water quality could occur from increased impervious area, operation and maintenance activities, such as road and bridge maintenance and inspections, and discharges of sediments and other pollutants collected in stormwater runoff. However, surface runoff drainage patterns would remain similar to existing conditions. Any increases in impervious area would not reduce water infiltration into the groundwater aquifer or cause a widespread, regional change in groundwater levels. Further, groundwater dewatering would not be necessary for project operation and maintenance activities. The project does not pass through areas where spills from Caltrans activities could discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities. In addition, standard facilities used to handle stormwater on site would include an array of structural elements or facilities that would serve to manage, direct, and convey stormwater, as discussed in Section 2.2.2.4, *Avoidance, Minimization, and/or Mitigation Measures*.

#### **2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures**

Project design would address water quality and stormwater runoff using the following means. The proposed project design includes improved storm drainage facilities. These measures would minimize the potential for discharges of pollutants to nearby storm drains, Honcut Creek, and the Lower Feather River. In addition, vegetative areas would allow for infiltration and water quality treatment. The Construction General Permit requires SWPPP erosion and sediment control BMPs to be implemented and maintained to prevent or minimize sediment and suspended solids from entering Honcut Creek. Due to the anticipated quantity of new impervious area for the project, permanent treatment BMP and design measures are required. However, the implementation of permanent treatment BMPs meant to target specific TMDLs is not anticipated. As a result, the selection of BMPs will likely include “General Purpose BMPs” selected from Matrix-A of Caltrans’ Project Planning Design Guide (PPDG). The Caltrans SWMP and all applicable guidelines and requirements in the 2015 Caltrans Standard Specifications (CSS) Section 13 would be followed regarding water pollution control and general specifications for preventing, controlling, and reducing water pollution in streams, waterways, water conveyance systems, and other bodies of water.

The proposed project will be designed in accordance with the objectives of Caltrans’ NPDES Permit requirements and related stormwater requirements to reduce runoff and the volume of entrained sediment. The Caltrans General permit also serves as a State of California WDR. Compliance with this permit requires implementation of BMPs that achieve the performance standards of best available technology and best conventional pollutant control technology to reduce or eliminate storm water pollution. BMPs will be implemented during construction and operations to limit pollutants and sediment from affecting drainages in the project area. Caltrans stormwater quality manuals also include BMPs to be implemented for erosion and sediment control and material management. BMPs will address vehicle tracking control, non-storm water management, and waste management practices. These BMPs include vehicle and equipment fueling and maintenance, spill prevention, hazardous and concrete waste management, and

material storage and delivery. The implementation of BMPs would minimize impacts on drainage and water quality during long-term operations at the site. The project would only minimally affect groundwater resources because excavations and dewatering would occur on a temporary, short-term basis during the construction period.

### **WQ-1: Implement a Storm Water Pollution Prevention Plan and Caltrans' Best Management Practices to Avoid and Minimize Potential Effects on Water Quality**

Implementation of the SWPPP, Caltrans BMPs, and stormwater guidance measures will minimize the potential for construction-related surface water pollution and ensure that water quality will not be compromised during construction. Specific BMPs designed to minimize water quality effects from construction will be determined by the construction contractor in the SWPPP with Caltrans approval. All construction would conform to the NPDES General Construction Permit requirements to maintain water quality within the project area and vicinity; these requirements include stormwater and non-stormwater quality protection measures for all construction activities within the Caltrans right-of-way.

#### **2.2.2.5 References**

ESRI. No Date. USA Watershed Boundary Dataset. Available: <https://icf-eandp.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=7136a5282aa84836b09c4983a66232a6>. Accessed: February 12, 2019.

Sacramento River Watershed Program. 2019. *Lower Feather River Watershed*. Available: [http://www.sacriver.org/files/documents/roadmap/report/Feather\\_LowerFeather.pdf](http://www.sacriver.org/files/documents/roadmap/report/Feather_LowerFeather.pdf). Accessed: February 12, 2019.

State Water Resources Control Board. 2018. *2014/2016 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)*. Available: [https://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2014\\_2016.shtml](https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml). Accessed: February 12, 2019.

#### **2.2.3 Geology/Soils/Seismic/Topography**

##### **2.2.3.1 Regulatory Setting**

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department’s Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which

methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria

Yuba County requires a grading permit for any project that "creates or replaces 2,500 square feet or more of impervious surface." The purpose of this requirement is to regulate grading, drainage, and other earthwork to preserve and safeguard public welfare, life, health, and property; ensure that the project is consistent with the Yuba County General Plan and local plans, specifications, standards, ordinances, and building codes; and require implementation of erosion and sedimentation control measures.

### **2.2.3.2 Affected Environment**

#### ***National Natural Landmarks***

There are no National Natural Landmarks in Yuba County (National Park Service 2017).

#### ***Regional Geology***

The project area is in the northeastern portion of the Sacramento Valley, which forms the northern portion of California's Great Valley geomorphic province (Norris and Webb 1990; California Geological Survey 2002).

The Great Valley, also called the Central Valley, is a nearly flat alluvial plain that lies between the Sierra Nevada on the east and the Coast Ranges on the west. The valley's south end is defined by the Tehachapi Mountains north of Los Angeles, and its north end is defined by the Klamath Mountains. The Great Valley is approximately 400 miles long, 50 miles wide, and is subdivided into the Sacramento Valley to the north and the San Joaquin Valley to the south (Norris and Webb 1990; Bartow 1991).

The Great Valley is floored by a thick sequence of sedimentary deposits that range in age from Jurassic through Quaternary (approximately 200 million years ago [mya] to present day). Under the eastern and central portions of the valley, the base of the sequence likely rests on Mesozoic crystalline rock allied to the plutons of the Sierra Nevada; to the west, basement rocks are believed to be Franciscan metasediments and/or mélangé similar to exposures in the Coast Ranges. Mesozoic sedimentary rocks that are now in the subsurface record marine deposition. These sedimentary rocks are overlain by Tertiary strata reflecting marine, estuarine, and terrestrial conditions, which are in turn overlain by Quaternary fluvial and alluvial strata, recording uplift and erosion of the Sierra Nevada and Coast Ranges to approximately their present shape (Norris and Webb 1990; Bartow 1991).

#### ***Local Topography and Geology***

The project area is in the valley floor and is relatively flat. The depth to groundwater is unknown but is likely shallow, given its proximity to the Feather River and several creeks.

Geologic mapping by Saucedo and Wagner (1992) shows the project area is immediately underlain by three geologic units: natural levee and channel deposits (Qa), the Modesto Formation (Qm), and the Riverbank Formation (Qr).

The natural levee and channel deposits are of Holocene age (approximately 11,000 years old or younger) and occur as a narrow band along South Honcut Creek (Saucedo and Wagner 1992). This unit was formed as a result of stream deposition.

The Modesto Formation immediately underlies most of the project area, with small exposures of the Riverbank Formation scattered throughout the southern half of the project area. These units are both of Pleistocene age (approximately 2.6 mya to 11,000 years old), with the younger Modesto Formation overlying the older Riverbank Formation. Both units are alluvial deposits and share many of the same physical characteristics because the sediments that compose each unit were derived from the same rocks in the headwaters of the contributory streams issuing from the Sierra Nevada and were deposited in similar alluvial fan environments. The primary differences between the Modesto and Riverbank Formations are age-related; they include the degree of consolidation/cementation, the amount of deformation (tilting and/or folding), and soil development. Where Modesto alluvium overlies the Riverbank Formation, the contact between the two units is frequently marked by a deeply developed paleosol (ancient soil horizon) with a pronounced clay horizon (Atwater 1982).

### ***Primary Seismic Hazards***

The State of California considers two aspects of earthquake events as primary seismic hazards: surface fault rupture (i.e., disruption of the Earth's surface as a result of fault activity) and seismic ground shaking.

#### ***Surface Fault Rupture***

The risk of surface rupture in the project area is low because there are no active faults (i.e., faults that show evidence of surface displacement in the past 11,000 years) in the project area. The nearest active fault is the Cleveland Hill fault, which is located just south of Lake Oroville, approximately 20 miles north of the project area (California Geological Survey 2010).

#### ***Seismic Ground Shaking***

Unlike surface rupture, ground shaking is not confined to the trace of a fault, but rather ground shaking propagates into the surrounding areas during an earthquake. The intensity of ground shaking typically diminishes with distance from the fault, but ground shaking may be locally amplified and/or prolonged by some types of substrate materials.

The project area is in an area of relatively low ground shaking potential for California (Branum et al. 2008).

## Secondary Seismic Hazards

Secondary seismic hazards are seismically induced landslide, liquefaction, and related types of ground failure events, such as differential settlement and lateral spread. The State of California maps areas that are subject to secondary seismic hazards pursuant to the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6), which is intended to reduce damage resulting from earthquakes. These hazards are addressed briefly below based on available information.

The potential for landslides and other slope stability issues is low because the project area is relatively flat and the risk of strong shaking is low.

Liquefaction is the process in which soils and sediments lose shear strength and fail during seismic ground shaking. The risk of liquefaction and related types of ground failure is low because the risk of strong ground shaking is low.

## Soils

The major soils present in the project area and their suitability for road construction is shown in Table 2.2.3-1.

**Table 2.2.3-1. Road Construction Suitability of Major Soils in the Project Area**

Soil	Suitability Issue	Road Construction Suitability Rating
Conejo loam, 0 to 2 percent slopes	Low strength, moderate shrink-swell potential	Somewhat limited
Kilaga clay loam, 0 to 1 percent slopes	Low strength, high shrink-swell potential	Very limited
Kimball loam, 0 to 1 percent slopes	Low strength, high shrink-swell potential	Very limited
Marysville loam, 0 to 1 percent slopes	Low strength, moderate shrink-swell potential	Very limited
San Joaquin loam, 0 to 1 percent slopes	Low strength, high shrink-swell potential	Very limited

Source: Natural Resources Conservation Service 2017.

## Mineral Resources

The California Surface Mining and Reclamation Act (SMARA) provides for the evaluation of an area's mineral resources using a system of mineral resource zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The MRZ classifications are based on available geologic information, including geologic mapping and other information on surface exposures, drilling records, and mine data; and socioeconomic factors such as market conditions and urban development patterns. The MRZ classifications are defined as follows.

- **MRZ-1**—areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2**—areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- **MRZ-3**—areas containing mineral deposits, the significance of which cannot be evaluated from available data.

- **MRZ-4**—areas where available information is inadequate for assignment into any other MRZ.

The southern portion of the project area is in the Yuba-Marysville Production-Consumption (P-C) region, which extends from Marysville east into most of Yuba County. In other parts of California, the 50-year demand for aggregate resources exceeds the permitted aggregate resources; however, the opposite is true for the Yuba-Marysville P-C region. The permitted aggregate material in the Yuba-Marysville P-C region exceeds the 50-year demand, and approximately 70% of its supply is exported to nearby counties, such as Sacramento and Placer Counties (California Geological Survey 2012).

Although the project area is in a region with active aggregate mines, there are no areas designated as MRZ-2 in or near the project area. No mineral land classification has been assigned to most of the project area, and the classification of the very southern portion of the project area is MRZ-4 (California Geological Survey 2012, 2017; California Division of Mines and Geology 1988).

### **2.2.3.3 Environmental Consequences**

#### ***No Build Alternative***

Under the no build alternative, there would be no change in seismic-related conditions because the project area has no known active faults and a low potential for strong seismic ground shaking. There would be no impact related to landsliding because the topography is flat and no construction would occur. There would be no impacts related to erosion because no grading would occur.

Subsurface road conditions would not be improved because subgrade enhancement geotextile and cementitious binder would not be installed and were likely not installed when the highway was built. The highway may therefore be more susceptible to cracking as a result of the low strength and high shrink-swell potential of the underlying soils.

#### ***Build Alternatives***

There are no known active faults in or near the project area. There would be no impact to construction workers or the traveling public related to surface fault rupture.

The project is an area with a low potential for strong seismic ground shaking. In addition, a geotechnical field investigation would be conducted and a Geotechnical Design Report with recommended design parameters would be prepared in accordance with Caltrans' *Highway Design Manual* (HDM) (California Department of Transportation 2012). The project would be designed according to Caltrans seismic standards, as provided in the HDM, minimizing the risk to construction workers or the traveling public from strong seismic ground shaking.

The project is in an area with a low potential for seismic-related ground failure because of the low potential for strong ground shaking and the relatively flat topography, minimizing the risk to construction workers or the traveling public.

There is a low risk for landslides because of the flat topography and because the project would not involve large cuts and fills or steep excavation. There would be no impact to construction workers or the traveling public.

Ground-disturbing earthwork associated with road grading and construction could increase soil erosion rates and loss of topsoil. The potential for erosion is increased because of the low strength of the soils. The best management practices (BMPs) described in Section 2.2.1, Hydrology and Floodplains, and Section 2.2.2, Water Quality and Stormwater Runoff, would minimize erosion and the loss of topsoil.

The project area is located on soils known to be expansive (have a high shrink-swell potential) and have low strength. Minimization measures in the Geotechnical Design Report, such as use of subgrade enhancement geotextile and cementitious binder, as well as BMPs, would be implemented to address soil issues, minimizing the risk to construction workers or the traveling public.

The project would not include a septic system. There would be no impact to construction workers or the traveling public.

No natural landmarks are present in the project area or vicinity. There would be no impact to natural landmarks.

There are no designated mineral resource areas (MRZ-2) in the project area or vicinity, and the project would not impede the extraction of any known mineral resources. There would be no impact to mineral resources.

#### **2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures**

Avoidance and minimization measures that could be recommended in the Geotechnical Design Report to address seismic and soil issues are described below. The BMPs described in Section 2.2.1, Hydrology and Floodplains, and Section 2.2.2, Water Quality and Stormwater Runoff, would minimize erosion and the loss of topsoil.

##### **GEO-1: Minimize Impacts from Seismic Events**

To minimize potential impacts from seismic events, the project will be constructed in accordance with all applicable Caltrans standards and regulations and will be designed for the maximum possible earthquake. All construction activities will adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.

##### **GEO-2: Minimize Soil Instability**

To minimize the potential for soil instability from shrink-swell potential, soils with shrink-swell potential will be compacted at the highest moisture content possible and not be allowed to dry out prior to being covered with other material.

### **GEO 3: Conduct Geotechnical Investigation**

A geotechnical investigation is necessary to determine the engineering characteristics of native soil in undeveloped areas. Special treatments could be required to increase the suitability of native soils for highway construction or imported material may be used. Imported soil for highway embankments will have a minimum R-value of 15 and have the appropriate environmental certifications to ensure contaminated soil is not used onsite. Other treatments could include removal of loose and compressible material, placement of subgrade enhancement geotextile, and use of cementitious binder.

#### **2.2.3.5 References**

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Natural Resources Conservation Service. 2017. *Web Soil Survey*. Last revised: August 10, 2016. Available: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed: January 3, 2017.

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## **2.2.4 Paleontology**

### **2.2.4.1 Regulatory Setting**

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

16 United States Code (USC) 431-433 (the “Antiquities Act”) prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered “objects of antiquity” by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.

16 United States Code (USC) 461-467 established the National Natural Landmarks (NNL) program. Under this program property owners agree to protect biological and geological resources such as paleontological features. Federal agencies and their agents must consider the existence and location of designated NNLs, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under NEPA.

16 United States Code (USC) 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands.

23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

The basis for assessments of paleontological sensitivity (i.e., potential to contain scientifically important paleontological resources) followed standard California Department of Transportation (Caltrans) criteria (California Department of Transportation 2014), which have three categories to describe the likelihood that a geologic unit contains significant fossil materials—high potential, low potential, and no potential, as defined in Table 2.2.4-1.

**Table 2.2.4-1. California Department of Transportation Paleontological Sensitivity Terminology**

Caltrans Sensitivity Designation	Characteristics of Geologic Units in This Category
High Potential (High Sensitivity)	<p>This category consists of rock units known to contain important vertebrate, invertebrate, or plant fossils anywhere within their geographic extent, including sedimentary rock units that are suitable for the preservation of fossils, as well as some volcanic and low-grade metamorphic rock units.</p> <p>This category includes rock units with the potential to contain the following.</p> <ul style="list-style-type: none"> <li>• Abundant vertebrate fossils.</li> <li>• A few significant fossils (large or small vertebrate, invertebrate, or plant fossils) that may provide new and significant taxonomic, phylogenetic, ecologic, and/or stratigraphic data.</li> <li>• Areas that may contain datable organic remains older than Recent, including <i>Neotoma</i> (sp.) middens.</li> <li>• Areas that may contain unique new vertebrate deposits, traces, and/or trackways.</li> </ul> <p>Fossiliferous deposits with very limited geographic extent or an uncommon origin (e.g., tar pits and caves) are given special consideration and ranked as highly sensitive.</p>
Low Potential (Low Sensitivity)	<p>This category includes sedimentary rock units that have the following characteristics:</p> <ul style="list-style-type: none"> <li>• Are potentially fossiliferous but have not yielded significant fossils in the past.</li> <li>• Have not yet yielded fossils but have the potential to contain fossil remains.</li> <li>• Contain common and/or widespread invertebrate fossils of species whose taxonomy, phylogeny, and ecology are well understood.</li> </ul> <p><i>Note that sedimentary rocks expected to contain vertebrate fossils are considered highly sensitive, because vertebrates are generally rare and found in more localized strata.</i></p>
No Potential (No Sensitivity)	<p>This category includes rock units and deposits that are either too young to contain fossils or are of intrusive igneous origin, most extrusive igneous rocks, and moderate- to high-grade metamorphic rocks.</p>

Source: California Department of Transportation 2016.

## 2.2.4.2 Affected Environment

A Paleontological Identification Report (PIR) and Paleontological Evaluation Report (PER) was prepared for this report (ICF 2017) and was amended by Caltrans in 2018. This section is based on the findings of the PIR/PER.

Table 2.2.4-2 presents a summary of the geologic units which would be potentially affected by project excavations and their respective paleontological sensitivities.

**Table 2.2.4-2. Paleontological Potential of Geological Units in the Project Area**

Map Symbol	Age	Geologic Unit	Lithology	Known Paleontological Resources	Paleontological Potential
Qal Qb	Holocene	Quaternary alluvium and Quaternary basin deposits	unconsolidated silts, sands, and gravels	No significant resources	Low
Qml Qmu	Pleistocene to Holocene	Modesto Formation	unconsolidated silts, sands, and gravels	Vertebrates, and invertebrates	High
Qrl Qru	Pleistocene	Riverbank Formation	moderately consolidated alluvial silts, sands, and gravels	Vertebrates, Plants	High
Ql	Pliocene	Laguna Formation	moderately consolidated alluvial silts, sands, and gravels	Vertebrates	High

Sources: Map symbols are from Busacca et al. (1989) and Helley and Harwood (1985).

### **Laguna Formation**

Although there are no known records of fossils in the Laguna Formation (University of California Museum of Paleontology 2016), nonmarine Pliocene deposits are a regionally extensive and are considered sensitive throughout their extent.

### **Modesto Formation**

Numerous vertebrate fossil localities have been reported from sediments referable to the Modesto Formation in the San Joaquin and Sacramento Valleys. A search of the UCMP online database identified two specimens from the Modesto Formation in Sutter County, one Rancholabrean age specimen of long-horned bison (*Bison latifrons*), and plant specimens from sediments of the Modesto Formation that were recovered during paleomitigation of excavations at the Sutter Energy Center in Yuba County (University of California Museum of Paleontology 2016).

### **Riverbank Formation**

As described for the Modesto Formation, Pleistocene sedimentary units are typically considered highly sensitive for paleontological resources. The Pleistocene age of the Riverbank Formation is well represented by important fossils recovered from excavations at the Arco Arena site in 1989 and more than a dozen other localities. Fossil finds in the Riverbank Formation include mammoth, bison, camel, horse, ground sloth, dire wolf, rodents, moles, birds, and bony fish (University of California Museum of Paleontology 2016).

In addition, the UCMP database has one record of an avian fossil from an unidentified vertebrate specimen in Sutter County (University of California Museum of Paleontology 2016) and six vertebrate specimens and one plant specimen in Sacramento County (Hilton et al. 2000), but none are recorded in Yuba County. Because of its vertebrate fossil content, the Riverbank Formation is considered highly sensitive for paleontological resources.

## **Project Area**

There are no fossil localities in the project boundaries; however, as stated previously, all formations in the project area, with the exception of the dredge tailings, have the potential or are known to contain significant paleontological resources.

### **2.2.4.3 Environmental Consequences**

#### **No Build Alternative**

Under the no build alternative, there would be no impacts to paleontological resources because no construction would occur.

#### **Build Alternatives**

The project vicinity contains four identified geologic units, of which only two have the potential to be impacted by the project. The Pliocene Laguna Formation is known to contain vertebrate fossil resources; however, it lies outside of the project impact area, and Quaternary alluvium is generally not considered to contain significant paleontological resources. The other two units, the Pleistocene Modesto and Riverbank Formations, underlie the entire project impact area and have well-documented histories of containing significant vertebrate fossils. No previously-recorded fossil sites have been recorded in the footprint of the proposed project, and no fossils were seen during the field review in December 2016. However, a known fossil-bearing geologic unit is considered highly sensitive in its entire extent, not only in the location where fossils have been previously discovered.

Impacts to paleontological resources generally occur during excavations and other ground-disturbing activities. Since the existing facility is assumed to be built on imported fill material, activities related to grinding, pulverizing, excavating and paving within the existing paved portion of the project area have low to no potential to affect significant paleontological resources. Existing roadside ditches will most likely be graded and filled with imported material to build the proposed wider shoulders at the existing highway elevation. There is a low to moderate potential for these activities to impact paleontological resources in these areas as depth of excavation will be between 1–3 feet.

Newly acquired right-of-way will be cleared of vegetation and graded or excavated. The majority of new right-of-way would be acquired from actively-managed orchards. The ground surface of these orchards is likely to have been mechanically tilled and prepared when the orchard was created, likely impacting and damaging any paleontological resources in the upper 2–4 feet of the rock unit. However due to the high sensitivity of the geologic units, there remains a low to moderate potential to affect paleontological resources in these areas.

Finally, culverts installed in fill material underneath the roadway have no potential to impact paleontological resources, and impact-potential from roadside ditch culverts are considered low to moderate.

#### **2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures**

Due to the high sensitivity of the Modesto and Riverbank formations, and the potential for some construction activities to uncover or affect significant paleontological resources, the following measures are required.

##### **PALEO-1: Implement Construction Training**

Prior to the start of grading or excavation activities into any non-fill soils in the project vicinity (specifically the Modesto and Riverbank formations), construction personnel involved with earth-moving activities (including the Caltrans Resident Engineer or site superintendent) shall be informed of the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction activities, and proper notification procedures should fossils be encountered. This training must be prepared and delivered by a qualified paleontologist or archaeologist.

##### **PALEO-2: Stop Work if Paleontological Resources are Discovered**

If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the appropriate Caltrans personnel as defined in the project specifications. Ground-disturbing activities in the vicinity of the find cannot begin again until approved by a qualified paleontologist. Vicinity of work stoppage is at the professional discretion of the qualified paleontologist, and will be determined in consultation with the Caltrans resident engineer.

##### **PALEO-3: Prepare Mitigation Plan if Resources are Discovered**

If paleontological resources are discovered during earthmoving activities, a qualified paleontologist will be required to evaluate the resource and prepare a mitigation plan in accordance with Caltrans guidelines. The plan may include items including, but not limited to, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen removed, and a report of findings. To avoid construction delays it is recommended that the mitigation plan and mitigation procedures be developed prior to beginning construction. To avoid potential impacts to the project schedule, it is also recommended that right-of-way acquisition includes language that designates Caltrans as the sole owner of any paleontological resources discovered; otherwise the underlying landowner(s) would need to be consulted for handling, ownership and possible curation of fossils found on their property.

#### **2.2.4.5 References**

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## **2.2.5 Hazardous Waste/Materials**

### **2.2.5.1 Regulatory Setting**

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

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

Community Environmental Response Facilitation Act (CERFA) of 1992

- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

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

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

#### **2.2.5.2 Affected Environment**

The existing conditions presented in this section are based on review of the 3<sup>rd</sup> *Revised Hazardous Waste Initial Site Assessment (ISA), Yuba Safety Project, Yuba County, California* prepared in March 2019.

The ISA identified and evaluated potential hazardous waste sites and includes the following tasks:

- Review of previous environmental reports about the project site, including the original ISA
- Geologic evaluation regarding Naturally Occurring Asbestos (NOA) within the project limits
- Review of government database of hazardous waste sites
- Preparation of a written report summarizing the records search results

#### **Records Search**

A hazardous materials site records search was conducted that included information gathered from several government environmental databases compiled by federal, state, and local governmental agencies. No sites were identified within the 0.25-mile search area that are likely to have adversely impacted the project corridor.

#### **Aerially Deposited Lead**

Aerially deposited lead (ADL) is attributed to the historic use of leaded gasoline. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the time when leaded gasoline was in use (generally prior to 1986). Along roads where the shoulder subgrade has not been disturbed, the presence of ADL is

generally limited to the upper 24 inches. Lead concentrations typically drop rapidly with increasing depth below the ground surface.

### ***Naturally Occurring Asbestos***

A geologic evaluation regarding Naturally Occurring Asbestos (NOA) was conducted within the project limits. This evaluation included a review of geologic maps and reports including data prepared by the California Geological Survey (CGS) and the United States Geological Survey (USGS), previous studies conducted by Caltrans and their consultants. The evaluation does not indicate the presence of altered ultramafic bedrock, alluvium derived from ultramafic rock, or rock commonly associated with NOA.

### ***Yellow Thermoplastic Striping***

SR 70 has yellow pavement striping and markings. Yellow thermoplastic striping and yellow painted markings may contain elevated concentrations of lead chromate and hexavalent chromium manufactured before 2005 and painted markings manufactured before 1997.

### ***Agricultural Land Uses***

Much of the project area consists of agricultural properties. It is possible that arsenic would be present in surface soils because historical agricultural practices used herbicides that were organic compounds containing arsenic. Activities conducted on agricultural parcels involve the use of agricultural chemicals, including pesticides, insecticides, and herbicides.

### ***Treated Wood Waste***

Treated wood is wood with preservative chemicals that protect it from insect attack and fungal decay during its use. Typical uses in the highway environment include sign posts, metal beam guardrail wood posts, and lagging on retaining walls. The chemical preservatives used are hazardous and pose a risk to human health and the environment. Arsenic, chromium, copper, creosote, and pentachlorophenol are among the chemicals used. These chemicals are known to be toxic or carcinogenic. Harmful exposure to these chemicals may result from dermal contact with treated wood waste (TWW) or from inhalation or ingestion of TWW particulate (e.g., sawdust and smoke) as this material is handled.

### ***Cortese List***

The Cortese List is a compilation of contaminated sites identified by the State of California – State Water Resource Control Board; active, closed, and inactive landfills identified by the Integrated Waste Management Board; and potential hazardous waste sites identified by the Department of Toxic Substance Control. This list was reviewed as part of the initial screening for this project. The list, or a property's presence on the list, has bearing on the local permitting process as well as on compliance with the CEQA. Both the Envirostor and the Geotracker database did show the study area containing potential hazardous waste/sources. The proposed project is within or impacting a site on the Cortese List.



There are a total of three sites within the Geotracker database (all three are UST leaks). Two of the sites are closed/inactive (Six Mile Station & Mayfair Packing Co). One site is active (Atwal Site). There are a total of five other sites that have the potential to be contaminated. These five sites are not identified in the Geotracker or Envirostor database, rather have been discovered through archaeological/historical research. An exemption to acquire contaminated parcels must be obtained if any work is to be done on the active Cortese site (Atwal site). This active Cortese site must be acquired through the 'Request for Acquisition of Contaminated Property' process.

The two closed/inactive sites located in the Geotracker database can be acquired through the 'HMDD' process.

- Mayfair Packing Co – 7880 Highway 70, Marysville, CA 95901 – Geotracker: Closed/Inactive - 8/30/1996
- Six Mile Station – 8991 Highway 70, Marysville, CA 95901 – Geotracker: Closed/Inactive – 1/19/2010
- Atwal Site – 95901 Highway 70, Marysville, CA 95901 – Geotracker: Active

The five below listed sites all have the potential to be contaminated. A site investigation must be conducted to determine if the site(s) are contaminated or not. Dependent upon the SI results; if the SI shows the site(s) to be contaminated, the below listed site(s) must be acquired through the 'Request for Acquisition of Contaminated Property' process. If the site(s) are contaminated, the office of Hazardous-Waste highly recommends avoiding the parcels altogether; however, if any portion is to be acquired, please add 10-12 months of additional time to the project for R/W acquisition/certification.

- 11196 Highway 70, Marysville, CA 95901 – Potential UST
- 9807 Highway 70, Marysville, CA 95901 – Potential UST
- 8787 Highway 70, Marysville, CA 95901 – Potential UST
- 8967 Highway 70, Marysville, CA 95901 – Potential UST
- 10507 Highway 70, Marysville, CA 95901 – Potential UST

### **Structures/NESHAP**

Asbestos Containing Materials (ACM's) and Lead-Based Paint (LBP) survey is required for any structure proposed to be demolished and/or disturbed. Following the structural survey, proper specifications for notification, handling and disposal will be necessary. Also, if demolishing/disturbing structures, then demolition/renovation/rehabilitation notification/permit forms and attachments must be submitted to the Air Pollution Control District (APCD) or Air Quality Management District (AQMD) as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 61, Subpart M, and California Health and Safety Code section 39658(b)(1).

### **2.2.5.3 Environmental Consequences**

#### **No Build Alternative**

No construction would take place under the No-Build Alternative; therefore, there would be no potential to expose workers or nearby land uses to soil contamination or hazardous materials from construction activities. The No-Build Alternative would not result in right-of-way acquisition or construction disturbance. Accordingly, the No-Build Alternative would not result in any direct effects regarding hazardous wastes or materials.

#### **Build Alternatives**

Humans and the environment could be exposed to hazardous conditions from the accidental release of hazardous materials during construction activities. Construction would involve the use of heavy equipment, involving small quantities of hazardous materials (e.g., petroleum and other chemicals used to operate and maintain construction equipment) that may result in hazardous conditions in the project area.

Disturbing either yellow or white pavement markings by grinding or sandblasting or removal of treated wood posts or guardrails could expose construction workers or the general public to lead chromate and other harmful chemicals unless standard removal protocols are followed. Exposure of construction workers or the general public to these hazardous materials or wastes could pose a possible threat to human health. Soils on agricultural parcels could contain hazardous chemicals from past pesticide/herbicide use. Exposure of construction workers or the general public to these hazardous materials or wastes could pose a possible threat to human health.

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. If encountered, soil with elevated concentrations of lead as a result of ADL on the state highway system right of way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

### **2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures**

#### **HAZ-1: Avoid and Minimize the Potential for Effects from Hazardous Waste or Materials during Project Construction**

The proposed project will disturb soil during construction. As it is possible that naturally occurring asbestos and/or aerially deposited lead may be disturbed. To address this issue a preliminary site investigation (PSI) is required. If the PSI shows the soil/groundwater at these parcels to be contaminated, NSSPs for the specific contaminant will also be needed (i.e. such as for petroleum hydrocarbons).

Contractors would be required to work under a health and safety plan and soil management plan. These plans would be prepared to address worker safety when working with potentially hazardous materials, including soils potentially containing

aerially deposited lead, pesticides, herbicides, and other construction-related materials within the project right-of-way. The plans would provide for identification of potential hazardous materials at the work site and for specific actions to avoid worker exposure.

### **HAZ-2: Conduct Sampling, Testing, Removal, Storage, Transportation, and Disposal of Yellow/White Traffic Striping along Existing Roadways**

As required by Caltrans' standard special provisions, the construction contractor will sample and test yellow/white traffic striping scheduled for removal to determine whether lead or chromium is present. The construction contractor will also implement a project specific lead compliance plan prepared by a Certified Industrial Hygienist (CIH) as required by Cal/OSHA.

All aspects of the project associated with removal, storage, transportation, and disposal will be in strict accordance with appropriate regulations of the California Health and Safety Code. The stripes will be disposed of at a Class 1 disposal facility. These grindings (which consist of the roadway material and the yellow color traffic stripes) will be removed and disposed of in accordance with Standard Special Provision 36-4 (Residue Containing High Lead Concentration Paints) ([http://www.dot.ca.gov/hq/env/haz/hw\\_sp.htm](http://www.dot.ca.gov/hq/env/haz/hw_sp.htm)) which requires a Lead Compliance Plan.

The responsibility of implementing this measure will be outlined in the contract between Caltrans and the construction contractor. Implementing this measure will minimize potential effects from these hazardous materials.

### **HAZ-3: Perform Soil Testing and Dispose of Contaminated Soils Appropriately**

To prevent exposure of workers and the public to contaminated soils, requirements as detailed in the DTSC Agreement will be followed. In addition, surface soils from potentially contaminated areas would be screened and contaminated soils disposed of appropriately. Soil excavated from the surface to a depth of 1 foot can be reused within Caltrans right of way if covered with at least one foot of clean soil or pavement structure. If soil excavated from the top 1 foot will not be reused within Caltrans ROW, then the excavated soil should be either: (1) managed and disposed of as a California hazardous waste, or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Therefore, screening of surface soils for residual chemical contamination will occur for any parcels to be acquired and if soils are to be moved off agricultural parcels, to non-agricultural parcels. Soils testing positive should be removed off site to a permitted treatment/disposal facility. This testing should be completed before construction activities.

#### **HAZ-4: Develop a Lead Compliance Plan**

The Contractor shall prepare a project-specific Lead Compliance Plan to minimize worker exposure to lead-impacted materials. The plan will include protocols for environmental and personal monitoring, requirements for person protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted materials. Screening of surface soils for lead contamination will occur for any parcels to be acquired before construction activities.

#### **HAZ-5: Develop and Implement Plans to Address Worker Health and Safety**

As necessary, and as required by Caltrans and federal and state regulations, plans such as a health and safety plan, BMPs, and/or an injury and illness prevention plan will be prepared and implemented to address worker safety when working with potentially hazardous materials, including potential TWW, lead or chromium in traffic stripes, ADL, and other construction-related materials within the right-of-way during any soil-disturbing activity.

If project components are removed that may contain TWW (e.g., sign posts, metal beam guardrail wood posts, and lagging on retaining walls), the contractor must prepare and submit a safety and health work practices plan for handling TWW approved by an American Board of Industrial Hygiene Certified Industrial Hygienist. TWW must be disposed of in an approved TWW facility. Construction workers who handle this material must be provided training that includes the following.

- All applicable requirements of Title 8 CCR;
- Procedures for identifying and segregating TWW;
- Safe handling practices;
- Requirements of Title 22 CCR, Division 4.5, Chapter 34; and
- Proper disposal methods.

#### **2.2.5.5 References**

Caltrans. 2019b. 3<sup>rd</sup> *Revised Hazardous Waste Initial Site Assessment. File 03-Yub-70-PM 16.2/25.8*. March 14.

#### **2.2.6 Air Quality**

##### **2.2.6.1 Regulatory Setting**

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards

(NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM<sub>10</sub>) and particles of 2.5 micrometers and smaller (PM<sub>2.5</sub>)—and sulfur dioxide (SO<sub>2</sub>). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

### **Conformity**

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

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

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and in some areas (although not in California), sulfur dioxide (SO<sub>2</sub>). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO<sub>2</sub>, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until

conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope<sup>3</sup> that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

### **2.2.6.2 Affected Environment**

Information presented in this section is based on the Air Quality Study Report prepared for the proposed project (Caltrans 2019).

#### ***Location Climate and Meteorology***

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

The Yuba county airport climatological station, maintained by Feather River Air Quality Management District (FRAQMD), is located near the project site and is representative of meteorological conditions near the project. The climate of the project area is generally Mediterranean in character, with mild winters (from 38 to 55°Fahrenheit in January) and hot, dry summers (from 64 to 96°Fahrenheit in July). Annual average rainfall is approximately 22.02 inches (at Yuba county airport), mainly falling during the winter months. Yuba County, California, covers an area of approximately 645 square miles. The lowest and highest elevations in Yuba County are 199 meters (653 feet) and 2,541 meters (8,337 feet) 6, respectively.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants under certain meteorological conditions. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells collect over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap pollutants near the ground. The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually the

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<sup>3</sup> “Design concept” means the type of facility that is proposed, such as a freeway or arterial highway. “Design scope” refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out, the Schultz Eddy causes the wind pattern to circle back to the south, preventing pollutants from cycling out of the air basin. This phenomenon has the effect of exacerbating the pollution levels in the area and increases the likelihood of violating federal or state standards. The eddy normally dissipates around noon when the delta sea breeze arrives.

### Existing Air Quality Conditions

Existing air quality conditions in the project area can be characterized in terms of the ambient air quality standards that federal and state governments have established for various pollutants by monitoring data collected in the region. The nearest air quality monitoring station in the vicinity of the project area that reported pollutant concentrations between 2015 and 2017 is the Yuba City-Almond Street monitoring station, which is approximately 4 miles south of the proposed project (Table 2.2.6-1). Air quality standards are summarized in Table 2.2.6-2.

**Table 2.2.6-1. Air Quality Concentrations for the Past 3 Years Measured at Yuba City-Almond Street**

Pollutant	Standard	2015	2016	2017
<b>Ozone</b>				
Max 1-hr concentration (ppm)		0.080	0.075	0.085
No. days exceeded:				
State	0.09 ppm	0	0	0
8-hr average concentration (ppm)		0.074	0.065	0.073
No. days exceeded:				
State	0.070 ppm	1	0	2
Federal	0.070 ppm	1	0	2
<b>PM<sub>10</sub></b>				
Max 24-hr concentration (µg/m <sup>3</sup> ):				
State		67.2	51.7	145.5
Federal		68.2	51.4	145.0
No. days exceeded:				
State	50 µg/m <sup>3</sup>	6	1	20
Federal	150 µg/m <sup>3</sup>	0	0	0
Annual average concentration (µg/m <sup>3</sup> ):				
State		23.1	20.4	21.8
Federal		23.2	20.7	21.8
No. days exceeded:				
State	20 µg/m <sup>3</sup>	N/A	N/A	N/A

Pollutant	Standard	2015	2016	2017
<b>PM<sub>10</sub></b>				
24-hr average concentration (µg/m <sup>3</sup> ):				
State		36.1	40.1	47.2
Federal		36.1	40.1	45.0
No. days exceeded:				
Federal	35 µg/m <sup>3</sup>	2	1	3
Annual average concentration (µg/m <sup>3</sup> ):				
State		10.2	11.4	11.8
Federal		9.6	8.1	9.2
No. days exceeded:				
State	12 µg/m <sup>3</sup>	N/A	N/A	N/A
Federal	12.0 µg/m <sup>3</sup>	2	1	3

Source: California Air Resources Board (<http://www.arb.ca.gov/adam>) and accessed 2/8/2019.

Note: Data not provided for Carbon Monoxide (CO), Nitrogen Dioxide (NO<sub>2</sub>), Lead (Pb), Hydrogen Sulfide (H<sub>2</sub>S), Vinyl Chloride, or Visibility Reducing Particles as these pollutants are not currently monitored at the Yuba City-Almond Street monitoring station.

N/A = not available.

## Attainment Status

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are evaluated for each air pollutant. Table 2.2.6-2 lists the state and federal attainment status for all regulated pollutants. At the federal level, Yuba County is classified as attainment-maintenance for PM<sub>2.5</sub>, unclassified for PM<sub>10</sub>, and unclassified/attainment for O<sub>3</sub>, CO, NO<sub>2</sub>, and SO<sub>2</sub>. At the state level, Yuba County is classified as nonattainment for O<sub>3</sub> and PM<sub>10</sub>, attainment for PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, Pb, and sulfates, and unclassified for CO, visibility-reducing particles, and hydrogen sulfide.

## Sensitive Receptors

Sensitive receptors include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. On the basis of research showing that the zone of greatest concern near roadways is within 500 feet (or 150 meters), sensitive receptors within 500 feet (or 150 meters) have been identified and are agricultural residential and residential. No sensitive receptors such as hospitals, daycare facilities, or schools occur within the 500 feet buffer of the proposed project area.



**Table 2.2.6-2. State and Federal Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State <sup>a</sup> Standard	Federal <sup>b</sup> Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Ozone (O <sub>3</sub> )	1 hour	0.09 ppm <sup>c</sup>	— <sup>d</sup>	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO <sub>x</sub> ) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Nonattainment	Unclassified/Attainment
	8 hours	0.070 ppm	0.070 ppm (4 <sup>th</sup> highest in 3 years)				
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile source at the local and neighborhood scale.	Unclassified	Unclassified/Attainment
	8 hours	9.0 ppm <sup>a</sup>	9 ppm				
	8 hours (Lake Tahoe)	6 ppm	—				
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>e</sup>	24 hours	50 µg/m <sup>3 f</sup>	150 µg/m <sup>3</sup> (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic & other aerosol and solid compounds are part of PM <sub>10</sub> .	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Nonattainment	Unclassified
	Annual	20 µg/m <sup>3</sup>	— <sup>e</sup>				
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>e</sup>	24 hours	—	35 µg/m <sup>3</sup>	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM <sub>2.5</sub> size range. Many toxic & other aerosol and solid compounds are part of PM <sub>2.5</sub> .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO <sub>x</sub> , sulfur oxides (SO <sub>x</sub> ), ammonia, and ROG.	Attainment	Attainment-Maintenance
	Annual	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>				
	24 hours (conformity process <sup>g</sup> )	—	65 µg/m <sup>3</sup>				
	Secondary Standard (annual; also for conformity process <sup>e</sup> )	—	15 µg/m <sup>3</sup> (98 <sup>th</sup> percentile over 3 years)				

Pollutant	Averaging Time	State <sup>a</sup> Standard	Federal <sup>b</sup> Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	0.18 ppm	0.100 ppm <sup>h</sup>	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NO <sub>x</sub> ” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Attainment	Unclassified/Attainment
	Annual	0.030 ppm	0.053 ppm				
Sulfur Dioxide (SO <sub>2</sub> )	1 hour	0.25 ppm	0.075 ppm <sup>i</sup> (99 <sup>th</sup> percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Attainment	Unclassified/Attainment
	3 hours	–	0.5 ppm <sup>i</sup>				
	24 hours	0.04 ppm	0.14 ppm (for certain areas)				
	Annual	–	0.030 ppm (for certain areas)				
Lead (Pb) <sup>k</sup>	Monthly	1.5 µg/m <sup>3</sup>	–	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	Attainment	Unclassified/Attainment
	Calendar Quarter	–	1.5 µg/m <sup>3</sup> (for certain areas)				
	Rolling 3-month average	–	0.15 µg/m <sup>3</sup> <sup>l</sup>				
Sulfate	24 hours	25 µg/m <sup>3</sup>	–	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Attainment	N/A
Hydrogen Sulfide (H <sub>2</sub> S)	1 hour	0.03 ppm	–	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Unclassified	N/A

Pollutant	Averaging Time	State <sup>a</sup> Standard	Federal <sup>b</sup> Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	–	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other “Class I” areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	N/A	N/A

<sup>a</sup> State standards are “not to exceed” or “not to be equaled or exceeded” unless stated otherwise.

<sup>b</sup> Federal standards are “not to exceed more than once a year” or as described above.

<sup>c</sup> ppm = parts per million.

<sup>d</sup> Prior to 6/2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.

<sup>e</sup> Annual PM<sub>10</sub> NAAQS revoked October 2006; was 50 µg/m<sup>3</sup>. 24-hr. PM<sub>2.5</sub> NAAQS tightened October 2006; was 65 µg/m<sup>3</sup>. Annual PM<sub>2.5</sub> NAAQS tightened from 15 µg/m<sup>3</sup> to 12 µg/m<sup>3</sup> December 2012 and secondary annual standard set at 15 µg/m<sup>3</sup>.

<sup>f</sup> µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>g</sup> The 65 µg/m<sup>3</sup> PM<sub>2.5</sub> (24-hr) NAAQS was not revoked when the 35 µg/m<sup>3</sup> NAAQS was promulgated in 2006. The 15 µg/m<sup>3</sup> annual PM<sub>2.5</sub> standard was not revoked when the 12 µg/m<sup>3</sup> standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the “Interim” period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

<sup>h</sup> Final 1-hour NO<sub>2</sub> NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.

<sup>i</sup> EPA finalized a 1-hour SO<sub>2</sub> standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of 9/2012.

<sup>j</sup> Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

<sup>k</sup> The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM<sub>10</sub> and, in larger proportion, PM<sub>2.5</sub>. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and PM<sub>2.5</sub> as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

<sup>l</sup> Lead NAAQS are not considered in Transportation Conformity analysis.

### **2.2.6.3 Environmental Consequences**

#### ***No-Build Alternative***

Under the No Build Alternative, the proposed project would not be built, and the existing roadway would be maintained. The No Build Alternative would not directly generate any short-term construction emissions. It is anticipated that future emissions of criteria pollutants and MSAT would decrease relative to existing conditions because of improvements in engine technology and the phasing out of older, more polluting engines. Likewise, CO concentrations would be reduced. Comparisons of criteria pollutant emissions of the No Build Alternative to the Build Alternatives are provided in Table 2.2.6-4.

#### ***Build Alternatives***

##### **Regional Conformity**

The proposed project is exempt from regional (40 CFR 93.127) conformity requirements. Separate listing of the project in the Regional Transportation Plan and Transportation Improvement Program, and their regional conformity analyses, is not necessary. The project will not interfere with timely implementation of Transportation Control Measures identified in the applicable SIP and regional conformity analysis.

##### **Project Level Conformity**

The project is located in an attainment area for CO. Based on the screening by the CO Protocol flow chart, the Build Alternatives under consideration will not worsen the air quality in the project area. Therefore, the proposed project is found satisfactory and no further analysis is needed.

The project is located in attainment-maintenance area for PM<sub>2.5</sub>, thus a project-level hot-spot analysis for PM<sub>2.5</sub> is required under 40 CFR 93.109. However, the proposed project is exempt from all conformity requirements under the Table 2 item of 40 CFR 93.126, “Projects that correct, improve, or eliminate a hazardous location or feature.”

##### **Additional Environmental Analysis**

#### ***Operational Emissions***

Operational emissions take into account long-term changes in emissions due to the project (excluding the construction phase). The operational emissions analysis compares forecasted emissions for existing/baseline, No-Build, and all Build alternatives. Table 2.2.6-3 below contains a summary of all long-term operational emissions associated with the proposed project. Air quality emissions from the traffic operation would be slightly greater under the Build Alternative conditions in comparison with the No-Build conditions.

**Table 2.2.6-3. Long-Term Operational Emissions**

Scenario/Analysis Year		CO (US tons/day)	PM <sub>10</sub> (US tons/day)	PM <sub>2.5</sub> (US tons/day)	NO <sub>x</sub> (surrogate for NO <sub>2</sub> ) (US tons/day)
Baseline (Existing Conditions), 2018	Northbound	0.307	0.013	0.006	0.111
	Southbound	0.319	0.013	0.006	0.116
No-Build, 2023	Northbound	0.193	0.014	0.006	0.071
	Southbound	0.139	0.010	0.004	0.051
Build Alternative 1 2023	Northbound	0.193	0.014	0.006	0.071
	Southbound	0.200	0.014	0.006	0.073
Build Alternative 2 2023	Northbound	0.193	0.014	0.006	0.071
	Southbound	0.200	0.014	0.006	0.073
No-Build, 2043	Northbound	0.067	0.011	0.004	0.011
	Southbound	0.097	0.016	0.006	0.016
Build Alternative 1 2043	Northbound	0.091	0.015	0.006	0.015
	Southbound	0.094	0.016	0.006	0.016
Build Alternative 2 2043	Northbound	0.122	0.021	0.008	0.020
	Southbound	0.094	0.016	0.006	0.016

PM<sub>10</sub> and PM<sub>2.5</sub>, criteria pollutants in nonattainment in the SVAB, would be slightly higher than the proposed project compared to the No-Build, or would not change (Table 2.2.6-4). Overall emissions are not anticipated to be substantially higher with the proposed project. Operational air quality impacts would not be substantial.

In addition, as shown in Table 2.2.6-4, NO<sub>x</sub> concentrations in the Build conditions of opening (2023) and design (2043) years would be slightly higher or similar in comparison with those in the No-Build condition. However, the concentrations of NO<sub>x</sub> in both the future Build years (2023 and 2043) and future No-Build emissions would be lower than those in existing conditions (2018). Overall emissions are not anticipated to be substantially higher with the proposed project. Operational air quality impacts would not be substantial.

### *Naturally Occurring Asbestos*

Based on review of the California Geological Survey, Yuba County includes the presence of ultramafic rocks or serpentinite and asbestos occurrences reported in the literature. However, Naturally Occurring Asbestos (NOA) is not mapped in the area of Yuba County where NOA is expected to occur.

The construction activities proposed by Caltrans may disturb NOA-containing soil/rock units, if present at the site. The California Air Resources Board (CARB) has mitigation practices for construction, grading, quarrying and surface mining operations that may disturb natural occurrences of asbestos as outlined in CCR Title 17, §93105 – Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (ATCM 93105). NOA potentially poses a health hazard when it becomes an airborne particulate. Mitigation practices can reduce the risk of exposure to asbestos-containing dust. The primary mitigation practice used for controlling exposure to potentially asbestos-containing dust is the implementation of engineering controls including wetting the materials being disturb. If engineering controls do not adequately control exposure to potentially asbestos-containing dust,

the use of personal protective equipment including wearing air purifying respirators with High Efficiency Particulate Air (HEPA) filters is required during construction activities.

### ***Lead***

Lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead or painting or modification of structures with lead-based coatings. Any potential Aerially Deposited Lead (ADL) issues will be addressed within the Initial Site Assessment.

### ***Mobile Source Air Toxics***

Mobile source air toxics (MSATs) are a subset of the 187 air toxics defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

FHWA released updated guidance using a tiered approach on how MSATs should be addressed in NEPA documents for highway projects (U.S. Federal Highway Administration 2016). Based upon the volume of traffic on the roadway, the proposed project is considered exempt from all transportation air quality conformity requirements and meets the Table 2 item of 40 CFR 93.126, “Projects that correct, improve, or eliminate a hazardous location or feature.” In addition, the design year traffic volume for the most heavily traveled segment in the modeled area is predicted to be to 38,780 for the Build Alternative (Table 2.2.6-4). Therefore, based on both the FHWA 2016 guideline under NEPA and the ARB Land Use Handbook under CEQA, no MSAT analysis for this project is needed.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

### ***Construction (Short-term) Impacts***

Site preparation and roadway construction will involve grading, removing or improving existing roadways, installing a traffic sign, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO<sub>x</sub>, VOCs, directly emitted PM<sub>10</sub> and PM<sub>2.5</sub>, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Under the transportation conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions are not required in a hot-spot analysis. These temporary increases in emissions are those that occur only during the construction phase and last five years or less at any individual site. They typically fall into two main categories:

- **Fugitive Dust:** A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit “visible emissions” exceeding three minutes in one hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the right-of-way line.

Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM<sub>10</sub> emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM<sub>10</sub> emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

- **Construction equipment emissions:** Diesel exhaust particulate matter is a California-identified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Construction emissions were estimated using the latest Caltrans’ Model (CAL-CET2018). Construction-related emissions for the proposed project are presented in Table 2.2.6-4. emissions presented are based on the best information available at the time of calculations. The emissions represent the daily construction emissions.

**Table 2.2.6-4. Construction Emissions**

	<b>PM<sub>10</sub></b> <b>(lbs/day)</b>	<b>PM<sub>2.5</sub></b> <b>(lbs/day)</b>	<b>CO</b> <b>(lbs/day)</b>	<b>NO<sub>x</sub></b> <b>(lbs/day)</b>	<b>CO<sub>2</sub></b> <b>(tons/day)</b>
Roadway Excavation/Removal	4.51	1.88	18.94	20.74	4,009.39
Base/Subbase/Imported Borrow	3.57	0.96	8.53	8.64	1,662.40
Paving	0.65	0.64	3.83	9.50	1,832.53
Drainage/Environment/Landscaping	0.02	0.01	0.09	0.19	35.72
Traffic Signage/Striping/Painting	1.59	1.55	16.63	29.54	10,345.34
<b>Project Total daily average</b>	<b>10.34</b>	<b>5.05</b>	<b>48.02</b>	<b>68.60</b>	<b>17,885.39</b>
<b>Project Total (tons)</b>	<b>1.55</b>	<b>0.76</b>	<b>7.20</b>	<b>10.29</b>	<b>2,683</b>

Implementation of the AQ-1 through AQ-4 will reduce air quality impacts resulting from construction activities. Please note that although these measures are anticipated to reduce construction-related emissions, these reductions cannot be quantified at this time.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

#### **2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures**

##### **AQ-1: Implement Dust Control Measures**

Dust control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” and Section 18 “Dust Palliatives”.

##### **AQ-2: Adhere to FRAQMD Rule 3.16 (Fugitive Dust)**

The project proponent will control dust emissions from earth moving activities, storage or any other construction activity to prevent airborne dust from leaving the project site.

##### **AQ-3: Implement Fugitive Dust Control Plan**

The FRAQMD CEQA Guidelines provide feasible control measures for construction emissions. Measures to reduce PM<sub>10</sub>, PM<sub>2.5</sub> and diesel particulate matter from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided. These are listed below.

- All grading operations on a project should be suspended when winds exceed 20 miles per hour or when winds carry dust beyond the property line despite implementation of all feasible dust control measures.
- Construction sites shall be watered as directed by the Department of Public Works or Air Quality Management District and as necessary to prevent fugitive dust violations.
- An operational water truck should be onsite at all times. Apply water to control dust as needed to prevent visible emissions violations and offsite dust impacts.
- Onsite dirt piles or other stockpiled particulate matter should be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind-blown dust emissions. Incorporate the use of approved non-toxic soil stabilizers according to manufacturer’s specifications to all inactive construction areas.
- All transfer processes involving a free fall of soil or other particulate matter shall be operated in such a manner as to minimize the free fall distance and fugitive dust emissions.
- Apply approved chemical soil stabilizers according to the manufacturers’ specifications, to all-inactive construction areas (previously graded areas that remain inactive for 96 hours) including unpaved roads and employee/equipment parking areas.
- To prevent track-out, wheel washers should be installed where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out.



- Paved streets shall be swept frequently (water sweeper with reclaimed water recommended; wet broom) if soil material has been carried onto adjacent paved, public thoroughfares from the project site.
- Provide temporary traffic control as needed during all phases of construction to improve traffic flow, as deemed appropriate by the Department of Public Works and/or Caltrans and to reduce vehicle dust emissions.
- Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less and reduce unnecessary vehicle traffic by restricting access. Provide appropriate training, onsite enforcement, and signage.
- Reestablish ground cover on the construction site as soon as possible and prior to final occupancy, through seeding and watering.
- Disposal by burning: Opening burning is yet another source of fugitive gas and particulate emissions and shall be prohibited at the project site. No open burning of vegetative waste (natural plant growth wastes) or other legal or illegal burn materials (trash, demolition debris, et. al.) may be conducted at the project site. Vegetative wastes should be chipped or delivered to waste to energy facilities (permitted biomass facilities), mulched, composted, or used for firewood. It is unlawful to haul waste materials offsite for disposal by open burning.

#### **2.2.6.5 Climate Change**

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

#### **2.2.6.6 References**

California Air Resources Board. 2018. iADAM: Air Quality Data Statistics. Available at <http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: February 2, 2019.

Caltrans. 2019c. *Air Quality Report. Yuba 70 Safety Widening Project*. February.

Federal Highway Administration. 2016. Updated Interim guidance update on mobile source air toxic analysis in NEPA documents. Available at [https://www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/policy\\_and\\_guidance/msat](https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat). Accessed: March 12, 2019.

## 2.2.7 Noise

### 2.2.7.1 Regulatory Setting

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

#### **California Environmental Quality Act**

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/23 Code of Federal Regulations Part 772 (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

#### **National Environmental Policy Act and 23 CFR 772**

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 Code of Federal Regulations [CFR] 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

**Table 2.2.7-1. Noise Abatement Criteria**

Activity Category	NAC, Hourly A- Weighted Noise Level, $L_{eq}(h)$	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B <sup>1</sup>	67 (Exterior)	Residential.
C <sup>1</sup>	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Activity Category	NAC, Hourly A- Weighted Noise Level, $L_{eq}(h)$	Description of activity category
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

<sup>1</sup> Includes undeveloped lands permitted for this activity category.

Figure 2.2.7-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

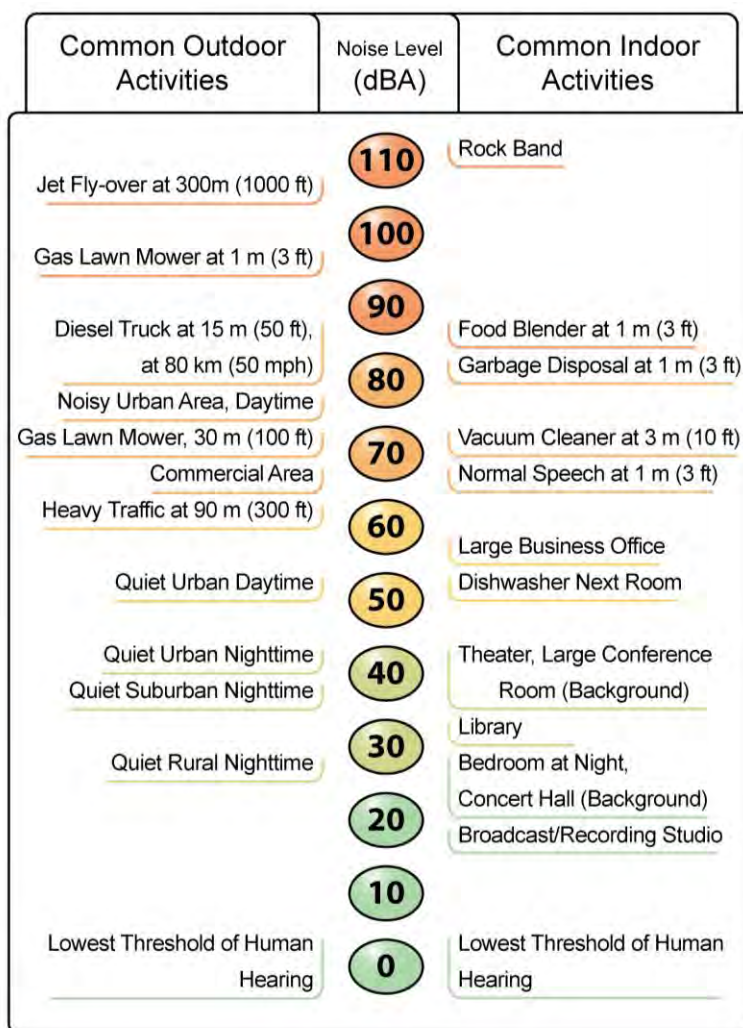


Figure 2.2.7-1. Noise Levels of Common Activities

According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction for all impacted receptors in the future noise levels must be achieved for an abatement to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. Additionally, a noise reduction of at least 7 dBA must be achieved at one or more benefited receptors for an abatement measure to be considered reasonable. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

#### **2.2.7.2 Affected Environment**

The following analysis was prepared using information from the *Noise Study Report* (NSR) prepared for the project (Caltrans 2019).

The project area consists of single family residences (Activity Category B), agricultural and agricultural-related businesses (Activity Category F), and undeveloped lands that are not permitted (Activity Category G). Traffic on SR 70 was observed to be the dominant source of noise in the study area.

#### **2.2.7.3 Environmental Consequences**

##### ***No Build Alternative***

No construction would take place under the No-Build Alternative; therefore, there would be no noise effects related to the project, resulting from traffic or construction. However, future planned projects in the area, however, would result in an increase in traffic noise, as shown in Table 2.2.7-2.

**Table 2.2.7-2. Existing and Projected Noise Levels**

Receptor	Location	Land Use	Existing Noise Level L <sub>eq</sub> (h) dBA	Future No Build (2040) Noise Level L <sub>eq</sub> (h) dBA	No Build minus Existing L <sub>eq</sub> (h) dBA	Future Build (2040) Noise Level L <sub>eq</sub> (h) dBA	Build minus Existing L <sub>eq</sub> (h) dBA	Traffic Noise Impact*
ST-2*	646 Silva Ave.	Residential	66	67	1	67	1	A/E
ST-3	7821 Highway 70	Residential	65	66	1	66	1	A/E
ST-4	644 Mayer Road	Residential	63	65	2	65	2	None
ST-5*	516 Saddleback Dr.	Residential	63	65	2	65	2	None
ST-6	647 Ellis Road	Residential	65	67	2	67	2	A/E
ST-7	639 Noble Road	Residential	64	65	1	65	1	None
ST-8	8831 Highway 70 (Country Village)	Residential	67	68	1	68	1	A/E
ST-9	9050 Highway 70	Residential	63	64	1	64	1	None
ST-10	659 Magnolia Road	Residential	60	61	1	61	1	None
ST-11	9917 Highway 70	Residential	67	68	1	68	1	A/E
ST-12	714 Boyer Road	Residential	61	62	1	62	1	None
ST-13	699 Ramirez Road	Residential	70	71	1	71	1	A/E
ST-14	10655 Highway 70	Residential	62	64	2	64	2	None
ST-15	10879 Highway 70	Residential	65	66	1	66	1	A/E
ST-16	11179 Highway 70	Residential	66	67	1	67	1	A/E
ST-17	11227 Highway 70	Residential	63	64	1	64	1	None
ST-18	11624 Highway 70	Residential	63	64	1	64	1	None
ST-19	Old State Highway	Residential	62	63	1	63	1	None
R-1	Highway 70	Residential	57	58	1	58	1	None
R-2	Highway 70	Residential	66	67	1	67	1	A/E
R-2A*	Highway 70	Residential	66	67	1	67	1	A/E
R-3	Highway 70	Residential	63	64	1	64	1	None
R-4*	Highway 70	River Bend Stables	68	69	1	69	1	A/E
R-5	Saddleback Drive	Residential	60	61	1	61	1	None
R-6	Saddleback Drive	Residential	58	59	1	59	1	None
R-8	Highway 70	Residential	68	69	1	69	1	A/E
R-9*	Highway 70	Residential	65	67	2	67	2	A/E
R-10	Highway 70	Residential	63	64	1	64	1	None
R-11	Highway 70	Residential	64	65	1	65	1	None
R-11A	Bettencourt Ln.	Residential	61	63	2	63	2	None

Receptor	Location	Land Use	Existing Noise Level Leq(h) dBA	Future No Build (2040) Noise Level Leq(h) dBA	No Build minus Existing Leq(h) dBA	Future Build (2040) Noise Level Leq(h) dBA	Build minus Existing Leq(h) dBA	Traffic Noise Impact*
R-12	Highway 70 (Country Village)	Residential	60	61	1	61	1	None
R-13	Highway 70	Residential	64	65	1	65	1	None
R-14	Highway 70	Farm Supply	60	62	2	62	2	None
R-15	Highway 70	Farm Supply	63	65	2	65	2	None
R-16	Highway 70	Residential	59	60	1	60	1	None
R-17	Highway 70	Residential	58	59	1	59	1	None
R-18	Highway 70	Residential	63	64	1	64	1	None
R-19	Highway 70	Residential	62	64	2	64	2	None
R-20	Highway 70	Residential	60	61	1	61	1	None
R-21	Highway 70	Residential	63	64	1	64	1	None
R-22	Highway 70	Residential	63	64	1	64	1	None
R-23*	Highway 70	Residential	68	69	1	69	1	A/E
R-24	Highway 70	Residential	58	59	1	59	1	None
R-25	Highway 70	Residential	60	61	1	61	1	None
R-26	Highway 70	Residential	55	57	2	57	2	None
R-27	Highway 70	Residential	65	67	2	67	2	None
R-28	Highway 70	Residential	67	69	2	69	2	A/E
R-29	Highway 70	Residential	59	61	2	61	2	None
R-30	Highway 70	Residential	65	66	1	66	1	A/E
R-31	Highway 70	Packing Facility	69	70	1	70	1	None
R-32	Highway 70	Residential	64	65	1	65	1	None
R-33	Highway 70	Commercial	69	70	1	70	1	None
R-34	Highway 70	Residential	61	62	1	62	1	None
R-35	Highway 70	Residential	66	67	1	67	1	A/E
R36	Highway 70	Residential	62	63	1	63	1	None
R-37	Highway 70	Residential	61	62	1	63	1	None
R-38	Highway 70	Commercial	66	67	1	67	1	None
R-39	Highway 70	Residential	58	59	1	59	1	None
R-40	Highway 70	Residential	67	68	1	68	1	None
R-41	Highway 70	Commercial	67	68	1	68	1	None
R-42	Highway 70	Residential	66	67	1	67	1	A/E
R-43	Highway 70	Residential	61	62	1	62	1	None

Receptor	Location	Land Use	Existing Noise Level Leq(h) dBA	Future No Build (2040) Noise Level Leq(h) dBA	No Build minus Existing Leq(h) dBA	Future Build (2040) Noise Level Leq(h) dBA	Build minus Existing Leq(h) dBA	Traffic Noise Impact*
R-44	Highway 70	Storage Facility	61	62	1	62	1	None
R-45*	Highway 70	Commercial	62	63	1	63	1	None
R-46	Highway 70	Packing Facility	60	62	2	62	2	None
R-47*	Highway 70	Commercial (S&L Dryers)	64	66	2	66	2	None
R-48	Highway 70	Residential	63	65	2	65	2	None
R-49	Highway 70	Residential	62	64	2	64	2	None

A/E = Future noise conditions approach or exceed the Noise Abatement Criteria.

\* R/W Take-Removed from the project.

## **Build Alternatives**

### **Operation Noise**

FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment of the highway. The proposed project is considered to be a Type I because the project alternatives involve addition of signed slow moving vehicle lanes within the project limits.

Traffic noise modeling results for existing and design year conditions for both build alternatives are shown in Table 2.2.7-2. Modeled traffic noise levels for design year no-build and build conditions were found to range from 57 to 71 A-weighted decibels (dBA) hourly equivalent sound level ( $L_{eq}(h)$ ).

Traffic noise levels are predicted to increase at receptor locations by a maximum of 1 to 2 dB, under the Build Alternatives. This is less than the substantial increase threshold of 12 dB, so no impacts due to substantial increase are predicted to occur under design-year build conditions.

The modeling results indicate traffic noise levels at residences (Activity Category B) will be 58 to 71 dBA  $L_{eq}(h)$  in the design-year, and that the increase in noise will be 1 to 2 dBA in the design-year. Traffic noise impacts are predicted to occur because predicted noise levels in the design-year approach or exceed the noise abatement criterion of 67 dBA  $L_{eq}[h]$ . The modeling results also indicate traffic noise levels at agricultural and agricultural-related businesses use (Activity Category F) in project area will be 67 to 70 dBA  $L_{eq}(h)$  in the design-year. Because there is no noise abatement criterion for Activity Category F land use, noise abatement is not considered.

### **Construction Noise**

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction activities (e.g., equipment operations) will be a source of noise. Implementation of detours may increase noise in some areas as a result temporarily diverted traffic. Construction noise is controlled by Caltrans Standard Specifications Section 14-8.02 NOISE CONTROL, which states:

- Do not exceed 86 dBA  $L_{max}$  at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Control and monitor noise resulting from work activities.

Table 2.2.7-3 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.



**Table 2.2.7-3. Construction Equipment Noise**

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

Source: Federal Transit Administration 2006. See also:  
[http://www.fhwa.dot.gov/environment/noise/construction\\_noise/handbook/handbook09.cfm](http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm)

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02 and applicable local noise standards. Although not required, implementing the following measures would minimize the temporary noise impacts from construction.

- Notify the residents within 100 feet of the project area in advance of nighttime construction activities.
- All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment may have an unmuffled exhaust.
- As directed by Caltrans, implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

Accordingly, no adverse impacts from construction of the build alternatives are expected. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

#### **2.2.7.4 Avoidance, Minimization, and/or Abatement Measures**

The traffic noise modeling results in the NSR indicate that noise levels of up 15 receptors (out of 69) are predicted to exceed noise abatement criteria. Therefore, traffic noise impacts are predicted to occur at this location and noise abatement must be considered. A noise barrier would not be feasible along SR 70 northbound or SR 70 southbound under any of the build alternatives due to driveway access requirements to residences along the entire corridor, all of which are preserved and improved as part of the project. For a wall to be acoustically feasible, it would need to be continuous along residential frontage, and maintain access, required sight lines and safety requirements for driveway access along SR 70. Noise barriers are therefore not considered feasible, and were not evaluated further in this analysis.

#### **2.2.7.5 References**

Caltrans. 2019d. *Draft Noise Study Report. Yuba Route 70 Safety Improvement Project.* February.

## **2.2.8 Energy**

### **2.2.8.1 Regulatory Setting**

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

### **2.2.8.2 Affected Environment**

There are currently no major sources of energy use and consumption along the project corridor.

### **2.2.8.3 Environmental Consequences**

#### **No Build Alternative**

Under the no build alternative, no construction would take place. Therefore, there would be no impacts related to energy use and consumption.

#### **Build Alternatives**

The proposed project is not considered a major project that would require a detailed discussion of direct and indirect energy impacts. The proposed project involves widening SR 70 within the project limits to improve safety, reduce collisions, and improve operations. During construction, energy use would primarily involve fuel consumption during (e.g., use of construction equipment and onroad vehicles). This consumption would be temporary in nature and would cease once construction is complete. Direct energy use is not anticipated during operation. Indirect energy use such as fuel consumption by vehicles utilizing the roadway would occur. However, the proposed project is not anticipated to substantially increase vehicle traffic (Fehr & Peers 2019). When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.

### **2.2.8.4 References**

Fehr & Peers. 2019. *State Route 70 Segments 4 & 5 Safety Improvements in Yuba County Transportation Analysis Report*. March.

## **2.3 Biological Environment**

This section was prepared using information from the *Natural Environment Study* (NES) technical report prepared for the project (California Department of Transportation 2018).

### **2.3.1 Natural Communities**

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section 2.3.5. Wetlands and other waters are also discussed below in Section 2.3.2.

#### **2.3.1.1 Regulatory Setting**

The California Department of Fish and Wildlife (CDFW) regulates activities that would interfere with the natural flow of—or substantially alter the channel, bed, or bank of—a lake, river, or stream, including disturbance of riparian vegetation, under CFGC Sections 1600–1616. CDFW requires a Lake or Streambed Alteration Agreement (LSAA) permit for these activities. Requirements to protect the integrity of biological resources and water quality often are conditions of LSAA's. CDFW may establish conditions that include avoiding or minimizing vegetation removal, using standard erosion control measures, limiting the use of heavy equipment, limiting work periods to avoid impacts on fisheries and wildlife resources, and restoring degraded sites or compensating for permanent habitat losses. The valley foothill riparian in the study area would be regulated by CDFW.

#### **2.3.1.2 Affected Environment**

Land cover types in the study area were identified and mapped on December 28, 2016, and January 26, 2017. A botanist walked accessible parcels that had areas of natural vegetation, parts of the ROW in and adjacent to undeveloped parcels, and visually surveyed inaccessible residential parcels from the ROW.

The study area is within the Sacramento Valley subregion of the California Floristic Province (Baldwin et al. 2012:41) and supports seven land cover types (Table 2.3.1-1 and Appendix I).

**Table 2.3.1-1. Land Cover Types in the Study Area**

Land Cover Type	Alternative 1	Alternative 2
	Acreage in the Study Area	Acreage in the Study Area
Riparian Wetland*	0.58	0.82
Valley Foothill Riparian*	0.24	0.47
Roadside Ditch	3.90	3.88
Ruderal	12.23	13.62
Orchard	90.50	96.69
Landscaped	16.90	17.89
Developed	74.90	77.00
<b>Total</b>	<b>199.25</b>	<b>210.38</b>

\* Land cover type is considered a natural community of special concern.

Vegetative land cover within the study area consists predominantly of orchards, with a mix of naturalized annual grasses and ruderal forbs along the margins and between tree rows. Rural residential housing, with associated driveways, are interspersed with the orchards and other habitats and contain irrigated ornamental and domestic plants that are regularly mowed, trimmed, or sprayed. Roadside ditches line the majority of both sides of SR 70 in the study area, with sparse to no vegetation growing in them, and are not considered waters of the United States or waters of the State.

Two of the land cover types, riparian wetland and valley foothill riparian, are considered natural communities of special concern because of their high species diversity, limited distribution, and declining status. The riparian wetland habitat is discussed below in the Wetlands and Non-Wetland Waters Section 2.3.2. and valley foothill riparian is discussed in this section. Local, state, and federal agencies consider riparian habitats to be important, and compensation for loss of riparian habitat is generally required by agencies. The CNDDDB contains a current list of rare natural communities throughout the state, including valley oak woodland and valley foothill riparian. U.S. Fish and Wildlife Service (USFWS) considers riparian habitat important to wildlife.

### **Valley Foothill Riparian**

Valley foothill riparian habitat occurs adjacent to the riparian wetland habitat on the historical drainage banks (Figure 2.3-1, sheet 6 of the NES) and at the northernmost end of the survey area, south of South Honcut Creek (Figure 2.3-1, sheet 1 of the NES). The northern bank adjacent to the riparian wetland is heavily vegetated with Himalayan blackberry. The less steep southern bank supports predominantly upland vegetation, including valley oak, interior live oak (*Quercus wislizeni*), California wild grape (*Vitis californica*), common chickweed (*Stellaria media*), prickly lettuce (*Lactuca serriola*), smallflowered miner's lettuce (*Claytonia perfoliata*), cut-leaf geranium (*Geranium dissectum*), dove weed (*Croton setigerus*), western bittercress (*Cardamine oligosperma*), bedstraw (*Galium aparine*), and nonnative annual grasses such as wild oats (*Avena barbata*, *A. fatua*) and hare barley (*Hordeum murinum* ssp. *leporinum*). The bank south of South Honcut Creek supports several valley oaks in the overstory with primarily annual grasses and some forbs in the understory.

### **Roadside Ditch**

Roadside ditches occur along both sides of SR 70 throughout most of the study area. The ditches appear to primarily convey stormwater flows from the road. Several small irrigation ditches perpendicular to the roadside ditches convey stormwater and agricultural runoff from the surrounding uplands. Vegetative cover within the ditches varied between dense and absent. When present, vegetation in the ditches was primarily composed of upland species, although a few facultative species (i.e., equally likely to occur in wetlands or uplands) were observed. Species in the ditches include Johnson grass (*Sorghum halepense*), tumbleweed (*Amaranthus albus*), wild radish (*Raphanus sativus*, *R. raphanistrum*), mallow (*Malva neglecta*, *M. nicaeensis*), dove weed, Italian ryegrass (*Festuca perennis*), wild oats, field mustard (*Brassica rapa*), prickly lettuce, canary grass (*Phalaris paradoxa*), annual blue grass (*Poa annua*), Russian thistle (*Salsola tragus*), and vervain (*Verbena hastata*).

### **Ruderal**

The ruderal cover type characterizes fallow fields, vegetated strips that are at least 20 feet wide and adjacent to roadside ditches, and unmaintained vegetated areas next to buildings. Orchard was recently removed from a plowed area west of SR 70 on the north side of Boyer Road, approximately 0.3 mile south of Shauna Way. This area was mapped as a ruderal cover type based on the assumption that it would be fallow long enough for colonization of ruderal plant species. Ruderal areas support nonnative annual grasses and forbs. Species in the ruderal cover type include field mustard, mallows, wild radish, wild oats, ripgut brome (*Bromus diandrus*), common knotweed (*Polygonum aviculare*), burclovers (*Medicago* spp.), filarees (*Erodium* spp.), henbit (*Lamium amplexicaule*), shepherd's purse (*Capsella bursa-pastoris*), dove weed, rattail fescue (*Festuca myuros*), hare barley, field madder (*Sherardia arvensis*), vetch (*Vicia sativa*, *V. villosa*), hedge parsley (*Torilis arvensis*), and rose clover (*Trifolium hirtum*). Trees that occur along the roadside in the ruderal cover type include English walnut (*Juglans regia*), interior live oak, and valley oak. Many of these trees are of mature size.

Because ruderal areas typically are disturbed on a regular basis by human activity, they provide low-quality habitat for wildlife. While soaring raptors may use larger fields of ruderal habitat for foraging, the narrow strips of ruderal between the roadway and orchard, or bordering roadside ditches, are unlikely to provide foraging habitat because they are too narrow and adjacent to orchard and large trees which provide cover for their prey base, or too close to the roadway.

### **Orchard**

Almond (*Prunus dulcis*), English walnut, peach (*Prunus persica*), and prune (*Prunus* sp.) orchards are locally common along the portion of SR 70 north of Marysville. The understory, vegetated strips between rows of trees, and edges of the field surrounding the trees consists mostly of ruderal herbaceous vegetation, including the plant species found in the ruderal cover type. Several irrigation ditches drain from the orchards to the roadside ditches.

Orchards are typically planted on deep fertile soils that supported diverse and productive natural habitats in the past. Orchards can provide shade or water, if irrigated, for wildlife.

### **Landscaped**

The landscaped cover type is associated with residences and other buildings in the study area. Mapping of rural residential areas include the buildings within the landscaped area where the buildings or closely clustered buildings are smaller than approximately 5,000 square feet. Plant species in this cover type are consistent with landscaping, lawns, and unmanicured ruderal fringes. Several horticultural escapees occupy this habitat. Species in these areas include Bermuda grass (*Cynodon dactylon*), field mustard, wild radish, mallows, filarees, wild oats, hare barley, ripgut brome, henbit, field madder, kickxia (*Kickxia elatine*), pineapple weed (*Matricaria discoidea*), Bermuda butter-cup (*Oxalis pes-caprae*), dandelion (*Taraxacum officinale*), and periwinkle (*Vinca major*). One area mapped as the landscaped cover type is located in front of a residence and includes a grove of interior live and valley oaks growing among walnut tree snags.

Because landscaped areas typically are disturbed on a regular basis by human activity, they provide low-quality habitat for wildlife.

### **Developed**

The developed cover type includes large residential and commercial buildings such as rural residences and associated outbuildings, a mobile home park, a restaurant, and several fruit dryers. There are paved and/or graveled surfaces associated with these buildings throughout the survey area. This cover type also includes the roads that intersect with SR 70 in the study area and unvegetated roadside pullouts. Developed areas may be temporarily occupied by wildlife species but do not provide suitable habitat.

### **Wildlife Corridors**

No migration corridors were identified in the study area. The closest natural landscape blocks are the Sutter Buttes area to the west and the Browns Valley area to the east. Although no wildlife movement corridors were identified, orchards along the study area provide cover for mammal and bird movement. In addition, the section of SR 70 that is roughly between Noble Road and Magnolia Road is the closest (i.e., less than 1 mile away) to the Feather River and provides a wide swath of orchard cover through which wildlife can disperse. A 7-foot by 8-foot reinforced concrete box culvert is just south of South Honcut Creek in the northernmost orchard in the study area. This culvert is not associated with a hydrologic feature, but instead serves as highway crossing for orchard equipment, and may also provide opportunities for animals to cross under SR 70.

#### **2.3.1.3 Environmental Consequences**

##### **No Build Alternative**

Under the no build alternative, no construction would take place. Therefore there would be no impacts to vegetation or wildlife species in the study area.

## **Build Alternatives**

### **Valley Foothill Riparian**

Project construction would encroach on the upland valley foothill riparian habitat in the study area, resulting in permanent impacts. No direct impacts on the riparian habitat at South Honcut Creek are anticipated. Impacts associated with SR 70 widening were considered to be permanent if they would result in the removal of woody riparian vegetation. Impacts were considered to be temporary if only herbaceous vegetation was affected during construction and the area would be restored after project completion. Tree removal in riparian habitat would be considered a permanent impact because of the time required for maturation of planted trees in restored areas. Table 2.3.1-2 summarizes the impacts on valley foothill riparian habitat.

**Table 2.3.1-2. Impacts on Valley Foothill Riparian by Alternative**

Natural Community Type	Alternative 1	Alternative 2
	Permanent (acres)	Permanent (acres)
Valley Foothill Riparian	0.24	0.47

State and federal agencies will require avoidance, minimization, and compensatory mitigation for the loss of riparian habitat. The loss or disturbance of riparian vegetation is considered adverse because this vegetation provides a variety of important ecological functions and values. Implementation of the avoidance and minimization efforts described below would minimize the impacts on valley foothill riparian habitat.

### **Wildlife Corridors**

The proposed project would result in a wider road for animals to cross. The wider road would be more of a barrier to wildlife movement because it would be more difficult to cross safely. This wider road has the potential to increase the number of animals killed from vehicle strikes, which could affect the local or regional population of common or special-status animals that move or migrate through the project area.

Removal or extension of the culvert could temporarily restrict animals from crossing under SR 70 at this location. The presence of construction personnel and equipment, and noise and activity associated with construction could cause wildlife that normally use the culvert for movement to avoid it temporarily. However, the bridge over South Honcut Creek provides an alternate crossing outside the work area and within 200 feet of the culvert (north of the levee), which also provides more opportunities for cover, forage and water. Because the work would be temporary, this impact is not likely to substantially affect the local or regional population of common or special-status animals that move or migrate through the project area.

#### **2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures**

In addition to the water quality BMPs and project SWPPP, Caltrans will install fencing and/or flagging to protect sensitive biological resources. Prior to construction, high-visibility orange construction fencing and/or flagging will be installed along the perimeter of the work area adjacent to Environmentally Sensitive Areas (ESAs) (e.g., wetlands, special-status species

habitat, and active bird nests). Where specific buffer distances are required for sensitive biological resources (e.g., special-status species habitats and active bird nests), they will be specified under the corresponding measures identified below. The final construction plans will show the locations where fencing will be installed. The fencing will be maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. Additional avoidance and minimization measures may be agreed upon during the future permitting phase.

No measures to avoid or minimize potential impacts on wildlife dispersal and migration corridors are proposed. No compensatory mitigation for potential impacts on wildlife dispersal and migration corridors is proposed. The permanent impacts can potentially be mitigated for by placing oversized culverts that could be used by wildlife as highway crossings between high areas of observed crossings and roadkill, such as between Noble Road and Magnolia Road. As well, the large box culvert will continue to act as a potential crossing for wildlife species.

The following measures would apply to the valley foothill riparian community. Disturbed soils will be treated with an erosion control seed mixture, as described in BIO-4, described below in Section 2.3.6.4.

#### **BIO-1: Compensate for Impacts on Valley Foothill Riparian**

The permanent loss of valley foothill riparian habitat will be offset by one of the following options: planting native riparian species at an onsite or offsite location, or contribution to USACE's in-lieu fee programs, such as planting. Replacement plantings for riparian habitat may be installed onsite and/or at offsite locations. Disturbed soils will be treated with an erosion control seed mixture, as described in BIO- 4 below.

#### **2.3.1.5 References**

Baldwin, B.G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, second edition. Berkeley, CA: University of California Press.

California Department of Transportation. 2018. Natural Environment Study. Yuba 70 Safety Project. September.



## **2.3.2 Wetlands and Other Waters**

### **2.3.2.1 Regulatory Setting**

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

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

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no

practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

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

### **2.3.2.2 Affected Environment**

A delineation of aquatic resources in the study area was conducted on January 25–27 and February 4, 2016. Additional delineation fieldwork was conducted in the study area on December 28, 2016. The delineation was conducted using the routine onsite determination method described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the supplemental procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008).

Other waters of the United States were evaluated in the field for meeting the definition of nonwetland waters in accordance with indicators and guidance in USACE Regulatory Guidance Letter No. 05-05, dated December 7, 2005 (U.S. Army Corps of Engineers 2005), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region* (Lichvar and McColley 2008). Methods and standards conform to the USACE Sacramento District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (U.S. Army Corps of Engineers 2016a) and *Revised Map and Drawing Standards for the Pacific Division Regulatory Program Delineations* (U.S. Army Corps of Engineers 2016b).

The only water of the United States that occurs in the study area is riparian wetland.

## **Riparian Wetland**

A low-lying, broadly U-shaped area extends to both sides of SR 70 approximately 2 miles south of the northern end of the study area (Figure 2.3-1, sheet 6 of the NES). Culverts under SR 70 connect the two sides of the wetland. On the west side of SR 70, this feature is incised to approximately 7 feet deep and flows into a catchment basin between orchards. The feature flows west to the levee surrounding the survey area. Historic topographic maps from 1895 and 1912 (U.S. Geological Survey 2017) do not show a direct connection between this feature and the Feather River before the current river levee was built. This area supports a riparian wetland habitat that transitions to upland riparian habitat along the banks of the historical drainage. Tree species in the riparian wetland include valley oak (*Quercus lobata*), black walnut (*Juglans hindsii*), and Fremont cottonwood (*Populus fremontii*). There is a shrubby understory consisting of California rose (*Rosa californica*). Herbaceous vegetation in the wetland is mainly torrent sedge (*Carex nudata*), with small populations of iris-leaf rush (*Juncus xiphioides*) and spreading rush (*J. patens*). Other associated species include cocklebur (*Xanthium strumarium*) and mugwort (*Artemisia douglasiana*). The section of this feature on the east side of SR 70 is almost entirely vegetated by Himalayan blackberry (*Rubus armeniacus*).

### **2.3.2.3 Environmental Consequences**

#### **No Build Alternative**

Under the no build alternative, no construction would take place. Therefore there would be no impacts to wetlands in the study area.

#### **Build Alternatives**

Project construction would encroach on the riparian wetland in the study area, resulting in both permanent and temporary impacts. Impacts associated with SR 70 widening were considered to be permanent if they would result in the placement of permanent fill in the riparian wetland. All temporarily disturbed areas of the riparian wetland would be restored to pre-project contours and conditions.

Table 2.3.2-1 summarizes the impacts on riparian wetlands for the two build alternatives.

**Table 2.3.2-1. Impacts on Riparian Wetland by Alternative**

Feature Type	Alternative 1	Alternative 2
	Permanent (acres)	Permanent (acres)
Riparian Wetland	0.58	0.82

USACE and EPA consider wetlands and stream habitats important for water quality and wildlife. Waters of the United States and waters of the State are regulated by USACE and the RWQCBs, respectively. State and federal agencies will require avoidance, minimization, and compensatory mitigation for the loss of riparian wetland habitat. The loss or disturbance of riparian wetland is considered adverse because this wetland type provides a variety of important ecological functions and values. Implementation of the avoidance and minimization efforts described below

would minimize the impacts on riparian wetlands. Additional mitigation is proposed to compensate for the permanent loss of riparian wetlands.

#### **2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures**

In addition to the water quality BMPs and project SWPPP, Caltrans will install fencing and/or flagging, as described in Section 2.3.1.4 above, to ensure that the proposed project minimizes effects on wetlands in and adjacent to the designated work area and BIO-2 (described below) to compensate for the loss of riparian wetland. Additional avoidance and minimization measures may be agreed upon during the future permitting phase.

##### **BIO2: Compensate for Impacts on Riparian Wetland**

The permanent loss of riparian wetland will be offset by mitigation determined during the permitting phase of this project. Measures to offset this loss may include one of the options listed in BIO-1 above. Disturbed soils will be treated with an erosion control seed mixture, as described in BIO-4 below.

#### **2.3.2.5 References**

California Department of Transportation. 2018. Natural Environment Study. Yuba 70 Safety Project. September.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. (Technical Report Y-87-1.) Vicksburg, MS: U.S. Army Waterways Experiment Station.

U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter 05-05. Ordinary High Water Mark (OHWM) Identification. December 7, 2005.

U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (Version 2.0). J. S. Wakeley, R. W. Lichvar, and C.V. Noble (eds.). ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers. 2016a. Minimum Standards for Acceptance of Aquatic Resources Delineation Reports, with Template. January. Available: [http://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimumstandards/Minimum\\_Standards\\_for\\_Delineation\\_with\\_Template-final.pdf](http://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimumstandards/Minimum_Standards_for_Delineation_with_Template-final.pdf). Accessed: March 2016.

U.S. Army Corps of Engineers. 2016b. Updated Map and Drawing Standards for the South Pacific Division Regulatory Program. February 10. Available: <http://www.spd.usace.army.mil/Portals/13/docs/regulatory/standards/MapStand020816.pdf>.

U.S. Geological Survey. 2017. TopoView Historical Topographic Map Collection. Marysville-1:125,000 USGS Quad-1895 and Honcut 1:31,680 USGS Quad-1912. Available: <https://ngmdb.usgs.gov/maps/TopoView/viewer/#12/39.2313/-121.5371>. Accessed: March 22, 2017.

### **2.3.3 Plant Species**

#### **2.3.3.1 Regulatory Setting**

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section 2.3.5 in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

#### **2.3.3.2 Affected Environment**

Botanical surveys in the study area were also conducted on December 28, 2016, and January 26, 2017; however, they did not coincide with the identification periods of special-status plants identified as having potential to occur in the project region. A botanist walked accessible parcels that had areas of natural vegetation, parts of the ROW in and adjacent to undeveloped parcels, and visually surveyed inaccessible residential parcels from the ROW.

#### ***Non-Listed Special-Status Plants***

Table 2.3.3-1 includes non-listed special-status plant species that are known to occur or have the potential to occur in the geographic region (i.e., within 5 miles of the study area). These species were identified based on the CNDDDB records search (California Department of Fish and Wildlife 2018) and the CNPS Inventory of Rare and Endangered Plants (2018), and species distribution and habitat requirements data. Special-status plant species discussed in this section are legally protected under FESA, CESA, or other regulations, and species that are considered sufficiently

rare by the scientific community to qualify for such listing. Special-status plants are those species in any of the categories listed below:

- Species that are candidates for possible future listing as threatened or endangered under FESA (81 FR 87246, December 2, 2016).
- Species proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4 (California Native Plant Society 2018).

Ten non-listed special-status plant species were identified as potentially occurring within 5 miles of the study area based on the CNDDDB search results (California Department of Fish and Wildlife 2018) and the CNPS Inventory (California Native Plant Society 2018) for the project region (Table 2.3.3-1). Nine of these species have habitat or microhabitat requirements (e.g., valley and foothill grassland; vernal pools; perennial marsh in rivers, sloughs, or streams; serpentine, alkaline, or clay soils; rocky roadsides) that are not present in the study area, or they occur at higher elevations than the study area, which ranges from approximately 60 to 90 feet above mean sea level. Three of these species are recorded in the CNDDDB as occurring in or near the study area (Ferris' milk-vetch [*Astragalus tener* var. *ferrisiae*], recurved larkspur [*Delphinium recurvatum*], and veiny monardella [*Monardella venosa*]), although these records are historical (i.e., from the 1800s), have unspecific locations, and were located in habitat that has been developed or altered. There is potential habitat for veiny monardella in the valley foothill riparian and riparian wetland habitats in the study area. Veiny monardella was previously identified as having potential habitat in the valley foothill riparian and riparian wetland habitats present in the project area. After evaluating the species lists and the quality of habitat present in the project area, this plant is not anticipated to occur in the project area.

No special-status plants have been previously reported in the study area and none were observed in the study area during the December 28, 2016 and January 26, 2017 field surveys. Overall, the study area has a low potential to support special-status plants due to the historic and on-going modifications of habitat.

### **Native Oak Trees**

Oak trees in the riparian wetland and valley foothill riparian areas are protected as part of the overall riparian habitat and may be regulated by CDFW, and are addressed in the discussion of those communities in Sections 2.3.1 and 2.3.2.

**Table 2.3.3-1. Special-Status Plant Species with Potential to Occur in the Vicinity of the Yuba 70 Safety Project Study Area**

Common Name (Scientific Name)	Status <sup>a</sup> Federal/ State/ CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Ferris' milk-vetch ( <i>Astragalus tener</i> var. <i>ferrisiae</i> )	—/—/1B.1	Historical range included the Central Valley from Butte to Solano County but currently only occurs in Butte, Glenn, Colusa, Sutter, and Yolo Counties. Seasonally wet areas in meadows and seeps, subalkaline flats in valley and foothill grassland; 2–75 meters.	April– May	Habitat absent	No suitable habitat in study area. Nearest recorded occurrence is ~1.5 miles southwest of the study area, but was last observed in 1891.
Depauperate milk-vetch ( <i>Astragalus pauperculus</i> )	—/—/4.3	Chaparral, cismontane woodland, valley and foothill grassland. Vernal mesic, volcanic.	March– June	Habitat absent	No suitable habitat in study area. Nearest recorded occurrence is more than 10 miles from the study area.
Sierra foothill Brodiaea ( <i>Brodiaea sierra</i> )	—/—/4.3	Sierra Nevada foothills. Usually serpentine or gabbroic, chaparral, cismontane woodland, lower montane coniferous forest.	May– August	Habitat absent	No suitable habitat in study area. Nearest recorded occurrence is more than 10 miles from the study area.
Brandeggee's clarkia ( <i>Clarkia biloba</i> ssp. <i>brandeggeeae</i> )	—/—/4.2	Northern Sierra Nevada Foothills from Butte to El Dorado Counties. Chaparral, cismontane woodland, lower coniferous forest, often on roadcuts; 75–915 meters.	May– July	Habitat absent	No suitable habitat in study area, and study area is below the known elevational range. Nearest recorded occurrence is more than 10 miles from the study area.
Recurved larkspur ( <i>Delphinium recurvatum</i> )	—/—/1B.2	Central Valley from Colusa (extirpated) to Kern Counties. Alkaline soils in valley and foothill grassland, saltbush scrub, cismontane woodland; 3–790 meters.	March– June	Habitat absent	No suitable soils mapped in study area. Nearest recorded occurrence is ~1.5 miles southwest of the study area, but was last observed in 1900 and presumed extirpated due to development.
Dwarf downingia ( <i>Downingia pusilla</i> )	—/—/2B.2	Central Valley. Vernal pools and mesic valley and foothill grasslands; below 445 meters.	March– May	Habitat absent	No suitable habitat in study area. Nearest recorded occurrence is ~6.75 miles southeast of the study area.
Ahart's dwarf rush ( <i>Juncus leiospermus</i> var. <i>ahartii</i> )	—/—/1B.2	Eastern Sacramento Valley, northeastern San Joaquin Valley with occurrences in Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba Counties. Wet areas in valley and foothill grassland, vernal pool margins; 30–229 meters.	March– May	Habitat absent	No suitable habitat in study area. Nearest recorded occurrence is more than 10 miles from the study area.

Common Name (Scientific Name)	Status <sup>a</sup> Federal/ State/ CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Legenere ( <i>Legenere limosa</i> )	—/—/1B.1	Primarily in the lower Sacramento Valley, also from north Coast Ranges, northern San Joaquin Valley and the Santa Cruz Mountains. Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks; below 880 meters.	April–June	Habitat absent	No suitable habitat in study area ditches. Nearest recorded occurrences are ~6.5 miles southeast of the study area.
Veiny monardella ( <i>Monardella venosa</i> )	—/—/1B.1	Occurrences in the northern and central Sierra Nevada Foothills; also historically known from the Sacramento Valley. Cismontane woodland, valley and foothill grassland on heavy clay soils; 60–410 meters.	May–July	Habitat present	Suitable habitat in riparian areas in study area. Nearest recorded occurrence is within the study area, but was last observed in 1854, and is most likely extirpated.
Sanford's arrowhead ( <i>Sagittaria sanfordii</i> )	—/—/1B.2	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; below 650 meters.	May–October	Habitat absent	No suitable habitat in study area ditches. Nearest recorded occurrence is ~7.6 miles northwest of the study area.

Sources: California Native Plant Society 2018; California Department of Fish and Wildlife 2018.

Absent = no habitat present and no further work needed.

Habitat Present = habitat is, or may be present. The species may be present.

<sup>a</sup> Status explanations:

**Federal**

— = No listing status.

**State**

— = No listing status.

**California Rare Plant Rank (CRPR)**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

4 = List 4 species: limited distribution; species on a watch list.

.1 = Seriously endangered in California (over 80% of occurrences threatened—high degree and immediacy of threat).

.2 = Fairly endangered in California (20–80% occurrences threatened).

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

### 2.3.3.3 Environmental Consequences

#### No Build Alternative

Under the no build alternative, no construction would take place. Therefore there would be no impacts to plant species in the study area.



## **Build Alternatives**

### **Non-Listed Special-Status Plants**

The study area has low potential to support non-listed special-status plants, surveys during the appropriate identification periods have been conducted to confirm whether special-status plants are absent from the study area or, if present, determine whether there would be project impacts on these species.

### **Native Oak Trees**

The proposed project would result in the removal of native oak trees in riparian wetland and valley foothill riparian natural communities. These native trees are regulated as part of the overall riparian habitat that may fall within CDFW jurisdiction, and impacts would be addressed and compensated as part of the permitting process for riparian habitat. The build alternatives would also remove as many as 74 mature oak trees that grow in landscaped areas or in ruderal habitat along the ROW. There is no required mitigation for these individual trees.

#### **2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures**

Caltrans will install fencing and/or flagging, as described in Section 2.3.1.4 above, and implement BIO-1 and BIO-2 to ensure that the proposed project minimizes effects on special-status plant habitat in and adjacent to the designated work area. No compensatory mitigation will be required.

#### **2.3.3.5 References**

California Department of Fish and Wildlife. 2018. California Natural Diversity Database.

RareFind 5. Sacramento, CA. Search of 7.5-minute Bangor, Biggs, Browns Valley, Gridley, Honcut, Loma Rica, Olivehurst, Palermo, Sutter, Wheatland, and Yuba City quadrangles. Sacramento CA. Accessed: June 20, 2018.

California Department of Transportation. 2018. Natural Environment Study. Yuba 70 Safety Project. September.

California Native Plant Society. 2018. Inventory of Rare and Endangered Plants (Online Edition). Search of the Bangor, Biggs, Gridley, Honcut, Loma Rica, Olivehurst, Browns Valley, Palermo, Sutter, Wheatland, and Yuba City USGS 7.5-minute Quadrangles. Available: <<http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>>. Accessed: June 20, 2018.

## **2.3.4 Animal Species**

### **2.3.4.1 Regulatory Setting**

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.3.5 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

### **2.3.4.2 Affected Environment**

#### **Non-Listed Special-Status Animals**

A wildlife biologist conducted a reconnaissance-level field survey of the study area on December 28, 2016. This survey focused on evaluating land cover types in the study area and determining their suitability to support special-status animal species. The wildlife biologist drove the project corridor and walked portions of the study area where permission to access had been obtained, making notes on the types and suitability of habitat present, and recording any wildlife species observed.

Table 2.3.4-1 includes non-listed special-status animal species that are known to occur or have the potential to occur in the geographic region (i.e., within 5 miles of the proposed project). These species were identified based on the CNDDDB records search (California Department of Fish and Wildlife 2018), and species distribution and habitat requirements data. Non-listed special-status animal species discussed in this section are legally protected under FESA, CESA, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. Non-listed special-status animals are those species in any of the categories listed below:

- Species that are candidates for possible future listing as threatened or endangered under FESA (81 FR 87246, December 2, 2016).
- Species proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Animal species of special concern to CDFW (California Department of Fish and Wildlife 2018c).
- Animals fully protected in California (CFGC Section 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).

Based on the CNDDDB search results (California Department of Fish and Wildlife 2018), seven non-listed special-status wildlife species were identified as occurring or having the potential to occur in the project region (Table 2.3.4-1). After a review of species distribution and habitat requirements data, and the field survey, it was determined that three of the seven species would not occur in the study area because it lacks suitable habitat for the species or is outside the species' known range. It was determined that four of the seven species have potential foraging habitat in the study area. However, due to the limited scope of the project construction, only one of the four species, northern harrier, was considered to potentially occur in the study area.

### Northern Harrier

Northern harrier is a California species of special concern. Northern harrier is a year-round resident throughout the Central Valley and is often associated with open grassland habitats and agricultural fields. Nests are found on the ground in tall, dense herbaceous vegetation (Smith et al. 2011). Northern harrier nests from April to September, with peak activity in June and July. The breeding population has been reduced, particularly along the southern coast, through the destruction of wetland habitat, native grassland, and moist meadows and through the burning and plowing of nesting areas during early stages of breeding (Zeiner et al. 1990a:124).

Focused surveys for northern harrier were not conducted; however, a northern harrier was observed foraging over fallow and plowed fields and flying over SR 70 between Boyer Road and Shauna Way during the December 28, 2016, field survey. No CNDDDB records exist for northern harrier within 10 miles of the study area (California Department of Fish and Wildlife 2018). Northern harriers could nest in fallow and weedy ruderal fields that have tall and dense vegetation, and could forage in fallow, ruderal, and plowed areas throughout the study area. Ruderal patches are scattered throughout the study area; many are surrounded by landscaped, developed, and orchard cover types. Narrow ruderal swaths that border the roadway between orchard and roadside ditches are not considered suitable foraging habitat for northern harrier. A few ruderal patches in the study area provide connectivity with six larger foraging patches, including: north of Saddleback Drive, east of SR 70 (Figure 2.3-1, sheet 23 of the NES); the north side of Woodruff Lane (Figure 2.3-1, sheet 17 of the NES); east of construction station 397 (Figure 2.3-1, sheets 11 and 12 of the NES); north of Boyer Road on both sides of the roadway (Figure 2.3-1, sheets 9 and 10 of the NES); north of the riparian wetland, east of SR 70 (Figure

2.3-1, sheet 6 of the NES); and south of Sparrow Lane, west of SR 70 (Figure 2.3-1, sheet 4 of the NES).

### Migratory Birds

Non-special-status migratory birds, including raptors, have the potential to nest in trees, shrubs, and ground vegetation in the study area. These generally common species are locally and regionally abundant. The breeding season for most birds is generally from February 1 to August 31. Some birds could nest in the culvert south of South Honcut Creek within the study area.

The habitat-based field survey was conducted outside the breeding season for most birds, and a focused survey for nest structures was not conducted. Remnants of a mud cup nest structure were attached to the wall of the culvert south of South Honcut Creek during the December 28, 2016, field survey. Suitable nesting habitat for migratory birds is present within the valley foothill riparian, riparian wetland, ruderal, orchard, developed, and landscaped land cover types in and adjacent to the study area.

**Table 2.3.4-1. Non-Listed Special-Status Wildlife with Potential to Occur in the Vicinity of the Yuba 70 Safety Project Study Area**

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
<b>Invertebrates</b>				
California linderiella <i>Linderiella occidentalis</i>	—/—/—	Vernal pools in the Central Valley.	Absent	No suitable rain-filled ephemeral pools are present in the study area. The nearest CNDDDB occurrence is 6.6 miles from the study area.
<b>Reptiles</b>				
Western pond turtle <i>Emys marmorata</i>	—/SSC/—	Occurs throughout California west of the Sierra-Cascade crest. Found from sea level to 6,000 feet. Does not occur in desert regions except for along the Mojave River and its tributaries. Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	Absent	The riparian wetland in the study area does not provide suitable aquatic habitat and is too far from a perennial waterbody to provide suitable nesting habitat. The nearest CNDDDB occurrence is 6.2 miles from the study area in Butte County.

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
<b>Birds</b>				
Northern harrier <i>Circus cyaneus</i>	–/SSC/–	Occurs throughout lowland California. Has been recorded in fall at high elevations. Nests and forages in grasslands, meadows, marshes, and seasonal and agricultural wetlands.	Present	Observed foraging in the study area during the December 2016 field survey. This species could forage in ruderal, fallow, and plowed fields in the study area. Low likelihood of nesting in these same fields. The nearest CNDDDB occurrence is in Yuba County 10.2 miles from the study area.
Burrowing owl <i>Athene cunicularia</i>	–/SSC/–	Lowlands throughout south, central, and east California, including the Central Valley, northeastern plateau, southeastern deserts, and some coastal areas. Rare along the south coast. Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows; also found in coastal terrace prairies and sagebrush habitats.	Habitat Present	Suitable foraging habitat is present in ruderal and fallow fields. No suitable burrows were observed associated with foraging habitat during the December 2016 field survey, however California ground squirrels were observed in the study area. The nearest CNDDDB occurrence is from 1906, 8.2 miles from the study area.
Tricolored blackbird <i>Agelaius tricolor</i>	–/C, SSC/–	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties. Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Habitat Present	Could forage in ruderal and fallow fields in the study area but nesting habitat is not present. The nearest CNDDDB occurrence is 0.3 mile from the study area in Yuba County; however, the 2014 update for this record did not observe any nesting for this species.

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
Modesto song sparrow <i>Melospiza melodia</i>	–/SSC/–	Found in the north-central portion of the Central Valley, from Butte Sink, Perkins and Eddy Lakes and Little Butte Creek in Butte County, Colusa and Delevan NWR, along the Sacramento River in Colusa and Sutter Counties, west of Tisdale in Sutter County, northern San Joaquin Valley in the Delta, and sparsely along the Mokelumne River riparian corridor. Breeds in emergent freshwater wetlands (tules and cattails) and early successional riparian thickets (willows). May also use sparsely vegetated irrigation canals and levees, and valley oak riparian forests with blackberry understory for breeding. Can be found singing or foraging along roadside irrigation ditches. Requires moderately dense vegetation for nest site cover, semi-open canopies, and open ground or leaf litter for foraging.	Habitat Present	Could forage in the riparian wetland in the study area but nesting habitat is not present. The nearest CNDDDB occurrence is a historic record in Yuba County 0.9 mile from the study area.
<b>Mammals</b>				
North American porcupine <i>Erethizon dorsatum</i>	–/–/–	Wide variety of coniferous and mixed woodland habitat in the Sierra Nevada, Cascade, and Coast Ranges.	Absent	There are no continuous patches of woodland in the study area. The nearest CNDDDB occurrence is 6 miles from study area in Butte County; collected in 1976.

<sup>a</sup> Status explanations:

**Federal**

– = no listing.

**State**

CT = candidate for listing as threatened under CESA.

SSC = species of special concern in California.

– = no listing.

<sup>b</sup> Habitat designations:

Absent = no habitat present and no further work needed.

Habitat Present = habitat is, or may be present. The species may be present.

Present = the species is present.

### 2.3.4.3 Environmental Consequences

#### No Build Alternative

Under the no build alternative, no construction would take place. Therefore there would be no impacts to special-status species in the study area.

## **Build Alternatives**

### **Non-Listed Special-Status Species**

Due to the limited scope of the project construction, northern harrier is the only non-listed special-status species considered to potentially or be affected by the proposed project. Construction activities would occur during the northern harrier nesting season (March through August) and could result in the disturbance of nesting and foraging northern harrier. Construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The proposed project would also result in permanent impacts on potential northern harrier nesting and foraging habitat, which is summarized below in Table 2.3.4-2. Construction of the proposed project would result in direct permanent impacts on suitable nesting and foraging habitat (ruderal habitats) for northern harrier.

**Table 2.3.4-2. Impacts on Northern Harrier Habitat**

Habitat Type	Alternative 1	Alternative 2
	Permanent (acres)	Permanent (acres)
<b><i>Nesting and Foraging Habitat</i></b>		
Ruderal	12.23	13.62
<b>Total Impact</b>	<b>12.23</b>	<b>13.62</b>

### **Migratory Birds**

Tree removal and trimming is expected to occur for construction of the proposed project. Clearing of ruderal vegetation, where ground nesting birds may be present, may also occur. Construction to extend the concrete box culvert south of Honcut Creek to accommodate widening or demolition of structures within the right-of-way, where structure nesting birds may be present, would likely also occur. Construction activities would occur during the nesting season of migratory birds (generally February 1 through August 31) and could result in the possible injury to nesting birds. Removal or destruction of nests or construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

The occupied nests and eggs of migratory birds are protected by federal and state laws, including the MBTA and CFGC Sections 3503 and 3503.5. USFWS is responsible for overseeing compliance with the MBTA, and CDFW is responsible for overseeing compliance with the CFGC and making recommendations on nesting bird protection. Impacts on nesting migratory birds would be an adverse effect.

#### **2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures**

ESA fencing as described in Section 2.3.1.4 above, if an active nest is found, and BIO-3 (described below) will be implemented to avoid and minimize impacts on northern harrier and other nesting birds. Additionally, temporarily disturbed ruderal lands that provide suitable foraging habitat for northern harrier will be restored to pre-project conditions or better through

implementation of BIO-4 (described below). No compensatory mitigation is proposed for project impacts on northern harrier or migratory birds.

**BIO-3: Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds, Including Special-Status Birds**

In accordance with the MBTA, vegetation removal (including trees and ruderal vegetation) will occur during the non-breeding season for most migratory birds (generally between September 1 and January 31). If vegetation cannot be removed between September 1 and January 31, the area where vegetation will be removed will be surveyed for nesting birds, as discussed below.

- If construction activities are expected to begin during the nesting season for birds (generally February 1 through August 31), a qualified biologist will conduct nesting surveys within 14 days of the start of construction. Surveys will include a search of ruderal vegetation, and all trees and shrubs that provide suitable nesting habitat in the study area. If no active nests are detected during these surveys, no additional measures are required.
- If an active nest is found in the survey area, a no-disturbance buffer will be established around the site to avoid disturbance or destruction of the nest site until a qualified biologist determines that the young have fledged and moved out of the project. The extent of these buffers will be determined by the qualified biologist in coordination with CDFW and will depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

**2.3.4.5 References**

California Department of Fish and Wildlife. 2018. California Natural Diversity Database.

RareFind 5. Sacramento, CA. Search of 7.5-minute Bangor, Biggs, Browns Valley, Gridley, Honcut, Loma Rica, Olivehurst, Palermo, Sutter, Wheatland, and Yuba City quadrangles. Sacramento CA. Accessed: June 20, 2018.

California Department of Transportation. 2018. Natural Environment Study. Yuba 70 Safety Project. September. Zeiner, D. C., W. F. Laudenslayer, Jr., and K. E. Mayer (eds.). 1990. *California's Wildlife. Volume II: Birds*. California Statewide Wildlife Habitat Relationships System. Sacramento, CA: California Department of Fish and Game.



### **2.3.5 Threatened and Endangered Species**

#### **2.3.5.1 Regulatory Setting**

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

#### **2.3.5.2 Affected Environment**

As described in Sections 2.3.3.2 and 2.3.4.2, a botanist and wildlife biologist conducted a reconnaissance-level field survey of the study area on December 28, 2016 to evaluate land cover types in the study area and determining their suitability to support special-status plant and animal

species. In addition, the wildlife biologist conducted a focused survey for elderberry shrubs (*Sambucus* sp.), the host plant (habitat) for the valley elderberry longhorn beetle, on January 19 and 26, 2017. The wildlife biologist walked accessible parcels that had dense vegetation obscuring the view from SR 70, and those that had dense vegetation within the project ROW. Most of these areas occur on portions of parcels that are landscaped, or adjacent to developed lands. The ROW within inaccessible parcels was visually surveyed from the road or road shoulder.

Tables 2.3.5-1 and 2.3.5-2 list threatened or endangered plant and wildlife species, respectively, that are known to occur or have the potential to occur in the geographic region (i.e., within 5 miles of the proposed project). These species were identified based on the CNDDDB records search (California Department of Fish and Wildlife 2018), the CNPS Inventory of Rare and Endangered Plants (2018), the USFWS and NMFS species lists (U.S. Fish and Wildlife Service 2018; National Marine Fisheries Service 2018), and species distribution and habitat requirements data. For the purpose of this report, special-status species are plants and animals that are legally protected under FESA, CESA, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. There is no Essential Fish Habitat (protected under the Magnuson-Stevens Fishery Conservation and Management Act) in the study area. Threatened and endangered plants and animals are those species in any of the categories listed below:

- Species listed or proposed for listing as threatened or endangered under FESA (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [FR] [proposed species]).
- Species listed by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5).
- Plants listed as rare under CNPPA (California Fish and Game Code 1900 et seq.).

### ***Threatened or Endangered Plant Species***

One endangered plant species, Hartweg's golden sunburst (*Pseudobahia bahiifolia*) was identified as potentially occurring in the study area vicinity based on the CNDDDB search results (California Department of Fish and Wildlife 2018), the CNPS Inventory (California Native Plant Society 2018), and the USFWS list (U.S. Fish and Wildlife Service 2018) for the project region (Table 2.3.3-1). This species is recorded in the CNDDDB as occurring in or near the study area, although these records are historical (i.e., from the 1800s), have unspecific locations, and were located in habitat that has been developed or altered. Hartweg's golden sunburst is considered extirpated from Yuba County, and now is only known to occur in the San Joaquin Valley (U.S. Fish and Wildlife Service 2007).

No threatened, endangered, or rare plants have been previously reported in the study area and none were observed in the study area during the December 28, 2016 and January 26, 2017 field surveys. Overall, the study area has a low potential to support threatened, endangered, or rare plants due to the historic and on-going modifications of habitat.

**Table 2.3.5-1. Threatened or Endangered Plant Species with Potential to Occur in the Vicinity of the Yuba 70 Safety Project Study Area**

Common Name (Scientific Name)	Status <sup>a</sup> Federal/ State/ CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Hartweg's golden sunburst ( <i>Pseudobahia bahiifolia</i> )	E/E/1B.1	Eastern side of Sacramento-San Joaquin Valleys and adjacent foothills, historically as far north as Yuba County; currently Fresno, Madera, Merced, Stanislaus, and Tuolumne Counties. Predominantly on northern slopes of rocky, bare areas along rolling hills, shady creeks, adjacent to vernal pools and streams, on heavy clay soils in valley and foothill grasslands and cismontane woodland; 15–150 meters	March–April	Habitat present	Marginal habitat in riparian wetlands in study area. Nearest recorded occurrence is within the study area, but was extirpated for development of Marysville and last observed in 1847. <i>No effect.</i>

Sources: California Native Plant Society 2018; California Department of Fish and Wildlife 2018.

Habitat Present = habitat is present in the study area.

<sup>a</sup> Status explanations:

**Federal**

E = Listed as endangered under the federal ESA.

**State**

E = Listed as endangered under CESA.

**California Rare Plant Rank (CRPR)**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

.1 = Seriously endangered in California (over 80% of occurrences threatened—high degree and immediacy of threat).

## Threatened or Endangered Wildlife Species

Based on the CNDDDB search results (California Department of Fish and Wildlife 2018), the USFWS list (U.S. Fish and Wildlife Service 2018), and the NMFS list (National Marine Fisheries Service 2018), 16 special-status wildlife species (including five fish) were identified as occurring or having the potential to occur in the project region (Table 2.3.5-2). After a review of species distribution and habitat requirements data, and the field survey, it was determined that 14 of the 16 species would not occur in the study area because it lacks suitable habitat for the species or is outside the species' known range. It was determined that one species, valley elderberry longhorn beetle, may occur in the study area or be affected by the proposed project; and one of the species, Swainson's hawk, has limited potential foraging and nesting habitat in the study area.

### Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is federally listed as threatened. The presumed historical range and current range of valley elderberry longhorn beetle extends from Tehama County south to Fresno County through California's Central Valley and associated foothills from about the 3,000-foot contour on the east and the watershed of the Central Valley on the west (79 FR 55881-55884; U.S. Fish and Wildlife Service 1999:1). Valley elderberry longhorn beetle is dependent on its host plant, elderberry, which is a common component of riparian corridors and adjacent upland areas in the Central Valley (Barr 1991:5).

Valley elderberry longhorn beetle has four stages of life: egg, larva, pupa, and adult. Females deposit eggs on or adjacent to the host elderberry. Egg production varies; females have been observed to lay between 16 and 180 eggs. Eggs hatch within a few days of being deposited. Larvae emerge and bore into the wood of the host plant, creating a long feeding gallery in the pith of the elderberry stem. The larvae feed on the pith of the plant for 1 to 2 years. When a larva is ready to pupate, it chews an exit hole to the outside of the stem and then plugs it with frass. The larva then retreats into the feeding gallery and constructs a pupal chamber from wood and frass. The larvae metamorphose between December and April; the pupal stage lasts about a month. The adult remains in the chamber for several weeks after metamorphosis and then emerges from the chamber through the exit hole. Adults emerge between mid-March and mid-June, the flowering season of the plant. Adults feed on elderberry leaves and mate within the elderberry canopy (Talley et al. 2006:7–9).

The study area was evaluated for valley elderberry longhorn beetle and its habitat in accordance with the USFWS's *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)* (Framework) (U.S. Fish and Wildlife Service 2017). The study area is located within the current range of valley elderberry longhorn beetle. The closest CNDDDB occurrence of valley elderberry longhorn beetle is 0.8 mile from the study area (California Department of Fish and Wildlife 2018). The study area is not within designated critical or essential habitat for valley elderberry longhorn beetle (U.S. Fish and Wildlife Service 1984).

An elderberry shrub cluster (E-1) was observed in a residential yard east of the existing SR 70 (Figures 2.3-1, Sheet 13 of the NES). The elderberry shrub cluster occurs in non-riparian habitat and the nearest riparian habitat is approximately 1 mile to the west along an un-named tributary to the Feather River. The nearest CNDDDB occurrence is approximately 2.1 miles northwest of the cluster (California Department of Fish and Wildlife 2018). The presence of additional elderberry shrubs beyond the study area but closer than the nearest riparian habitat could not be determined due to restricted access on adjacent private property; however, the area within 800 meters (2,526 feet) of the cluster consists of orchard, agricultural facilities, and rural residences. Based on a review of the Yuba City, California 7.5-minute USGS topographic quadrangle and historical aerial imagery available through Google Earth, the cluster does not appear to have once been continuous with a historical riparian corridor.

According to the Framework, because the elderberry cluster is in a non-riparian area, there are no exit holes, there are no known valley elderberry occurrences within 800 meters, the nearest riparian habitat is a mile away, and this area was not historically part of a riparian corridor, the elderberry shrub is not functionally providing habitat for the species.

### Swainson's Hawk

Swainson's hawk is a state-listed threatened species. Swainson's hawks forage in grasslands, grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Vineyards, orchards, rice, and cotton crops are generally unsuitable for foraging because of the density of the vegetation (California Department of Fish and Game 1992:41). The majority of Swainson's hawks winter in South America, although some winter in the United States. Swainson's hawks arrive in California in early March to establish nesting territories and breed (California

Department of Fish and Game 1994:5). They usually nest in large, mature trees. Most nest sites (87%) in the Central Valley are found in riparian habitats (Estep 1989:35), primarily because trees are more available there. Swainson's hawks also nest in mature roadside trees and in isolated trees in agricultural fields or pastures. The breeding season is from March through August (Estep 1989:12, 35).

Focused surveys for Swainson's hawk were not conducted in the study area. Six CNDDDB records exist for Swainson's hawk within 5 miles of the BSA (California Department of Fish and Wildlife 2018). The most recent record is from 2009 for a nest that is 3 miles east of the study area. The closest record is from 2004 for a nest that is 1 mile west of the study area. (California Department of Fish and Wildlife 2018). Swainson's hawks could nest in areas with mature trees in the study area, such as valley foothill riparian, riparian wetland, ruderal, and landscaped areas, and could forage in the larger adjacent ruderal areas (as described for northern harrier).

Table 2.3.5-2. Threatened or Endangered Wildlife Species with Potential to Occur in the Vicinity of the Yuba 70 Safety Project Study Area

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
<b>Invertebrates</b>				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/-/-	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, Placer, and Glenn Counties; Central Valley. Large, deep vernal pools in annual grasslands	Absent	No intact large, deep vernal pools in annual grasslands are present in the study area. The nearest CNDDDB occurrence is more than 10 miles from the study area in Placer County. <i>No effect.</i>
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/-/-	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County. Common in vernal pools and swales; also found in sandstone rock outcrop pools	Absent	No suitable rain-filled ephemeral pools are present in the study area. The nearest CNDDDB occurrence is 5.3 miles from the study area in Butte County. <i>No effect.</i>
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/-/-	Shasta County south to Tulare County, also found in San Francisco Bay National Wildlife Refuge. Vernal pools, swales, and ephemeral stock ponds containing highly turbid waters; also drainages, reservoirs, ditches, backhoe pits and compacted road ruts	Absent	No suitable rain-filled ephemeral pools are present in the study area. The nearest CNDDDB occurrence is 3.6 miles from the study area in Yuba County. <i>No effect.</i>
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/-/-	Stream side habitats below 3,000 feet throughout the Central Valley, along the American River, Putah Creek, and the Merced River; also found in the San Joaquin Valley. Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant	Habitat Present	One elderberry shrub cluster (host plant) is present in the study area and within the construction limit of the Alternative 1. The nearest CNDDDB occurrence is 0.8 mile from the study area in Yuba County. Per USFWS regulatory guidance (2017) this elderberry shrub would not be suitable habitat for VELB. <i>No effect.</i>
<b>Fish</b>				
Delta smelt <i>Hypomesus transpacificus</i>	T/E/-	Found primarily in the Sacramento–San Joaquin Estuary, but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay. Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand (Moyle 2002)	Absent	Study area is not located within the historical or current distribution of this species, and suitable habitat does not occur in the study area. Species is not expected to occur in the study area. The nearest CNDDDB occurrence is more than 10 miles from the study area. <i>No effect.</i>

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T/T/–	Upper Sacramento River and tributaries of Feather and Yuba Rivers. Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 5 to 19°C. Habitat types are riffles, runs, and pools. Coldwater pools are needed for holding adults (Moyle 2002).	Absent	No riverine habitat is present in the study area, and the riparian wetland habitat does not provide suitable habitat or connection to the Feather River. Species is not expected to occur in the study area. The nearest CNDDDB occurrence is 0.6 mile from the study area in Yuba County for the Feather River. <i>No effect.</i>
Central Valley steelhead <i>Oncorhynchus mykiss irideus</i>	T/–/–	Sacramento River and tributary Central Valley rivers downstream of physical barriers, including dams. Resident, non-listed forms (rainbow trout) occur upstream and downstream of physical barriers. Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8–18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	Absent	No riverine habitat is present in the study area, and the riparian wetland habitat does not provide suitable habitat or connection to the Feather River. Species is not expected to occur in the study area. The nearest CNDDDB occurrence is 0.6 mile from the study area in Yuba County for the Feather River. <i>No effect.</i>
Sacramento River winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	E/E/–	Mainstem Sacramento River below Keswick Dam (Moyle 2002); occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5 °C; habitat types are riffles, runs, and pools (Moyle 2002); adults and juveniles migrate in the lower Sacramento River and through the Delta.	Absent	No riverine habitat is present in the study area, and the riparian wetland habitat does not provide suitable habitat or connection to the Feather River. Species is not expected to occur in the study area. The nearest CNDDDB occurrence is more than 10 miles from the study area. <i>No effect.</i>
Green Sturgeon (southern DPS) <i>Acipenser medirostris</i>	T/SSC/–	Sacramento, Klamath, and Trinity Rivers (Moyle 2002). Spawns in large river systems with well-oxygenated water, with temperatures from 8.0 to 14°C.	Absent	No riverine habitat is present in the study area, and the riparian wetland habitat does not provide suitable habitat or connection to the Feather River. Species is not expected to occur in the study area. The nearest CNDDDB occurrence is more than 10 miles from the study area. <i>No effect.</i>

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
<b>Amphibians</b>				
California red-legged frog <i>Rana draytonii</i>	T/SSC/–	Found along the coast and coastal mountain ranges of California from Mendocino County to San Diego County and in the Sierra Nevada from Tehama County to Stanislaus County. Occur in permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Absent	No suitable perennial aquatic habitat is present within the study area. In addition, the species is believed by USFWS to be extirpated from the floor of the Central Valley (U.S. Fish and Wildlife Service 2002) and the study area would be considered part of the Sacramento Valley. The nearest CNDDDB occurrence is more than 10 miles from the study area in Yuba County. <i>No effect.</i>
<b>Reptiles</b>				
Giant garter snake <i>Thamnophis gigas</i>	T/T/–	Central Valley from the vicinity of Burrell in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno; found at elevations from near sea level to 400 feet.  Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter	Absent	No perennial streams or emergent wetland habitat is present within or adjacent to the study area. No rice field habitat is present within or near the study area. The nearest CNDDDB occurrence is more than 3.9 miles from the study area in Sutter County. <i>No effect.</i>
<b>Birds</b>				
Swainson's hawk <i>Buteo swainsoni</i>	–/T/–	Requires large, open grasslands with suitable nest trees; nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, lightly grazed pastures/crops, irrigated pastures, and grain fields.  Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Habitat Present	Suitable nest trees are present in the study area. This species could forage in ruderal and fallow fields. The nearest CNDDDB occurrence is 1 mile from the study area in Sutter County.



Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
California black rail <i>Laterallus jamaicensis coturniculus</i>	–/T/–	Permanent resident in the San Francisco Bay and eastward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Occurs in the Sierra Nevada foothills.  Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	Absent	No suitable freshwater marsh habitat in the study area. The nearest CNDDDB occurrence 5.2 miles from the study area in Yuba County.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T/E/–	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers.  Requires wide, dense riparian forests/woodlands with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant; utilizes orchards adjacent to streams.	Absent	No wide dense riparian forest in the study area. The nearest CNDDDB occurrence is 1 mile from the study area in Yuba County.  <i>No effect.</i>
Least Bell's vireo <i>Vireo bellii pusillus</i>	E/E/–	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties. Found at the San Joaquin River National Wildlife Refuge (San Joaquin and Stanislaus Counties) in 2005.  Riparian thickets/dense willows with a well-developed understory either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	Absent	No riparian thickets/dense willows with a well-developed understory in the study area. The nearest CNDDDB occurrence is a historic record in Yuba County 0.9 mile from the study area.  <i>No effect.</i>

Common Name Scientific Name	Legal Status <sup>a</sup> (Federal/ State/Other)	General Habitat Description	Habitat Present/ Absent <sup>b</sup>	Rationale
Bank swallow <i>Riparia riparia</i>	–/T/–	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County.  Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam, along streams, coastal bluffs, and sand/gravel pits.	Absent	No bluffs or banks adjacent to water in the study area. The nearest CNDDDB occurrence is 0.7 mile from the study area in Yuba County on the Feather River.

<sup>a</sup> Status explanations:

**Federal**

- E = listed as endangered under the federal ESA.
- T = listed as threatened under the federal ESA.
- = no listing.

**State**

- E = listed as endangered under CESA.
- T = listed as threatened under CESA.
- SSC = species of special concern in California.
- = no listing.

<sup>b</sup> Habitat designations:

- Absent = no habitat present and no further work needed.
- Habitat Present = habitat is, or may be present. The species may be present.
- Present = the species is present.

### **2.3.5.3 Environmental Consequences**

#### ***No Build Alternative***

Under the no build alternative, no construction would take place. Therefore there would be no impacts to threatened and endangered species in the study area.

#### ***Build Alternatives***

##### **Threatened or Endangered Plant Species**

No threatened or endangered plant species are expected to occur in the project area, and, therefore, there would be no impacts on these species.

##### **Valley Elderberry Longhorn Beetle**

The proposed project would result in the removal of a portion of the elderberry shrub cluster; however, because the shrub is not functioning as habitat for valley elderberry longhorn beetle there would be no direct impact on the species. Because no additional elderberry shrubs were observed within the study area, no indirect impacts on valley elderberry longhorn beetle habitat are expected.

The FESA effects determination for the proposed project is *no effect* on valley elderberry longhorn beetle based on the evaluation of the shrub according to the USFWS's Framework.

##### **Swainson's Hawk**

The proposed project would result in the removal of a minor amount of nesting and foraging habitat for Swainson's hawk. However, due to the limited scope of the project construction, this would be a minimal impact.

### **2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures**

#### ***Valley Elderberry Longhorn Beetle***

In accordance with USFWS's Framework, no compensatory mitigation is proposed for valley elderberry longhorn beetle. However, the mitigation proposed in BIO-1 (described above) and BIO-4 (described below) would benefit valley elderberry longhorn beetle.

#### ***Swainson's Hawk***

Caltrans will install fencing and/or flagging, as described in Section 2.3.1.4 above, to ensure that the proposed project minimizes effects on Swainson's hawk. No further compensatory mitigation is proposed for project impacts on Swainson's hawk nesting habitat. Temporarily disturbed areas that provide suitable foraging habitat for Swainson's hawk will be restored to pre-project conditions or better through implementation of BIO-4 (described below).

### 2.3.5.5 References

- California Department of Fish and Game. 1992. *1992 Annual Report on the Status of California State-Listed Threatened and Endangered Animals and Plants*. Sacramento, CA.
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- U.S. Fish and Wildlife Service 2017. List of threatened and endangered species that may occur in and/or may be affected by the Yuba 70 Safety Project. June 20, 2018. Obtained from the IPaC website (<http://ecos.fws.gov/ipac>).
- U.S. Fish and Wildlife Service. 2017. *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)*. May. U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

## 2.3.6 Invasive Species

### 2.3.6.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

### 2.3.6.2 Affected Environment

*Invasive plant species* include species designated as federal noxious weeds by USDA, species listed by CDFA, and invasive plants identified by Cal-IPC. Invasive plants displace native species, change ecosystem processes, alter plant community structure, and lower wildlife habitat quality (California Invasive Plant Council 2006:1). Road, highway, and related construction projects are some of the principal dispersal pathways for invasive plants and their propagules. Table 2.3.6-1 lists the invasive plant species identified by CDFA and Cal-IPC that are known to occur in the study area (California Department of Food and Agriculture 2016; California Invasive Plant Council 2016). No plant species designated as federal noxious weeds have been identified in the study area. Invasive plant species occur in all of the non-wetland vegetated cover types in the study area.

**Table 2.3.6-1. Invasive Plant Species Identified in the Study Area**

Species	CDFA	Cal-IPC
Slender wild oat ( <i>Avena barbata</i> )	–	Moderate
Wild oat ( <i>Avena fatua</i> )	–	Moderate
Black mustard ( <i>Brassica nigra</i> )	–	Moderate
Common mustard ( <i>Brassica rapa</i> )	–	Limited
Ripgut brome ( <i>Bromus diandrus</i> )	–	Moderate
Soft chess ( <i>Bromus hordeaceus</i> )	–	Limited
Italian thistle ( <i>Carduus pycnocephalus</i> )	C	Moderate
Yellow star-thistle ( <i>Centaurea solstitialis</i> )	C	High
Bull thistle ( <i>Cirsium vulgare</i> )	C	Moderate
Pampas grass ( <i>Cortaderia selloana</i> )	–	High
Bermuda grass ( <i>Cynodon dactylon</i> )	C	Moderate
Orchard grass ( <i>Dactylis glomerata</i> )	–	Limited
Red-stemmed filaree ( <i>Erodium cicutarium</i> )	–	Limited
Rattail fescue ( <i>Festuca myuros</i> )	–	Moderate
Italian ryegrass ( <i>Festuca perennis</i> )	–	Moderate
Cutleaf geranium ( <i>Geranium dissectum</i> )	–	Limited
Mediterranean mustard ( <i>Hirschfeldia incana</i> )	–	Moderate
Mediterranean barley ( <i>Hordeum marinum</i> var. <i>gussoneanum</i> )	–	Moderate
Foxtail barley ( <i>Hordeum murinum</i> ssp. <i>leporinum</i> )	–	Moderate

Species	CDFA	Cal-IPC
Horehound ( <i>Marrubium vulgare</i> )	–	Limited
California burclover ( <i>Medicago polymorpha</i> )	–	Limited
Bermuda buttercup ( <i>Oxalis pes-caprae</i> )	–	Moderate
Harding grass ( <i>Phalaris aquatica</i> )	–	Moderate
English plantain ( <i>Plantago lanceolata</i> )	–	Limited
Wild radish ( <i>Raphanus sativus</i> )	–	Limited
Himalayan blackberry ( <i>Rubus armeniacus</i> )	–	High
Curly dock ( <i>Rumex crispus</i> )	–	Limited
Russian thistle ( <i>Salsola tragus</i> )	C	Limited
Milk thistle ( <i>Silybum marianum</i> )	–	Limited
Johnson grass ( <i>Sorghum halepense</i> )	C	–
Hedge parsley ( <i>Torilis arvensis</i> )	–	Moderate
Rose clover ( <i>Trifolium hirtum</i> )	–	Moderate
Periwinkle ( <i>Vinca major</i> )	–	Moderate

**Note:** The California Department of Agriculture (CDFA) and California Invasive Plant Council (Cal-IPC) lists assign ratings that reflect the CDFA and Cal-IPC views of the statewide importance of the pest, likelihood that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The Cal-IPC species list is more inclusive than the CDFA list.

The **CDFA categories** indicated in the table are defined as follows:

**C:** State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner.

The **Cal-IPC categories** indicated in the table are defined as follows:

**High:** Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.

**Moderate:** Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.

**Limited:** Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

### 2.3.6.3 Environmental Consequences

#### **No Build Alternative**

Under the no build alternative, no construction would take place. Therefore there would be no impacts related to invasive species in the study area.

#### **Build Alternatives**

The proposed project would create additional disturbed areas for a temporary period. Areas where temporary disturbance occurs would be more susceptible to colonization or spread by invasive plants. Implementation of BIO-4 below will help to avoid and minimize the introduction and spread of invasive plants.

#### **2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures**

##### **BIO-4: Avoid and Minimize the Spread of Invasive Plant Species during Project Construction and Restore Temporarily Disturbed Habitat**

To avoid and minimize the introduction of new invasive plants and the spread of invasive plants previously documented in the project area, the following BMPs will be implemented during project construction.

- Use a weed-free source for project materials (e.g., straw wattles for erosion control that are weed-free or contain less than 1% weed seed).
- Prevent invasive plant contamination of project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin).
- Use a seed mix for erosion control activities comprising California native species appropriate to the project location.

#### **2.3.6.5 References**

California Department of Food and Agriculture. 2016. *Encycloweedia*: Data Sheets. Division of Plant Health and Pest Prevention Services, Pest Exclusion Branch, Sacramento, CA. Available: [https://www.cdfa.ca.gov/plant/ipc/encycloweedia/weedinfo/winfo\\_tablesciname.html](https://www.cdfa.ca.gov/plant/ipc/encycloweedia/weedinfo/winfo_tablesciname.html). Accessed: July 21, 2016.

California Department of Transportation. 2018. Natural Environment Study. Yuba 70 Safety Project. September.

California Invasive Plant Council. 2016. *California Invasive Plant Inventory Database*. Available: <http://www.calipc.org/paf/>.

California Invasive Species Council. 2006. California Invasive Plant Inventory. February. (Cal-IPC Publication 2006-02.) Berkeley, CA. Ava

## **2.4 Cumulative Impacts**

### **2.4.1 Regulatory Setting**

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the

conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

#### **2.4.2 Cumulative Impact Analysis by Resource**

The State CEQA Guidelines provide that cumulative context may be described through either the list approach or the plan/projections approach. The list approach involves identifying and listing the past, present, and reasonably foreseeable probable future projects that contribute to a given significant cumulative impact. The plan/projections approach relies on an adopted plan or reliable projection that describes the significant cumulative impact. This document relies on the plan approach, using cumulative impacts described in the *Final Yuba County General Plan EIR* (AECOM 2011) as the basis for the cumulative impact analysis.

The cumulative impact analysis does not include any impacts that are not cumulatively significant. In addition, it does not include cumulative impacts to which the project will not contribute.

##### **2.4.2.1 Farmland**

The Yuba County General Plan EIR concluded that buildout of the general plan would result in a significant cumulative impact to farmland.

A substantial amount of high-quality agricultural land has been lost in recent years to urban development. Between 2006 and 2016, 46,060 acres of agricultural land was converted to non-agricultural uses—a loss of approximately 54% of the county’s important farmland (California Department of Conservation 2008, 2016). Much of this farmland has been converted in the south county due to residential development in areas such as Plumas Lake. Agricultural conversion rates are lower in northern Yuba County. This trend is expected to continue due to the continued conversion of agricultural land to residential, commercial, and industrial uses, as well as for transportation infrastructure.

Under the build alternatives, the conversion of private land not currently used for transportation purposes to transportation ROW would occur and would require easements. Proposed project improvements would affect lands classified by the FMMP as Prime Farmland, Farmland of



Statewide Importance, Unique Farmland, and Grazing Land. Approximately 38.03 acres of prime farmland and 22.38 acres of farmland of statewide importance would be acquired.

The acquisitions consist of slivers of land adjacent to SR 70 (Appendix C). Many of the affected parcels, while classified as important farmland, are not currently in agricultural production.

Due to the location of the acquisition on each parcel and the small size of project encroachment relative to the rest of the parcel, it is anticipated that these parcels would continue to be used for agricultural purposes. The farmland acquisitions represent approximately 0.00025 percent of the County's important farmland. Compensation to individual landowners for property impacts would be addressed and negotiated through the ROW process, as warranted. Given the low rate of farmland conversion within this section of Yuba County, the project's contribution to the conversion of farmland would not be cumulatively considerable.

#### **2.4.2.2 Traffic and Transportation**

The Yuba County General Plan EIR concluded that buildout of the general plan would result in a significant impact due to regional population growth.

Under the cumulative condition, ongoing urban development is expected to continue within the study area. Local and regionally planned transportation projects are intended to accommodate the expected increase in traffic related to development in the region. However, if work on multiple projects were to overlap with the proposed project during construction, significant cumulative impacts related to traffic delays and detours for travel in the region could occur.

Planned highway projects, such as the SR 70 Simmerly Slough Bridge Replacement near Marysville, and other projects along the SR 70 corridor as described in Table 2.1.1-1, could require temporary reductions in lane widths and reductions in speed limits along SR 70, which could contribute to significant cumulative impacts on traffic circulation and congestion in construction zones. While some level of disruption in traffic could occur if planned development and transportation improvement projects overlap, cumulative construction impacts would be temporary and individual projects would contain measures to avoid major traffic delays. Therefore, it is not anticipated that that temporary effects of construction of multiple projects would combine to result in cumulatively significant impacts.

Over the long term, planned transportation improvements of major roadways in the study area are anticipated to provide beneficial impacts on the existing highway network by widening existing highways, improving safety, and reducing congestion. Taken together, these transportation projects would provide a cumulative regional benefit to transportation, improving circulation and access in the region. Therefore, there would not be a cumulatively significant impact on traffic and transportation.

#### **2.4.2.3 Visual Resources**

The Yuba County General Plan EIR concluded that cumulative impacts related to visual resources would be significant due to the anticipated development of rural land.

Temporary construction impacts associated with the proposed project would not result in cumulative visual impacts because they would be temporary, especially when compared to larger-scale development and transportation projects occurring in the area. However, planned land uses in the area include retaining the existing agricultural land uses and rural character of the project vicinity. Transportation projects may slightly alter the existing visual character of the area by expanding the rural transportation corridor. These changes are likely to be limited to major transportation routes because there are no plans to develop agricultural lands with suburban land uses. Mature oak trees are considered a scenic resource which are protected by the Yuba County General Plan. The loss of mature oak trees along this portion of SR 70 would affect visual quality because these resources would be permanently removed and it is not likely that they can be fully mitigated onsite. In addition, it would take several decades for any replacement plantings to reach the same stature as the existing oaks, resulting in long-term visual changes to the corridor. However, oak trees on lands surrounding the project alternatives and lands associated with other projects would not be affected, retaining mature oak trees in the vicinity of SR 70. In addition, County regulations would ensure that oak tree removals are mitigated. Even though it would take mitigation plantings a long time to grow, they would ensure that oak trees are being replanted at a higher rate than the number of oak tree removals, so that oak trees can be retained as a scenic resource within the visual landscape for generations to come.

Additionally, future development and roadway improvements would add to ambient atmospheric lighting and glare in the area by infilling unlit open space areas with lit buildings and roadways, and by adding reflective surfaces to areas that are currently undeveloped. The project would only result in a nominal increase in glare from the slightly widened roadway surface and replacement lighting and would not result in cumulative impacts. There are no scenic roadways in or near the project area, so there would be no cumulative impact to such resources. In addition, scenic vistas would not be negatively affected by the proposed project.

Overall, the proposed project would not contribute to cumulative impacts related to planned and/or proposed transportation projects and small-scale, rural development in the area because the build alternatives would not substantially alter the existing visual landscape, degrade the visual quality of the project area, or alter levels of light and glare. As such, the combined visual effect of both alternatives with other projects planned, recently in construction, or currently in construction would not result in impacts that are cumulatively considerable.

#### **2.4.2.4 Hydrology and Water Quality**

The Yuba County General Plan EIR concluded that there would be a significant cumulative impact related to an increase in impervious surfaces.

Planned and reasonably foreseeable development, including major construction projects in the project vicinity, could impede flood flows or increase the number of people or structures affected by flooding within the cumulative floodplain RSA. Future projects involving new and improved

bridge crossings, such as the Simmerly Slough Bridge replacement, could require the placement of piers in a Federal Emergency Management Agency floodway or floodplain. If the effects to floodplains from these projects were to combine to substantially redirect flood flows or increase flood elevations such that it placed structures within a floodplain such that they would be imperiled, it would be considered a significant cumulative impact.

All ongoing and reasonably foreseeable projects are subject to and must comply with applicable federal, state, and local policies, programs, and ordinances, which would reduce the impact on floodplains and flood risks. The local flood control agencies and applicable flood control design criteria require projects in areas within the designated 100-year flood zones to design project-specific drainage systems in accordance with findings of site-specific studies. Therefore, construction associated with reasonably foreseeable projects in such areas would be designed to comply with regulatory agency requirements. Consistent with the standard requirements of those agencies, design of these bridge crossings would include measures to minimize the impacts of placing piers in the floodplains and floodways.

In addition, some development within a 100-year floodplain may divert or redirect flood flows; however, where these floodplains and floodways exist, project proponents would design projects so that little to no increase in water surface elevation would occur, in accordance with local regulations and permitting. In addition, new development within levee-protected zones could expose more people and structures to flooding risks. However, federal, state, and local agencies (i.e., USACE, California Department of Water Resources, municipalities, and local flood districts) will continue to coordinate so that levees are constructed, repaired, and maintained to provide adequate flood protection within potential inundation areas. Accordingly, development under county and city general plans as well as other past, present, and reasonably foreseeable projects would not result in cumulatively significant impacts on localized or regional flooding by impeding or redirecting flood flows nor would the proposed project impede or redirect flood flows or otherwise encroach on a 100-year floodplain. Based on the above analysis, the proposed project, when combined with the cumulative projects, is not anticipated to result in a cumulative impact to hydrology and floodplains.

#### **2.4.2.5 Water Quality and Storm Water Runoff**

The Yuba County General Plan EIR concluded that there would be a significant cumulative impact related to an increase in impervious surfaces.

The anticipated growth and development within the Lower Feather River Watershed could contribute to the cumulative surface water quality degradation and the collective effect of development could degrade stormwater quality by contributing pollutants during construction and operations within the cumulative surface water RSA. Cumulative development could also affect surface water quality if the land uses change, the intensity of land use changes, or drainages are altered such that they facilitate introduction of pollutants to surface water. A significant cumulative impact would occur if the effects of multiple projects combined to violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality in water bodies in the project vicinity.

As a result of land use changes, the preservation of surface water quality is anticipated to be an increasing challenge through 2040. Planned and reasonably foreseeable future projects could have construction schedules that overlap. Construction in, across, or over rivers, streams and canals (e.g., 5th Street Bridge Replacement, the Pennington Bridge replacement, the Simmerly Slough Bridge replacement, and bridge preventative maintenance within Yuba County) has the potential to degrade surface water quality, and concurrent construction schedules for these multiple projects could exacerbate this degradation of surface water quality. Accordingly, construction and ongoing operations and maintenance of these overlapping projects would have the potential to result in cumulative impacts on surface water and stormwater quality.

Regulatory standards (National Pollutant Discharge Elimination System [NPDES] permit, municipal separate storm sewer system permit, and local stormwater requirements), and avoidance features required as conditions of individual project approvals would minimize water quality impacts associated with construction. With these measures in place, and with the avoidance and minimization measures included as part of the proposed project, construction and operation within the project vicinity are not anticipated to violate water quality standards or waste discharge requirements or further degrade water quality within the Lower Feather River Basin; therefore, cumulative surface water and stormwater quality impacts would not be cumulatively significant.

#### **2.4.2.6 Geology, Soils, Seismicity, and Topography**

The Yuba County General Plan EIR concluded that there would be a significant cumulative impact related to loss of mineral resources.

Planned projects may convert additional land to transportation or developed land uses within the project vicinity for geology, soils, seismicity, and topography. These projects would likely require excavation and grading activities that would contribute in the removal of vegetation, and could collectively increase the potential for surface water runoff, and expose soils to wind and water erosion. Exposed soils that are not protected, such as exposed work areas and stockpiles, could erode and result in a loss of high-value topsoil. In addition, planned and future transportation and development projects occurring in areas of expansive soils could contribute to differential movement and possible foundation damage as a result of changes in soil volume. Regulatory and State standards and requirements, including the California Building Code, Caltrans' Specifications, avoidance features, and the implementation of construction site BMPs, should minimize or eliminate the potential geological impacts identified and associated with the construction and operation of planned development projects on SR 70. There are no anticipated impacts to minerals as a result of the build alternatives. Therefore, the proposed project, in combination with the cumulative projects, is not anticipated to produce cumulative impacts related to geology and soils.

#### **2.4.2.7 Paleontological Resources**

The Yuba County 2030 General Plan EIR concluded that future development would result in significant cumulative impacts to paleontological resources.

Future projects in the project vicinity involving ground disturbance during construction would involve geologic units that have produced abundant and diverse fossil resources and are thus considered highly sensitive for paleontological resources (i.e., likely to produce additional similar finds in the future). Construction of planned and future projects in the project vicinity would require ground disturbance in areas that include the Laguna, Riverbank, and Modesto Formations; and the construction of other transportation and development projects within the Sacramento Valley could require ground disturbance in other areas highly sensitive for paleontological resources. These projects would have the potential to cumulatively disturb, damage, or destroy significant (scientifically important) fossil resources. Once lost, such resources cannot be recovered, and impacts are therefore considered permanent. However, regulatory standards and a properly designed and implemented monitoring, collection, and treatment program would minimize impacts on paleontological resources. With these measures in place, construction and operation of planned development projects within the project vicinity would not result in the widespread destruction of scientifically important fossil resources; therefore, the impact would not be cumulatively significant.

#### **2.4.2.8 Air Quality**

The Yuba County 2030 General Plan EIR concluded that construction and operational criteria pollutant emissions and TACs associated with buildout of the general plan would have a significant cumulative impact.

Future planned transportation projects such as the SR 70 Simmerly Slough Bridge replacement, and widening projects on SR 70 are located within the project vicinity. These projects could contribute to cumulative short-term air quality impacts if construction schedules for these projects overlap. This scenario is not anticipated to occur because the construction of the various present and reasonably foreseeable future projects would be temporary and the projects do not generally have overlapping or adjacent construction footprints or schedule. As a result, the proposed project, in combination with these cumulative projects, would not contribute to a cumulative air quality impact.

#### **2.4.2.9 Noise**

The Yuba County 2030 General Plan EIR concluded that traffic noise associated with buildout of the general plan would have a significant cumulative impact.

A cumulative noise impact would occur if activities related to the proposed project combined with the noise generated by other projects to expose people to noise levels in excess of standards for severe impacts as established by the FHWA. Future planned transportation projects on and near SR 70 could contribute to cumulative noise impacts on sensitive receivers if construction schedules for these projects overlap and sensitive receptors are within the impact areas of two or more projects at a time. This scenario is unlikely to occur because the construction of the various present and reasonably foreseeable future projects would be temporary and the projects do not generally have overlapping or adjacent construction footprints or schedules. Further, each project would be responsible for following applicable noise ordinances during construction, thereby reducing the noise impact. As a result, the proposed project would not contribute to a cumulative noise impact.

#### **2.4.2.10 Biological Resources**

The Yuba County 2030 General Plan EIR concluded that impacts to biological resources related to buildout of the general plan would be cumulatively significant.

Cumulative impacts on riparian wetland habitat, valley foothill riparian habitat, and native oak trees would result from construction of other transportation and development projects in Yuba County. Construction of the proposed project would add to the cumulative loss of riparian wetlands, valley foothill riparian habitat, and native oak trees. However, with implementation of the measures prescribed for minimizing impacts and compensating for remaining impacts, the proposed project's incremental contribution to cumulative impacts would not be cumulatively considerable.

#### **2.4.2.11 Climate Change/Greenhouse Gas Emissions**

GHG analysis is by its nature cumulative. No individual project is of sufficient size to be the sole reason for climate change. Instead, climate change is the result of millions of activities that emit GHGs. The analysis of the proposed project's GHG emissions is within the context of statewide efforts to minimize the impacts of climate change. See Section 3.2.22, *Climate Change*, for the discussion of cumulative impacts and mitigation measures.

#### **2.4.3 References**

AECOM. 2011. Final Yuba County General Plan 2030. Available:

[http://www.co.yuba.ca.us/Departments/Community%20Development/Planning/documents/2030%20General%20Plan%20Docs/Complete%20Docs/Final\\_2030\\_GP\\_EIR\\_6-29-11\\_clean\\_SECURED.pdf](http://www.co.yuba.ca.us/Departments/Community%20Development/Planning/documents/2030%20General%20Plan%20Docs/Complete%20Docs/Final_2030_GP_EIR_6-29-11_clean_SECURED.pdf). Accessed February 24, 2019.

California Department of Conservation. 2006, 2018. Yuba County Land Use Conversion Tables. Available: <https://www.conservation.ca.gov/dlrp/fmmp/Pages/Yuba.aspx>. Accessed February 28, 2019.

# Chapter 3      California Environmental Quality Act (CEQA) Evaluation

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## 3.1    Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans. The Department is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

## 3.2    CEQA Environmental Checklist

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

this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.



### 3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099,				
Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.1.1 CEQA Significance Determinations for Aesthetics

“No Impact” and “Less than Significant” determinations in this section are based on the project scope and the visual impact assessment (California Department of Transportation 2019a). During the construction period, there is potential for additional light and glare sources and degradation of the existing visual character of the surrounding site.

##### a) *Less than Significant*

Within the project vicinity, scenic vistas are available where the roadway viewing position allows visual access to the hillsides and ridgelines. Roadway widening would have a moderate impact on the scenic quality of the project location. The vegetation and tree removal required to facilitate the widening would be kept to the minimum required. Accordingly, the project would have a small effect on scenic vistas. It is possible that the impact would lessen as the project is finished and vegetation is replanted, but the initial impact may be noticed. The project would implement Caltrans’ standard measures (AES-1 and AES-2) identified in Section 2.1.7.4 in Chapter 2. Therefore, the changes from construction and operation would not result in a substantial adverse effect on a scenic vista. This impact would be less than significant.

**b) No Impact**

As discussed in the *Visual/Aesthetics* section in Chapter 2, there are no roadways within or near the project area that are designated as scenic highways or routes worthy of protection for maintaining and enhancing scenic viewsheds. Therefore, implementation of the proposed project would not damage scenic resources such as trees, rock outcroppings, and historic buildings along a scenic highway.

**c) Less than Significant**

The most noticeable aspects of the completed project would be any loss of vegetation, such as the mature trees that are required to be cleared for road widening. The loss of vegetation would have a minor effect on the visual character of the areas adjacent to the roadsides. The removal of any large, established trees; shrubs; and ground covers to facilitate the project would cause a moderate adverse effect on the visual character of the site and its surroundings. The site would look bare until the erosion control grows, but with appropriate replanting in and around the cleared zones, the vegetated character of the roadway would be re-established. The project would implement Caltrans' standard measures (AES-1 and AES-2) identified in Section 2.1.7.4 in Chapter 2. Therefore, the changes from construction and operation would not result in a substantial adverse effect on a scenic vista. This impact would be less than significant.

**d) Less than Significant**

No new sources of light or glare are anticipated. However, nighttime construction would likely occur, and some nighttime lighting at the construction site would be required and could result in nuisance light if not properly designed. The proposed project would result in a nominal increase in daytime glare by increasing the paved area and by removing some of the roadside vegetation that provides shade. However, the pavement would be dark, which would greatly reduce glare, and roadside vegetation would still be present along the right-of-way (ROW) to provide some shade. Light and glare effects would be potentially significant; however, implementation of avoidance and minimization measures would reduce the effects of nighttime construction and light and glare impacts from lighted intersections. The project would implement Caltrans' standard measure (AES-2) identified in Section 2.1.7.4 in Chapter 2. Therefore, the changes would not result in a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area. This impact would be less than significant.

### 3.2.2 Agriculture and Forest Resources

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

#### 3.2.2.1 CEQA Significance Determinations for Agriculture and Forest Resources

“No Impact” and “Less than Significant” determinations in this section are based on the project scope and the community impact assessment (CIA; California Department of Transportation 2017).

**a, e) Less than Significant**

As discussed in the *Farmlands* section in Chapter 2, implementation of the proposed project would involve the conversion of private land not currently used for transportation purposes to transportation ROW, which would require easements. Proposed project improvements requiring temporary construction disturbance, temporary easements, and permanent easements would affect lands within the project area that are mapped as Grazing Land (G), Unique Farmland (U) and Farmland of Statewide Importance (S) by the California Department of Conservation Farmland Mapping and Monitoring Program. As shown in Table 2.1.2-1 and Figure 2.1.1-3, the build alternatives would require permanent conversion of 38.03 acres of prime farmland, 22.38 acres of farmland of statewide importance, and 3.16 acres of unique farmland, which represents approximately 0.00025 percent of the County's farmland. Therefore, the impact is less than significant.

**b) No Impact**

As discussed in the *Farmlands* section in Chapter 2, no farmlands under Williamson Act contract are present within the project area; therefore, the proposed project would not conflict with a Williamson Act contract.

**c, d) No Impact**

The proposed project would not conflict with existing zoning for forestland. There is no forestland in the project area; therefore, the project would not result in a loss or conversion of forestland.

### 3.2.3 Air Quality

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

#### 3.2.3.1 CEQA Significance Determinations for Air Quality

“Less than Significant” determinations in this section are based on the project scope and the air quality report (California Department of Transportation 2019b).

##### ***a, b, c) Less than Significant***

The proposed project is located in the Sacramento Valley Air Basin and is within the jurisdiction of the Feather River Air Quality Management District (FRAQMD) and the California Air Resources Board (CARB). The FRAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with Sacramento Area Council of Governments (SACOG), local governments, and the private sector. The AQMP provides the blueprint for meeting state and federal ambient air quality standards. This project is not a capacity-increasing transportation project. It would have no impact on traffic volumes and would generate a less-than-significant amount of pollutants during construction due to the very short duration of project construction. The proposed project is included in SACOG’s Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), both of which were found to be conforming (see *Air Quality* section of Chapter 2). Therefore, the proposed project would not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant. No mitigation is required.

***d) Less than Significant***

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The project will comply with construction standards adopted by FRAQMD as well as Caltrans standardized procedures for minimizing air pollutants during construction. Impacts would be less than significant. No mitigation is required.

### 3.2.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.4.1 CEQA Significance Determinations for Biological Resources

“No Impact” and “Less than Significant” determinations are based on the project scope, field review, botanical studies, and natural environmental study (California Department of Transportation 2018a).

##### a) *Less than Significant*

As discussed in the *Plant Species* and the *Threatened and Endangered Species* sections in Chapter 2, no threatened, endangered, rare, or non-listed special-status plants have been previously reported in the study area, and none were observed in the study area during the December 28, 2016 and January 26, 2017 field surveys. Overall, the study area has a low

potential to support threatened, endangered, rare plants, or non-listed special-status plants due to the historic and ongoing modifications of habitat.

If special-status plants were present, they could be removed by project construction activities. State and federally listed plants and non-listed special-status plants would be protected by state and/or federal agencies. The project would include installation of fencing and/or flagging, as described in Section 2.3.1.4, and implement Caltrans' standard measures (BIO-1 and BIO-2) identified in Sections 2.3.1.4 and 2.3.2.4 in Chapter 2. Therefore, this impact would be less than significant.

As discussed in Sections 2.3.4 and 2.3.5 in Chapter 2, there is one California species of special concern (northern harrier) and two federal or stated-listed threatened or endangered plant species (valley elderberry longhorn beetle and Swainson's hawk) that have the potential to occur in the project area. However, according to the U.S. Fish and Wildlife Service's *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 2017), the elderberry shrub is not functionally providing species habitat and, therefore, there would be no impacts on the beetle. Sections 2.3.4 and 2.3.5.2 include discussions of each of these species.

Construction disturbance (noise and/or activity) would occur during the northern harrier nesting season (March–August) and could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment and would also result in permanent impacts on potential northern harrier nesting and foraging habitat. The proposed project would also result in the loss of a minor amount of nesting and foraging habitat for Swainson's hawk. The project would include installation of fencing and/or flagging, as described in Section 2.3.1.4, and implement Caltrans' standard measures (BIO-1, BIO-2, BIO-3, and BIO-4) identified in Sections 2.3.1.4, 2.3.2.4, and 2.3.6.4 in Chapter 2. Therefore, impacts on nesting and foraging northern harrier and Swainson's hawk would be less than significant.

#### **b) Less than Significant**

As discussed in the *Natural Communities* section in Chapter 2, valley foothill riparian habitat occurs adjacent to the riparian wetland habitat on the historical drainage banks and at the northernmost end of the survey area, south of South Honcut Creek.

Project construction would encroach on the upland valley foothill riparian habitat in the study area, resulting in permanent impacts from the removal of woody riparian vegetation. No direct impacts on the riparian habitat at South Honcut Creek are anticipated. Impacts were considered to be temporary if only herbaceous vegetation was affected during construction and the area would be restored after project completion. The project would include installation of fencing and/or flagging, as described in Section 2.3.1.4, and implement Caltrans' standard measures (BIO-1 and BIO-4) identified in Sections 2.3.1.4 and 2.3.6.4 in Chapter 2. Therefore, impacts on valley foothill riparian would be less than significant.



**c) Less than Significant**

As discussed in the *Wetlands and Non-Wetland Waters* section of Chapter 2, one federally protected wetland type, riparian wetland, occurs approximately 2 miles south of the northern end of the study area. This wetland is a low-lying, broadly U-shaped area that extends to both sides of State Route (SR) 70 and is connected by culverts.

Project construction would encroach on the riparian wetland in the study area, resulting in both permanent fill in the wetland and temporary disturbance. All temporarily disturbed areas of the riparian wetland would be restored to pre-project contours and conditions. U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (U.S. EPA) consider wetlands and stream habitats important for water quality and wildlife. Waters of the United States and waters of the State are regulated by USACE and the Regional Water Quality Control Boards (RWQCBs), respectively. The project would include installation of fencing and/or flagging, as described in Section 2.3.1.4, and implement Caltrans' standard measures (BIO-2 and BIO-4) identified in Sections 2.3.2.4 and 2.3.6.4 in Chapter 2. Therefore, impacts on riparian wetland would be less than significant.

**d) Less than Significant**

As discussed in the *Natural Communities* section of Chapter 2, no migration corridors were identified in the study area, but orchards along the study area provide cover for mammal and bird movement, and a concrete box culvert just south of South Honcut Creek may also provide opportunities for animals to cross under SR 70.

The proposed project would be more of a barrier to wildlife movement than current conditions because it would be more difficult for animals to cross safely. However, the permanent impacts can potentially be mitigated for by placing oversized culverts that could be used by wildlife as highway crossings between high areas of observed crossings and roadkill, such as between Noble Road and Magnolia Road. Additionally, the large box culvert will continue to act as a potential crossing for wildlife species. This would be a less-than-significant impact.

The presence of construction personnel and equipment, as well as construction noise and activity associated with removal or extension of the concrete box culvert, could temporarily discourage wildlife from using the culvert. However, the bridge over South Honcut Creek is within 200 feet of the culvert and provides an alternative crossing outside the work area. Because the work would be temporary and there is an alternative crossing, this impact is not likely to substantially impact wildlife movement. This impact is less than significant.

No mitigation is required for temporary or permanent impacts on wildlife movement.

**e, f) No Impact**

Yuba County has no local ordinances for tree preservation or an adopted conservation plan. The proposed project, therefore, would not conflict with local policies, ordinances, or conservation plans. No impact would occur.

### 3.2.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.5.1 CEQA Significance Determinations for Cultural Resources

##### ***a, b) Less than Significant***

As discussed in the *Cultural Resources* section in Chapter 2, the area of potential effect (APE) encompasses no known National Register of Historic Places (NRHP)-eligible, NRHP-listed, or previously unevaluated archaeological resources. Similarly, the architectural APE encompasses no known NRHP-eligible, NRHP-listed, or previously unevaluated built environment resources. However, the potential for discovery of unknown cultural resources does exist. The project would implement Caltrans' standard measures (CUL-1) identified in Section 2.1.8.4 in Chapter 2. Therefore, the impacts on archeological resources are less than significant.

##### ***c) Less than Significant***

While there are no known cemeteries or burial sites in the project APE the potential does exist to encounter unknown human remains during construction. The project would implement Caltrans' standard measures (CUL-1) identified in Section 2.1.8.4 in Chapter 2, Therefore, the potential to discover unknown human remains during construction is less than significant.

### 3.2.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.6.1 CEQA Significance Determinations for Energy

“No Impact” and “Less than Significant” determinations in this section are based on consultation with the CEQA lead agency, Caltrans.

##### a) *Less than Significant*

The proposed project involves widening SR 70 within the project limits to improve safety, reduce collisions, and relieve congestion. During construction, energy use would primarily involve fuel consumption during (e.g., use of construction equipment and onroad vehicles). This consumption would be temporary in nature and would cease once construction is complete. Direct energy use is not anticipated during operation. Indirect energy use such as fuel consumption by vehicles utilizing the roadway would occur. However, the proposed project is not anticipated to substantially increase vehicle traffic (Fehr & Peers 2019). When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts. Moreover, the demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, the project would not result in a wasteful, inefficient, or unnecessary usage of direct or indirect energy. Impacts would be less than significant. No mitigation is required.

##### b) *No Impact*

The applicable renewable energy plan for the project area would be the State Renewable Portfolio Standards (RPS), which requires utility agencies to ensure a certain percentage of the electricity they sell is from a renewable source. Senate Bill (SB) 350 requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030. SB 100 builds on SB 350, which required the following by 2030: (1) an RPS of 50 percent and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. SB 100 increases the 2030 RPS target set in SB 350 to 60 percent and requires an RPS of 100 percent by 2045. Moreover, the County has installed renewable energy at many of its facilities. The County produces renewable energy each year, which offsets some of the County's consumption, and production is anticipated to increase (PR Newswire 2019).

The proposed project involves widening SR 70 within the project limits to improve safety, reduce collisions, and relieve congestion. The proposed project would not conflict with the electricity provider's ability to provide renewable energy resources, and would not obstruct the implementation of the RPS, nor would it result in energy consumption that would require the County to install more production. The widened roadway would not result in cumulatively considerable impacts on applicable state renewable energy plans.

### 3.2.7 Geology and Soils

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

#### 3.2.7.1 CEQA Significance Determinations for Geology and Soils

“No Impact” and “Less than Significant” determinations in this section are based on project scope and the implementations of associated BMPs, Caltrans’ standard measures, and by adhering to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.

**a, c) Less than Significant**

As discussed in the *Geology/Soils/Seismic/Topography/Mineral Resources* section in Chapter 2, there are no known active faults in or near the project area. Thus, impacts to construction workers or the traveling public related to surface fault rupture would be less than significant.

The project is an area with a low potential for strong seismic ground shaking. In addition, a geotechnical field investigation would be conducted and a Geotechnical Design Report with recommended design parameters would be prepared in accordance with Caltrans' *Highway Design Manual* (HDM) (California Department of Transportation 2012). The project would be designed according to Caltrans seismic standards, as provided in the HDM, minimizing the risk to construction workers or the traveling public from strong seismic ground shaking.

The project is in an area with a low potential for seismic-related ground failure because of the low potential for strong ground shaking and the relatively flat topography, minimizing the risk to construction workers or the traveling public.

There is a low risk for landslides because of the flat topography and because the project would not involve large cuts and fills or steep excavation. There would be no impact on construction workers or the traveling public.

The potential for landslides and other slope stability issues in most of the project area is low. Most of the project area is relatively flat (gently sloping) and the risk of strong shaking is low. The project would implement Caltrans' standard measures (GEO-1, GEO-2, GEO-3) identified in Section 2.2.3.4 in Chapter 2. The impact is less than significant. No mitigation is required.

**b) Less than Significant**

Ground-disturbing earthwork associated with road grading and construction could increase soil erosion rates and loss of topsoil. The BMPs described in Section 2.2.1, *Hydrology and Floodplain*, and Section 2.2.2, *Water Quality and Stormwater Runoff*, would minimize erosion and the loss of topsoil. The impact is less than significant. No mitigation is required.

**d) Less than Significant**

The project area is located on soils known to be expansive (i.e., have a high shrink-swell potential) and have low strength. Minimization measures in the Geotechnical Design Report, such as use of subgrade enhancement geotextile and cementitious binder, as well as BMPs, would be implemented to address soil issues, minimizing the risk to construction workers and the traveling public. The impact would be less than significant. No mitigation is required.

**e) No Impact**

The project would not include a septic system. There would be no impact.

**f) Less than Significant**

As discussed in the *Paleontology* section in Chapter 2, there are several fossil localities in the project boundaries. Formations in the project area have the potential or are known to contain significant paleontological resources. If fossils are present in the project area, they could be damaged by earth-disturbing activities (i.e., excavation and grading) during construction. The more extensive and deeper the earth-disturbing activity, the greater the potential for damage to paleontological resources. The project would implement Caltrans' standard measures (PALEO-1) identified in Section 2.2.4.4 in Chapter 2. Therefore, the impacts on paleontological resources are less than significant.

### 3.2.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.8.1 CEQA Significance Determinations for Greenhouse Gas Emissions

“Less than Significant” and “No Impact” determinations in this section are based on the project scope and the air quality report (California Department of Transportation 2019b) as well as by Caltrans’ guidance regarding Greenhouse Gas analysis.

##### **a) Less than Significant**

As discussed in the Climate Change section in Section 3.2.22, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. As shown in Table 3.2.22-3, construction of the proposed project would result in a short-term increase of approximately 2,343 tons of carbon dioxide equivalent (CO<sub>2</sub>e). Table 3.2.22-2 indicates that long-term operation of the build alternatives would increase GHG emissions relative to the no-build condition. The increase in emissions relative to the No-Build Alternative is primarily due to efficiency improvements associated with the proposed project (e.g., reduction in vehicle delay, increase average travel speeds). The impact is less than significant. No mitigation is required.

##### **b) No Impact**

Based on currently available scientific data, project-level analysis of GHG emissions is limited. Although a GHG analysis is included for this project, numerous key GHG variables (e.g., fuel economy) that are likely to change dramatically during the design life of the proposed project would further reduce the projected CO<sub>2</sub> emissions. In addition, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the mission of GHGs, as the project is consistent with SACOG’s RTP/SCS (which considers goals stipulated by AB 32, etc.) would therefore not conflict with SB 375. In addition, although the project is not specifically called out in the General Plan, the project is consistent with the policies in the General Plan (as discussed in Section 3.2.19) and would help the County achieve its goals of providing a safe and efficient transportation system. The project is considered a project accommodated for in the General Plan. No impact would occur.



### 3.2.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

“No Impact” and “Less than Significant” determinations in this section are based on project scope and the *Revised Initial Site Assessment* (California Department of Transportation 2019c)

##### **a, b) Less than Significant**

As discussed in the *Hazardous Waste/Materials* section in Chapter 2, humans and the environment could be exposed to hazardous conditions from the accidental release of hazardous materials during construction activities. Construction would involve the use of heavy equipment, involving small quantities of hazardous materials (e.g., petroleum and other chemicals used to operate and maintain construction equipment) that may result in hazardous conditions in the project area.

Disturbing either yellow or white pavement markings by grinding or sandblasting or removal of treated wood posts or guardrails could expose construction workers or the general public to lead chromate and other harmful chemicals unless standard removal protocols are followed. Exposure of construction workers or the general public to these hazardous materials or wastes could pose a possible threat to human health. Soils on agricultural parcels could contain hazardous chemicals from past pesticide/herbicide use. Exposure of construction workers or the general public to these hazardous materials or wastes could pose a possible threat to human health. The project would implement Caltrans' standard measures (HAZ-1, HAZ-2, HAZ-3, HAZ-4, and HAZ-5) identified in Section 2.2.5.4 in Chapter 2. Therefore, this impact would be less than significant.

**c) No Impact**

There are no schools located within 0.25 of the project site. No impact would occur.

**d) Less than Significant**

As discussed in the *Hazardous Waste/Materials* section in Chapter 2, there are Cortese List hazardous waste and substance sites within the 0.125-mile search radius of the project site. Though construction would not occur at these sites, the project's proximity to these sites could expose workers during construction. The project would implement Caltrans' standard measures (HAZ-1, HAZ-2, HAZ-3, HAZ-4, and HAZ-5) identified in Section 2.2.5.4 in Chapter 2. Therefore, this impact would be less than significant.

**e) No Impact**

The closest public airport is the Sutter County Airport, which is approximately 3.3 miles southwest of the SR 70/Laurellen Road intersection. In addition, no aspect of the proposed project would result in a safety hazard for people residing or working in the project area. No impact would occur.

**f) Less than Significant**

As discussed in the *Utilities/Emergency Services* section in Chapter 2, there may be temporary disruptions to the existing highway during the construction period. Any required closures would be coordinated with emergency service providers so as not to hinder emergency responses, as specified in Chapter 2, Section 2.1.5.3. Project operation would improve traffic congestion and allow for formal passing opportunities. This would be safer, more reliable, and more efficient for emergency service providers and would be a benefit to those served by these providers.

**g) Less than Significant**

There is the potential for wildland fires in the region given the relatively dry summer climate, with hot days and wind; however, the project site is not located in a fire hazard severity zone according to the California Department of Forestry and Fire Protection's fire hazard severity zone map for Yuba County (California Department of Forestry and Fire Protection 2007). The impact would be less than significant. No mitigation is required.

### 3.2.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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: <ul style="list-style-type: none"> <li>i. result in substantial erosion or siltation on- or off-site;</li> <li>ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;</li> <li>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</li> <li>iv. impede or redirect flood flows?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.10.1 CEQA Significance Determinations for Hydrology and Water Quality

“Less than Significant” determinations in this section are based on project scope and the floodplain hydraulic study (California Department of Transportation 2018b).

##### **a, e) Less than Significant**

The project area is within the jurisdiction of the Central Valley RWQCB. This region includes the Sacramento River and San Joaquin River basins, including all areas from the crest of the Sierra Nevada range west to the Coast Range and Klamath Mountains. Drainage and storm water runoff from SR 70 is primarily conveyed through existing roadside ditches, which includes offsite contribution from the surrounding agricultural area. Honcut Creek, which crosses SR 70 at the north end of the project segment, and Jack-Simmerly Slough, south of the project segment, are naturally occurring drainages that primarily carry flow after rain events. Non-jurisdictional roadside ditches occur along sections of SR 70. These ditches were constructed in uplands and function in draining runoff from the road pavement. However, these ditches do not replace existing natural drainages or connect a natural drainage to a downstream tributary.

Potential temporary impacts on existing water quality would result from staging and active construction areas, which could result in the release of fluids, concrete material, construction debris, sediment, and litter beyond the perimeter of the site. Sediment from construction would be minimized by the use of Caltrans' construction BMPs for stormwater, including silt fence, fiber roll, check dam, concrete wash-out, and street sweeping.

Because the intended acreage of disturbed soil area would be more than 1 acre, a Storm Water Pollution Prevention Plan (SWPPP) (see WQ-1 in Section 2.2.2.4 in Chapter 2) would be completed to minimize pollution and stormwater runoff during construction. A SWPPP would be prepared by the contractor and approved by Caltrans, pursuant to Department 2015 Standard Specification 13-3. The SWPPP would address potential temporary impacts via implementation of appropriate BMPs. Further, groundwater dewatering would not be necessary for project operation and maintenance activities. The project would not be in violation of any water quality standards or waste discharge requirements or result in substantial degradation of surface or groundwater quality. Therefore, impacts on water quality would be less than significant. No mitigation is required.

#### **b) Less than Significant**

As discussed in the *Hydrology and Floodplain* section in Chapter 2, increased impervious surfaces could reduce the ability for groundwater recharge within the localized groundwater aquifer system. However, considering the size of the groundwater basin, the increase in impervious area would not reduce water infiltration into the groundwater aquifer or cause a widespread, regional change in groundwater levels. Further, no groundwater supplies would be used during project operation or maintenance. To address the additional flows associated with increased impervious surface areas, the project would include stormwater runoff BMPs to collect and retain or detain the additional flows within the project limits, as required by Caltrans' National Pollution Discharge Elimination System (NPDES) municipal separate storm sewer systems (MS4) permit and a Storm Water Management Plan. The proposed project would only minimally affect groundwater resources because excavation would occur on a temporary, short-term basis during the construction period. The project would not impede sustainable groundwater management of the basin. The impact is less than significant. No mitigation is required.

#### **c) Less than Significant**

The proposed project would not substantially alter the existing drainage pattern in the area. As discussed in the *Hydrology and Floodplain* section in Chapter 2, project drainage has been considered in the design, which will include new roadside ditches, and replacing cross culverts and driveways culverts, as needed. The minimal increase in impervious area would not cause onsite or offsite flooding. The proposed project design includes side slopes of 4H:1V or less for the clear recovery zone, which would maintain pre-project sheet-flow drainage patterns (i.e., flow and rates) and improve storm drainage facilities. The impact is less than significant. No mitigation is required.

**d) Less than Significant**

The project area is surrounded by a system of flood control levees; the Honcut Creek levee to the north, SP railroad levee to the east, east Feather River levee to the west, and the Jack-Simmerly Slough north levee to the south. Currently, minor localized flooding occurs related to inadequate cross drainage at intersecting streets and driveways, which prohibits runoff within the highway shoulder drainage ditches from moving to the south. The project area can become inundated with water, primarily due to a lack of overland drainage from farmlands being able to runoff into the Feather River levee basin or to the drainage ditch along the west edge of the railroad ROW that eventually discharges into Jack-Simmerly Slough. The project would hydraulically evaluate cross culverts for intersecting street drainage culverts and driveways, which would be replaced as necessary to provide improved drainage capacity along the northbound and southbound highway shoulder drainage ditches. Existing driveways would be modified to conform to the widened highway, as needed. As a result, driveway culverts would be replaced to convey drainage flows in the roadside ditches. Existing cross culverts would also be extended or replaced, as needed. In addition, there will be minor shifts in the horizontal alignment and minor adjustments in vertical profile to correct existing non-standard facilities. However, surface runoff drainage patterns would remain similar to existing conditions. Project implementation would ultimately improve drainage, and would not impede flood flows. The impact is less than significant. No mitigation is required.

The project segment has experienced numerous localized flood events. However, the project alignment is not near a large body of water capable of producing a seiche event, and is not near the ocean and therefore not subject to a tsunami event. Potential release of pollutants as a result of project inundation could occur during construction involving sediment- or contaminated runoff from disturbed work areas or potential spills that could result in temporary impacts on water resources. However, BMPs such as construction control measures including stabilizing construction areas, and sediment controls and filtration, would be implemented prior to a flood event to minimize impacts on water resources. Further the SWPPP, which includes provisions to reduce and control discharges other than storm water, would be implemented.

Risk of release of pollutants as a result of project inundation during project operation may result from increased impervious area, operation and maintenance activities including automobile use, and discharges of sediments and other pollutants collected in storm and flood water runoff. However, the increase in impervious area would not substantially reduce water infiltration into the ground. In addition, standard facilities used to handle stormwater onsite would include an array of structural elements or facilities that would serve to manage, direct, and convey storm and flood water. During a flood event, no maintenance activities would occur, and automobile use would be minimized; therefore, risk of release of pollutants as a result of project inundation would be minimized. The impact is less than significant. No mitigation is required.

**e) Less than Significant**

The project area is within the jurisdiction of the Central Valley RWQCB and subject to the Central Valley Region Basin Plan. The project would include stormwater BMPs, as required by the Caltrans NPDES MS4 permit such that water quality standards, objectives, and beneficial uses, as required by the Clean Water Act, are not exceeded. Implementation of the project

SWPPP would also regulate discharges to ensure compliance with the water quality standards. No groundwater supplies would be used during project operation or maintenance. Further, the proposed project would only minimally affect groundwater resources because excavation would occur on a temporary, short-term basis during the construction period. The project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. The impact is less than significant. No mitigation is required.

### 3.2.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.11.1 CEQA Significance Determinations for Land Use and Planning

“No Impact” determinations in this section are based on project scope and the CIA (California Department of Transportation 2017), and analysis of consistency with the associated land use plan, policy, or regulation, including the Yuba County General Plan.

##### **a) No Impact**

The project includes the widening of SR 70 from Laurellen Road to Honcut Creek Bridge. Therefore, the project would not physically divide an established community. No impact would occur.

##### **b) No Impact**

The project is included in SACOG’s 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy and 2019-2022 Federal Transportation Improvement Program, where it is listed as “SR 70 Safety Improvements” (Project ID #CAL20679). According to Caltrans’ Interregional Transportation Strategic Plan, SR 70 is identified as one of 34 High Emphasis Routes that are of particular importance from a statewide perspective and is further designated as one of 10 Focus Routes in California. Additionally, the project would not conflict with the Yuba County General Plan. The project would not conflict with any plan adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

### 3.2.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.12.1 CEQA Significance Determinations for Mineral Resources

“No Impact” determinations in this section are based on project scope and review of the Yuba County General Plan and mineral resource zones.

#### ***a, b) No Impact***

As discussed in the *Geology/Soils/Seismic/Topography/Mineral Resources* section in Chapter 2, there are no designated mineral resource areas (MRZ-2) in the project area or vicinity, and the project would not impede the extraction of any known mineral resources. There would be no impact.



### 3.2.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	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 applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project within the vicinity of a private airstrip or an airport land use plan, or where such a plan has been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.13.1 CEQA Significance Determinations for Noise

“No Impact” and “Less than Significant” determinations in this section are based on the project scope and the noise study technical report (California Department of Transportation 2019d).

##### a) *Less than Significant*

As discussed in the *Noise* section in Chapter 2, the traffic noise modeling documented in the noise study report indicates that traffic noise levels would increase relative to existing conditions by up to 2 dB under the proposed project. These values do not exceed the threshold for a substantial increase in noise levels as defined by Caltrans (i.e., 12 dB above existing levels). Therefore, the impact is less than significant. No mitigation is required.

##### b) *Less than Significant*

Construction of the proposed project would require some equipment that could potentially generate groundborne vibration, such as a jackhammer. However, these activities would be short-term impacts that would cease after construction has been completed. The project would not include any pile driving or any other activities that would generate excessive groundborne vibration or noise. The project would, therefore, not generate excessive groundborne vibration or groundborne noise levels. The impact would be less than significant. No mitigation is required.

***c) No Impact***

The closest public airport is the Sutter County Airport, which is approximately 3.3 miles southwest of the SR 70/Laurellen Road intersection in Sutter County. According to the Sutter County Airport Land Use Compatibility Plan, the project alignment is outside all compatibility zones the Sutter County Airport (Sutter County 1994). There are no private airstrips in the project vicinity. No impact would occur.

### 3.2.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.14.1 CEQA Significance Determinations for Population and Housing

“Less than Significant” determinations in this section are based on the project scope and the CIA (California Department of Transportation 2017).

##### ***a, b) Less than Significant***

As discussed in the *Community Impacts* section of Chapter 2, the proposed project would involve the widening of an existing roadway. The project would not change land uses surrounding the project alignment and would not provide new access to areas that are currently inaccessible via SR 70. However, the project would indirectly contribute to growth by increasing the efficiency with which vehicles are able to move through the project vicinity. Growth in the project vicinity is reasonably foreseeable, and the project would serve the transportation needs of such growth. Displacements resulting from proposed project would not be enough to cause changes to the regional population due to the relatively small number of relocations required and the sufficient replacement properties in the study area. However, the project would not permanently remove housing, so no displacement would occur. Therefore, the project would not contribute to changes in the demographic characteristics of the region and study area. Impacts would be less than significant. No mitigation is required.

### 3.2.15 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.15.1 CEQA Significance Determinations for Public Services

“No Impact” and “Less than Significant” determinations in this section are based on the project scope and the CIA (California Department of Transportation 2017).

##### a) *Less than Significant*

##### Fire and Police Protection

Fire protection services are provided by the Yuba County Office of Emergency Services. Yuba County does not have its own fire protection or emergency services, but the cities (e.g., Marysville) and neighborhoods within Yuba County each have their own. Police protection services in the project area are provided by the Yuba County Sheriff’s Department. Section 2.1.5, *Utilities/Emergency Services*, provides a detailed discussion of the fire and police protection facilities in the project vicinity.

The project would not result in direct impacts on fire or police stations, and are not anticipated to adversely affect response time for emergency services associated with fire station or police/sheriff department personnel. It is likely that lanes may improve response times of emergency services by implementing standard shoulder widths and a 14-foot-wide paved strip between opposing traffic lanes striped as a TWLTL, allowing emergency service personnel to bypass other vehicles safely and quickly.

During construction, there may be temporary disruptions along SR 70 from shifting traffic or construction equipment. Traffic would be shifted to allow to continued two-way operation of SR 70, as described in the transportation management plan. Any required closures would be coordinated with emergency service providers so as not to hinder emergency responses. Delays

in access, although temporary, could disrupt normal operations and may result in impacts on emergency services.

### Schools, and Other Public Facilities

Marysville High School is located about 0.7 mile south of the project site. There are no other public facilities within close proximity to the project alignment. The project would not result in an increase in population or facilities that would require the provision of schools, or other public facilities, or result in the need for physically altered facilities. The demand for schools, or other public facilities would be the same as under existing conditions after construction of the project. Therefore, no impact on schools or other public facilities would occur from the project.

### Parks

For a discussion of parks, see Section 3.2.15, *Recreation*.

### 3.2.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.16.1 CEQA Significance Determinations for Recreation

“No Impact” determinations in this section are based on the project scope and the CIA (California Department of Transportation 2017).

##### **a, b) No Impact**

There are no parks or recreation facilities near the proposed project; most land in the immediate vicinity is agricultural land. The closest park, SJ Field Park, is in Marysville and is approximately 0.9 mile south of the project boundary. Therefore, no impact would occur.

**3.2.17 Transportation/Traffic**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? NOTE: While public agencies may immediately apply Section 15064.3 of the updated Guidelines, statewide application is not required until July 1, 2020. In addition, uniform statewide guidance for Caltrans projects is still under development. The PDT may determine the appropriate metric to use to analyze traffic impacts pursuant to section 15064.3(b). Projects for which an NOP will be issued any time after December 28th, 2018 should consider including an analysis of VMT/induced demand if the project has the potential to increase VMT (see page 20 of OPR's updated SB 743 Technical Advisory), particularly if the project will be approved after July 2020.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**3.2.17.1 CEQA Significance Determinations for Transportation/Traffic**

“No Impact” and “Less than Significant” determinations in this section are based on the project scope and the traffic analysis report (Fehr & Peers 2019). During construction, accessibility for vehicles may be affected, but associated avoidance and minimization measures will reduce potential impacts.

**a) No Impact**

The project is consistent with SACOG's 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy and 2019–2020 Metropolitan Transportation Improvement Plan where it is listed As “Yuba Safety Improvements” under the description “Near Marysville, from Laurellen Road to South Honcut Creek Bridge (#16-0020) - Widen shoulders and improve clear recovery zone [PM 16.2/25.8].” The project is also consistent with Caltrans' Interregional Transportation Strategic Plan, which identifies SR 70 as one of 34 High Emphasis Routes that

are of particular importance from a statewide perspective. SR 70 is further designated as one of 10 Focus Routes in California. The project would not conflict with any plans, rather it would implement these plans. No impact would occur.

### **b) Less than Significant**

As discussed in the *Traffic and Transportation/Pedestrian and Bicycle Facilities* section in Chapter 2, without the project, in opening year (2023) no intersections would operate at worse than LOS D. Without the project in horizon year 2043, the SR 70/Ramirez Road intersection would operate at unacceptable level of service during the evening peak period.

With the project, in opening and horizon years, all study intersections would operate at acceptable levels of service (LOS D or better) during both the morning and evening peak hours. See Section 2.1.6.3 in the *Transportation/Pedestrian and Bicycle Facilities* section in Chapter 2 for more detailed information.

Based on the project travel demand forecasting model (which covers Butte County and portion of Yuba County adjacent to the project), compared to existing (2018) conditions, opening year (2023) conditions would have 8 percent more vehicle miles of travel (VMT), 20 percent more vehicle hours of travel (VHT), and 44 percent more vehicle hours of delay (VHD). By the horizon year (2043), the area-wide VMT would increase by 41 percent, VHT by 177 percent, and VHD by more than 4.5 times compared to existing (2018) conditions. However, VMT, VHT, and VHD would similarly increase under the no-build alternative. Compared to the no-build alternative, the build alternatives would provide a lower average travel time in both directions and would reduce the deficient highway segments from 6 to 1. The build alternatives would also eliminate the intersection operations deficiency.

Impacts would be less than significant, and no mitigation is required; however, a traffic control plan would be prepared as part of the project to provide controlled access through the work site during construction.

### **c) Less than Significant**

No incompatible uses or hazardous design features are associated with operation of the proposed project. The project would widen a 9.5 miles of SR 70 and improve traffic operations and safety along this segment of the highway. The impact is less than significant.

During construction activities, a short-term increase in the potential for accidents involving motor vehicles and bicycles could occur. Because of the temporary disruption to traffic flow, the presence of construction equipment in the public ROW, and the localized increase in traffic congestion, drivers would be presented with unexpected driving conditions and obstacles, potentially resulting in an increase in automobile accidents. These potential impacts would not substantially increase hazards because people are used to driving through construction areas, and one lane of travel in both directions would be open at all times during construction. Impacts would be less than significant, and no mitigation is required. A traffic control plan would be prepared as part of the project to provide controlled access through the work site during construction.



**d) Less than Significant**

The traffic control plan to be prepared and implemented would provide controlled access through the work site during construction. Although traffic would be slowed during construction, continuous access would be provided. This would avoid significant effects that could result from traffic stoppage, such as interruption of emergency access or access to residences and commercial businesses. The impact is less than significant. No mitigation is required.

### 3.2.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.18.1 CEQA Significance Determinations for Tribal Cultural Resources

“No Impact” determinations in this section are based on consultation with the CEQA lead agency, Caltrans.

##### **a, b) No Impact**

The cultural resources studies and Native American consultation conducted for the project did not identify any tribal cultural resources within the project area.

### 3.2.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the construction of new or expanded water, wastewater treatment facilities or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.2.19.1 CEQA Significance Determinations for Utilities and Service Systems

“No Impact” and “Less than Significant Impact” determinations in this section are based on the project scope and the CIA (California Department of Transportation 2017). There may be temporary disruptions to the existing highway during the construction period, but detour routes would be available, and any required closures would be coordinated with emergency service providers.

##### **a) Less than Significant**

The proposed project would not require water or wastewater treatment as no potable water and/or toilets would be provided as part of the project. No impact would occur. The proposed project would require relocation of electrical power and telecommunications utility poles, however, this would be a temporary disruption in service and all utilities would be notified in advance. This temporary impact is less than significant.

The project design includes improved storm drainage facilities, which would minimize the potential for discharges of pollutants to nearby storm drains, Honcut Creek, and the Lower Feather River. In addition, vegetative areas would allow for infiltration and water quality

treatment. The project would be designed in accordance with the objectives of Caltrans' NPDES Permit requirements and related stormwater requirements to reduce runoff and the volume of entrained sediment. Caltrans stormwater quality manuals also include BMPs to be implemented for erosion and sediment control and material management. The implementation of BMPs would minimize impacts on drainage and water quality during long-term operations at the site. The impact is less than significant. No mitigation is required.

**b) Less than Significant**

The project would not require any water during operation. During construction, water would only be used for dust control along the project corridor. Due to the minimal amount of water that would be required for dust control, the impact on the existing water supply would be less than significant. No mitigation is required.

**c) Less than Significant**

No wastewater would be generated by the project. If dewatering is necessary in areas where groundwater is encountered, depending on surface and groundwater levels at the time of construction, a permit for discharge of extracted groundwater would be obtained from the RWQCB. This discharge shall be consistent with RWQCB requirements and as such would not result in a violation of water quality standards or waste discharge requirements. The impact is less than significant. No mitigation is required.

**d) Less than Significant**

Construction of the proposed project would generate solid waste. The amount of construction waste would not be substantial, would be limited to the construction time period, and would not result in a substantial reduction in the capacity of a landfill. Most municipal wastes in Yuba County are hauled to the Ostrom Road Landfill, which is operated by Recology Yuba-Sutter. The facility is permitted to accept municipal solid waste, construction and demolition debris, special wastes, and non-friable asbestos. The facility's maximum permitted capacity is 43,467,231 cubic yards and its remaining capacity is 39,223,000 cubic yards, with an estimated closure year of 2059 (CalRecycle 2019). There is sufficient capacity in the landfill to serve the project; therefore, construction of the project would not result in an impact on the capacity of this landfill. The impact is less than significant. No mitigation is required.

**e) No Impact**

The project would comply with all federal, State, and local statutes and regulations related to solid waste. No impact would occur.

**3.2.20 Wildfire**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**3.2.20.1 CEQA Significance Determinations for Wildfire**

“No Impact” determinations in this section are based on consultation with the CEQA lead agency, Caltrans.

**a–d) No Impact**

As described above in Section 2.9.9, there is the potential for wildland fires in the region given the relatively dry summer climate, with hot days and wind; however, the project site is not located in a fire hazard severity zone according to the California Department of Forestry and Fire Protection’s fire hazard severity zone map for Yuba County (California Department of Forestry and Fire Protection 2007). The project would implement a traffic control plan which would keep lanes open for emergency access at all times. The impact would be less than significant. No mitigation is required.

### 3.2.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.2.21.1 CEQA Significance Determinations for Mandatory Findings of Significance

##### a) *Less than Significant*

The project is located in a rural environment along an existing 9.6-mile section of SR 70. Implementation of Caltrans' standard measures, which are described in Chapter 2, *Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures*, would ensure that the construction and operation of the proposed project would not reduce the habitat, population, or range of a plant or animal species; or eliminate important examples of California history or prehistory. Impacts would be less than significant.

##### b) *Less than Significant*

Cumulative impacts related to development accommodated by Yuba County's General Plan were analyzed in the Final Yuba County 2030 General Plan 2030 EIR (Yuba County 2011). Although the project is not specifically called out in the General Plan, the project is consistent with the policies in the General Plan and would help the County achieve its goals of providing a safe and efficient transportation system. The project is considered a project accommodated for in the General Plan.

Cumulative impacts related to development accommodated by the County's General Plan were found to be significant in the General Plan 2030 EIR, including aesthetics, agriculture, air quality, biological resources, cultural resources, geology/soils, greenhouse gases (GHGs), land use, noise, parks/recreation, traffic, utilities (wastewater and solid waste), and energy.

The proposed project's contribution to the cumulative impacts of these resource areas, with the exception of agricultural resources, would be less than significant. As described in Section 3.2.4, impacts on special-status species, riparian areas, and wetlands would be less than significant with implementation of mitigation measures. Because the project would not result in impacts on special-status species, riparian areas, and wetlands, the project's contribution to cumulative biological resources impacts would be less than significant.

Proposed project improvements would affect lands classified by the FMMP as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. Approximately 38.03 acres of prime farmland and 22.38 acres of farmland of statewide importance would be acquired, or approximately 0.00025 percent of the County's farmland. Given the low rate of farmland conversion within this portion of Yuba County, the project's contribution to a cumulative farmland impact would be less than significant.

As described in Section 3.2.7, long-term operation of the proposed project would increase CO<sub>2</sub> emissions slightly relative to existing conditions. Because the project would not substantially increase GHG emissions in the region, the project's contribution to a cumulative GHG emissions impact would be less than significant.

As described in Section 3.2.10, potential impacts on water quality, depletion of groundwater, erosion, flooding, and polluted runoff were determined to be less than significant. Because the project would not have a significant impact on hydrology and water quality resources, the project's contribution to a cumulative hydrology and water quality impact would be less than significant.

As described in Section 3.2.11, the proposed project would not physically divide a community, conflict with an applicable land use plan or policy, or a conservation plan. Because the project would not be inconsistent with any land use plan or policy, the project's contribution on a cumulative land use impact would be less than significant.

As described in Section 3.2.13, the proposed project would not exceed the threshold for a substantial increase in noise levels as defined by Caltrans (i.e., 12 dB above existing levels), and construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Because the project would not substantially increase noise during construction and operation, the project's contribution to a cumulative noise impact would be less than significant.

As described in Section 3.2.17, the proposed project would improve safety on the SR 70 corridor. Capacity would not increase as a result of the proposed project, and the project's contribution to a cumulative traffic impact would be less than significant.

### **c) Less than Significant**

The implementation of the proposed project could result in impacts on aesthetics, agriculture, air quality, cultural resources, geology/soils, hazards/hazardous materials, GHGs, noise, traffic, utilities, and energy; however, implementation of Caltrans' standard measures, described in Chapter 2 of this document, would ensure that the proposed project would not result in environmental effects that would cause substantial adverse effects on human beings. Impacts would be less than significant.

### **3.2.22 Climate Change**

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), and various hydrofluorocarbons (HFCs). CO<sub>2</sub> is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO<sub>2</sub>.

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

#### **3.2.22.1 Regulatory Setting**

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

##### **Federal**

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



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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.<sup>1</sup> This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”<sup>2</sup> Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

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

The U.S. EPA<sup>3</sup> in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. EPA and NHTSA are currently considering appropriate mileage and GHG emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

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<sup>1</sup> <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

<sup>2</sup> <https://www.sustainablehighways.dot.gov/overview.aspx>

<sup>3</sup> U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions.

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO<sub>2</sub> emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

## **State**

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

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California’s GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

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

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

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

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

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

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e).<sup>4</sup> Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

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

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

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

### **3.2.22.2 Environmental Setting**

The proposed project is in a rural area, with a primarily natural-resources based agricultural and tourism economy. SR-70 is the main transportation route to and through the area for both passenger and commercial vehicles. The nearest alternate route is SR-99, which is up to 4 miles to the east. Traffic counts are low and SR-70 is rarely congested. Railroad tracks running parallel to SR-70 right-of-way carry several passenger and freight trains each day. SACOG guides transportation development. The Yuba County General Plan Health and Safety and Circulation elements address GHGs and/or involve sustainable policies in the project area.

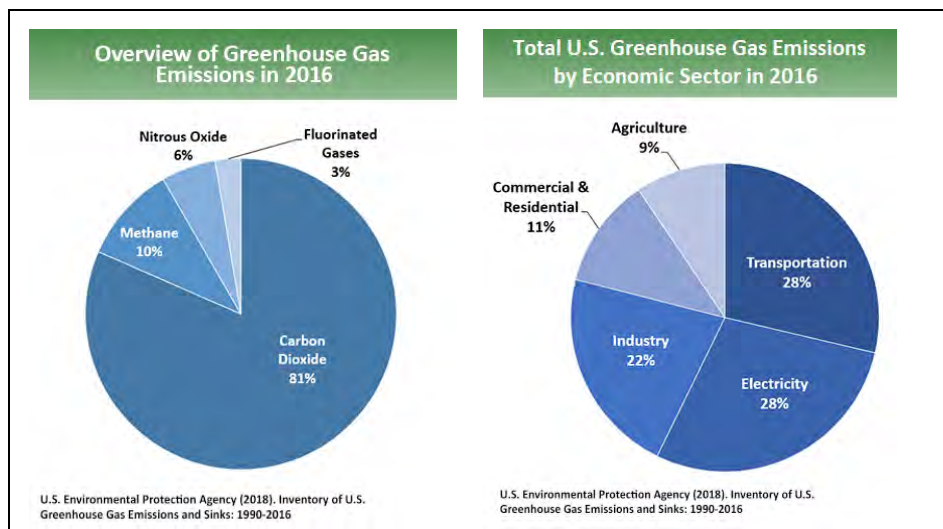
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

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<sup>4</sup> GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO<sub>2</sub> is the most important GHG, so amounts of other gases are expressed relative to CO<sub>2</sub>, using a metric called “carbon dioxide equivalent” (CO<sub>2</sub>e). The global warming potential of CO<sub>2</sub> is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO<sub>2</sub>.

## National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, perfluorocarbons, SF<sub>6</sub>, and nitrogen trifluoride. It also accounts for emissions of CO<sub>2</sub> that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO<sub>2</sub> (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO<sub>2</sub>e GHG emissions in 2016, 81% consist of CO<sub>2</sub>, 10% are CH<sub>4</sub>, and 6% are N<sub>2</sub>O; the balance consists of fluorinated gases (EPA 2018a).<sup>5</sup> In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.



## State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state’s progress in meeting its GHG reduction goals. The 2018 edition of the GHG emissions inventory found total California emissions of 429 MMTCO<sub>2</sub>e for 2016, with the transportation sector responsible for 41% of total GHGs. It also found that GHG emissions have declined from 2000 to 2016 despite growth in population and state economic output.<sup>6</sup>

<sup>5</sup> U.S. Environmental Protection Agency. 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

<sup>6</sup> 2018 Edition of the GHG Emission Inventory (July 2018). <https://www.arb.ca.gov/cc/inventory/data/data.htm>

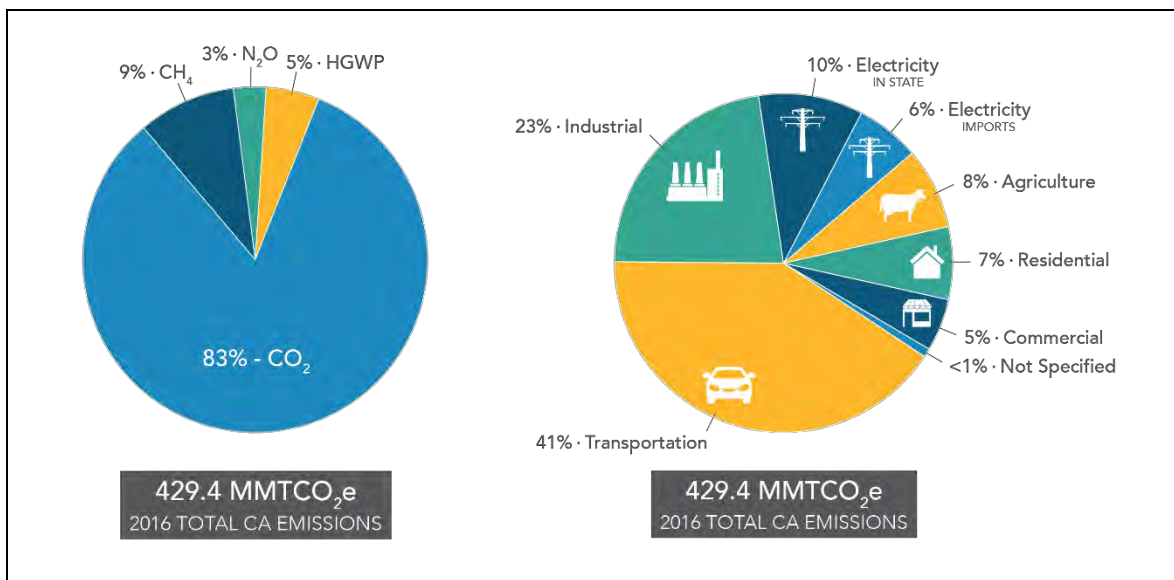


Figure 3.2.22-1. California 2016 Greenhouse Gas Emissions

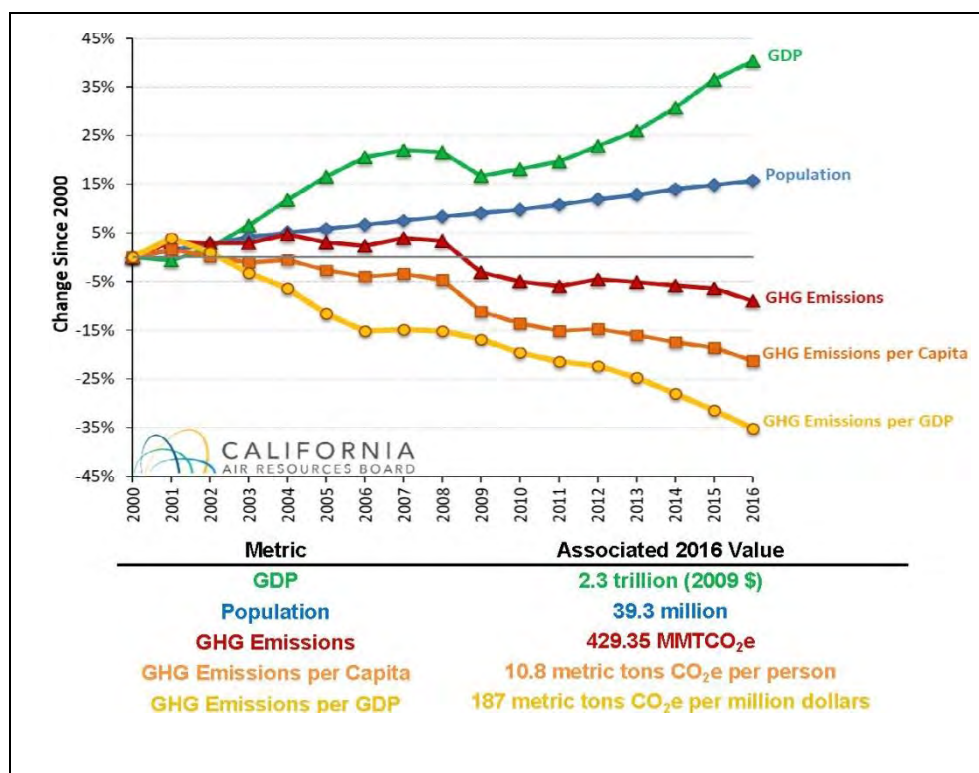


Figure 3.2.22-2. Change in California GDP, Population, and GHG Emissions Since 2000

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target

established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

## Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their RTP/SCSs to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for SACOG's 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy and 2019-2022 Federal Transportation Improvement Program, where it is listed as "SR 70 Safety Improvements" (Project ID #CAL20679). The regional reduction target for SACOG is 7 percent by 2020 and 19 percent by 2035. The table below lists the GHG-related goals and policies of SACOG's MTP/SCS.

**Table 3.2.22-1. GHG-Related Goals, Policies, and Strategies**

Title	GHG Reduction Goals, Policies, or Strategies
Sacramento Area Council of Governments (SACOG) 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (adopted February 2016)	<ul style="list-style-type: none"> <li>• Manage and increase the productivity of the region's transportation system (e.g., state of good repair improvements)</li> <li>• Strategic capacity and technology enhancements to existing highways</li> <li>• Transportation Systems Management measures</li> <li>• Transportation Demand Management</li> </ul>
Yuba County 2030 General Plan (Adopted June 2011)	<p>Health and Safety Goal 5 - GHG and Climate Change: Provide GHG efficient development patterns and successfully adapt to future changes in Yuba County's climate.</p> <ul style="list-style-type: none"> <li>• Policy HS5.6: The County relies, in part, on infrastructure planning and funding controlled by regional, state, and other local agencies, and will work cooperatively with these agencies to provide infrastructure and public facilities needed to support GHG-efficient development pattern.</li> <li>• Policy HS5.8: The County will actively pursue funding for GHG-efficient transportation systems and other needed infrastructure, building and public realm energy efficiency upgrades, renewable energy production, land use-transportation modeling, and other projects to reduce local greenhouse gas emissions.</li> </ul> <p>Health and Safety Goal 6 - Construction and Climate Change: Use construction practices and operational strategies that minimize air pollution.</p> <ul style="list-style-type: none"> <li>• Policy HS6.1: New developments shall implement emission control measures recommended by the Feather River Air Quality Management District for construction, grading, excavation, and demolition, to the maximum extent feasible.</li> </ul> <p>Circulation Goal 16: Maintain a roadway system that provides adequate level of service, as funding allows, and that is consistent with the County's planning, environmental, and economic policies.</p> <ul style="list-style-type: none"> <li>• Policy CD16.1: The County will maintain roadway levels of service that recognize differences between urban and rural environments and consideration of other community character, economic, and environmental policies of the County.</li> <li>• Policy CD16.11: The County will analyze and mitigate transportation impacts in CEQA documents according to their relative increase in vehicular travel demand.</li> </ul> <p>Circulation Goal 18 – Regional Transportation Planning: Improved transportation access throughout the County and surrounding region.</p> <ul style="list-style-type: none"> <li>• Policy CD18.1: The County will support regional transportation planning for roadway improvements within Yuba County identified by SACOG, Caltrans, and documented in the Metropolitan Transportation Plan and Highway Concept Reports.</li> <li>• Policy CD18.8: The County will coordinate with Caltrans to implement context-sensitive improvements to State facilities that are keyed to local multi-modal transportation needs.</li> </ul>

### 3.2.22.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs. CO<sub>2</sub> emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH<sub>4</sub> and N<sub>2</sub>O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

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

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

### 3.2.22.4 Operational Emissions

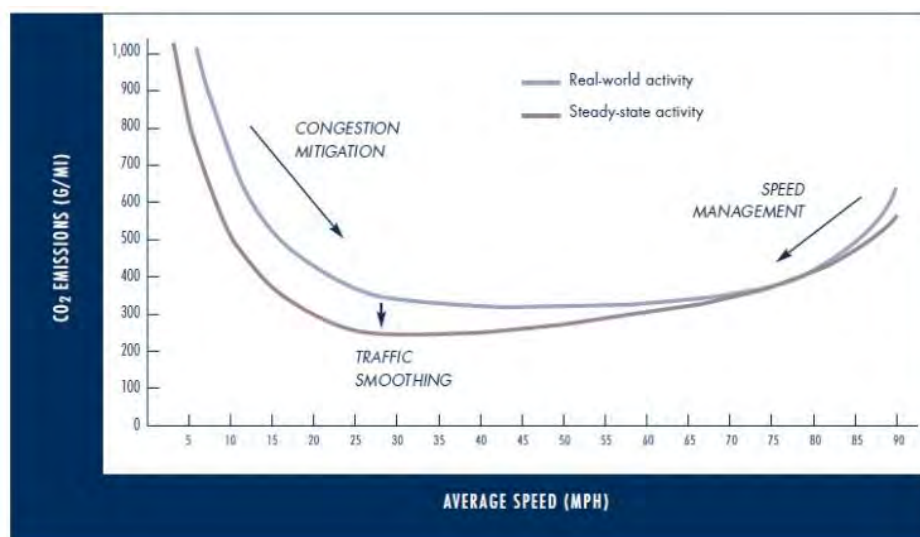
Information presented in this section is based on the air quality study report and traffic analysis report prepared for the proposed project (California Department of Transportation 2019b; Fehr & Peers 2019).

CO<sub>2</sub> accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO<sub>2</sub> emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of CO<sub>2</sub> from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 3.2.22-3). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO<sub>2</sub>, may be reduced.

Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued concurrently.





Source: Barth and Boriboonsomsin 2010<sup>7</sup>

**Figure 3.2.22-3. Possible Use of Traffic Operation Strategies in Reducing On-Road CO<sub>2</sub> Emissions**

The proposed project is listed in SACOGs financially constrained 2016 RTP/SCS. Projects included in the RTP/SCS are required to be consistent with the planning goals of State Implementation Plans adopted by local air quality management agencies. SACOG's RTP/SCS, adopted in 2016, projects reductions in per capita GHG emissions from passenger vehicles. The reduction in emission is attributed to the focus of the RTP/SCS, which is to create a more sustainable transportation system and land use development pattern. The plan encourages greater densities, more mixed land use, and better transit services to population centers. The RTP/SCS also heavily emphasizes bicycling and alternative modes of transportation as means of decreasing auto use and reducing traffic congestion. Altogether, the transportation improvements included in the RTP/SCS would result in a more efficient transit system, greater availability of public transit and other alternative modes of transportation, and a more efficient land use scenario, relative to business-as-usual conditions. The proposed project, while not a transit or multi-modal project, would support this outcome by providing congestion and efficiency improvements throughout the SR 70 project area and surrounding area.

Caltrans' CT-EMFAC model was used to estimate CO<sub>2</sub> emissions for existing and design year conditions and to evaluate potential emissions increases by the build alternatives. Table 3.2.22-2 presents projected CO<sub>2</sub> emissions for existing condition in 2018, and no-build and build alternatives in 2023 and in 2043, respectively. In the opening year (2023), CO<sub>2</sub> emissions of the build alternatives at the northbound direction are similar to that of the no-build condition, but the amount of CO<sub>2</sub> of the build conditions at the southbound direction are greater than that of the no-build. In the design year (2043), CO<sub>2</sub> emissions of the build alternatives at the northbound direction are expected to increase in comparison with CO<sub>2</sub> values of the no-build condition, but CO<sub>2</sub> emissions of the build conditions at the southbound direction are similar to that of the no-

<sup>7</sup> Barth, Matthew and Kanok Boriboonsomsin. 2010. *Real-World Carbon Dioxide Impacts of Traffic Congestion*. Berkeley, CA: University of California Transportation Center. UCTC-FR-2010-11. Available: <https://www.researchgate.net/publication/46438207>



build. These results in CO<sub>2</sub> emissions can be solely attributed to the projected changes in the traffic volume. CO<sub>2</sub> emissions in the design year are expected to decrease compared with those values in the existing condition except Alternative 2 at the northbound due to the traffic volume.

The CT-EMFAC 2014 model does not account for the project's reduction in vehicle miles traveled or vehicle delay. The emission estimate below is the most conservative estimate as it does not take any of other factors into consideration, which would likely reduce the GHG emissions estimate for the build alternative.

While CT-EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC are therefore estimates and may not reflect actual physical emissions. Though CT-EMFAC is currently the best available tool for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives. The relative magnitudes however, as used for the comparison above, can be assumed to be reasonably accurate.

**Table 3.2.22-2. Estimated GHG Emissions from Operation of the Proposed Project (tons per year)**

	<b>Alternative</b>	<b>CO<sub>2</sub> Emissions</b>
Existing/Baseline (2018)	Northbound	80
	Southbound	83
Open to Traffic Year (2023)	Northbound	77
	Southbound	56
	Northbound (Build Alternative 1)	77
	Southbound (Build Alternative 1)	80
	Northbound (Build Alternative 2)	77
	Southbound (Build Alternative 2)	80
Horizon/Design Year (2043)	Northbound	48
	Southbound	71
	Northbound (Build Alternative 1)	68
	Southbound (Build Alternative 1)	70
	Northbound (Build Alternative 2)	92
	Southbound (Build Alternative 2)	71

Source: CT-EMFAC (2014).  
CO<sub>2</sub> = carbon dioxide.

### 3.2.22.5 Construction Emissions

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

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

Construction emissions were estimated using the latest Caltrans' Model (CAL-CET2018). Table 3.2.22-2 summarizes estimated GHG emissions generated by construction equipment. As discussed above, construction would occur approximately for 1 year. The emissions presented in Table 3.2.22-3 would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Measures to reduce construction emissions include maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions.

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

**Table 3.2.22-3. Estimated GHG Emissions from Construction of the Proposed Project  
(annual average tons per year)**

	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>
Total	2,343	0.07	0.15

CO<sub>2</sub> = carbon dioxide.

CH<sub>4</sub> = methane.

N<sub>2</sub>O = nitrous oxide.

### 3.2.22.6 CEQA Conclusion

Information presented in this section is based on the air quality study report prepared for the proposed project (California Department of Transportation 2019b).

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As shown in Table 3.2.22-3, construction of the proposed project would result in a short-term increase of approximately 2,343 tons of carbon dioxide equivalent (CO<sub>2</sub>e). Table 3.2.22-2 indicates that long-term operation of the build alternatives would increase GHG emissions relative to the no-build condition. The increase in emissions relative to the No-Build Alternative is primarily due to efficiency improvements associated with the proposed project (e.g., reduction in vehicle delay, increase average travel speeds).

Based on currently available scientific data, however, project-level analysis of GHG emissions is limited. Although a GHG analysis is included for this project, numerous key GHG variables (e.g., fuel economy) that are likely to change dramatically during the design life of the proposed project would further reduce the projected CO<sub>2</sub> emissions.

In addition, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the mission of GHGs, as the project is consistent with SACOG's RTP/SCS (which considers goals stipulated by AB 32, etc.) would therefore not conflict with SB 375. In addition, although the project is not specifically called out in the General Plan, the project is consistent with the policies in the General Plan (as discussed in Section 3.2.19) and would help the County achieve its goals of providing a safe and efficient transportation system. The project is considered a project accommodated for in the General Plan.

### 3.2.22.7 Greenhouse Gas Reduction Strategies

#### Statewide Efforts

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

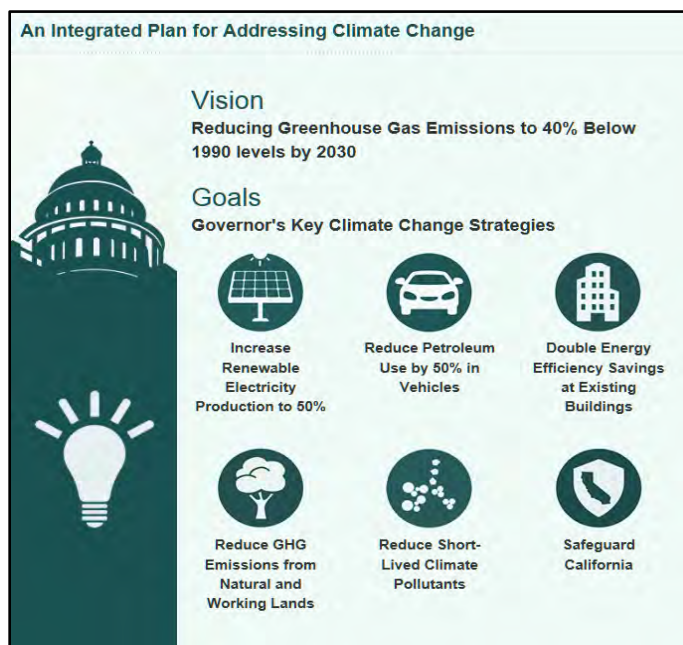


Figure 3.2.22-4. California Climate Strategy

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

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

### ***Caltrans Activities***

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

### ***California Transportation Plan (CTP 2040)***

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO<sub>2</sub> reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

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

### ***Caltrans Strategic Management Plan***

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

- Increasing percentage of non-auto mode share

- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

### **Funding and Technical Assistance Programs**

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

### **Caltrans Policy Directives and Other Initiatives**

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

### **Project-Level GHG Reduction Strategies**

The project will comply with construction standards adopted by FRAQMD as well as Caltrans standardized procedures for minimizing GHGs during construction. Details can be found in Section 2.2.6.

### **Adaptation**

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

### **Federal Efforts**

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

The U.S. Global Change Research Program (USGRCP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15

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

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”<sup>8</sup>

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014)<sup>9</sup> established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems.

FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels.<sup>10</sup>

### **State Efforts**

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

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the “capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt

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<sup>8</sup> [https://www.fhwa.dot.gov/environment/sustainability/resilience/policy\\_and\\_guidance/usdot.cfm](https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm)

<sup>9</sup> <https://www.fhwa.dot.gov/legregs/directives/orders/5520.cfm>

<sup>10</sup> <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

and grow from a disruptive experience”. Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.

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

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

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

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate “sea-level rise (SLR) projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.<sup>11</sup>

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

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the

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<sup>11</sup> <http://www.opc.ca.gov/updating-californias-sea-level-rise-guidance/>

challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

### Climate Adaptation Efforts

#### *Caltrans Vulnerability Assessments*

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

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

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

Caltrans District 3, where the proposed project is located, has not completed a climate change vulnerability assessment. However, SACOG's MTP/SCS and Yuba County's General Plan outline GHG-related goals, policies, and strategies, of which the project are consistent with (see Table 3.2.22-1). For instance, the proposed project would increase the productivity of SR 70 by improving the efficiency of the roadway (e.g., reduction in vehicle delay, increase average travel speeds) and provide adequate infrastructure that would support future GHG-efficient development patterns and promote access throughout the County. The proposed project is a coordinated effort with Caltrans and it would also comply with construction standards adopted by FRAQMD as well as Caltrans standardized procedures for minimizing GHGs during construction. Therefore, the proposed project would be consistent with the health and safety and circulation policies outlined in Yuba County's General Plan. Although climate-change risk analysis involves uncertainties as to the timing and intensity of potential risks, the proposed project is not anticipated to exacerbate the effects of climate change related to CEQA topics such as flooding, hazards, and wildfire.



### Sea Level Risk Analysis

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

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# Chapter 4      Comments and Coordination

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Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, outreach, and a public scoping meeting. This chapter summarizes the results of these efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

## **4.1    Scoping Process for the EIR/EA**

### **4.1.1.1    Public Outreach**

A public outreach meeting was held for the project on April 11, 2017, at the Caltrans District 3 Office. At the time, the safety project presented consisted of a 14-foot-wide paved strip between opposing traffic striped as a TWLTL, 12-foot lanes, 8-foot shoulders, and a 20-foot CRZ centered around the existing roadway centerline. The proposal would impact 187 acres and displace 43 residences/businesses, and utility relocation costs would be \$113 million. The meeting was well-attended by the public. Caltrans was represented by the project manager, the project engineer, and environmental and right-of-way (ROW) staff. A presentation was given by the project manager to explain the need for the safety project. Caltrans staff were available to answer questions and receive written comments from the public.

The comments received at the first public outreach meeting resulted in modifications to the proposed project with the goal of reducing ROW impacts and utility relocation costs. While maintaining the safety aspects of the project, a 14-foot-wide paved strip between opposing traffic striped as a TWLTL, 12-foot lanes and 8-foot shoulders, and a 20-foot CRZ, the centerline of the proposed design would either be to the left or the right of the existing road's centerline. This proposal would impact 154 acres and displace 31 residences/businesses, and utility relocation costs would be \$113 million.

A second public outreach meeting was held for the project on November 9, 2017 at the Caltrans District 3 Office. At that time the new alternative was presented and again Caltrans staff were available to answer questions and receive written comments from the public. The comments received at the public outreach meeting resulted in the creation of another alternative, Alternative 1. The purpose of Alternative 1 is to further reduce right of way acquisition and the overall impacts to land owners near the project. Public comments from the public outreach efforts are summarized below.

- Support for bypass and opposition to widening SR 70 as it will increase traffic in Marysville and bypass will be required in the not-too-distant future anyway.
- Bypass could improve economy (as in Lincoln)

- Increased traffic, accidents, pollution, and noise
- ROW acquisition/loss of property
- Impacts on agricultural land and farming
- Suggest making this section of SR 70 a no-passing zone/double yellow line; add passing lanes
- Strict enforcement from CHP
- Widening is the most expensive, disruptive option
- Treat Marysville to Three Bridges and Three Bridges to Oroville as separate parts of the highway; different dynamics due to density of residences
- Concerns about impacts to historic Shaver Home by curve correction
- Straightening curves/improving sight distance should be a priority
- Suggest reducing speed limit from 55 to 45 with increased CHP enforcement
- Suggest adding traffic signals near curves or where drivers may be tempted to speed
- Concerns about drainage and resulting flooding of private property
- Suggest minor improvements along Section 8 of SR 70 Improvement Project
- Bypass would not require costly relocation of utility poles, and gas lines, or removal of Heritage Valley Oak trees
- Concerns about HWY 70 as an evacuation route in case of Oroville dam failure; concerns about egress for Marysville residents.

Additional information regarding past improvement efforts is located in section 1.2.3 of Chapter 1, *Proposed Project*.

#### **4.1.1.2 Notice of Preparation and Public Scoping Meetings**

Caltrans, as the CEQA Lead Agency, distributed a NOP of a Draft EIR for the proposed project on June 14, 2018. A copy of the NOP is included in Appendix A.

The NOP requested comments from the public regarding environmental issues, reasonable alternatives, and reasonable mitigation measures that should be discussed in the Draft EIR to address each agency's specific concerns in their areas of responsibility. The 30-day comment period closed on July 13, 2018. The NOP also invited the public to attend a public scoping meeting that was held on June 28, 2018 at the Caltrans District 3 Building from 5:00 p.m. to 6:30 p.m. in the Sierra Nevada Room. The meeting was attended by twenty-six people, including members of the project development team, local agencies, and other interested parties.

The comments received at the public outreach meeting resulted in the creation of another alternative, widen left or right (near centerline), with the purpose of minimizing right of way acquisition.

## **4.2 Consultation and Coordination with Public Agencies**

During preparation of the technical studies for the proposed project, formal and informal coordination was conducted with the Federal, State, and local agencies and entities listed below.

### **4.2.1 U.S. Fish and Wildlife Service**

On December 2, 2016, Ms. Asbell obtained a list of threatened and endangered species for the proposed project from the USFWS Sacramento Field Office through the iPAC website. On October 9, 2017, Ms. Webber obtained an updated list of threatened and endangered species for the proposed project through the iPAC website. On June 20, 2018 and September 10, 2018 Caltrans Biologist Alexandra Laughtin obtained an updated list through the iPAC website (U.S. Fish and Wildlife Service 2017a) (Appendix J).

Caltrans biologist Jennifer Osmondson obtained a list of all proposed and listed threatened and endangered fish species and designated critical habitat that could occur in the vicinity of the proposed project from NMFS on March 8, 2017. An updated list was obtained on November 7, 2017, July 3, 2018, and September 10, 2018 by Caltrans biologist Alexandra Laughtin (National Marine Fisheries Service 2017) (Appendix J).

### **4.2.2 Native American Heritage Commission and Coordination with Local Native American Tribes**

A search of the Native American Heritage Commission (NAHC) sacred lands database was conducted in November 2015, and failed to indicate the presence of Native American resources in the immediate project area. A list of Native American individuals and organizations to contact for additional information was provided and included representative from six organizations (the Butte Tribal Council, Mooretown Rancheria of Maidu Indians, the T'si-Akim Maidu, Strawberry Valley Rancheria, Enterprise Rancheria of Maidu Indians, and United Auburn Indian Community (UAIC)). Letters were sent to these representatives on February 3, 2017, to initiate consultation per Section 106 of the National Historic Preservation Act. UAIC responded requesting copies of studies, updates on the progress of the project, and future consultation (Appendix K).

The County of Sacramento, Department of Community Development, PER Division conducted consultation with California Native American Tribes for California AB 52 (PRC 21080.3) purposes. The County emailed AB 52 consultation letters to three tribes that requested formal notification for projects requiring AB 52 consultation (Wilton Rancheria, UAIC of the Auburn Rancheria, and IBMI).

### **4.2.3 Historical Societies**

In an effort to establish public outreach and to inquire about the local history of the APE, TREMAINE contacted the Mary Aaron Museum, the Yuba Feather Historical Association Museum, and the Yuba Historical Society by mail on March 13, 2017 (Appendix K). To date, no replies have been received.

# Chapter 5 List of Preparers

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## 5.1 Caltrans

This document was prepared by the following Caltrans North Region staff:

- Rajpreet Bihala, Environmental Coordinator. Contribution: Project Coordinator, document review.
- Cameron Knudson, Project Manager. Contribution: Project Manager, document review.
- Kelly McNally, Senior Environmental Planner. Contribution: Project Coordinator, document review.
- Suzanne Melim, District 3 Office Chief. Contribution: document review.
- Sandra Rosas, NEPA Assignment Coordinator: document review.

## 5.2 ICF

- Lindsay Christensen, Project Coordinator and NEPA/CEQA Generalist. B.S., Community and Regional Development, University of California, Davis; 14 years environmental consulting experience. Contribution: Cultural Resources, Community Impacts, Cumulative Analysis, Geology and Soils, Hazards and Hazardous Materials, Paleontological Resources, Mandatory Findings of Significance.
- Sandy Lin, NEPA/CEQA Generalist. M.C.P., Urban and Regional Planning, University of Pennsylvania; B.A., Economics, University of California, San Diego; B.A. Urban Studies and Planning, University of California, San Diego; 8 years of environmental planning experience. Contribution: Aesthetics, Agriculture and Forest Resources, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Utilities and Service Systems, Energy, and Climate Change.
- Dan Schiff, GIS Analyst. 13 years environmental consulting and GIS experience. Contribution: GIS coordination and analysis, figure preparation.
- Katrina Sukola, Water Quality Specialist. M.S., Chemistry, University of Manitoba; B.S., Environmental Chemistry, University of Waterloo; 13 years water quality analysis experience. Contribution: Hydrology and water quality and storm water runoff.
- Shilpa Trisal, Project Manager. M.C.P., Community Planning, University of Cincinnati, Ohio; Bachelor of Planning, School of Planning and Architecture, New Delhi, India; 14 years of planning and environmental planning experience. Contribution: Transportation/Traffic, document review and quality control.
- Lisa Webber, Biologist. M.S., Botany, University of Massachusetts, Amherst; B.A. Biology, University of California, Santa Cruz; 18 years of environmental consulting experience. Contribution: Biological Resources.

## Chapter 6      Distribution List

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The State Clearinghouse distributed copies of this document to reviewing agencies. In addition, copies were sent to:

- Yuba County Board of Supervisors
- Yuba County Community Development and Services Agency
- Yuba County Library

A Notice of Availability (NOA) was sent to owners and residents within 0.5 mile of the proposed project.



## Appendix A Notice of Preparation

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SCH NO. \_\_\_\_\_

## NOTICE OF PREPARATION

To: Responsible/Trustee Agency From: California Dept. of Transportation  
\_\_\_\_\_ 703 B Street  
\_\_\_\_\_ Marysville, CA 95901

Subject: **Notice of Preparation of a Draft Environmental Impact Report**  
*Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.*

Project Title: Yuba 70 Safety Project (EA: 03-4F380)

Project Location: The proposed project is located on State Route (SR) 70 in Yuba County, California between post miles (PM) 16.20-25.80.

Project Description: The project proposes to widen shoulders and improve the clear recovery zone to improve safety along the route.

This is to inform you that the California Department of Transportation will be the lead agency and will prepare an environmental impact report for the project described below. Your participation as a responsible agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are contained in the attached materials.

A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please direct your response to Kristen Stubblefield Telephone (530) 741-5124 at the address shown above. Please supply us with the name for a contact person in your agency.

Date 6.14.18

Signature Kelly McHale  
Title Supervising Environmental Planner

## Notice of Preparation

### Project Title

Yuba 70 Safety Project (EA: 03-4F380)

### Project Location

The proposed project is located on State Route (SR) 70 in Yuba County, California between post miles (PM) 16.20-25.80.

### Project Background

State Route (SR) 70 is an Interregional Road System (IRRS) route. This route primarily serves to move people or goods from outside the immediate region through Yuba County. Transporting agricultural commodities to markets has made SR 70 a vital economic link to local farmers and ag-related businesses. Additionally, SR 70 has become a "gateway" route used to access multiple recreational destinations in the Sierra-Nevada Mountains, and serves as an alternate route to and from Nevada when Interstate 80 is closed due to accident or weather conditions.

SR 70, north of Marysville in Yuba County, is a two-lane rural highway through agricultural land. The highway presently has standard 12-foot lanes, with shoulder widths less than 8-feet in most areas. There are currently left turn lanes at County road intersections. This portion of SR 70 runs through what is commonly called District 10 which is short for Reclamation District 10. This area encompasses approximately 12,000 acres and includes 23 miles of levees. The District's boundaries are: Honcut Creek to the north, the Marysville Levee to the south, the Feather River to the west and railroad tracks to the east. The area includes 50 businesses (31 farms, 13 ag-related businesses, and 6 other) and over 450 residences. There are extensive farming activities throughout the project limits with farming and harvesting equipment sharing the road with the traveling public. Clusters of houses share frontage with the highway throughout the project limits.

The project limits cover the section of SR 70 north of Marysville with a cross section that does not meet current standards for shoulder width and clear recovery zone. In 2007, between PM 18.9/20.0, the highway was widened and a Two Way Left Turn Lane (TWLTL) was installed under Contract 03-4A570. In 2009, centerline ground-in rumble strips were also installed through the project limits, but cross-centerline collisions have continued to occur.

Initially, Caltrans developed the current project (03-4F380) as a combined Safety/State Transportation Improvement Project or STIP job. This scope of work included capacity increasing features, resulting in a five-lane design. In 2017, public meetings were held to share the concept with the public. Due to public feedback and a lack of funding for the STIP portion of the project, the Project Development Team and Caltrans District Director, decided to rescope the project as a three-lane Safety-only project. The re-design has resulted in dramatically reducing impacts to business and residential properties within the project limits. Caltrans will only be considering the safety improvements as described in the project description.

This project is consistent with the Caltrans 2014 Transportation Concept Report (TCR) which is a 20-year planning document that evaluates current and projected conditions along the route and communicates the vision for its development. The project is also included in the Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan (MTP) 2035 which proposes planned safety improvements for SR 70. The 2014 TCR for the segment north of Marysville identifies opportunities for constructing passing lanes and a TWLTL.

On March 30, 2015, a Project Study Report (PSR) was approved for this project. That PSR proposed safety improvements on SR 70 consisting of two standard 12-foot lanes, 8-foot

shoulders, a TWLTL where feasible, left-turn pockets at all County maintained roads, and a 20-foot Clear Recovery Zone (CRZ).

Beginning in the summer of 2019, EA 03-1E060, the Simmerly Slough Bridge Replacement Project, will construct a three-lane facility which this project will tie-in with at its southern end. In 2022, EA 03-3H930, the Butte 70 Safety Project, will construct a five-lane facility that will tie-in to the north end of this project. However, this project proposes to address a three-lane safety facility only and not the future five-lane project.

### **Project Description**

Caltrans is proposing a safety project on State Route (SR) 70 [Post Mile (PM) 16.2/25.8] from 0.2 miles north of Laurellen Road to Honcut Creek Bridge [Bridge No. 16 0020] in Yuba County, California, north of Marysville. The safety project will construct eight-foot shoulders and establish a Clear Recovery Zone (CRZ) with a minimum width of 20 feet. The CRZ may incorporate side slopes of 4:1 or less, and remove any physical obstructions, such as trees, utility poles, and other fixed objects. Roadside ditches may be constructed outside the CRZ. Should the project include a 14-foot-wide paved striped median barrier, it would allow a refuge for drivers turning left across traffic. Where dense clusters of homes occur, the median may be a Two Way Left Turn Lane (TWLTL). At County maintained roads, and certain ag-related businesses, the median may be a designated left turn pocket. In areas with fewer homes, the median may be used to construct a road which consists of two lanes in one direction and one lane in the other direction (2+1). The project team is considering increasing the shoulder backing width to six feet, which would allow farm equipment to travel on the shoulder instead of in the travel way, provide Caltrans maintenance crews a safer work zone and allow California Highway Patrol officers an enforcement area. At County maintained roads and certain ag-related businesses, Caltrans is considering deceleration lanes/right turn pockets, as well as acceleration lanes to allow merging traffic to match highway speeds. There are numerous school bus stops throughout the project limits; therefore, designated areas may have the shoulder width increased to 14-feet to provide areas for buses to pull over and give students safer access on and off the bus. Where needed, existing driveways along the corridor may be modified to conform to the new design. As warranted, driveway culverts will be replaced to convey drainage flows in the roadside ditches. In addition, there may be minor shifts in the horizontal alignment and minor adjustments in vertical profile to correct existing non-standard features. Existing cross culverts will be extended or replaced as needed.

### **Probable Environmental Effects**

The proposed project is expected to result in temporary and permanent environmental effects. The draft Environmental Impact Report/Categorical Exclusion will determine what resources would be affected, the level of significance, and feasible measures to reduce impacts. Probable environmental effects of the proposed project are outlined below.

#### Aesthetics

The proposed project could degrade the existing visual character or quality of the site and its surrounds.

During the environmental phase of the project, Caltrans will identify all feasible measures to avoid and minimize impacts to visual resources; however, no substantial impacts are anticipated.

#### Agricultural and Forest Resources:

The proposed project may require conversion of 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-agriculture use which may affect farmland within the project limits.



During the environmental phase of the project, Caltrans will identify all feasible measures to avoid and minimize impacts to agriculture and forest resources; however, no substantial impacts are anticipated.

#### Air Quality

The proposed project could expose sensitive receptors to substantial pollutant concentrations, and/or create objectionable odors affecting a substantial number of people.

During the environmental phase of the project, Caltrans will identify all feasible measures to reduce air quality impacts; however, no impacts are anticipated.

#### Biological Resources:

##### Wetlands and Other Waters:

The proposed project may encroach on wetlands and riparian habitat within the Environmental Study Limit (ESL), resulting in temporary and permanent impacts associated with temporary construction activities. Also, there is potential for the disruption of riparian wetlands through the temporary and/or permanent placement of fill in riparian wetlands.

##### Plant Species:

The ESL has a low likelihood of supporting special-status plants known to occur in the region, but there is potential habitat for five special-status plants to occur in the valley foothill riparian and riparian wetland habitats within the ESL—woolly rose-mallow, Red Bluff dwarf rush, veiny monardella, Baker's navarretia, and Hartweg's golden sunburst. Additional plant surveys will be completed during the blooming season to confirm the occurrence of these species within the project limits.

In addition, the project may result in the loss of valley oak and interior live oak trees with a diameter of six inches or greater, measured at breast height (approximately 4.5 feet above ground.).

##### Animal and Threatened/Endangered Species:

There are 10 special-status animal species with the potential to occur within the project limits. They may be affected by the proposed project. Additional analysis of the current design will be conducted during the environmental phase to determine the impacts to the following species:

- Valley elderberry longhorn beetle
- Northern harrier
- Swainson's hawk
- White-tailed kite
- Western burrowing owl
- Tricolored blackbird
- Modesto song sparrow
- Special-status bats
- Migratory birds
- Non-special-status bats

### Cultural and Paleontological Resources:

There is the potential for Cultural Resources to be located within the project area. Analysis of the design will be conducted during the environmental phase to determine the potential impacts to these resources.

There is the potential for Paleontological resources to be located within the project area. Analysis of the design will be conducted during the environmental phase to determine the potential impacts to Paleontological resources.

### Geology and Soils:

A geotechnical field investigation will be conducted and a Geotechnical Design Report with recommended design parameters will be prepared in accordance with Caltrans' Highway Design Manual (HDM) (California Department of Transportation 2012). The project will be designed according to Caltrans seismic standards, as provided in the HDM.

### Hazards and Hazardous Materials:

An Initial Site assessment (ISA) has been completed for the proposed project with no impacts anticipated.

### Hydrology and Water Quality:

Due to the anticipated quantity of soil disturbance during construction, the project will be regulated under the Construction General Permit (CGP). The CGP contains specific requirements meant to address potential erosion, sedimentation, and the transportation of potential pollutants to receiving waters. In accordance with the CGP, it is anticipated that field Best Management Practices (BMPs) will be implemented, monitored, and evaluated to the maximum extent practicable to reduce or prevent potential impacts to water bodies within the project limits.

Erosion, sedimentation, and pollutant discharge resulting from rain events, material exposure, and storm water runoff are the most common threats to water quality during construction operations. However, given the general flat terrain of the project area, the nature of the existing drainage courses and their proximity to major receiving waters, and the expectation that BMPs will be implemented, evaluated, and maintained per Caltrans' specifications and the requirements of the CGP, it is unlikely (nor anticipated) that water quality impacts or degradation to receiving waters will occur as a result of project activities.

### Land Use & Planning:

The proposed project would not conflict with any applicable land use plan, policy, or regulation of any agencies with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

### Mineral Resources:

groundborne vibration or groundborne noise levels, (3) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and (4) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

During the environmental phase of the project, Caltrans will conduct additional analysis to reduce potential noise impacts.

#### Population & Housing:

The proposed project could displace existing housing.

During the environmental phase of the project, Caltrans will identify all feasible measures to avoid and minimize impacts to housing.

#### Public Services:

No impacts anticipated.

#### Recreation:

No impacts anticipated.

#### Transportation & Traffic:

The proposed project is not anticipated to conflict with any applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit, or conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, or conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Through the design process, Caltrans is planning measures to decrease hazards due to previous design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

#### Utilities & Service Systems:

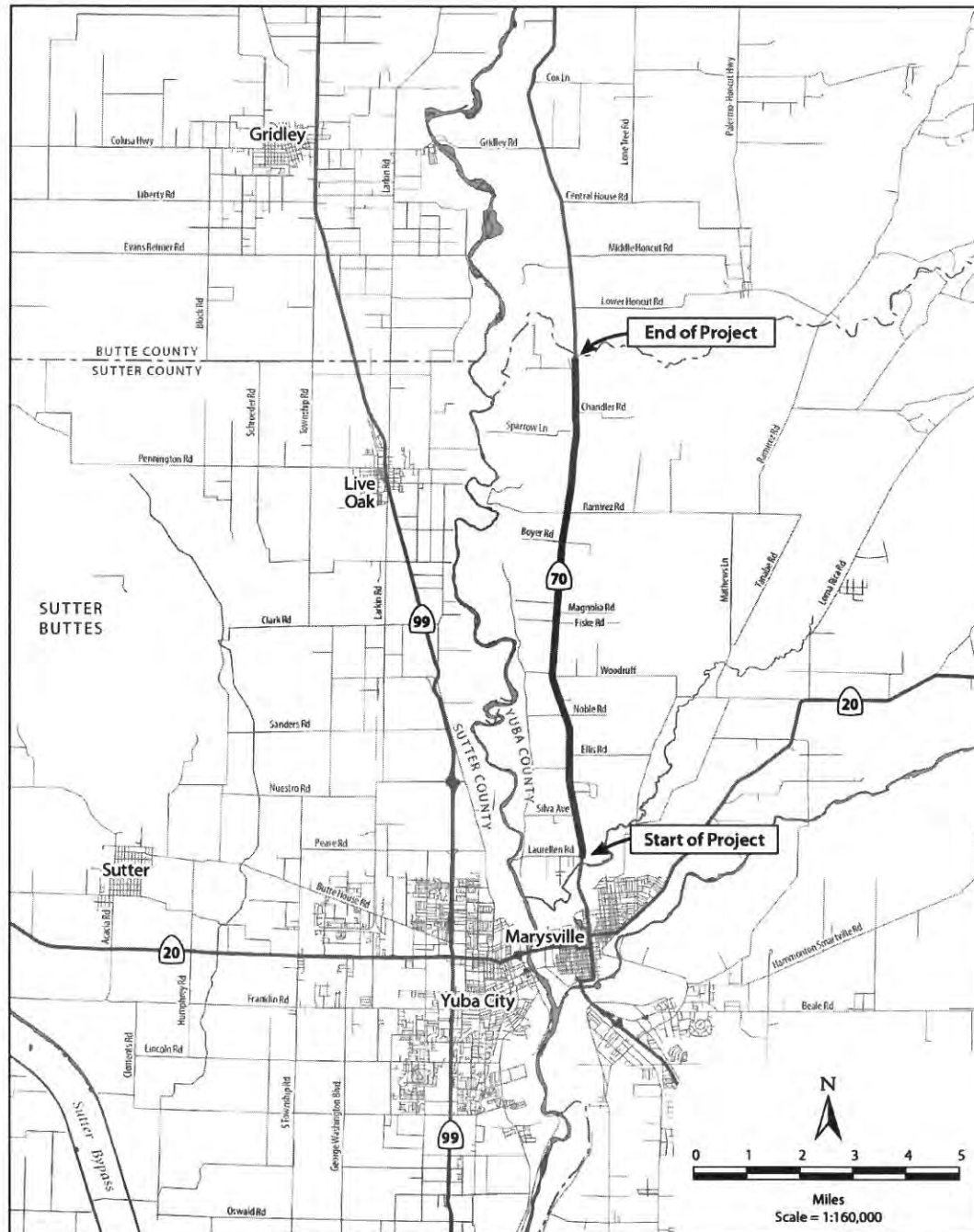
The proposed project could require the relocation of existing facilities; including, but not limited to gas, electric and fiber optic.

Through the design of the project, Caltrans will identify feasible measures to avoid and minimize impacts to utilities and service systems.

#### **Scoping Meeting**

A scoping meeting is being held on **June 28, 2018** from **5:00-6:30 p.m.** at the **Caltrans District 3 Building** located at **703 B Street, Marysville, California 95901**, in the **Sierra Nevada Room**, to provide information about the proposed project. The meeting will include maps and informational displays. Comments are welcomed and encouraged.

## Vicinity Map:



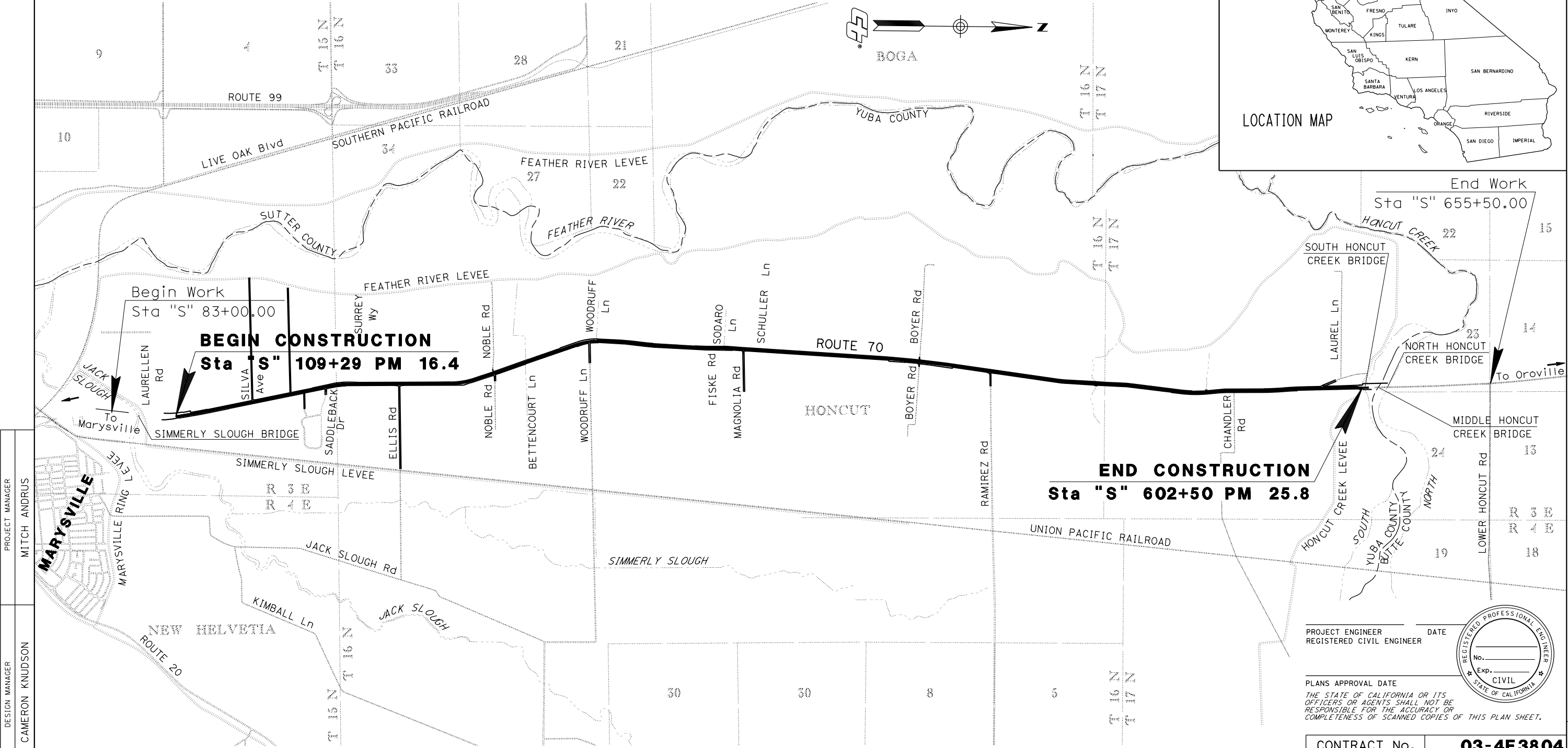
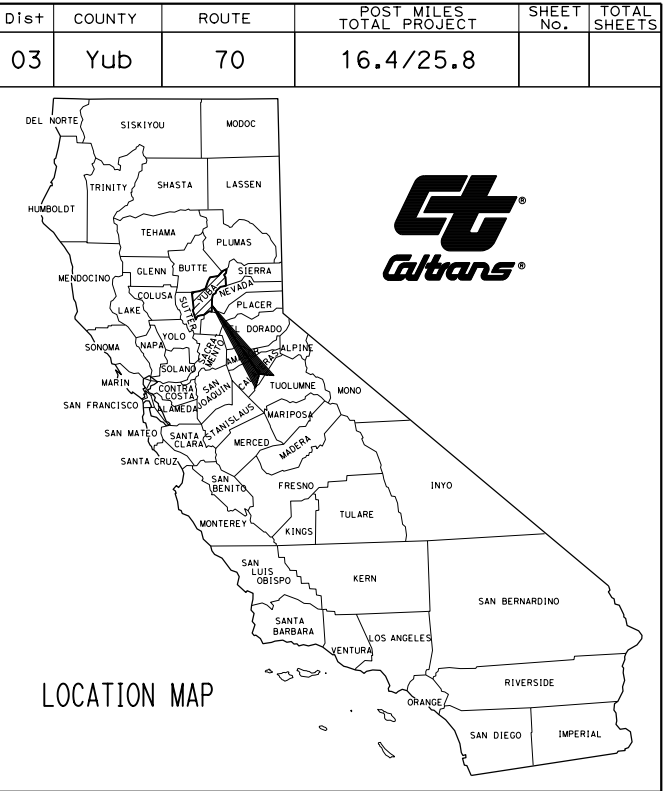
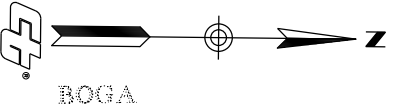


## Appendix B   Layouts

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STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN YUBA COUNTY  
NEAR MARYSVILLE FROM 0.2 MILE NORTH OF LAURELLEN  
ROAD TO SOUTH HONCUT CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015



PROJECT MANAGER  
MITCH ANDRUS  
DESIGN MANAGER  
CAMERON KNUDSON

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES)  
OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

PROJECT ENGINEER  
REGISTERED CIVIL ENGINEER

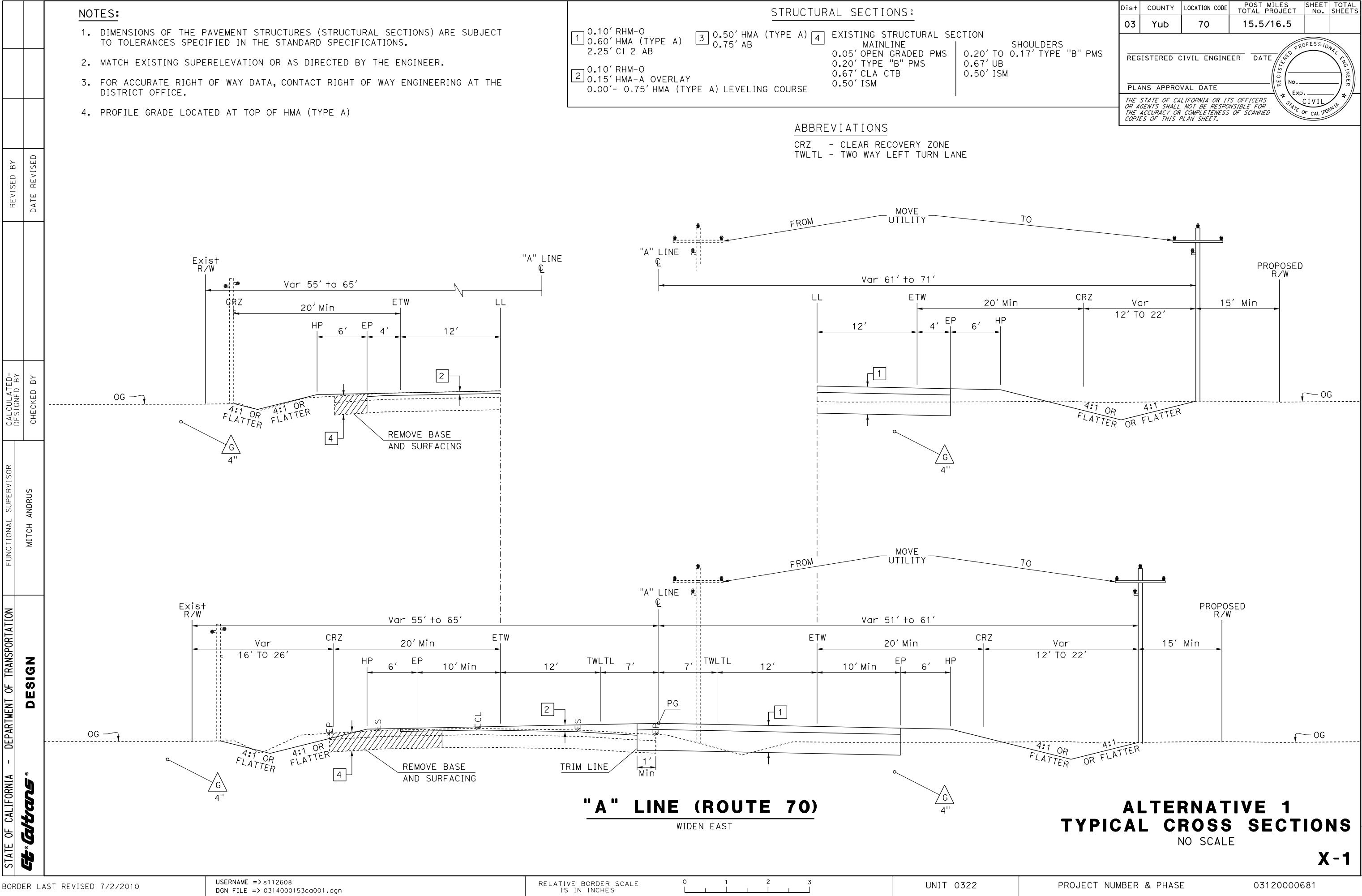
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CONTRACT No.	03-4F3804
PROJECT ID	0314000153

03 - YUB - 70 – PM 16.2/25.8  
03-4F380 – 03 1400 0153

**ATTACHMENT B**  
**TYPICAL CROSS SECTIONS AND LAYOUTS**  
**ALTERNATIVE 1 (40)**



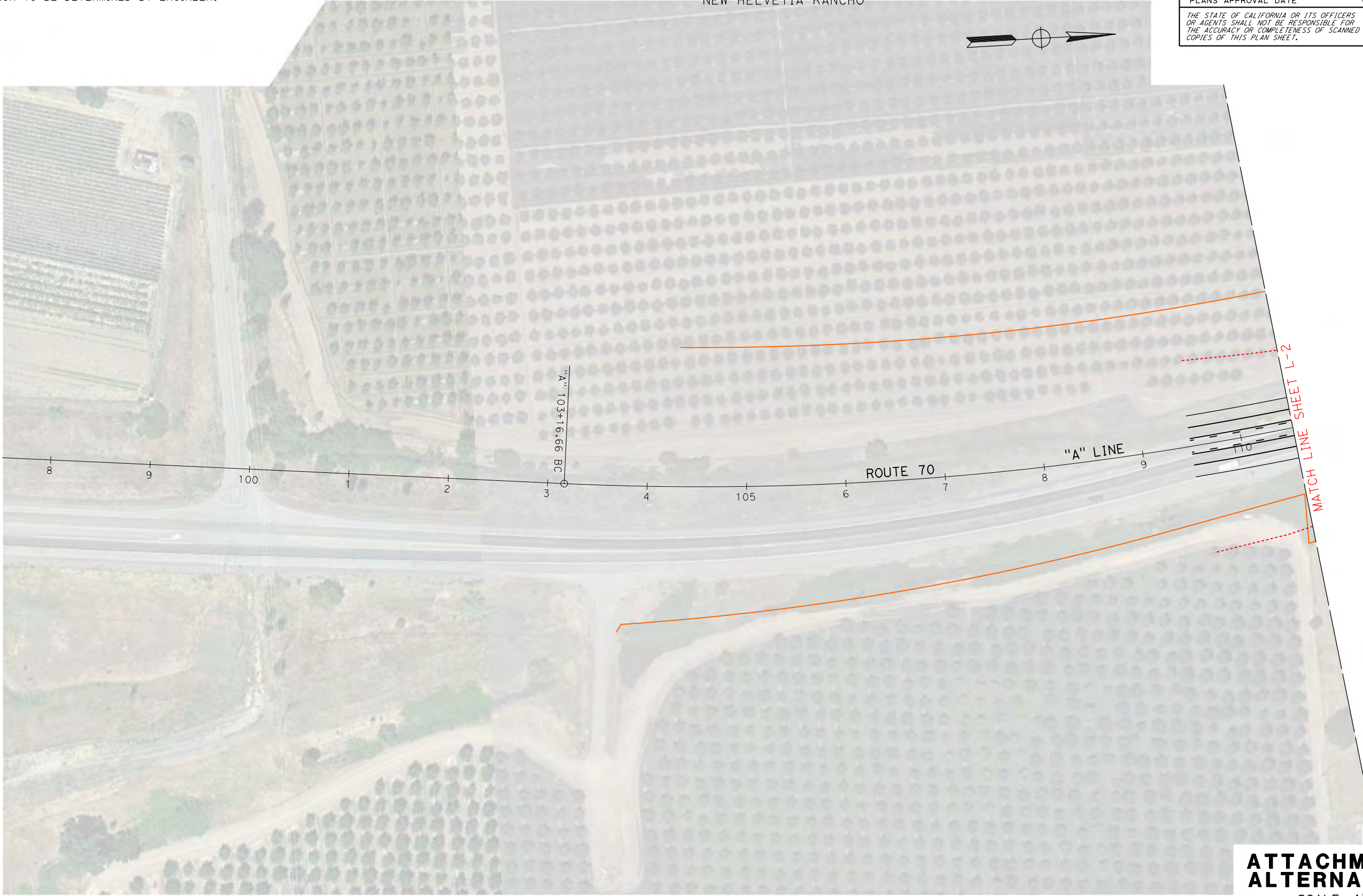




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	MTC ANDRUS					

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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CIVIL

STATE OF CALIFORNIA

ATTACHMENT B  
ALTERNATIVE 1

SCALE: 1"=50'

L-1

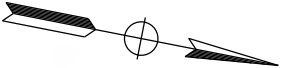


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Caltrans®	MITCH ANDRUS	CHECKED BY	DATE	REVISOR	

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YUBA CITY  
T15N R3E MDB&M  
NEW HELVETIA RANCHO



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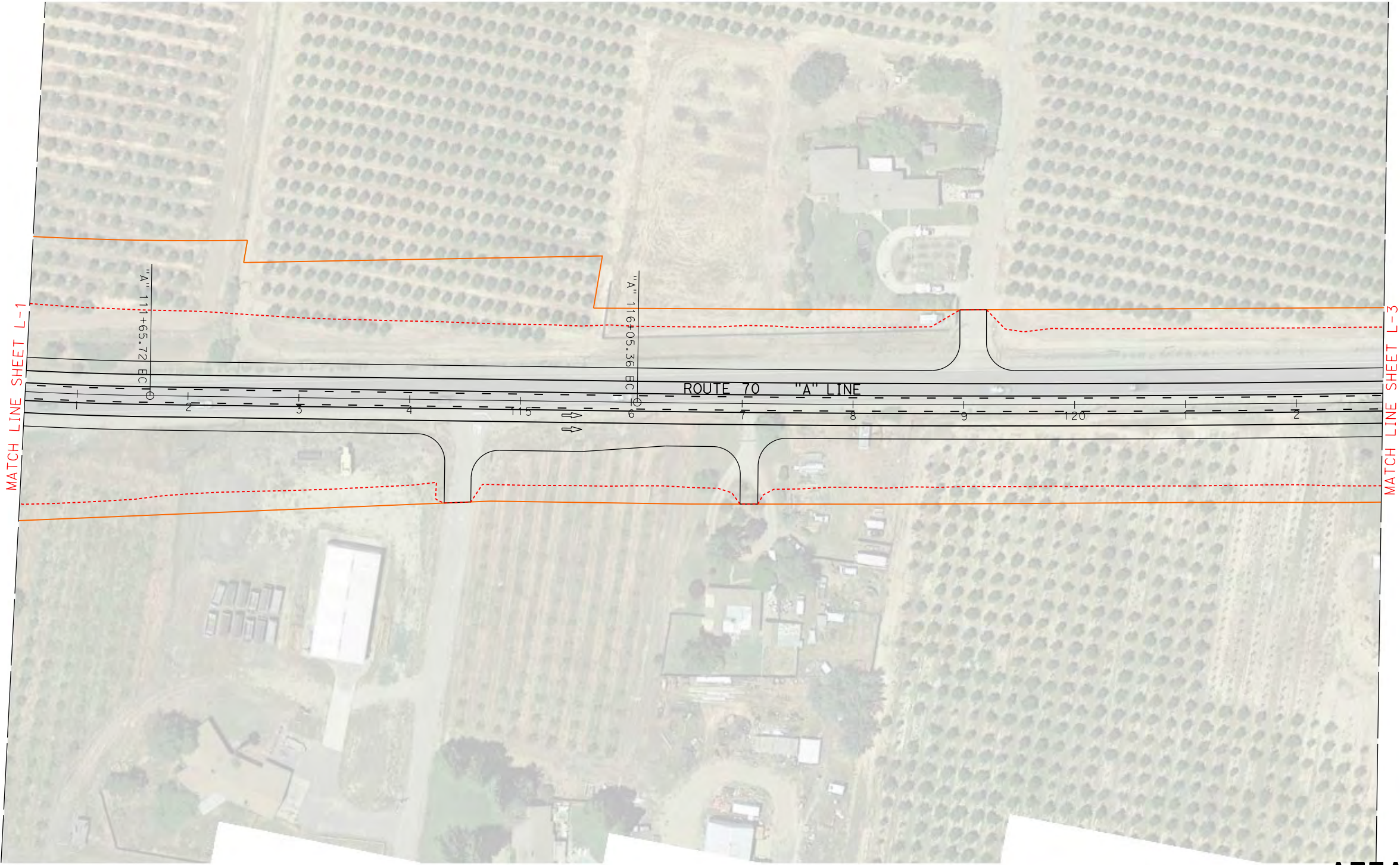
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STATE OF CALIFORNIA



ATTACHMENT B  
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L-2

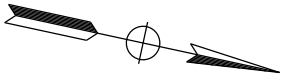


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YUBA CITY  
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NEW HELVETIA RANCHO



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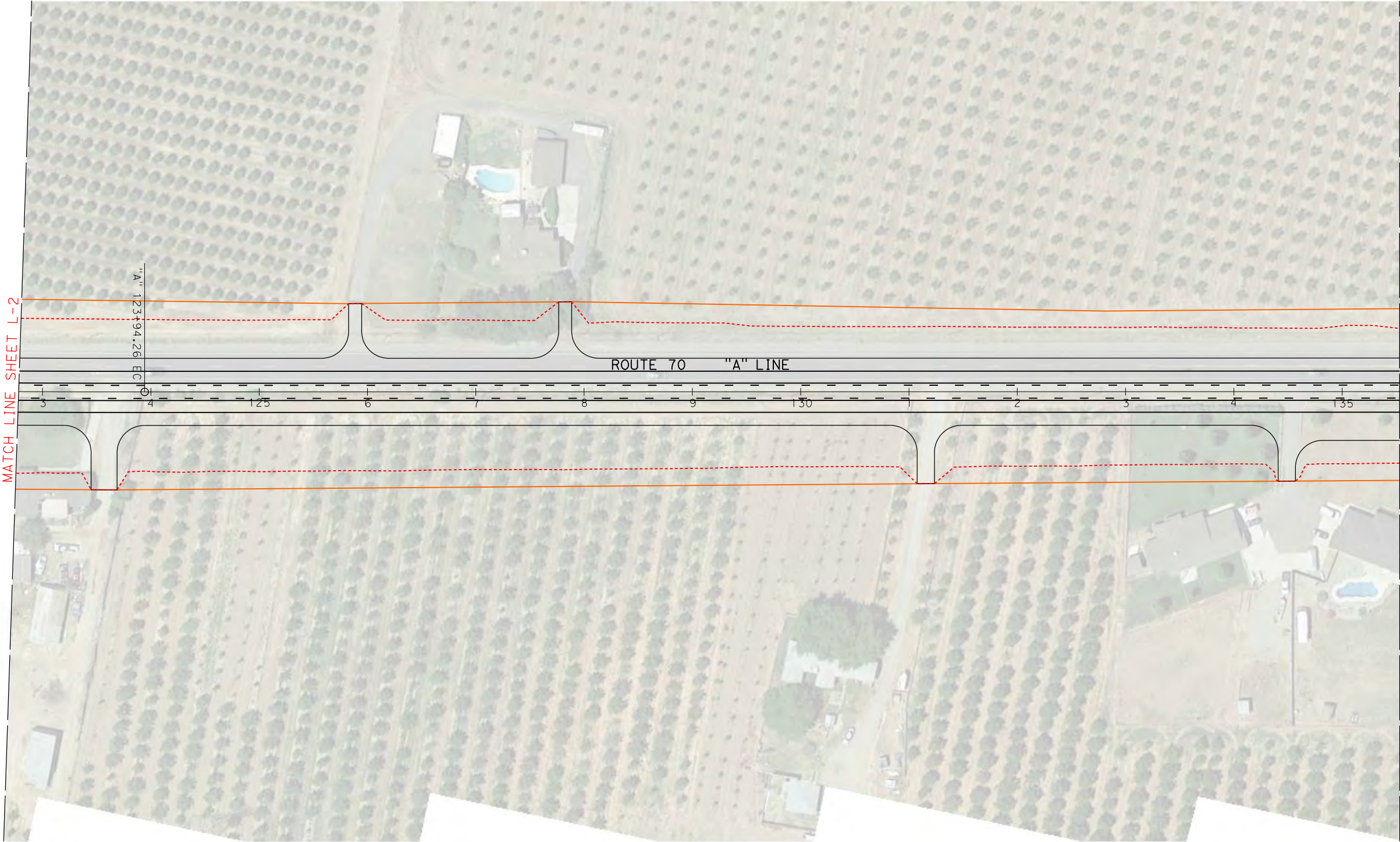
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ATTACHMENT B  
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L-3





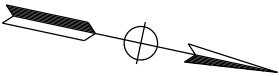


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YUBA CITY  
T15N R3E MDB&M  
NEW HELVETIA RANCHO



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ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'

L-5











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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



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REGISTERED CIVIL ENGINEER

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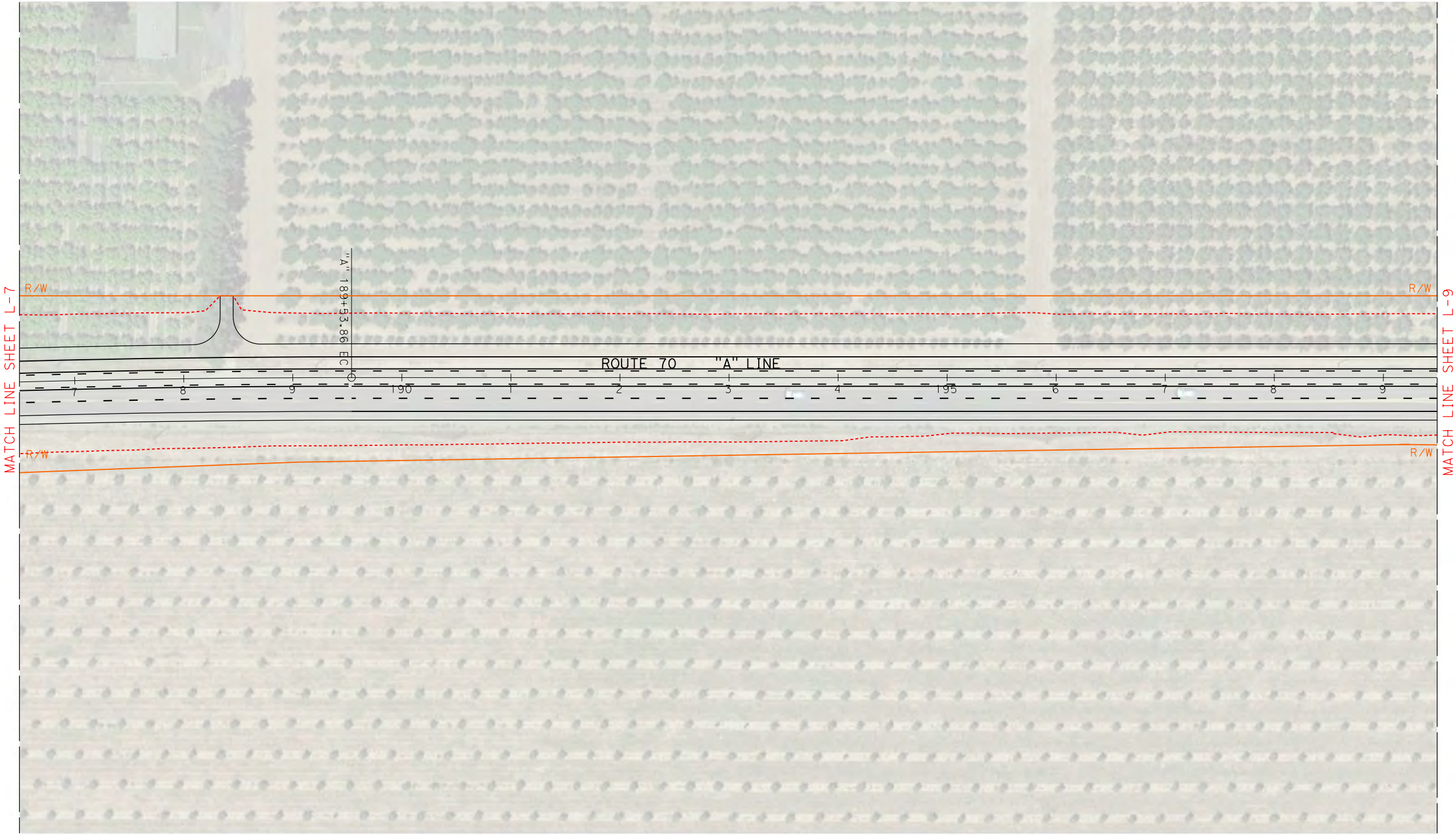
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STATE OF CALIFORNIA



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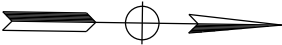


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YUBA CITY  
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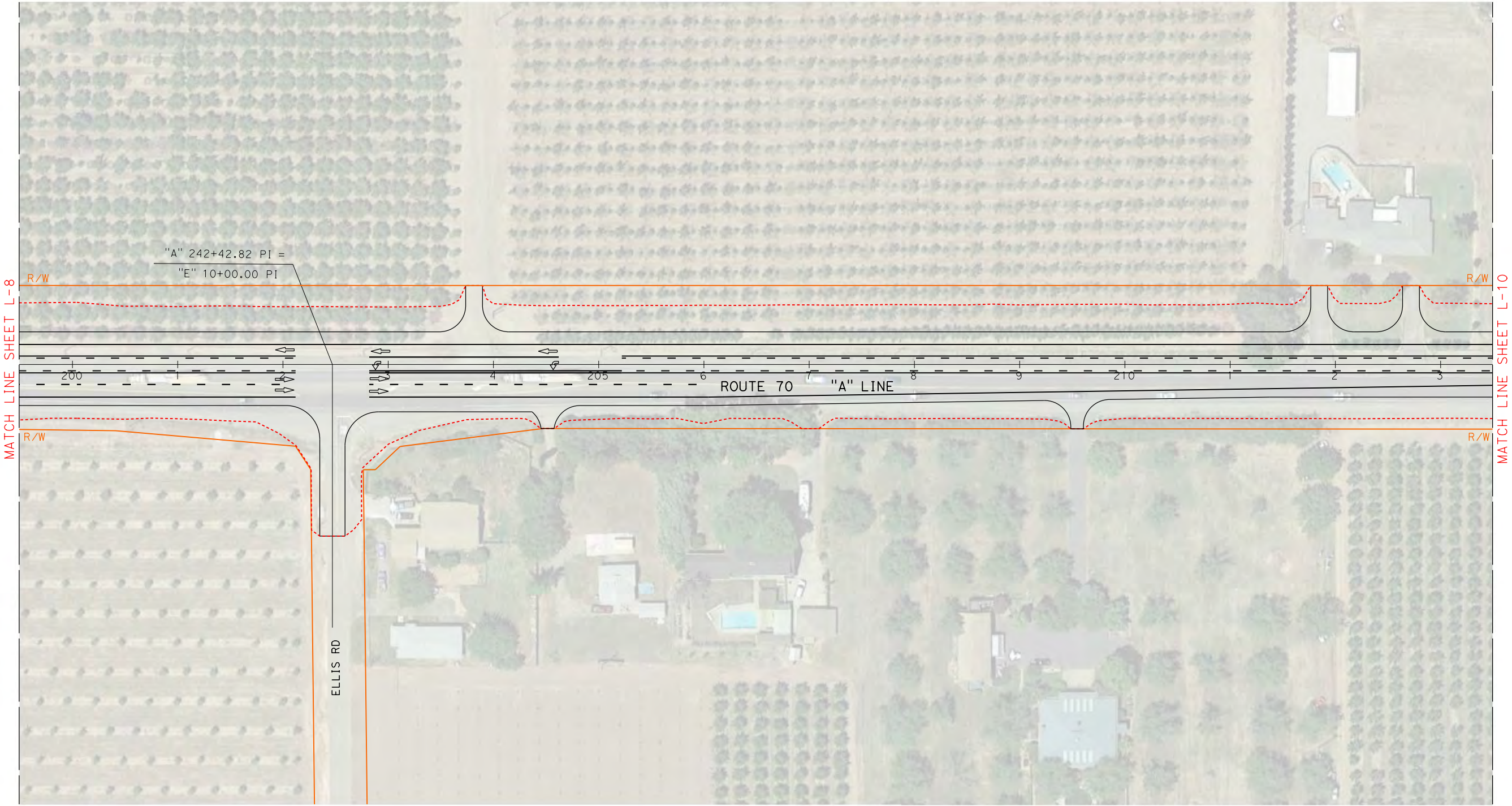
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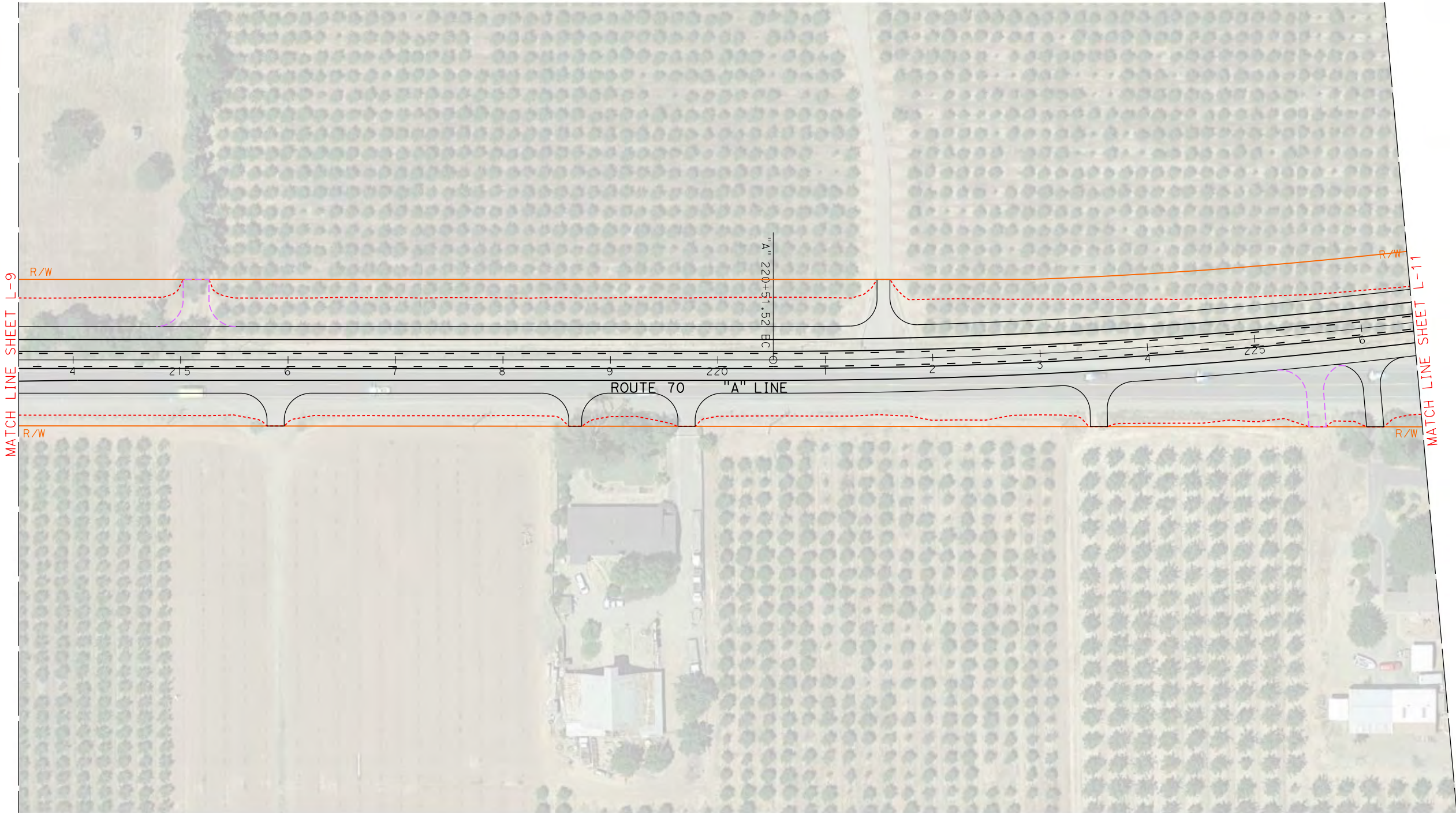
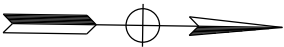
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SCALE: 1"=50'  
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YUBA CITY  
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HONCUT RANCHO



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STATE OF CALIFORNIA

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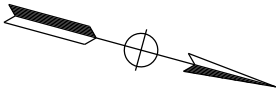


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YUBA CITY  
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CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
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L-11

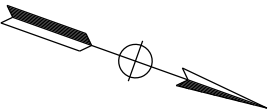


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YUBA CITY  
T16N R3E MDB&M  
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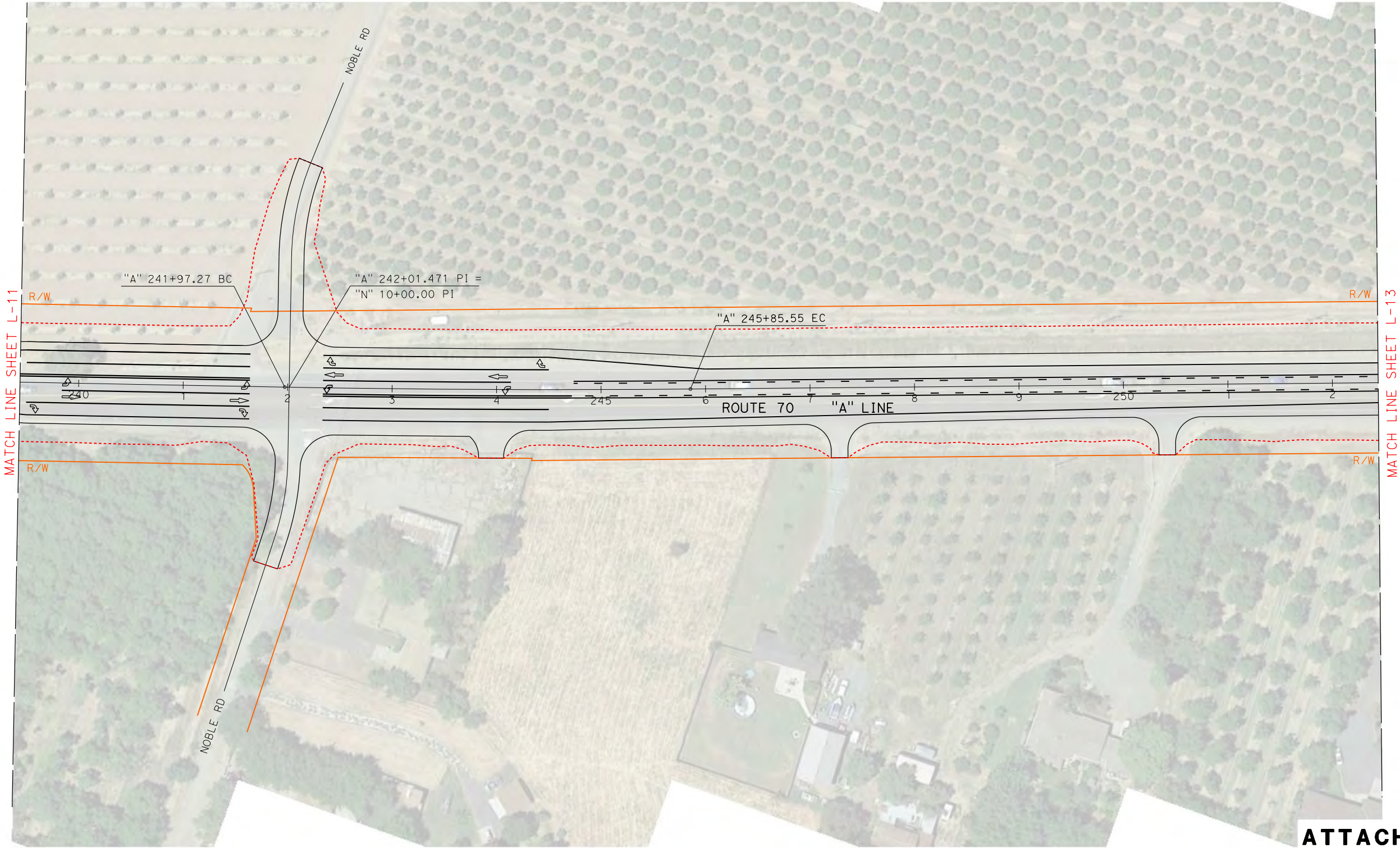
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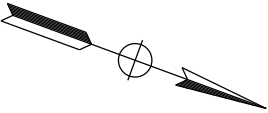


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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



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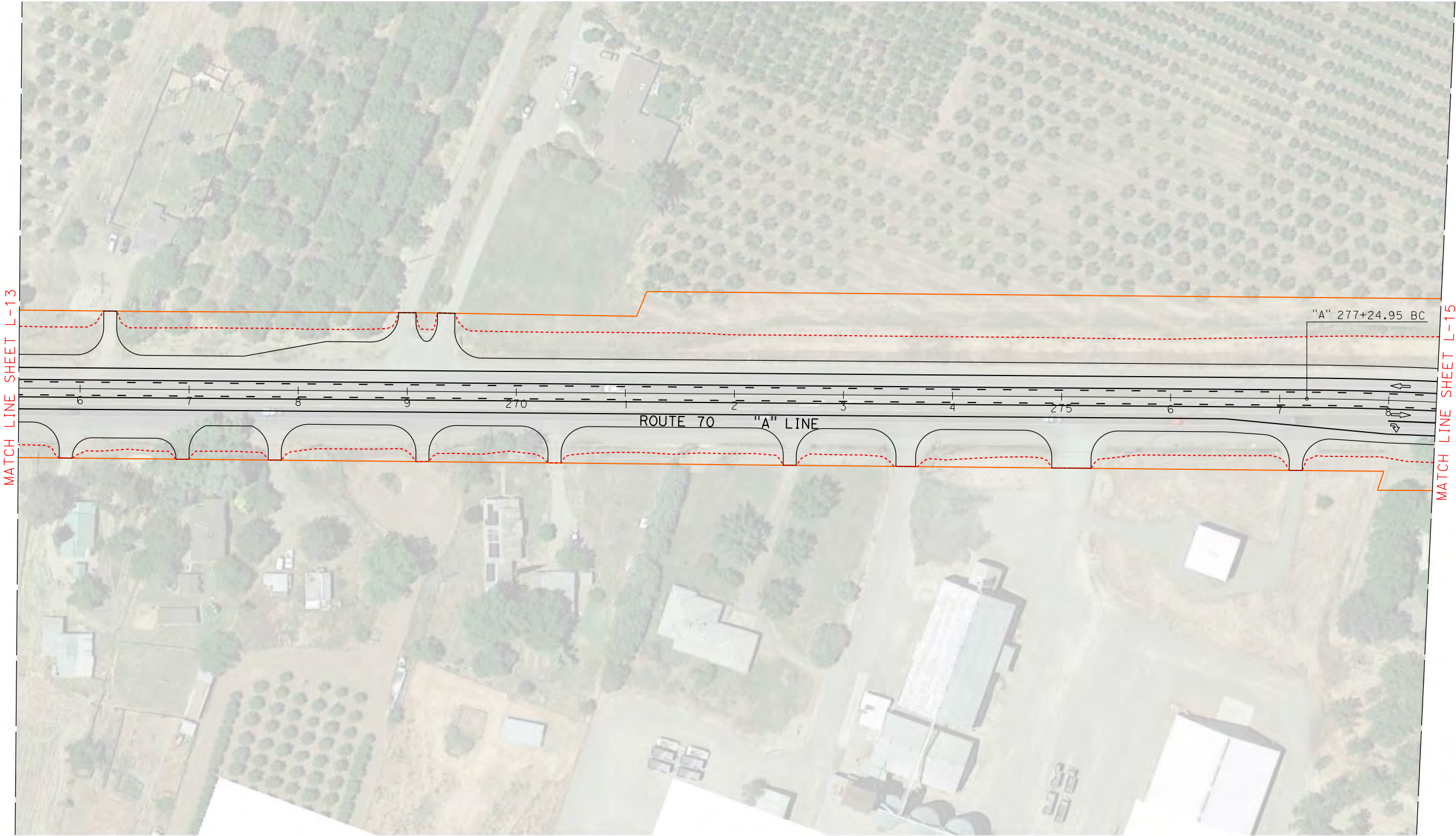
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CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-14



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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



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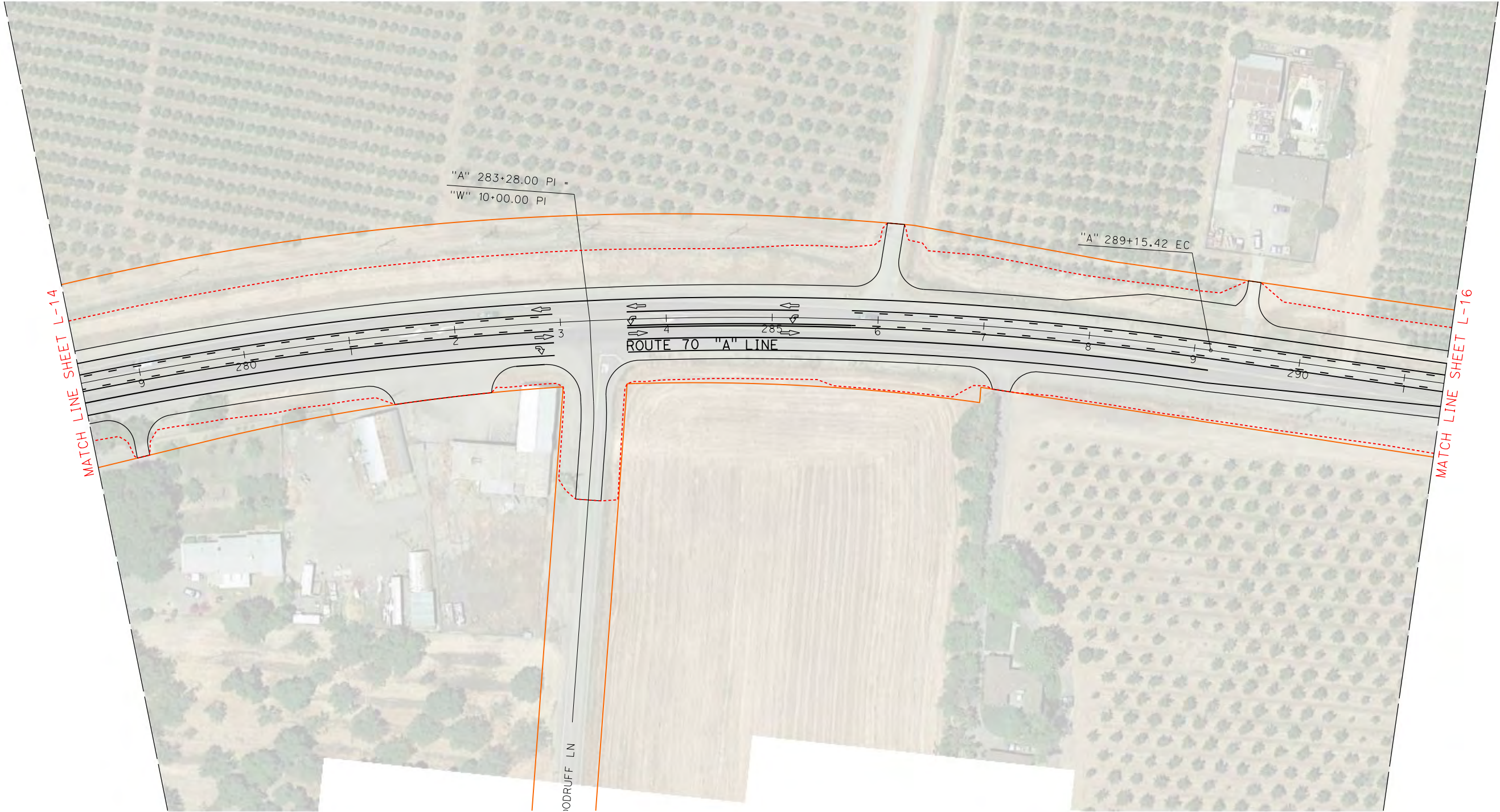
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STATE OF CALIFORNIA



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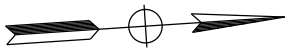


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YUBA CITY  
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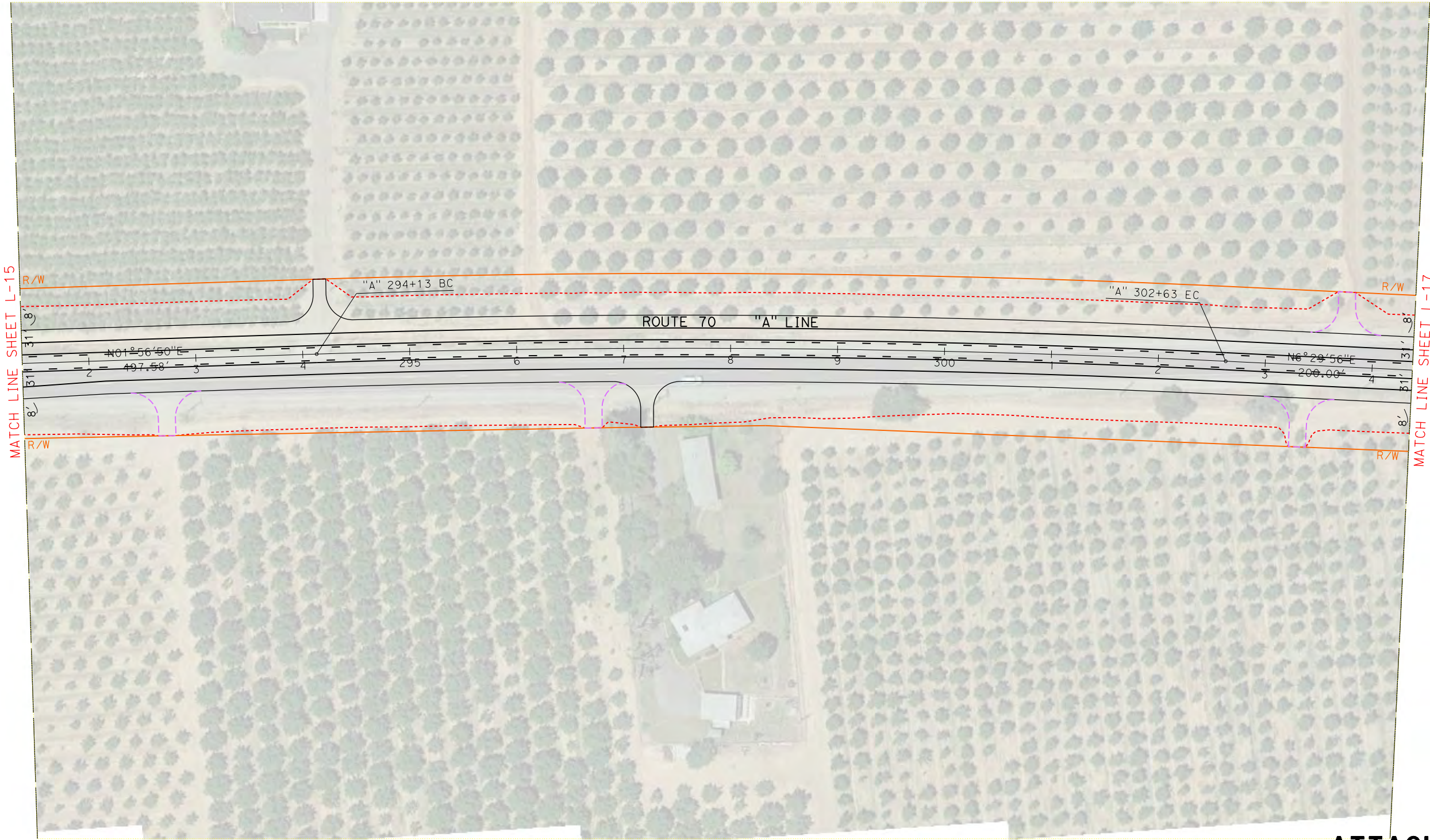
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STATE OF CALIFORNIA



**ATTACHMENT B**  
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SCALE: 1"=50'  
**L-16**





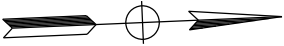


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
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3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

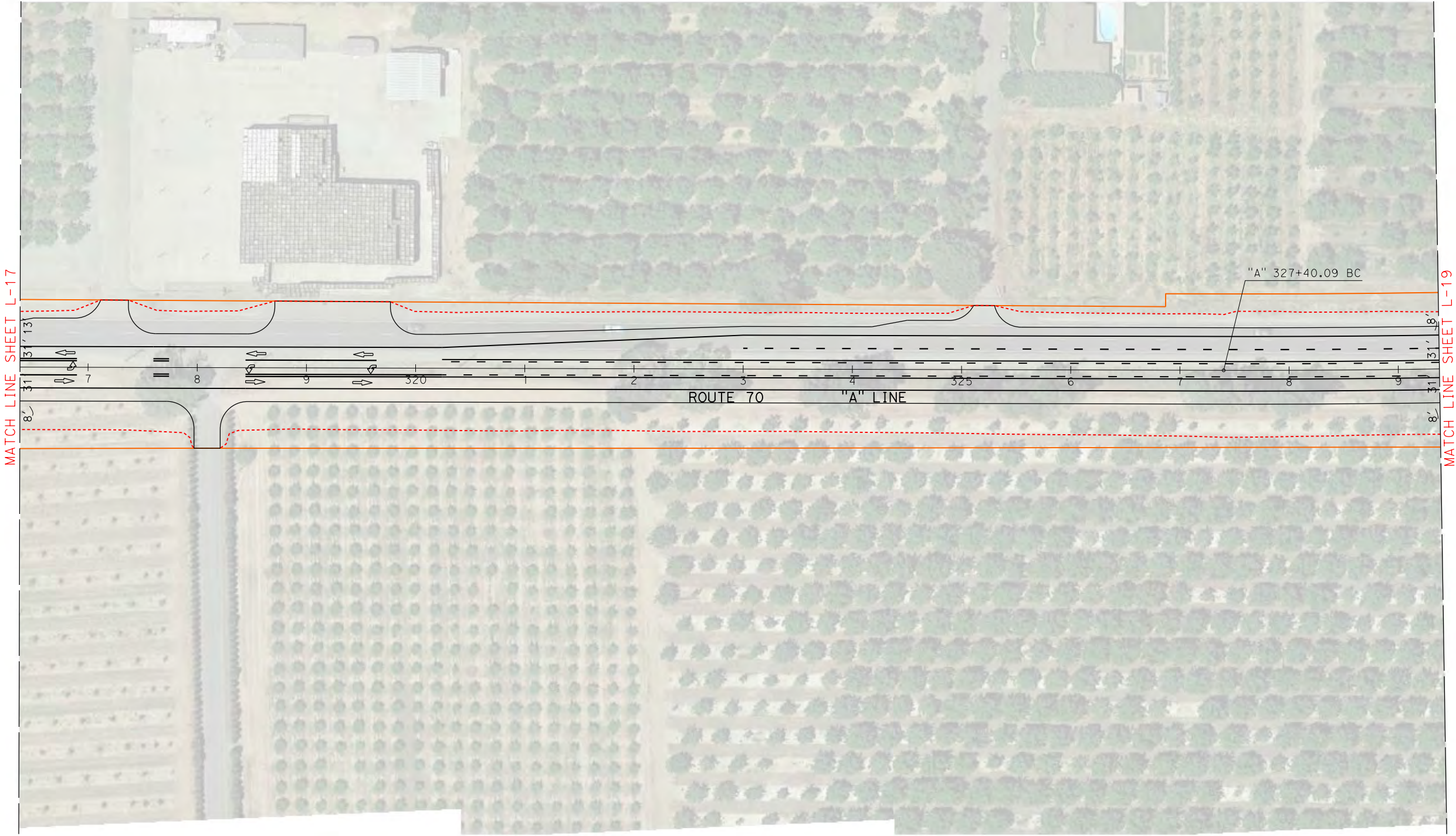
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-18



NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
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3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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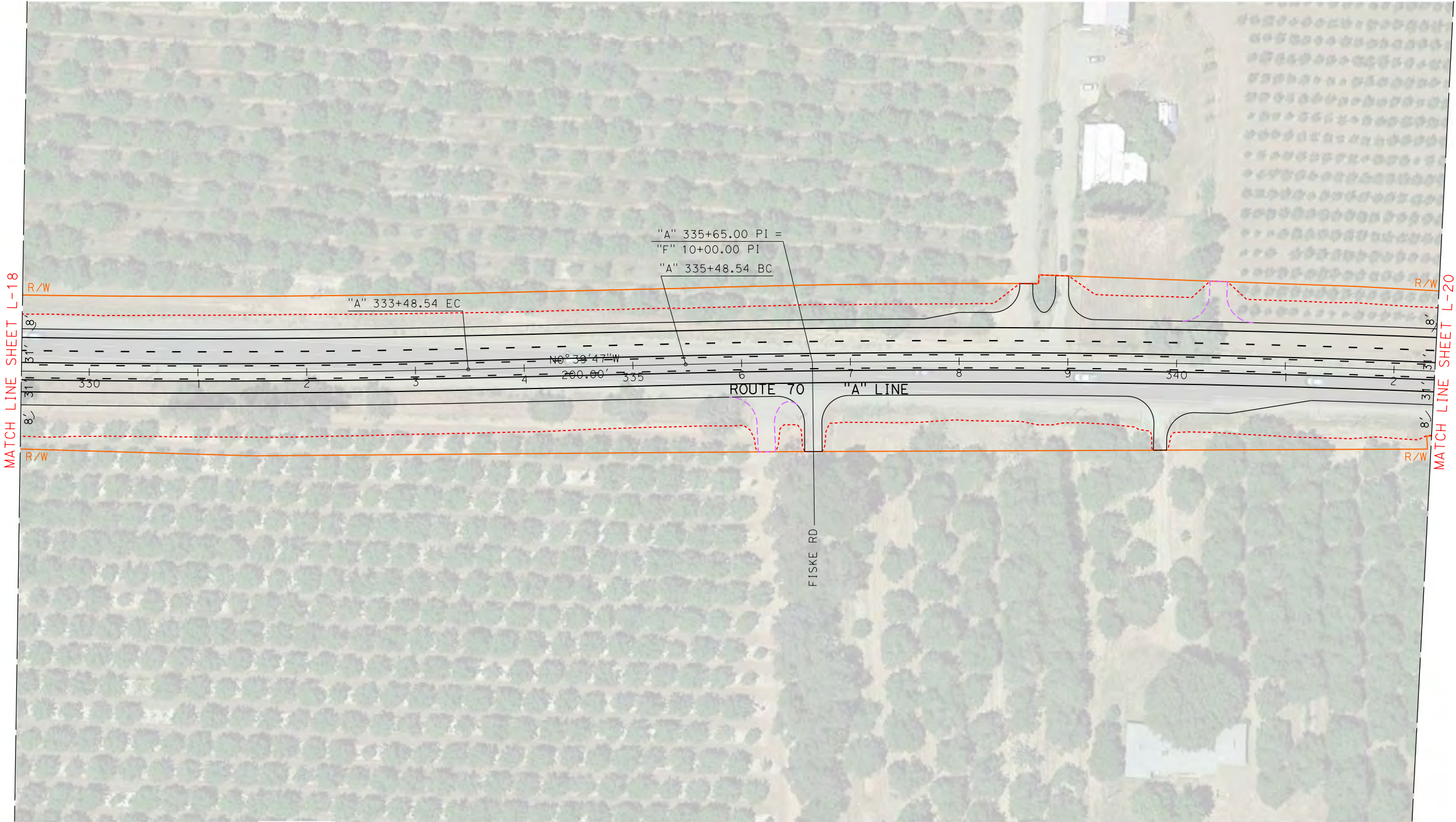
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 1**  
SCALE: 1"=50'  
**L - 19**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISED BY		
		MITCH ANDRUS		CHECKED BY	DATE REVISED		

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3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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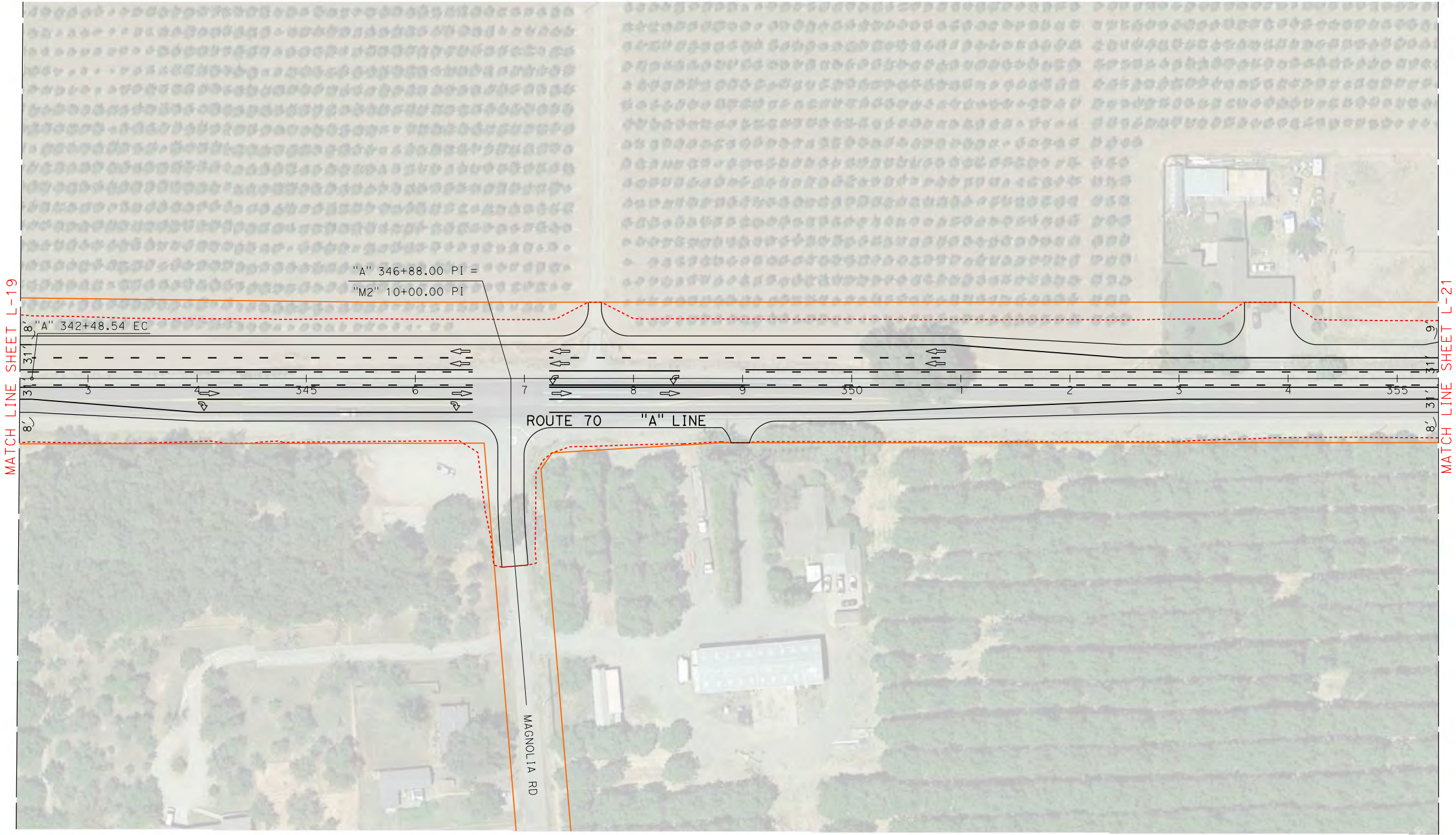
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-20







<div>STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION</div> <div><i>et·Caltrans®</i></div> <div>DESIGN</div>	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISOR	
	MITCH ANDRUS				
			CHECKED BY	DATE	REVISOR

NOTES:

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- 3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-22



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS		CALCULATED- DESIGNED BY	REVISOR	DATE	REVISION

NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

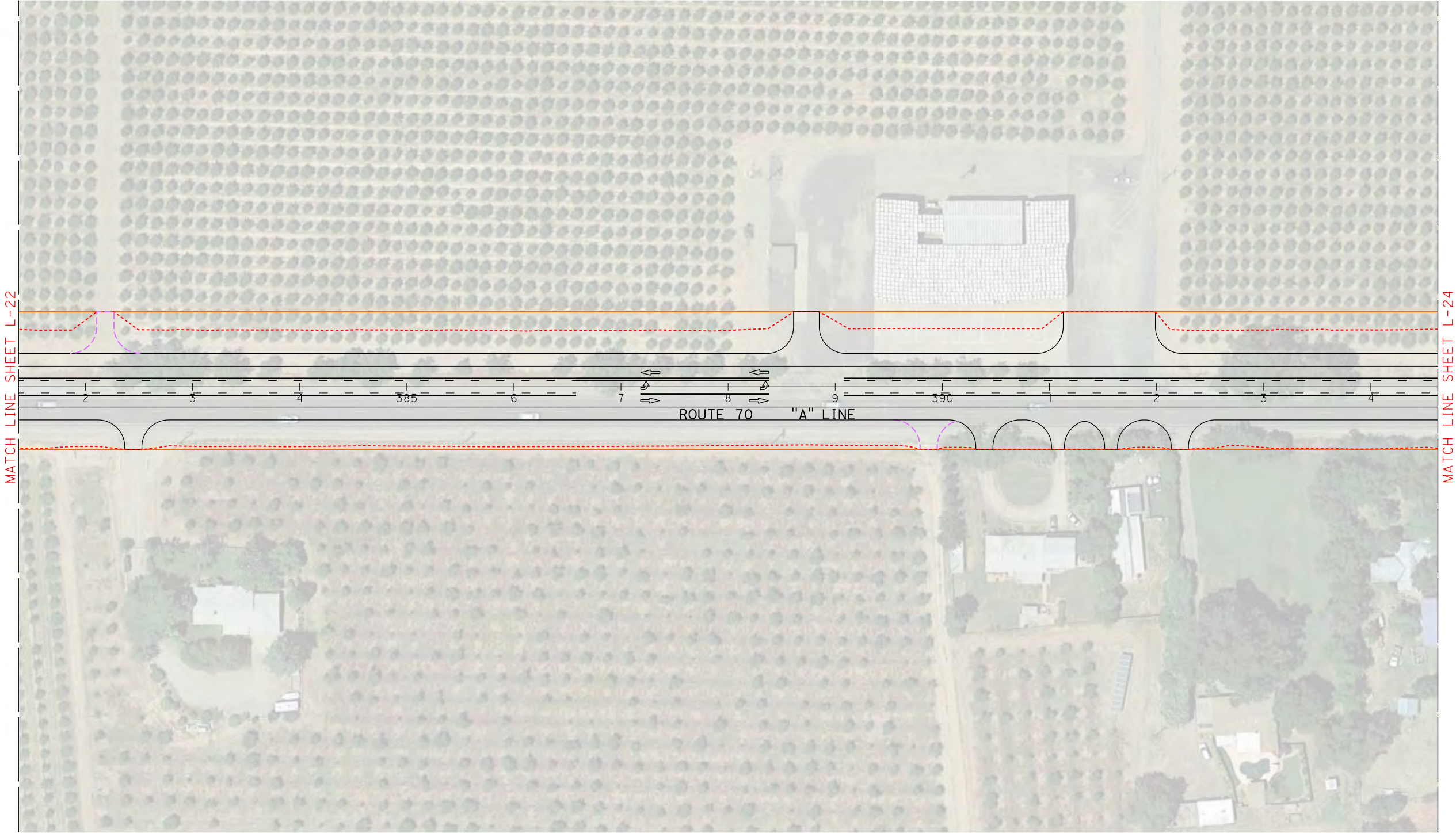
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-23



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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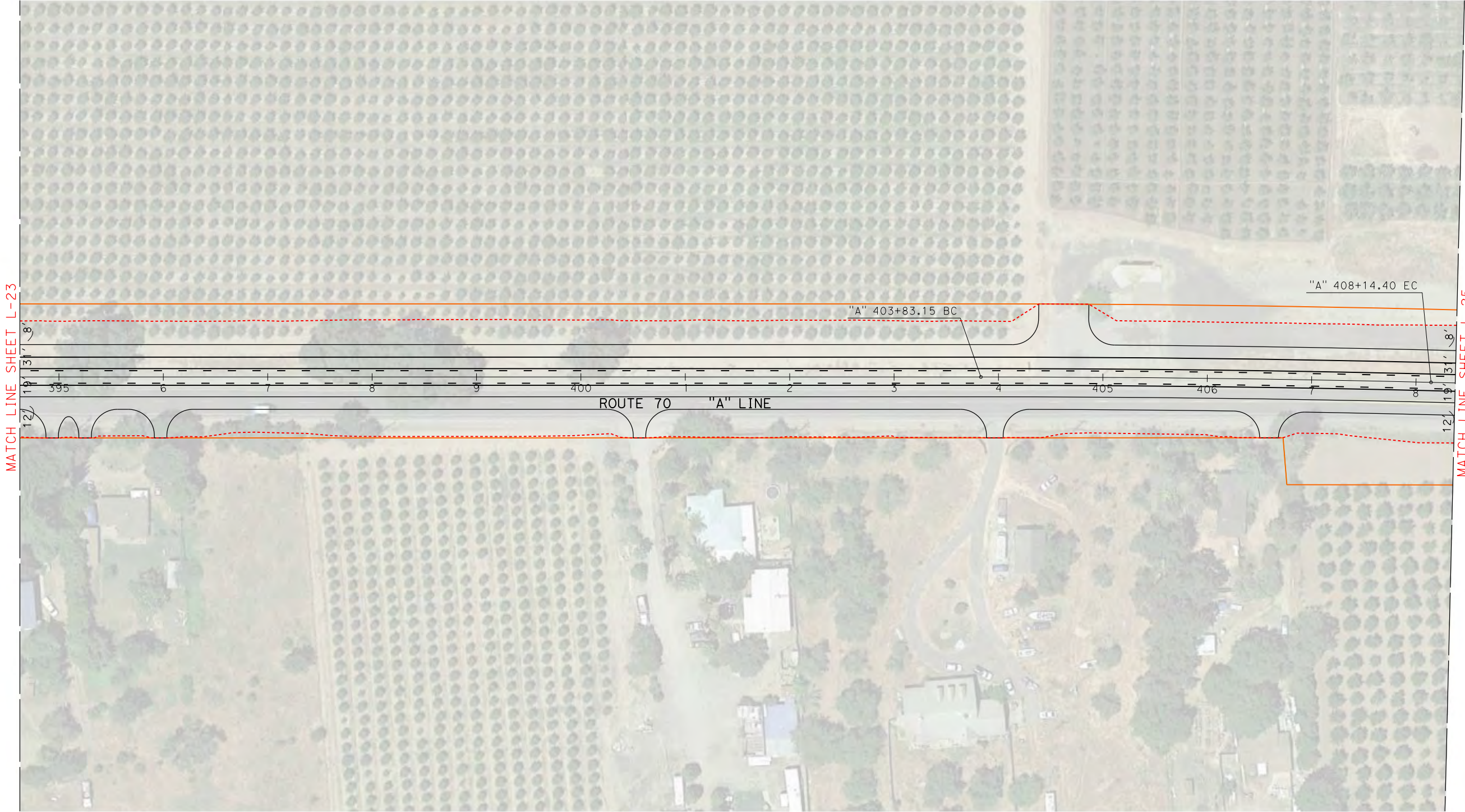
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-24



NOTES:

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3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		

REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE

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

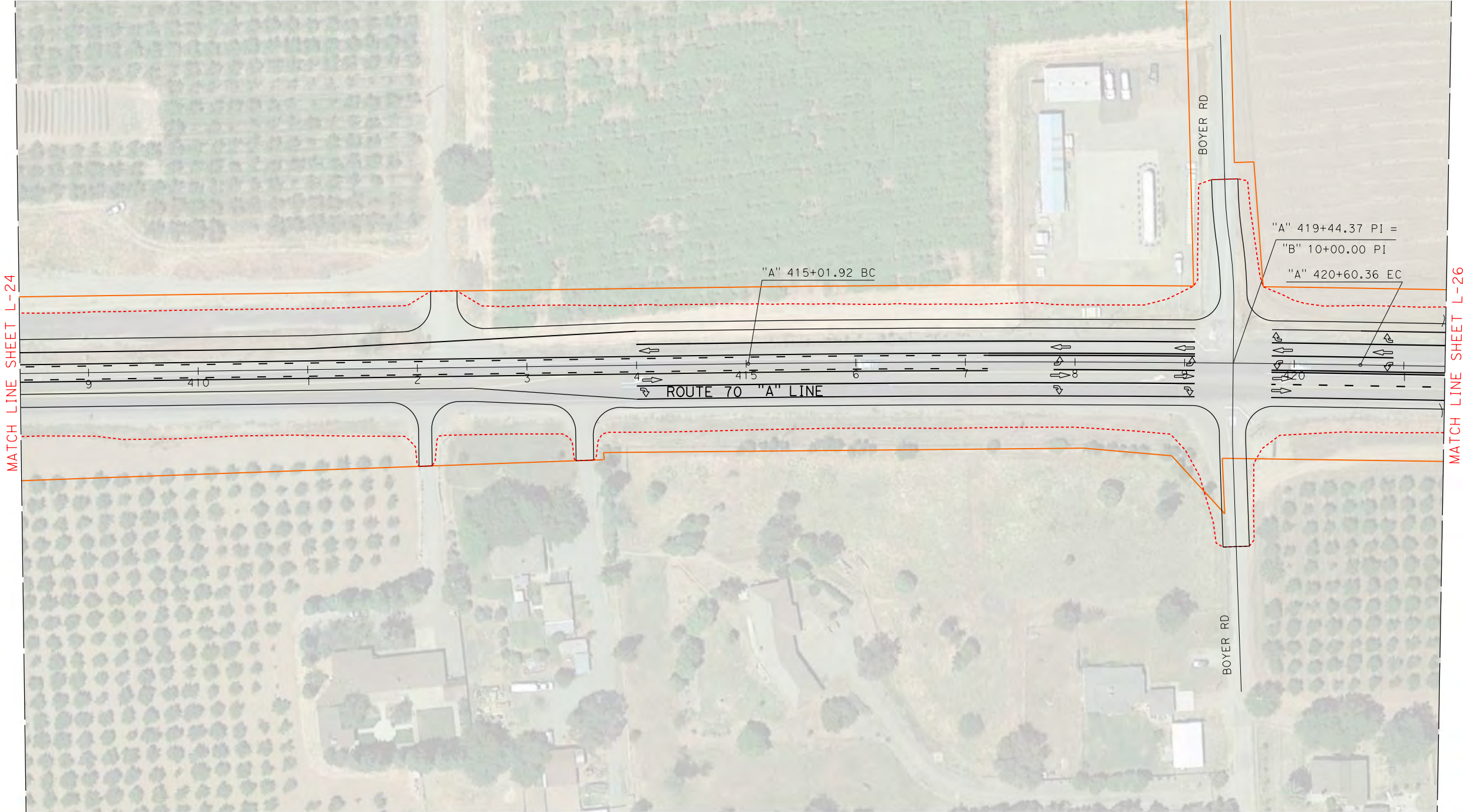
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B  
ALTERNATIVE 1**  
SCALE: 1"=50'  
**L-25**



NOTES:

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YUBA CITY  
T16N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

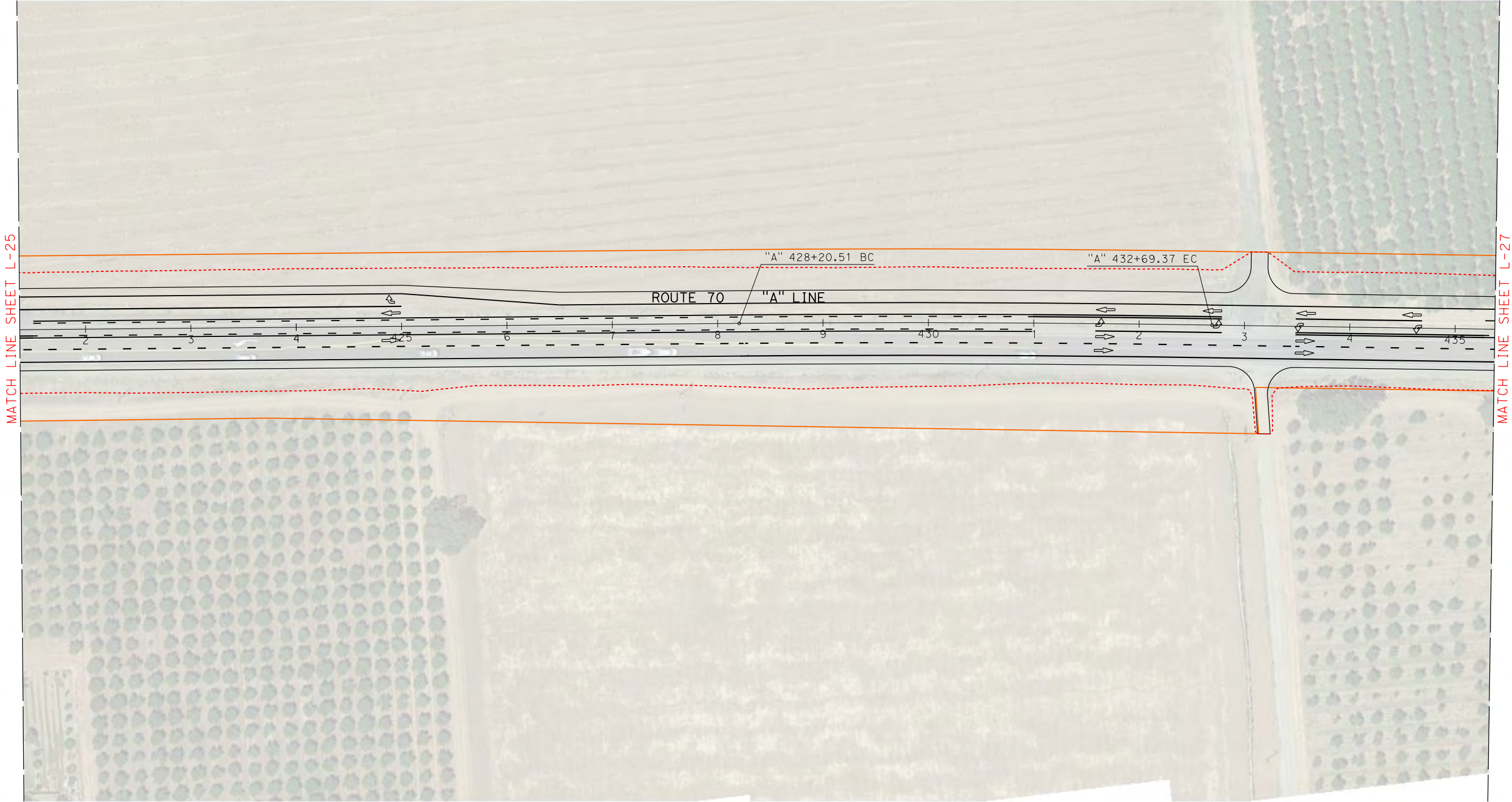
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 1**  
SCALE: 1"=50'  
**L-26**

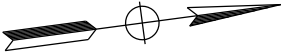


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	
Caltrans		MITCH ANDRUS	CHECKED BY	DATE REVISED	

NOTES

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-27

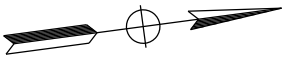


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE
CD	TRANS	MITCH ANDRUS	CHECKED BY	DATE	REVISOR

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-28

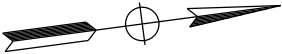


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR		
MTC ANDRUS		CHECKED BY		DATE	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-29



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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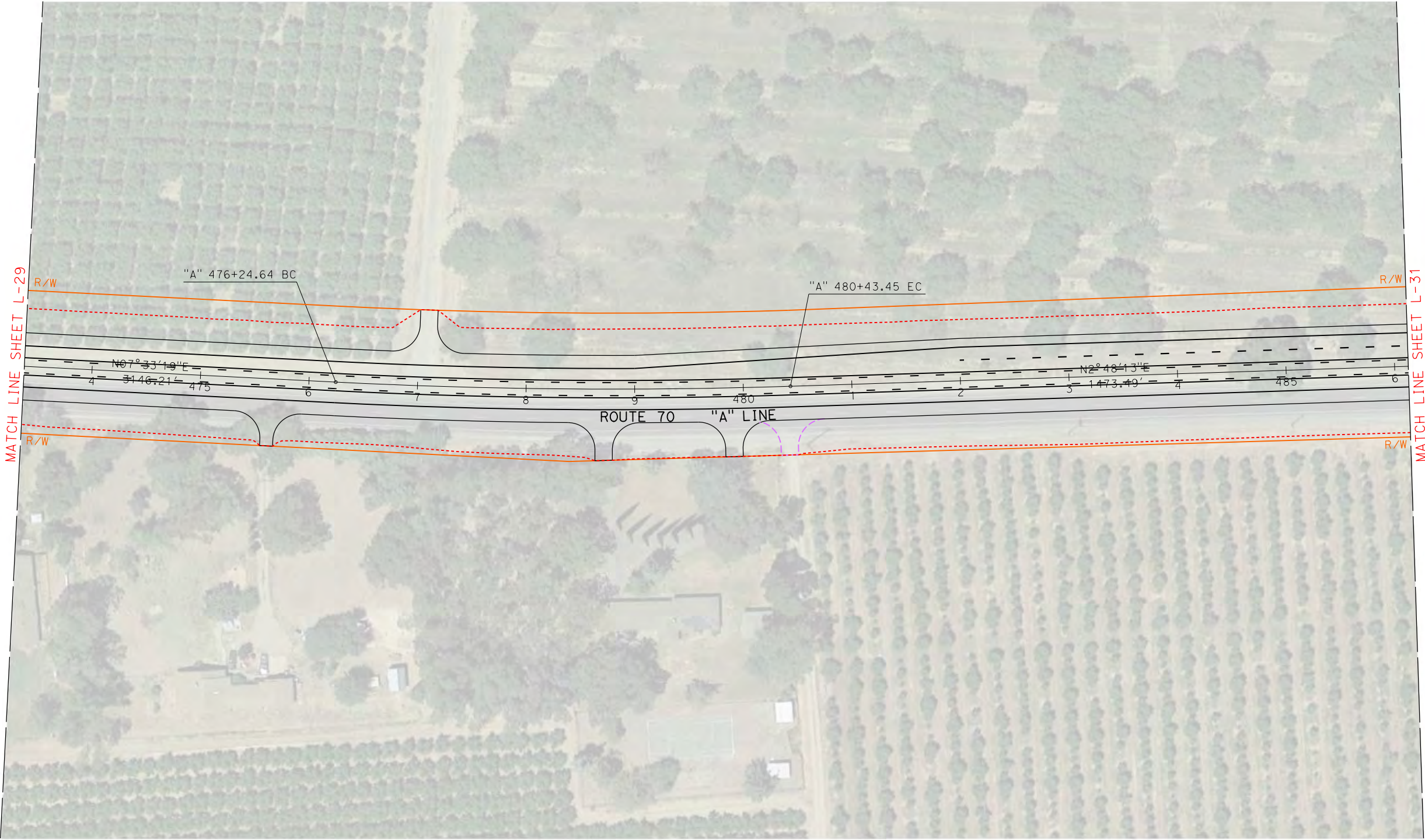
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_


CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-30

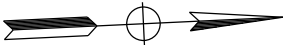


	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE				
						MITCH ANDRUS	CHECKED BY	DATE	REVISED

NOTES:

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YUBA CITY  
T16 & 17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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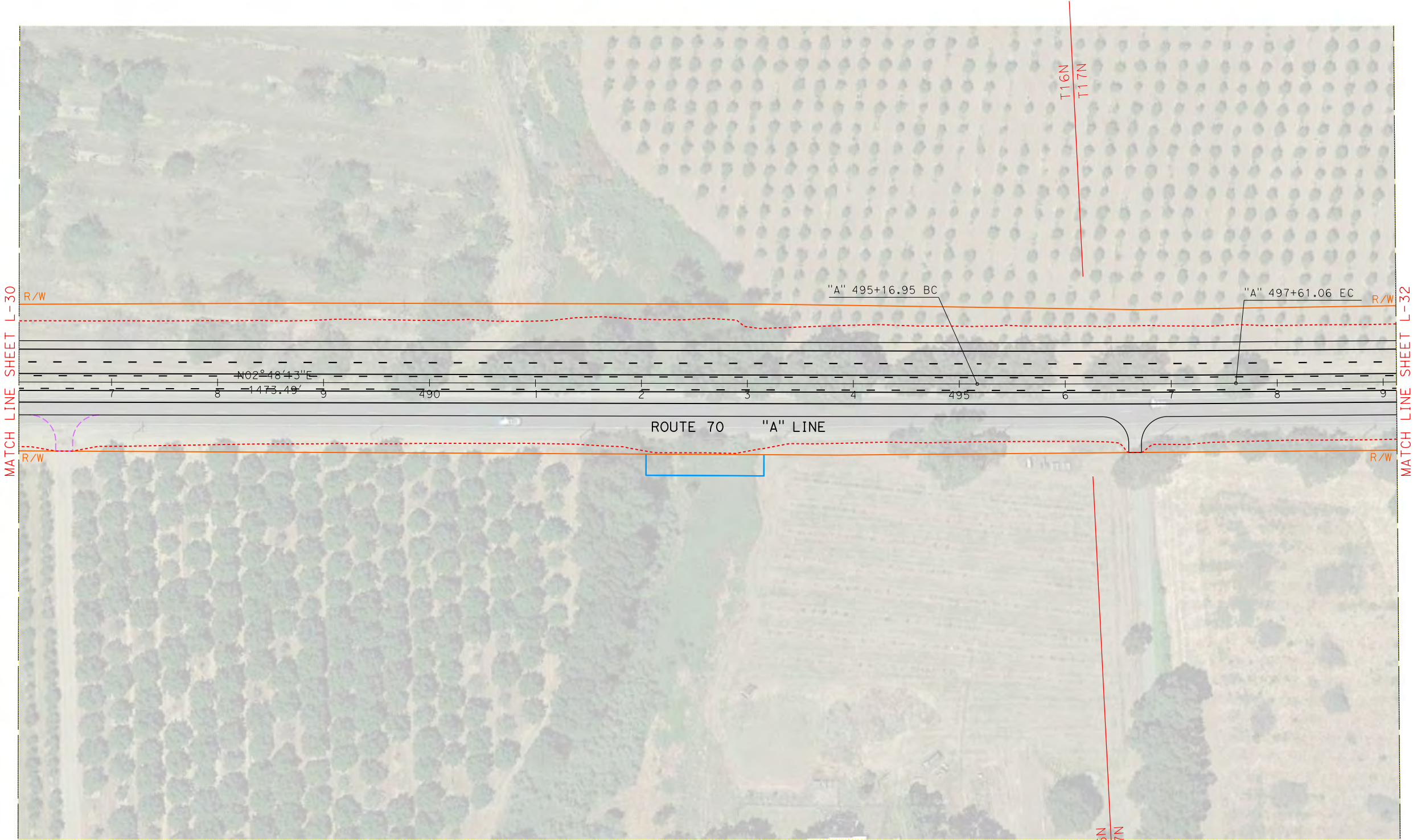
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-31



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-32







STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	
MITCH ANDRUS		CHECKED BY	DATE REVISED	

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-34



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	MITCH ANDRUS	CALCULATED- DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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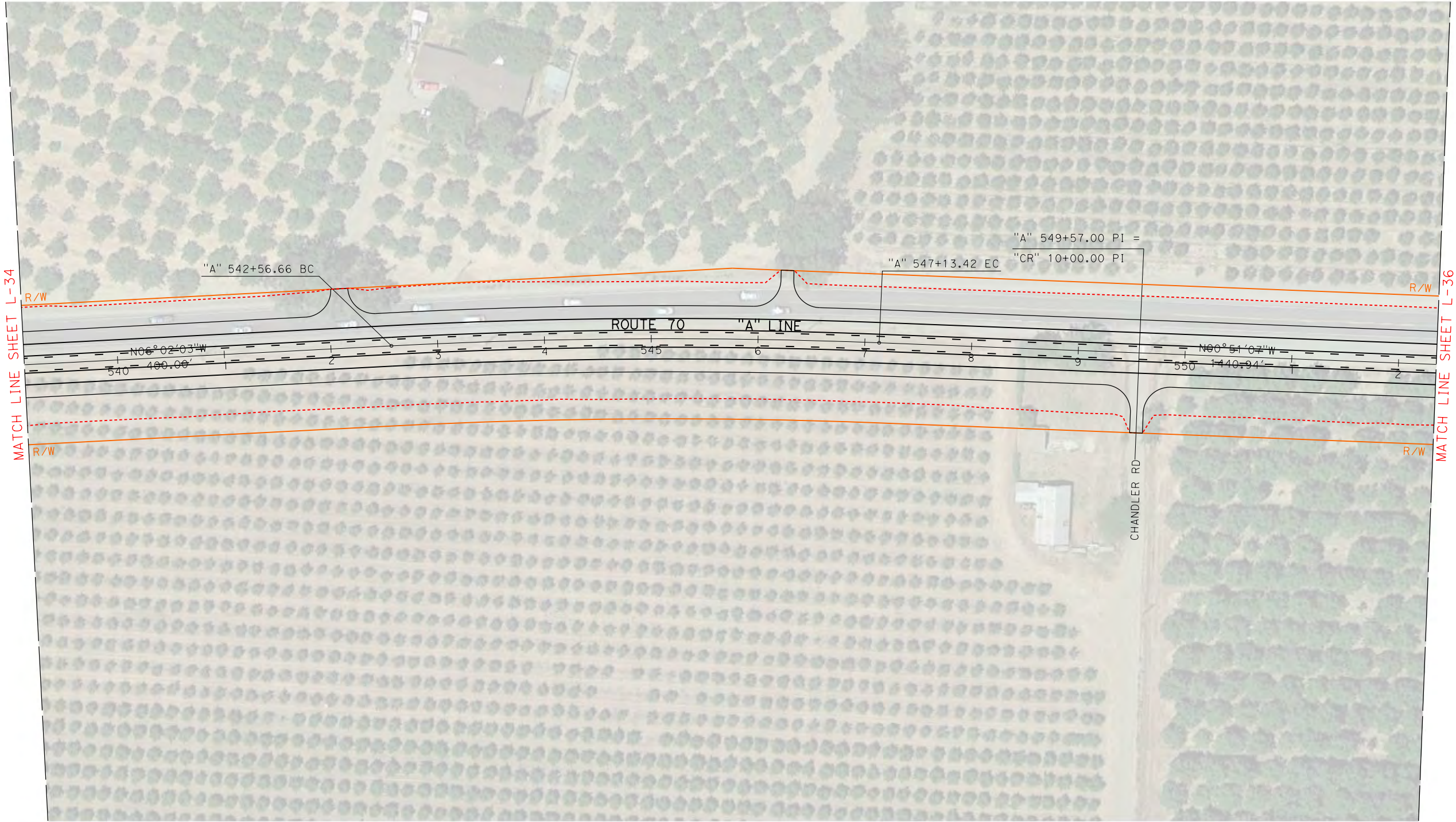
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-35



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY	CHECKED BY	REVISOR	DATE

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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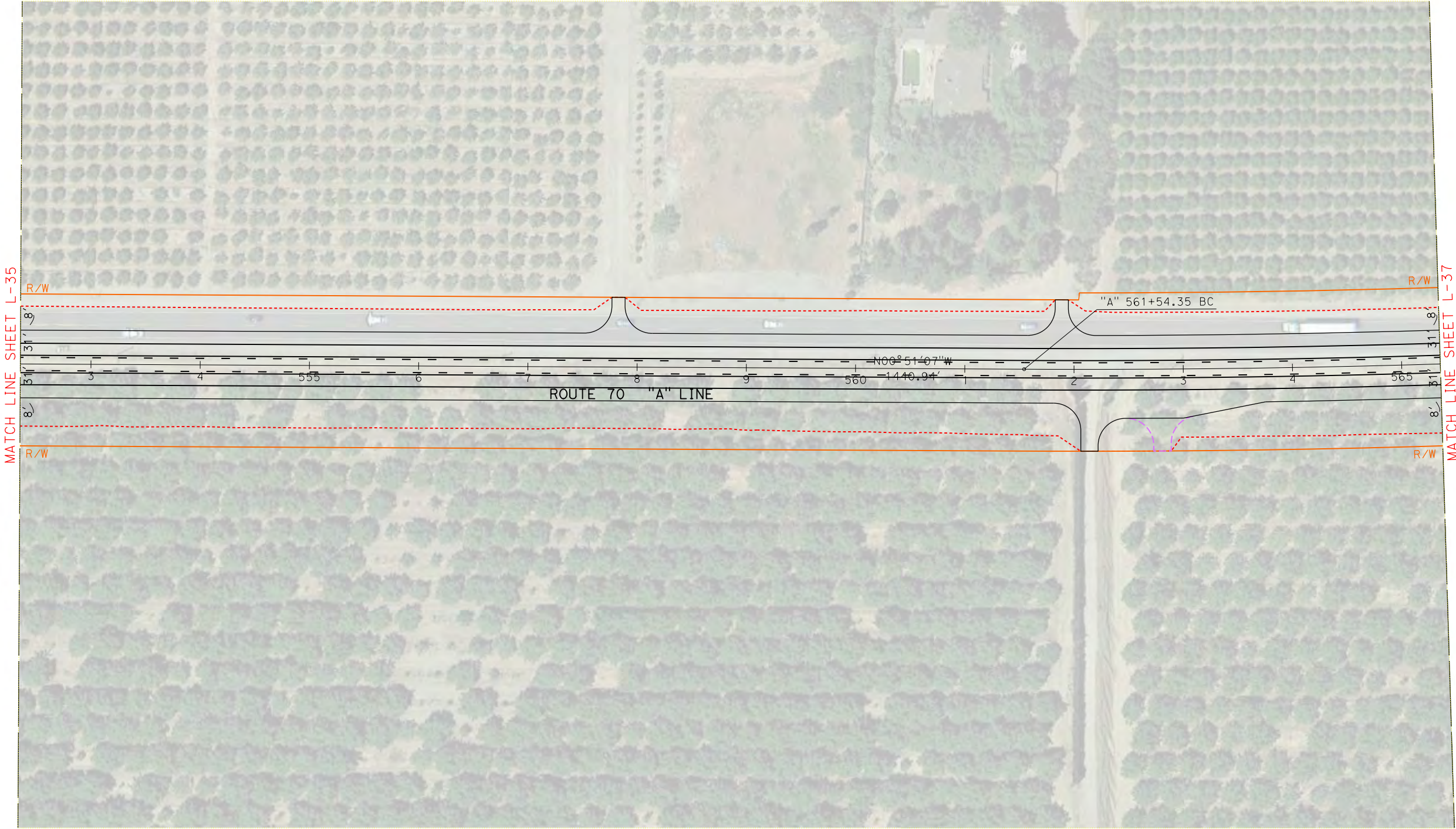
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-36



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	MITCH ANDRUS	CALCULATED- BY DESIGNED BY	CHECKED BY	REVISOR	DATE

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

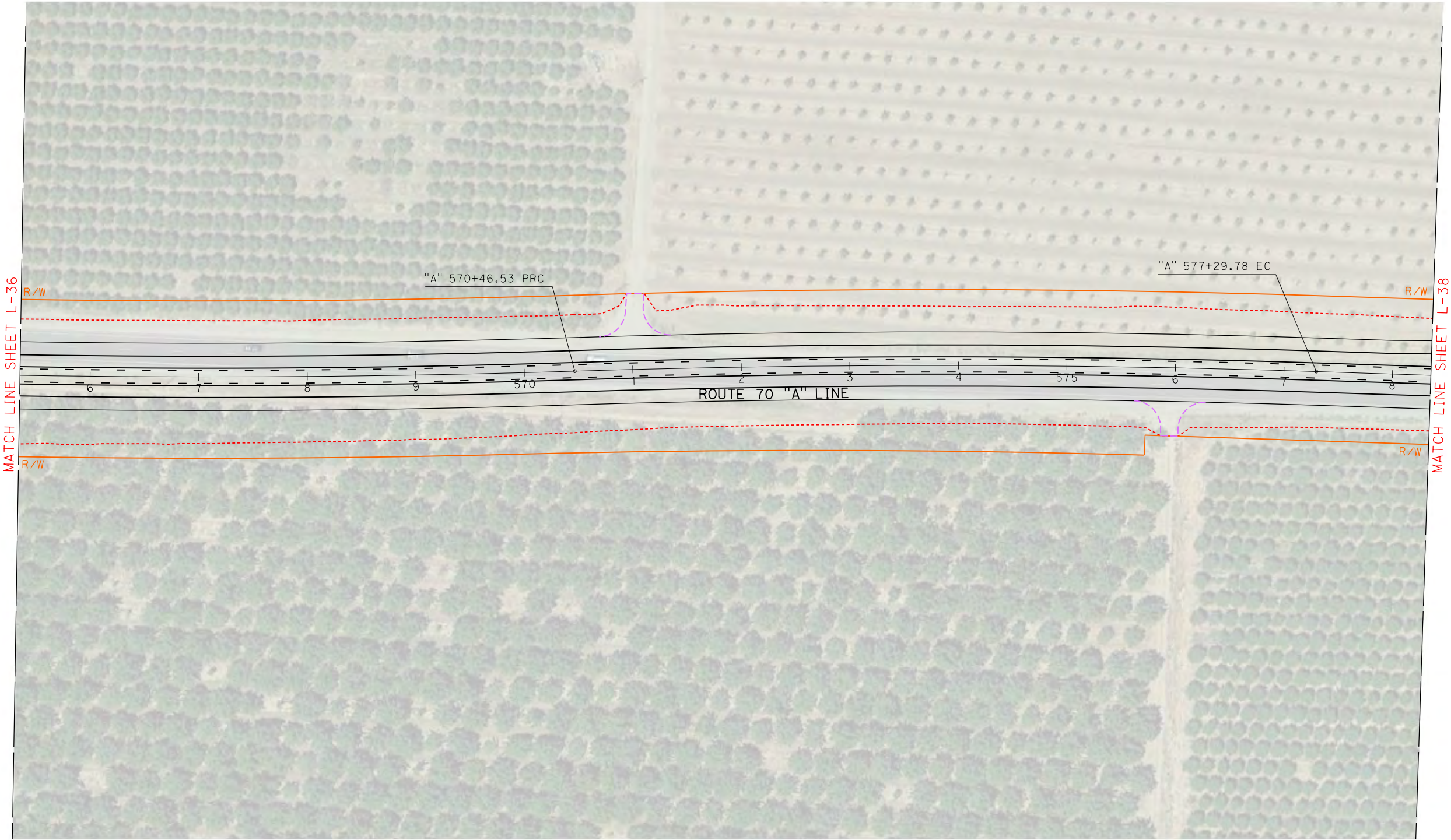
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-37







STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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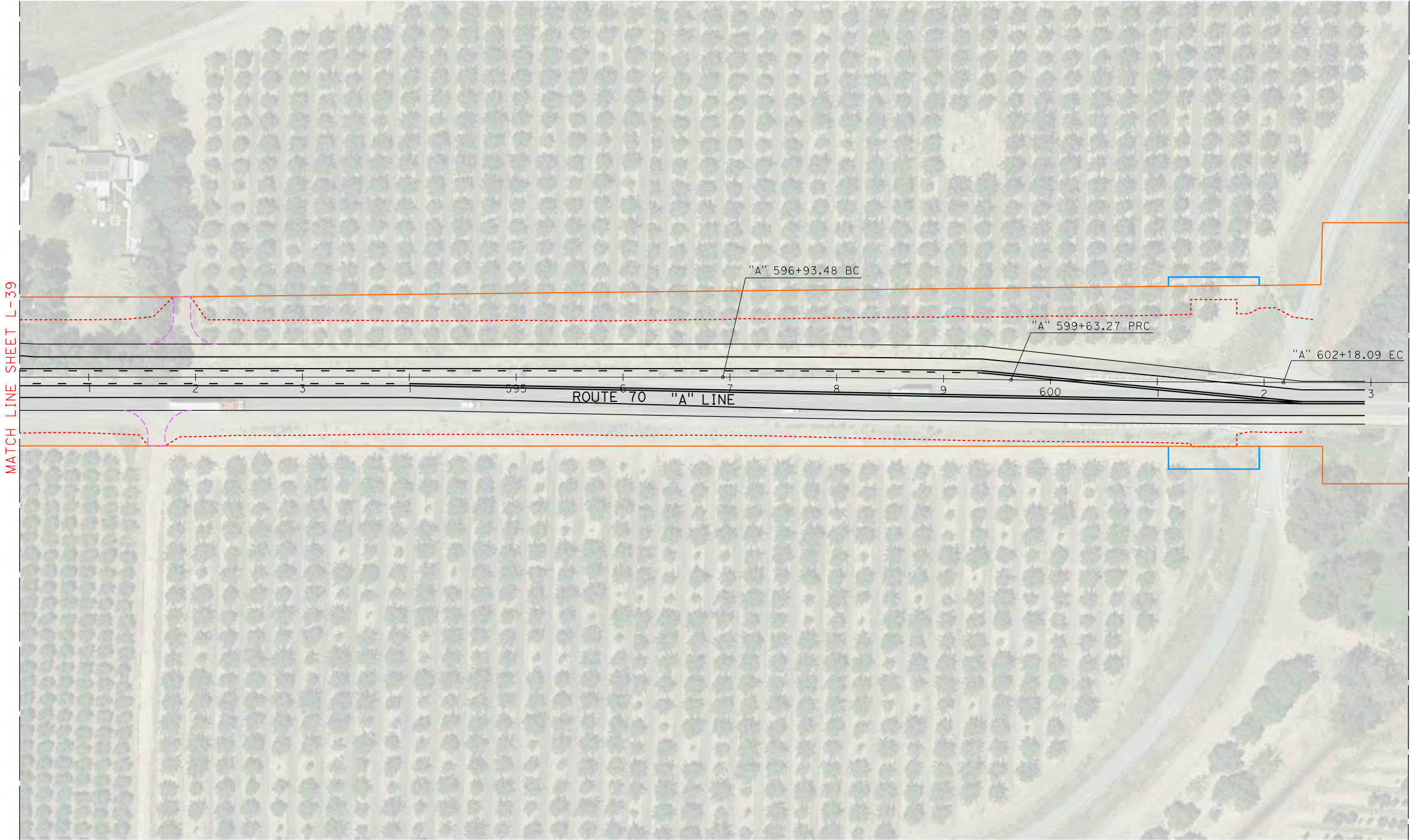
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.



CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-39



	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE	
						DESIGN
	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CHECKED BY	DATE	REVISED	
						MTC ANDRUS

NOTES:

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- 3. LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T17N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.4/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



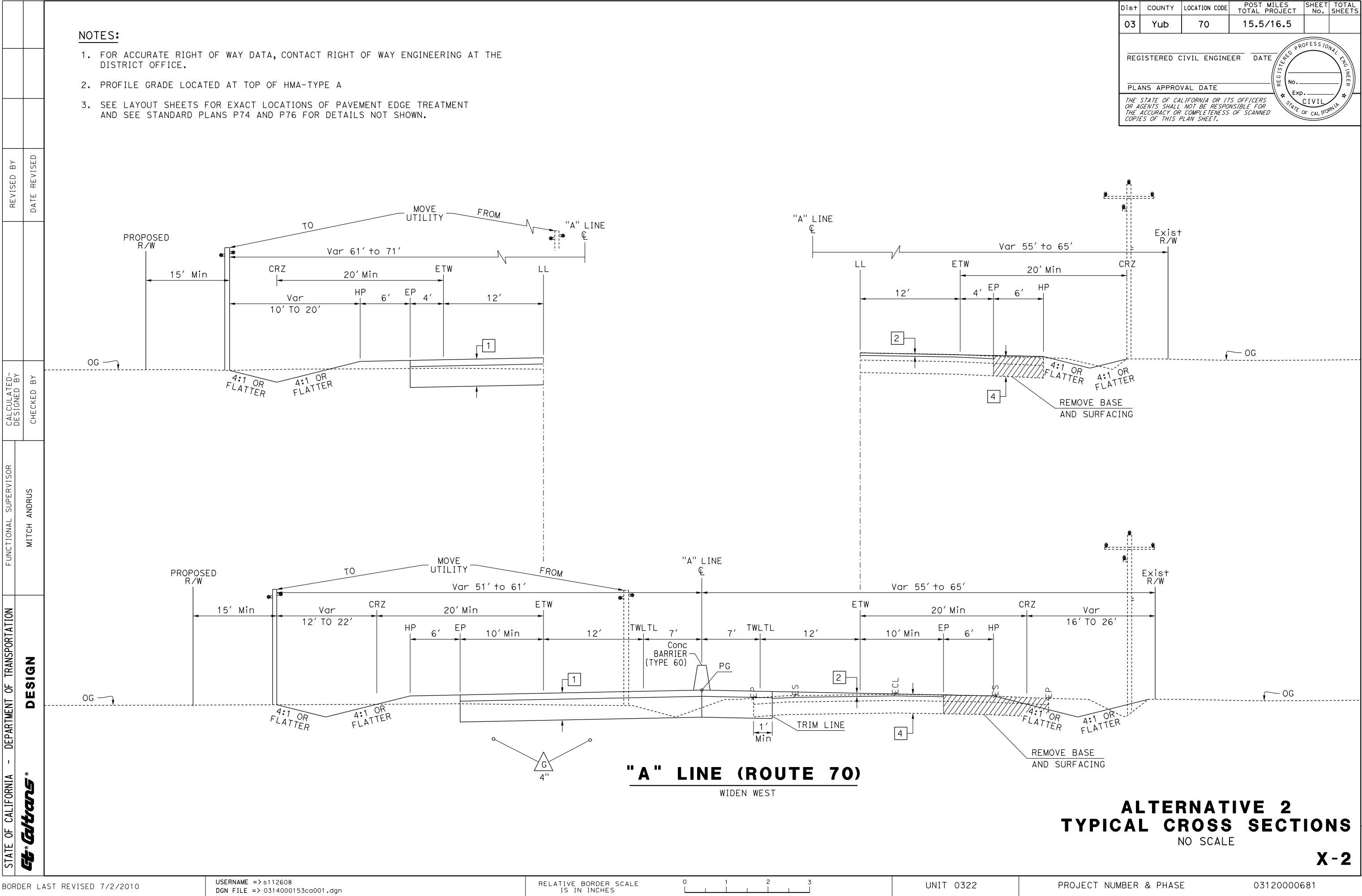
ATTACHMENT B  
ALTERNATIVE 1  
SCALE: 1"=50'  
L-40



03 - YUB - 70 – PM 16.2/25.8  
03-4F380 – 03 1400 0153

**ATTACHMENT B**  
**TYPICAL CROSS SECTIONS AND LAYOUTS**  
**ALTERNATIVE 2 (40)**



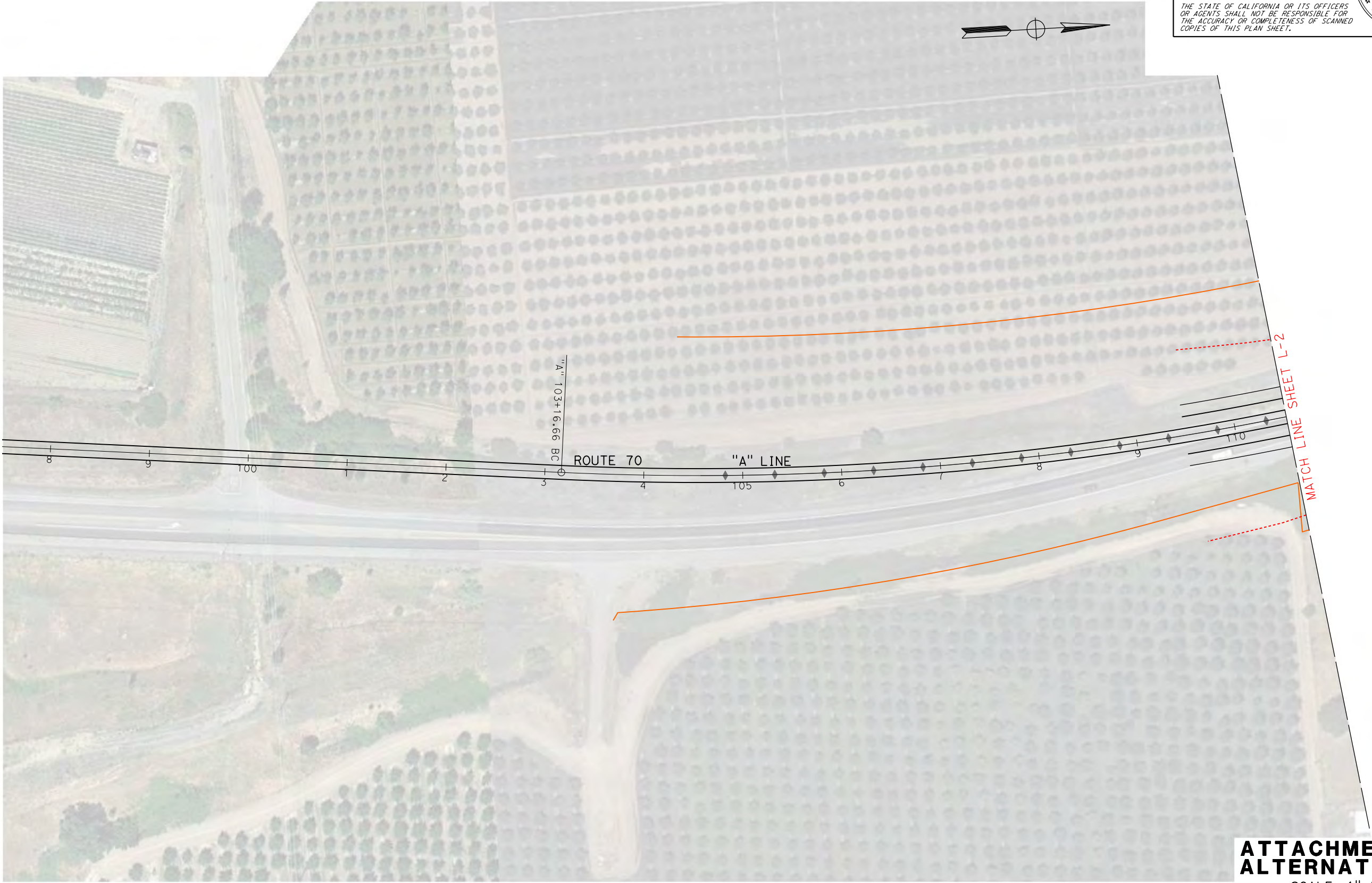


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISOR	DATE
	MITCH ANDRUS				
Galtbans®	DESIGN		CHECKED BY	DATE	REVISED BY

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YUBA CITY  
T15N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.4/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA

ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'

L-1











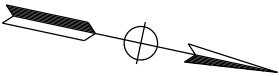




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YUBA CITY  
T15N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



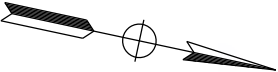
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**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-5**



NOTES:

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YUBA CITY  
T15N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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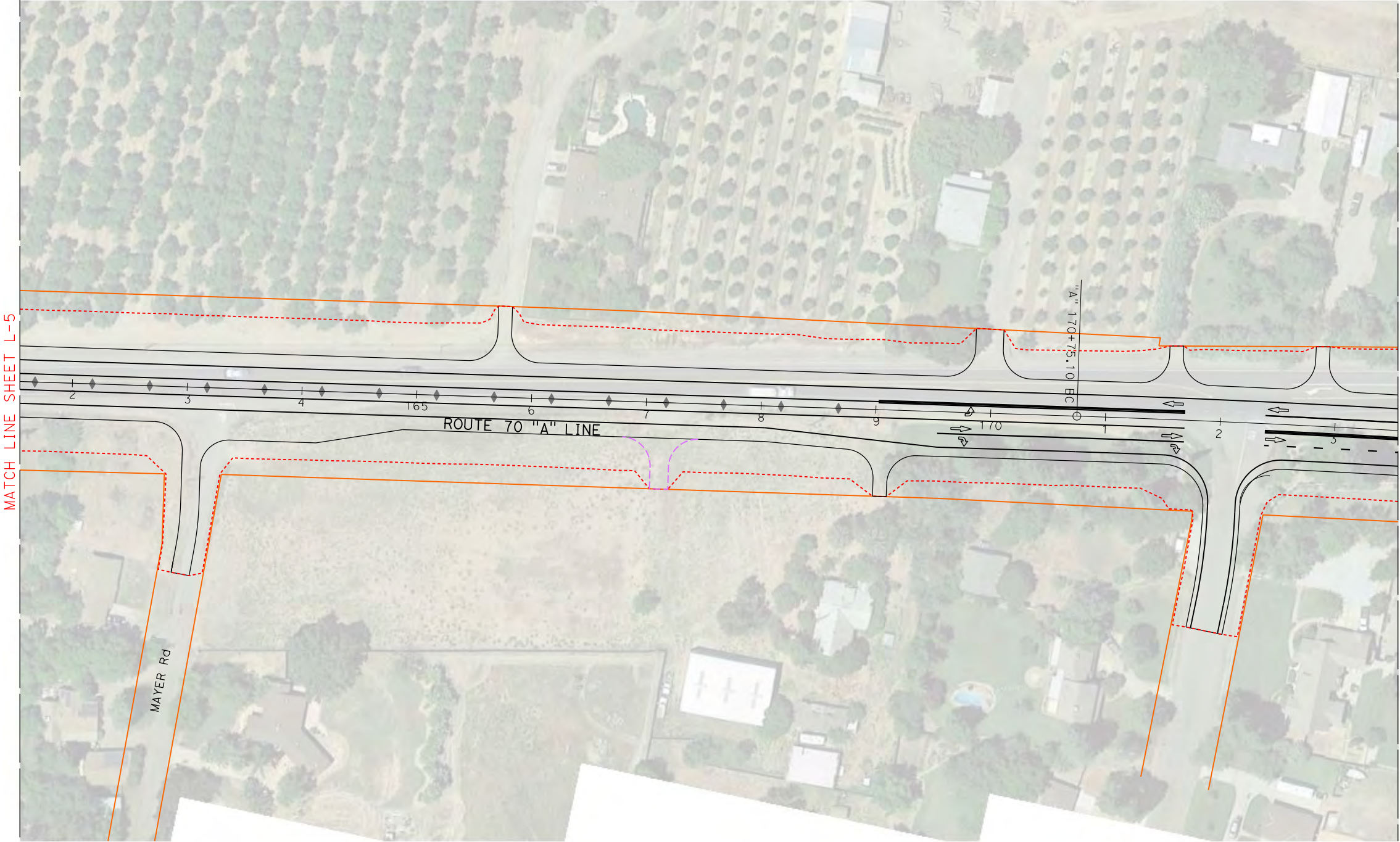
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-6**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- BY DESIGNED BY	REVISOR	DATE
Caltrans®		MITCH ANDRUS	CHECKED BY		

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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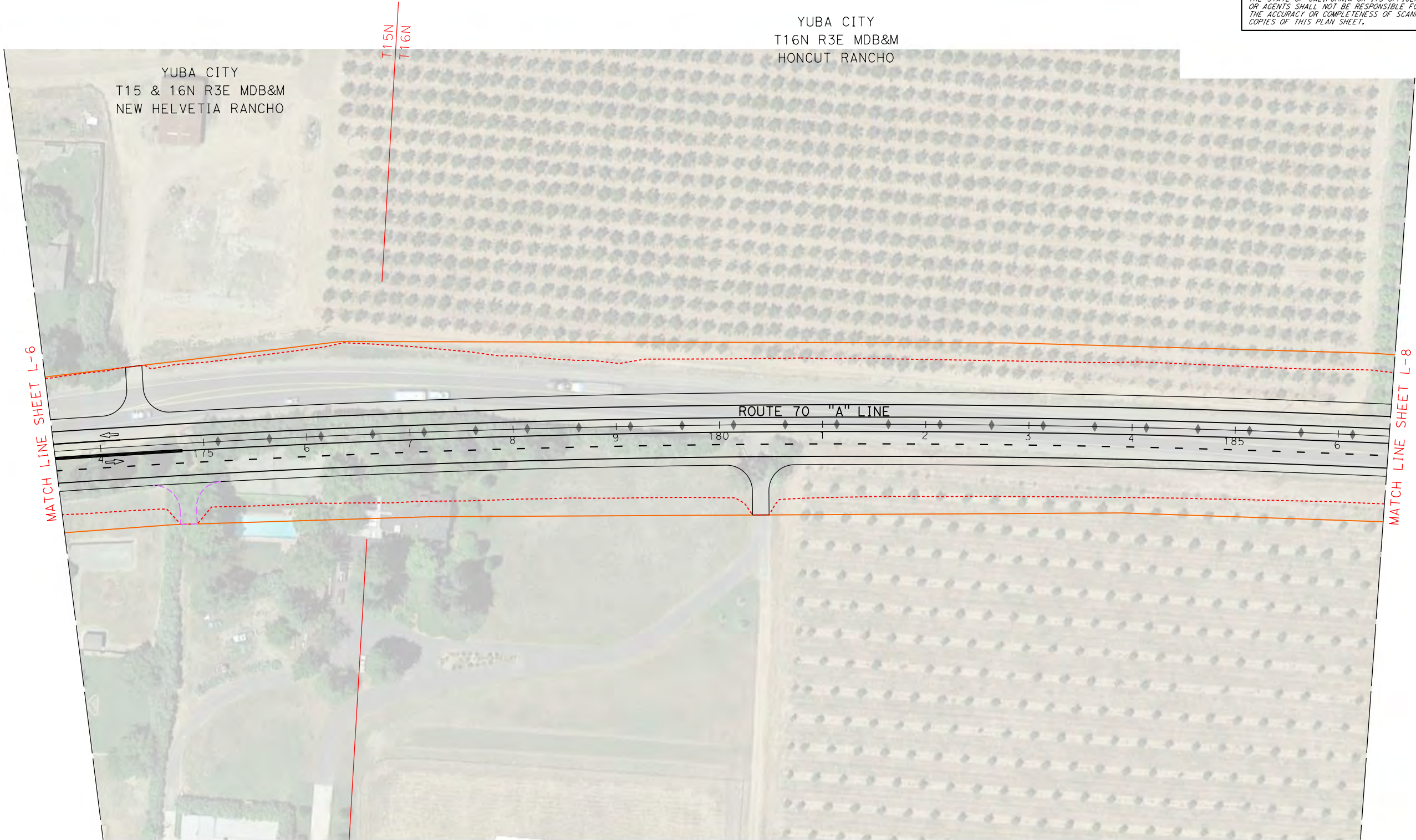
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-7

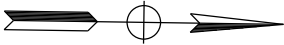


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	MITCH ANDRUS	CALCULATED- DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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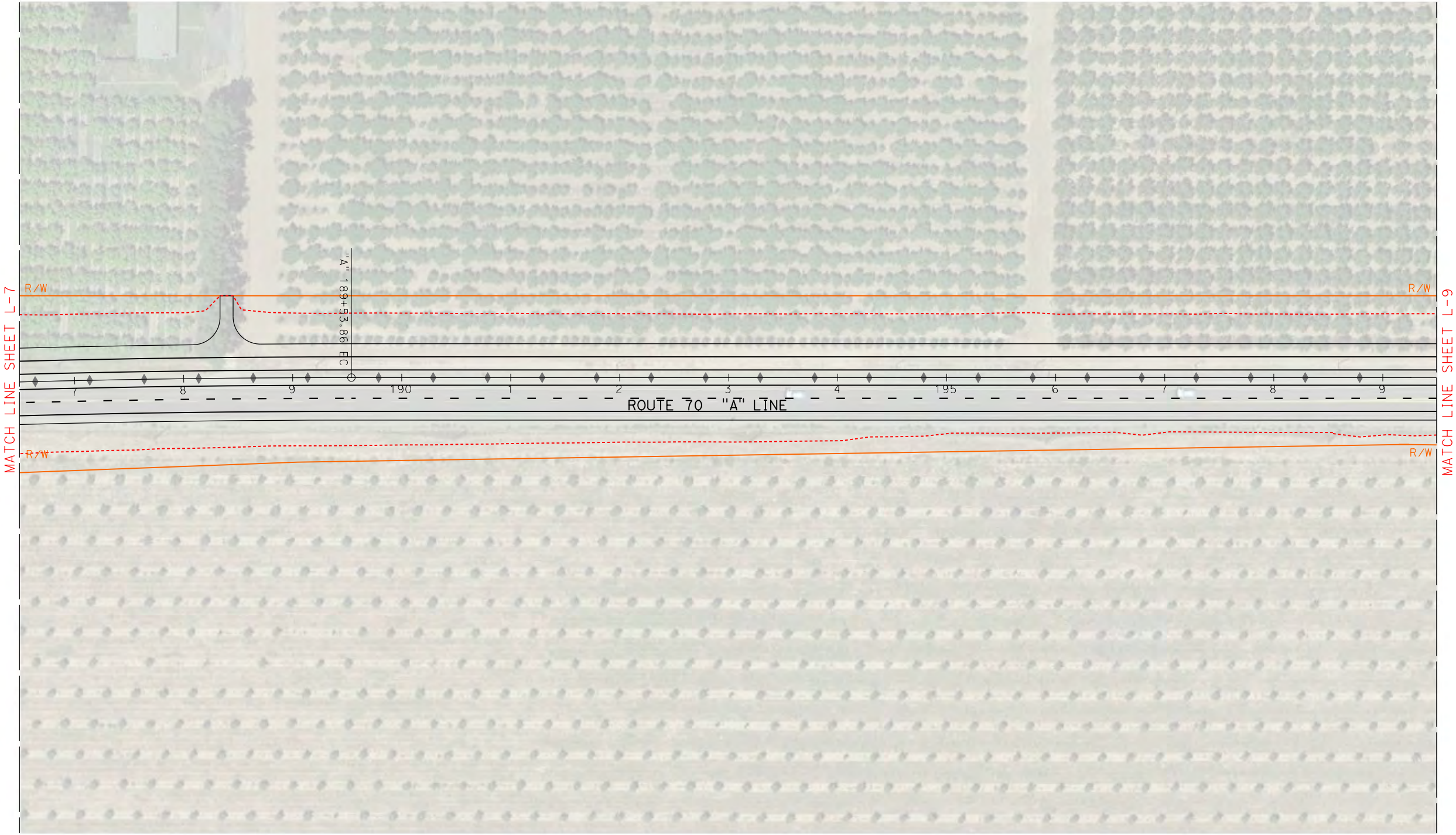
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-8



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE
Caltrans	MITCH ANDRUS	CHECKED BY			

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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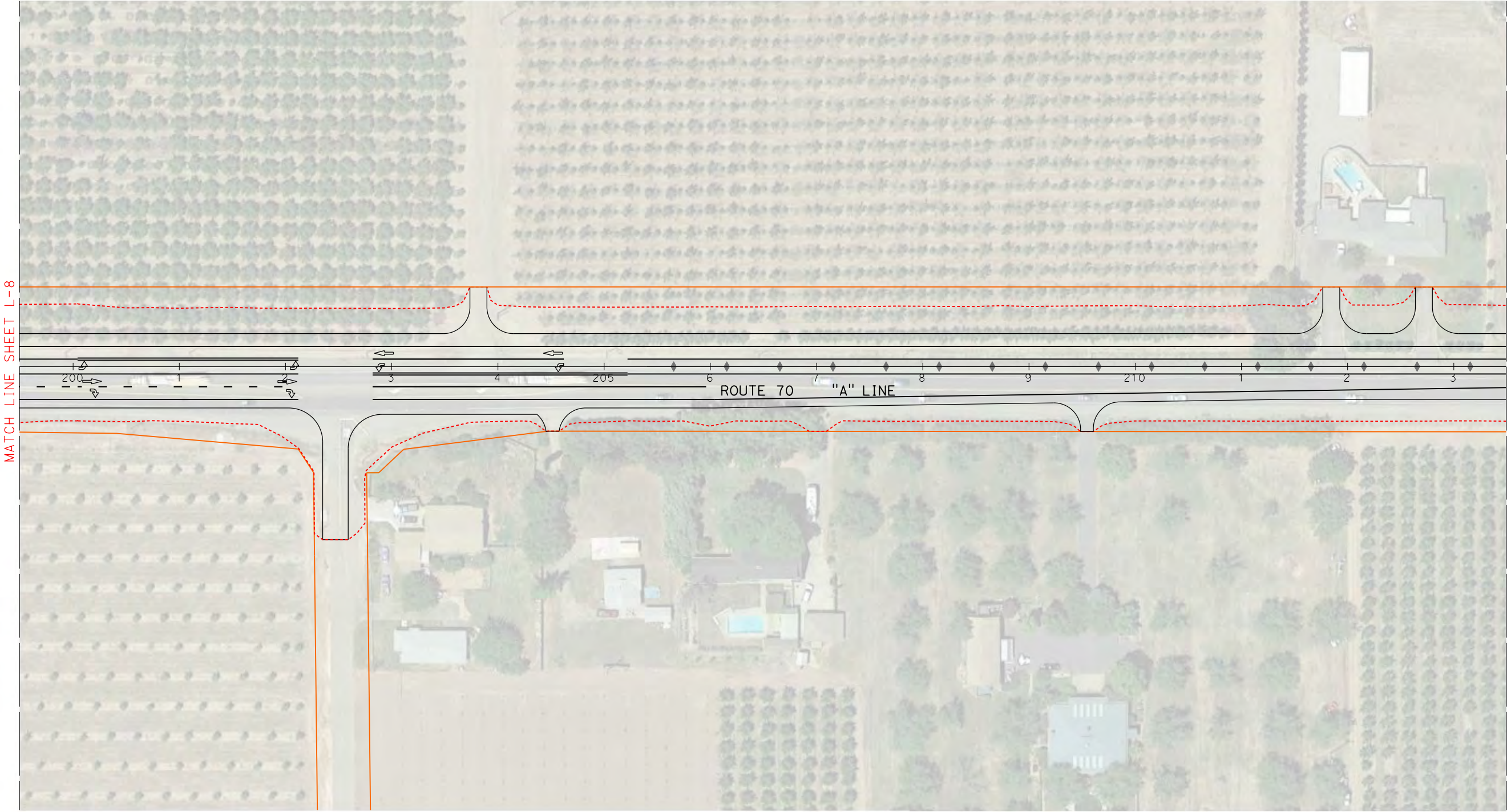
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-9

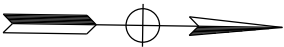


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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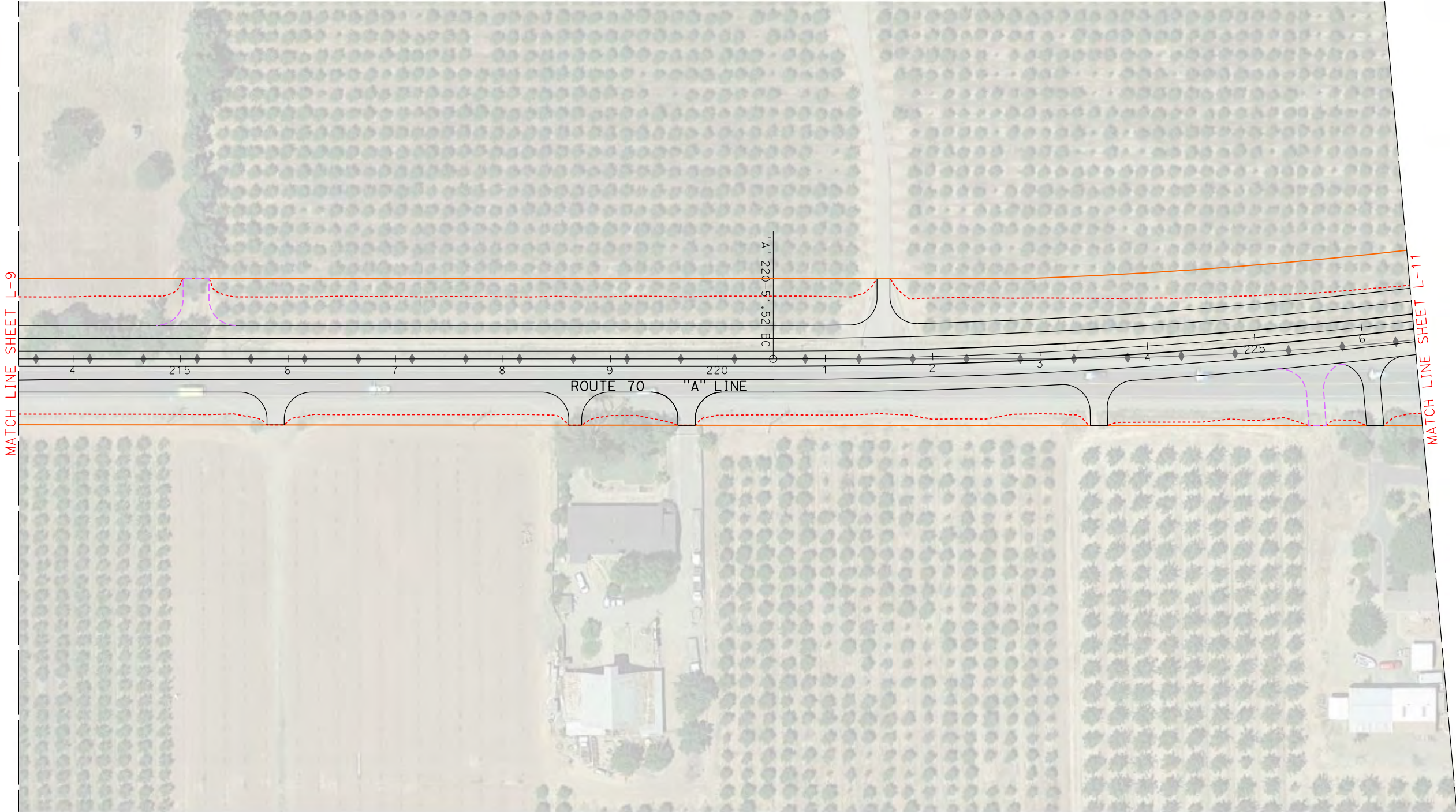
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



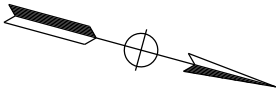
ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-10



NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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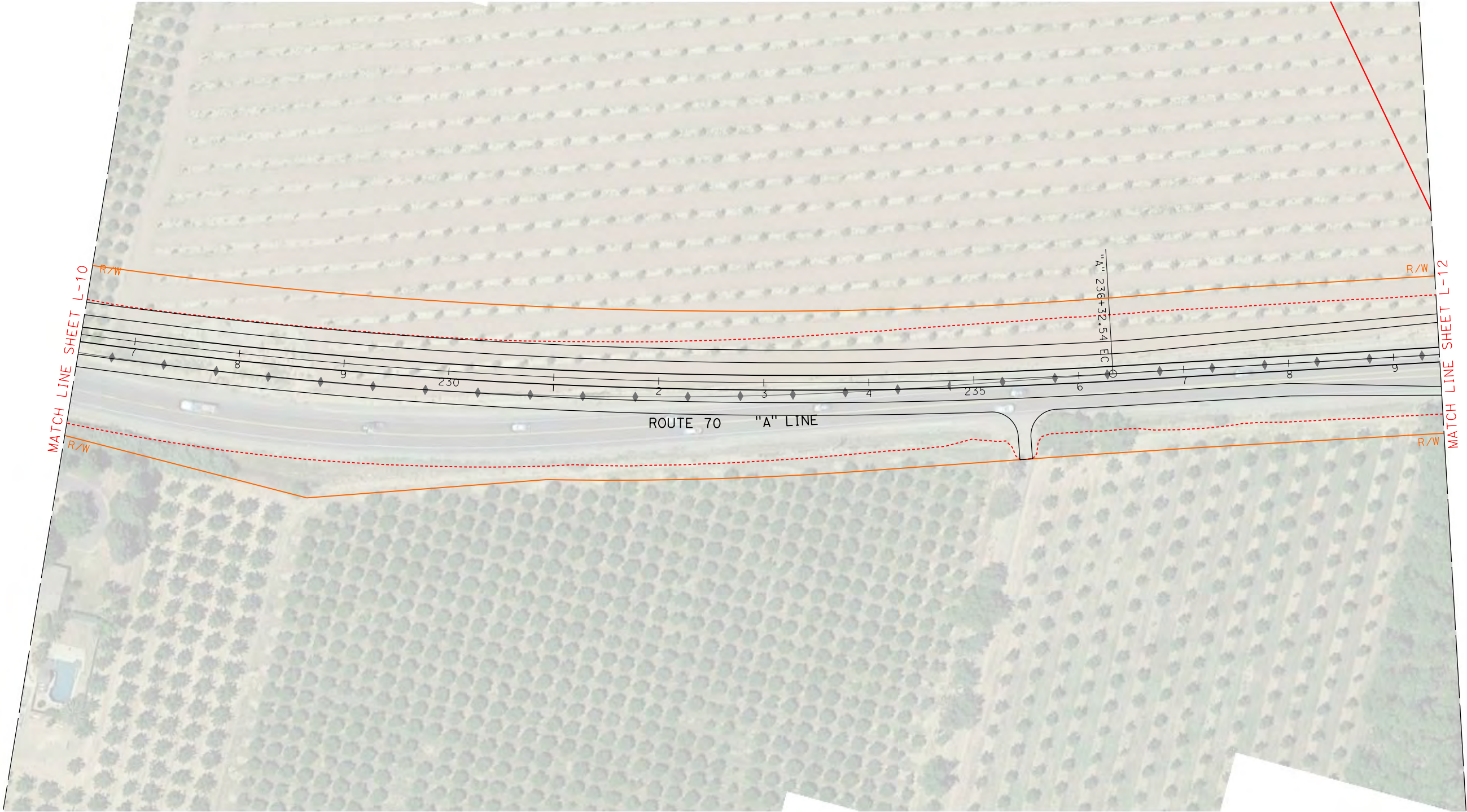
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B  
ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-11**

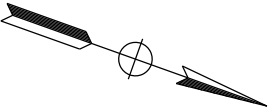


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS		CALCULATED- DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
<div>REGISTERED CIVIL ENGINEER      DATE</div> <div>PLANS APPROVAL DATE</div> <div><i>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</i></div>					

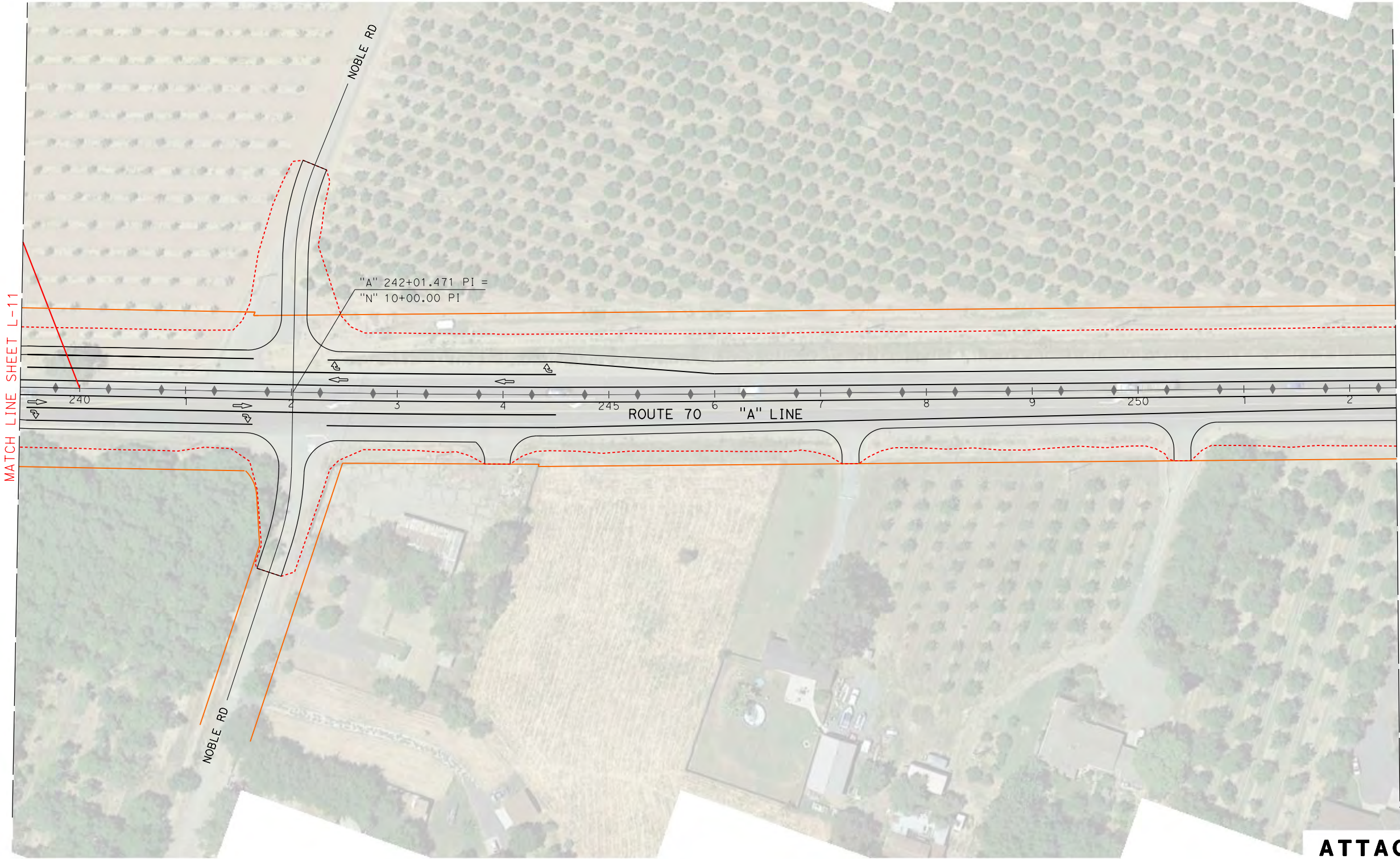
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-12

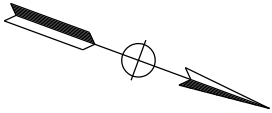


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISOR		
		MITCH ANDRUS		CHECKED BY	DATE	REVISOR	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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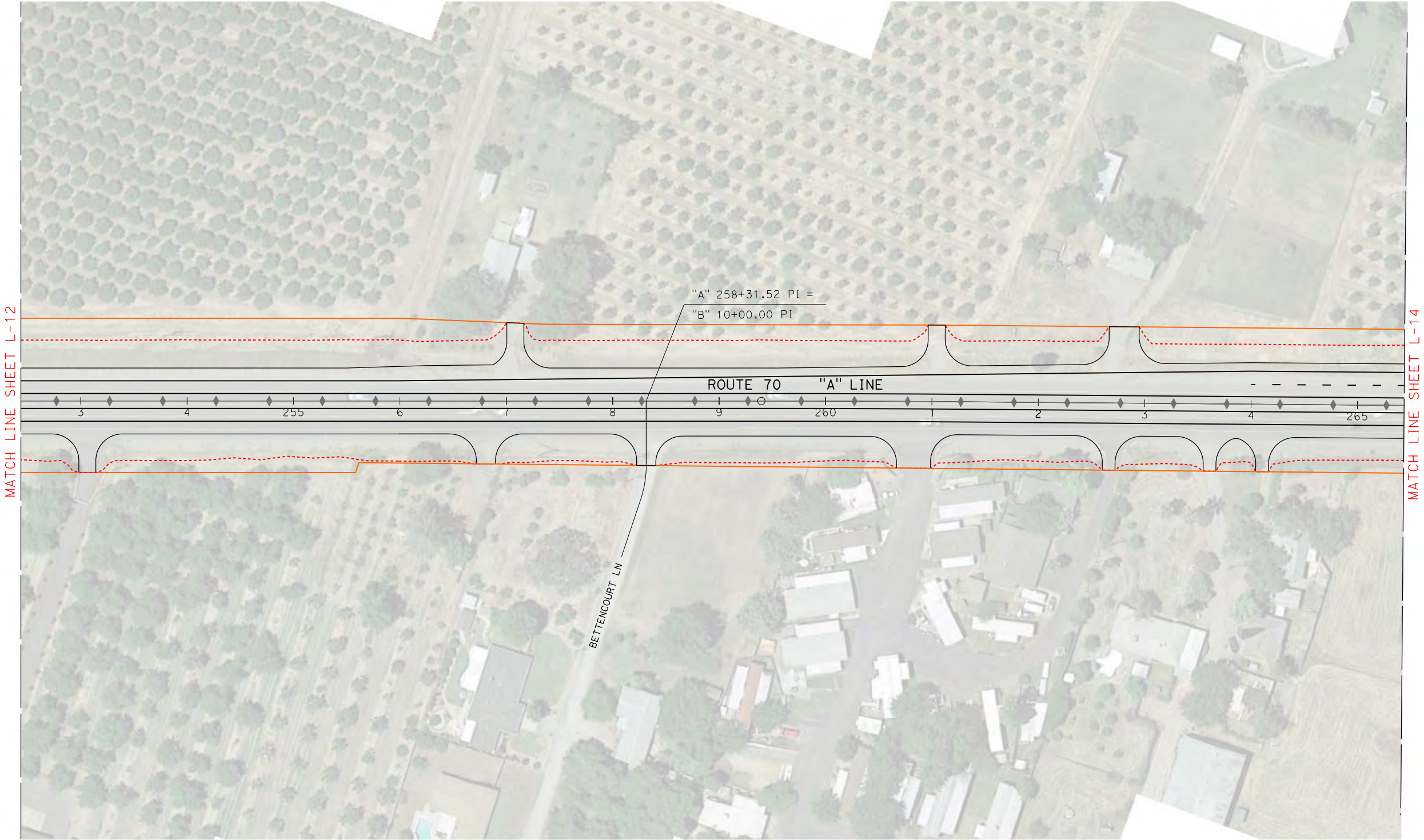
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-13

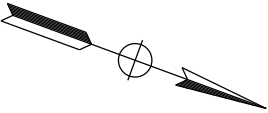


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- BY DESIGNED BY	REVISOR	DATE
ST-Caltrans®	MITCH ANDRUS	CHECKED BY	DATE	REVISOR

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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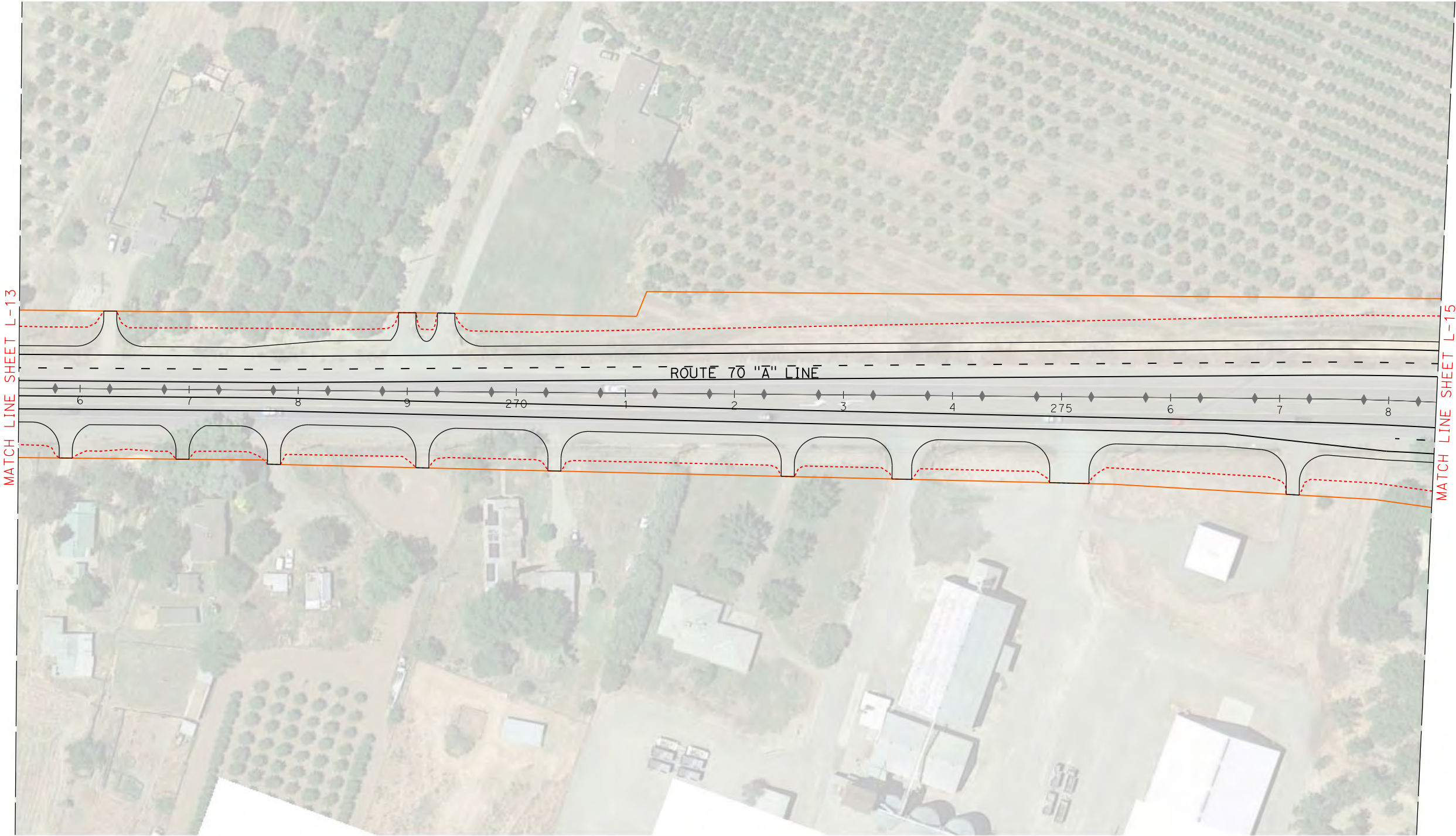
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-14







STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	
DATE	BY	CHECKED BY	DATE	REVISION	
DATE	BY	CHECKED BY	DATE	REVISION	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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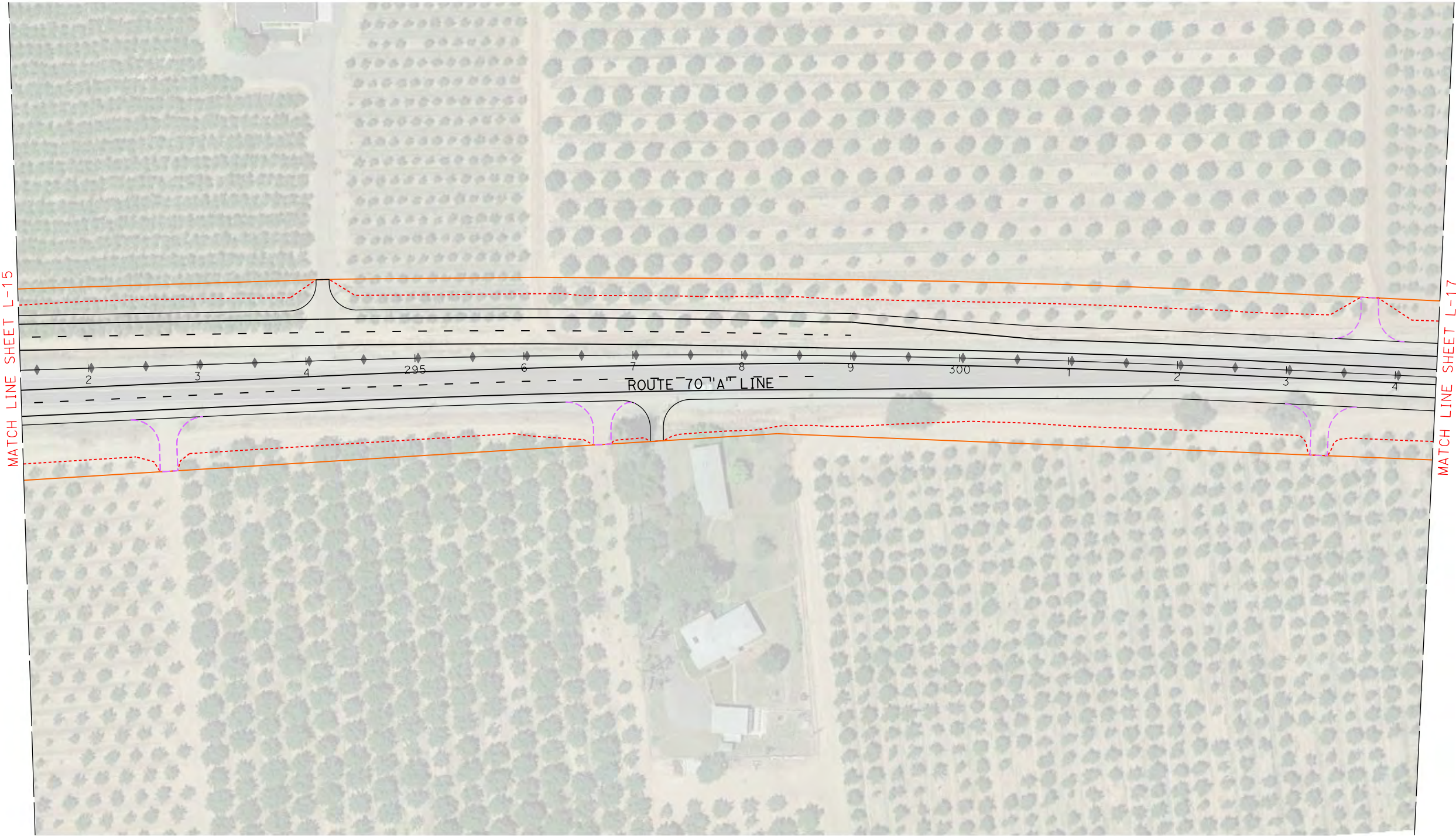
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-16











STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS		CALCULATED- DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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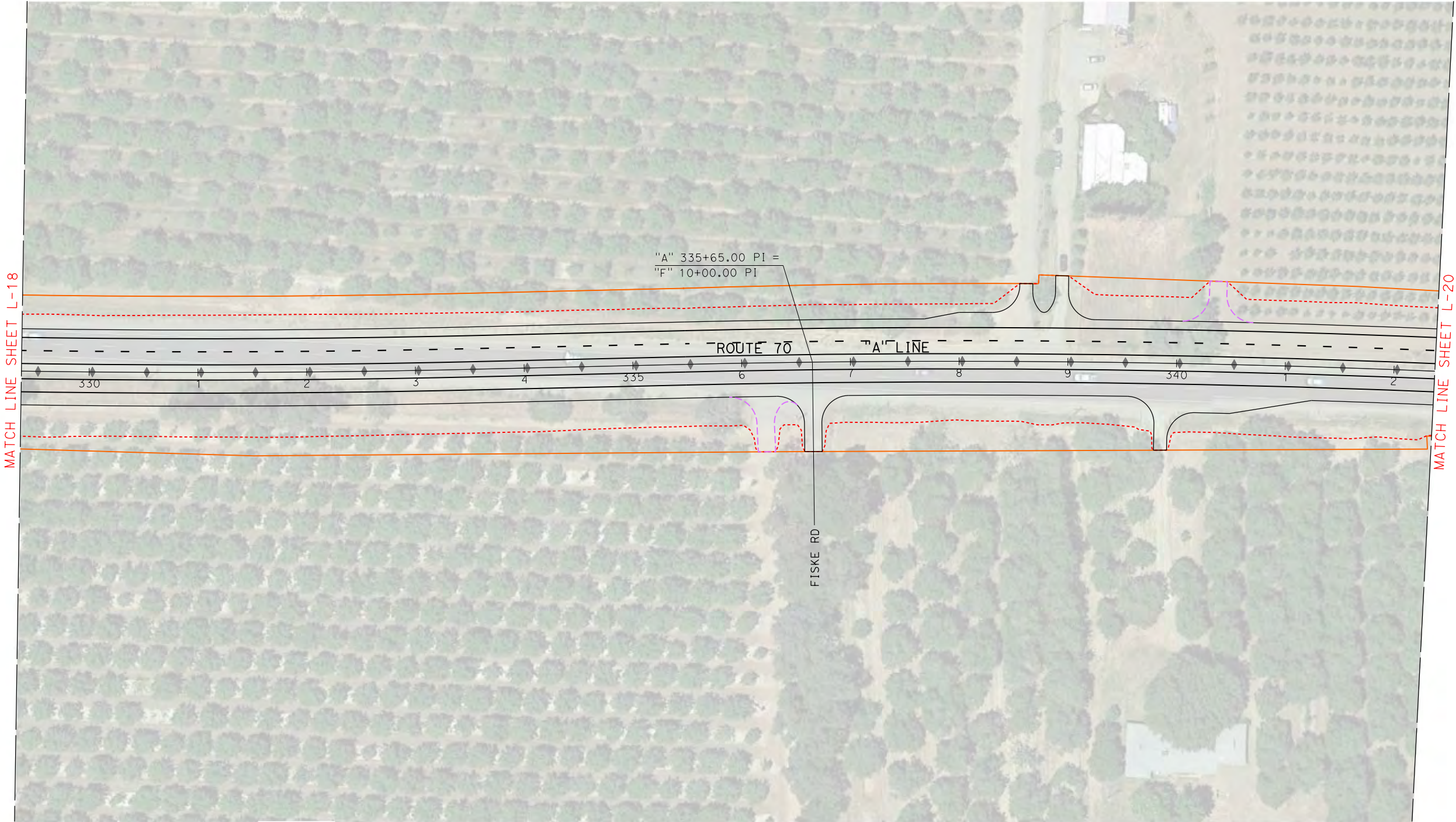
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-19



x	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISED BY							
	DESIGN											
	Galtbans®											
x			MITCH ANDRUS	CHECKED BY	DATE REVISED							
x												
x												

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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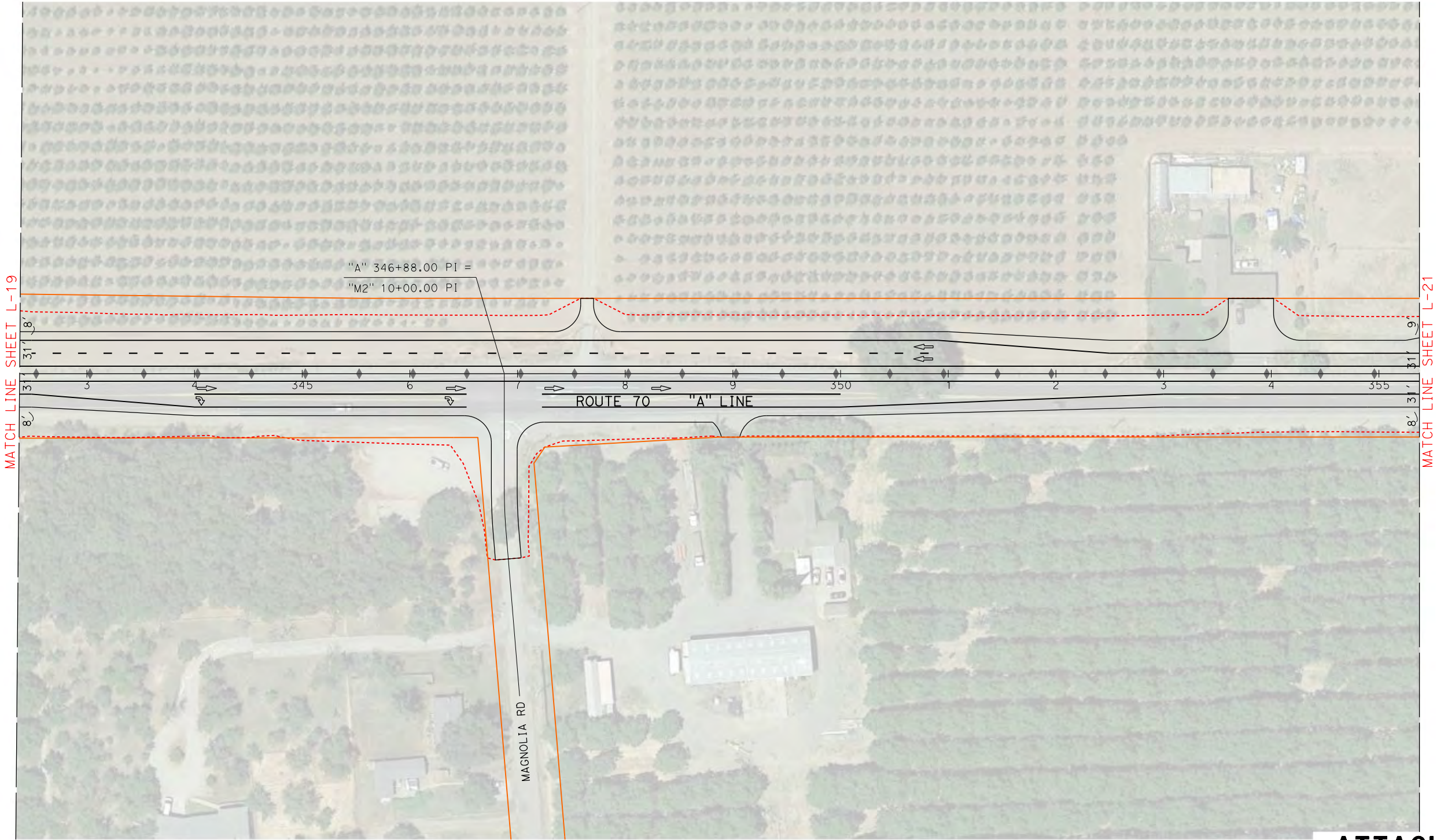
REGISTERED PROFESSIONAL ENGINEER

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Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-20



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISOR		
	MITCH ANDRUS					
Ct-Caltans®	DESIGN		CHECKED BY	DATE	REVISED	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
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PLANS APPROVAL DATE					
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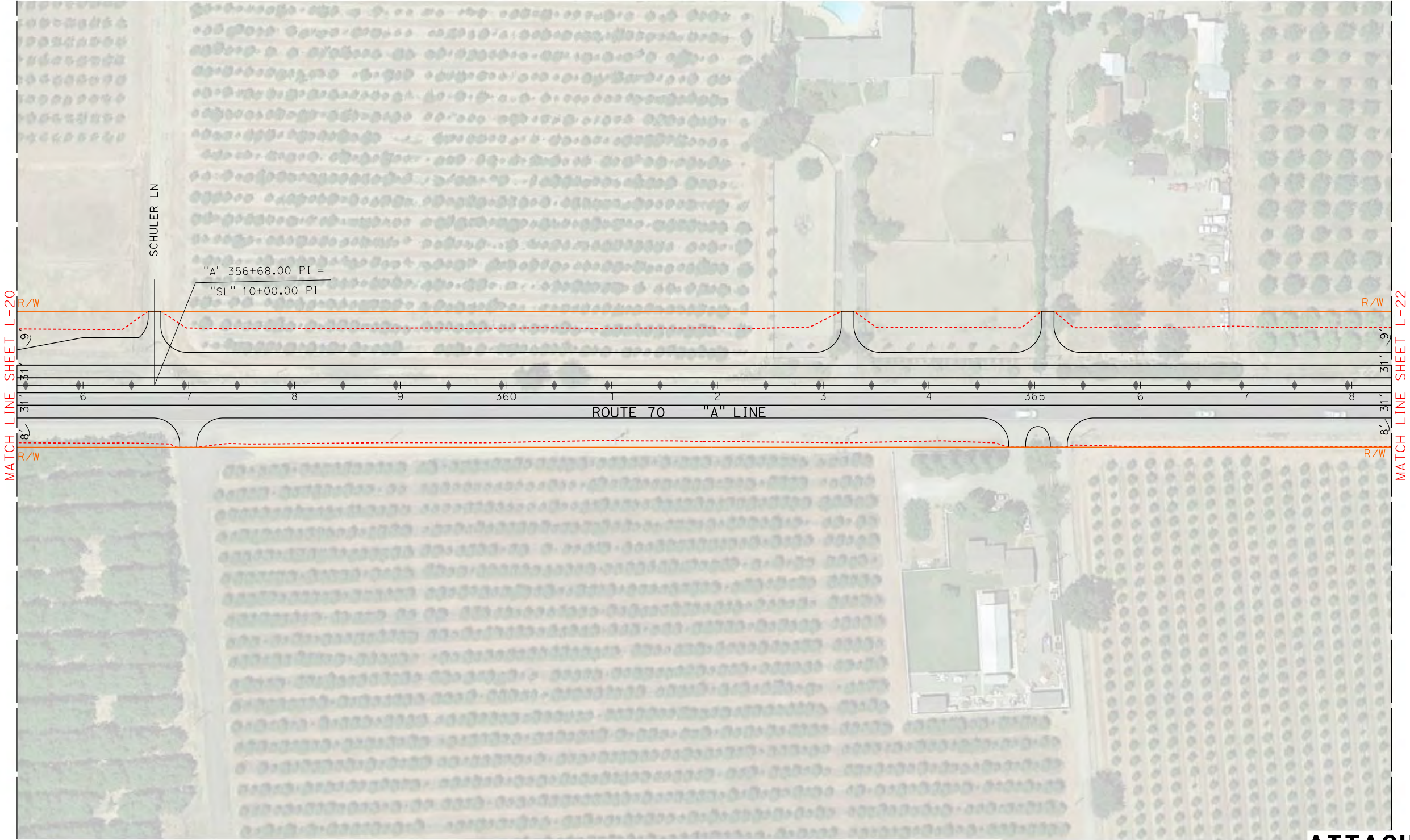
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-21



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- BY DESIGNED BY	REVISOR	DATE

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER			DATE		
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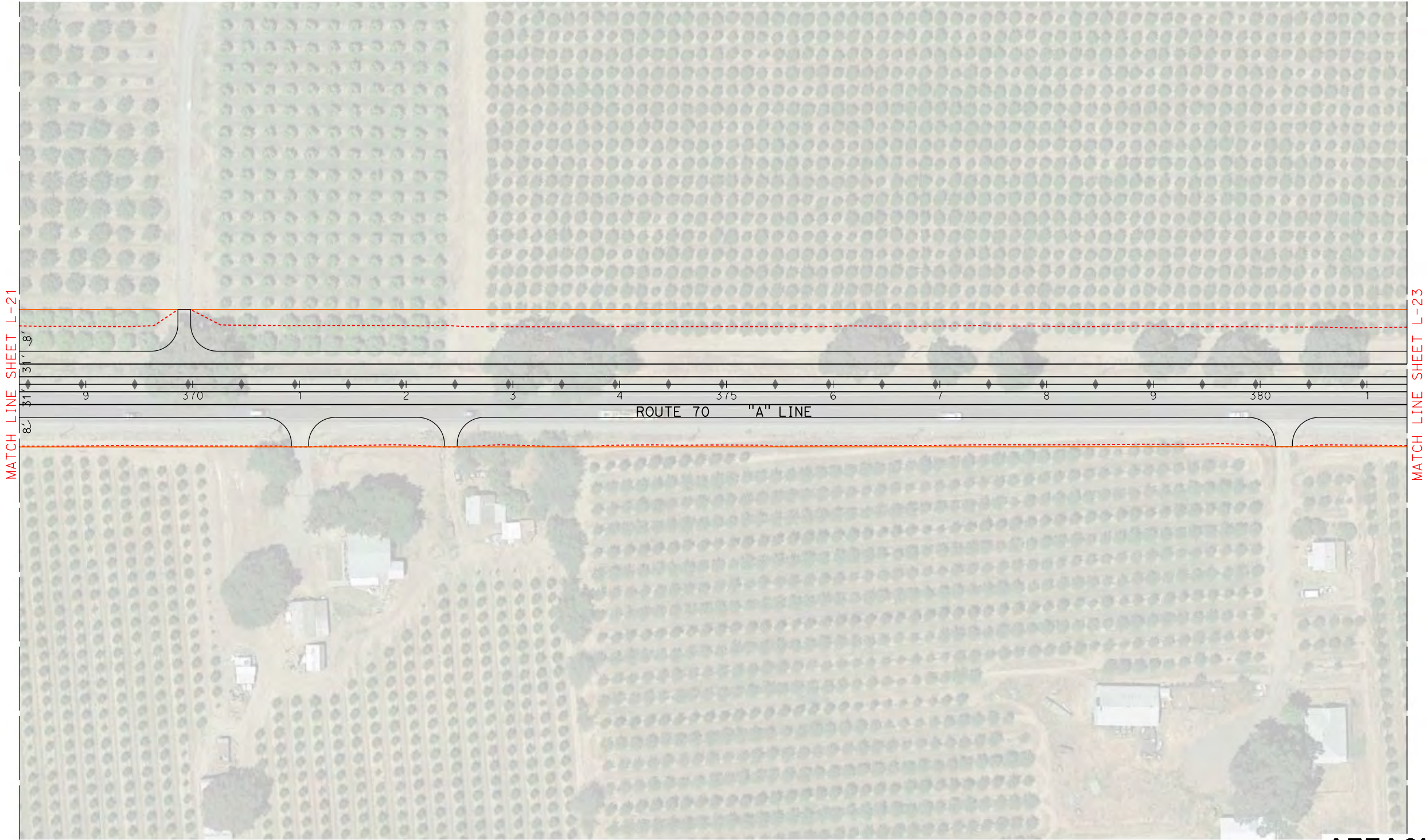
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-22



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS		CALCULATED- DESIGNED BY	REVISOR	DATE	REVISION

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- COORDINATE VALUES SHOWN ARE CCS83 ZONE 2. MULTIPLY BY 0.99995 TO OBTAIN GROUND DISTANCES.
- LOCATION TO BE DETERMINED BY ENGINEER.

YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

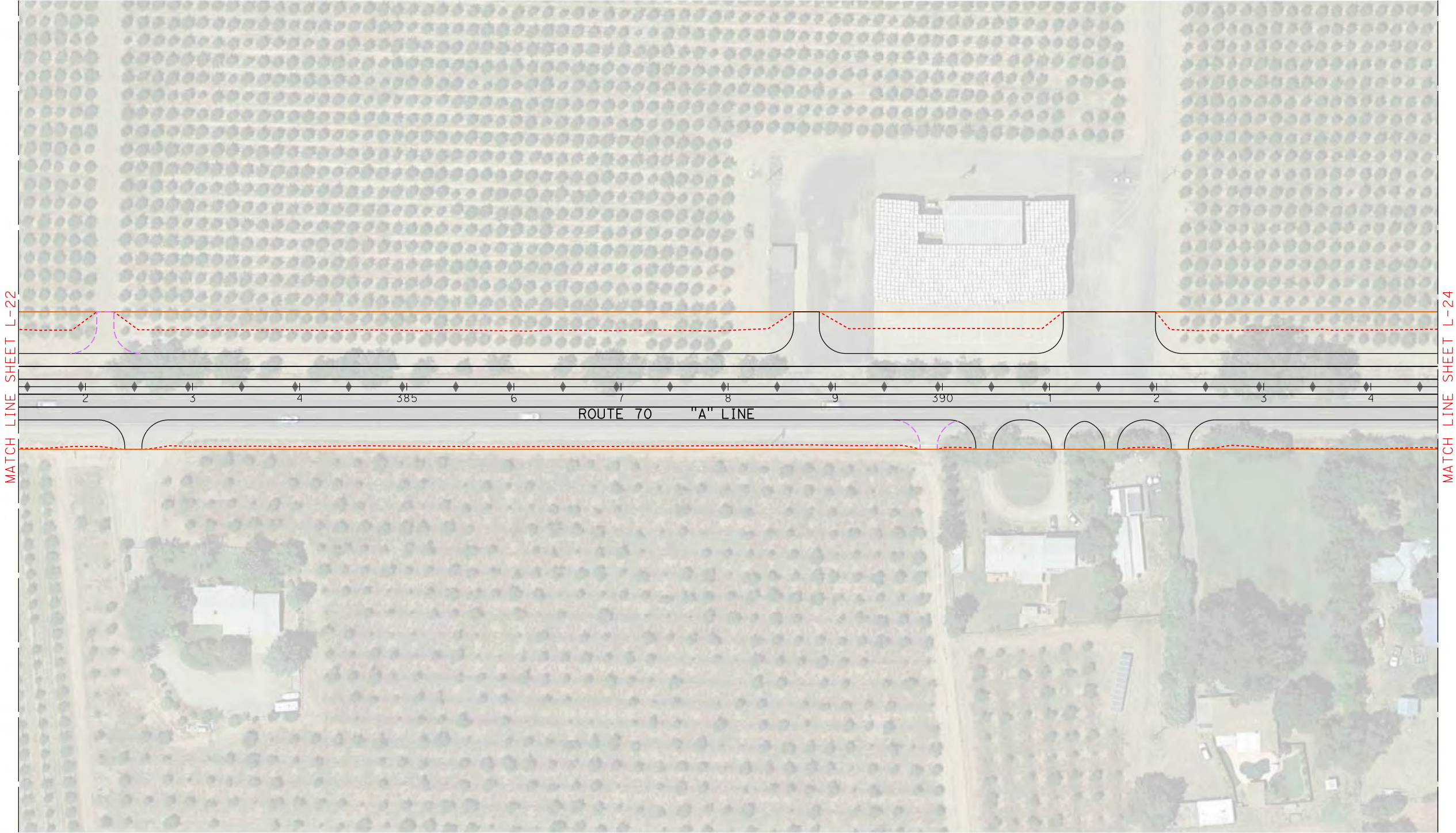
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL


STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-23



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

 **DESIGN**

FUNCTIONAL SUPERVISOR

MITCH ANDRUS

CALCULATED-  
DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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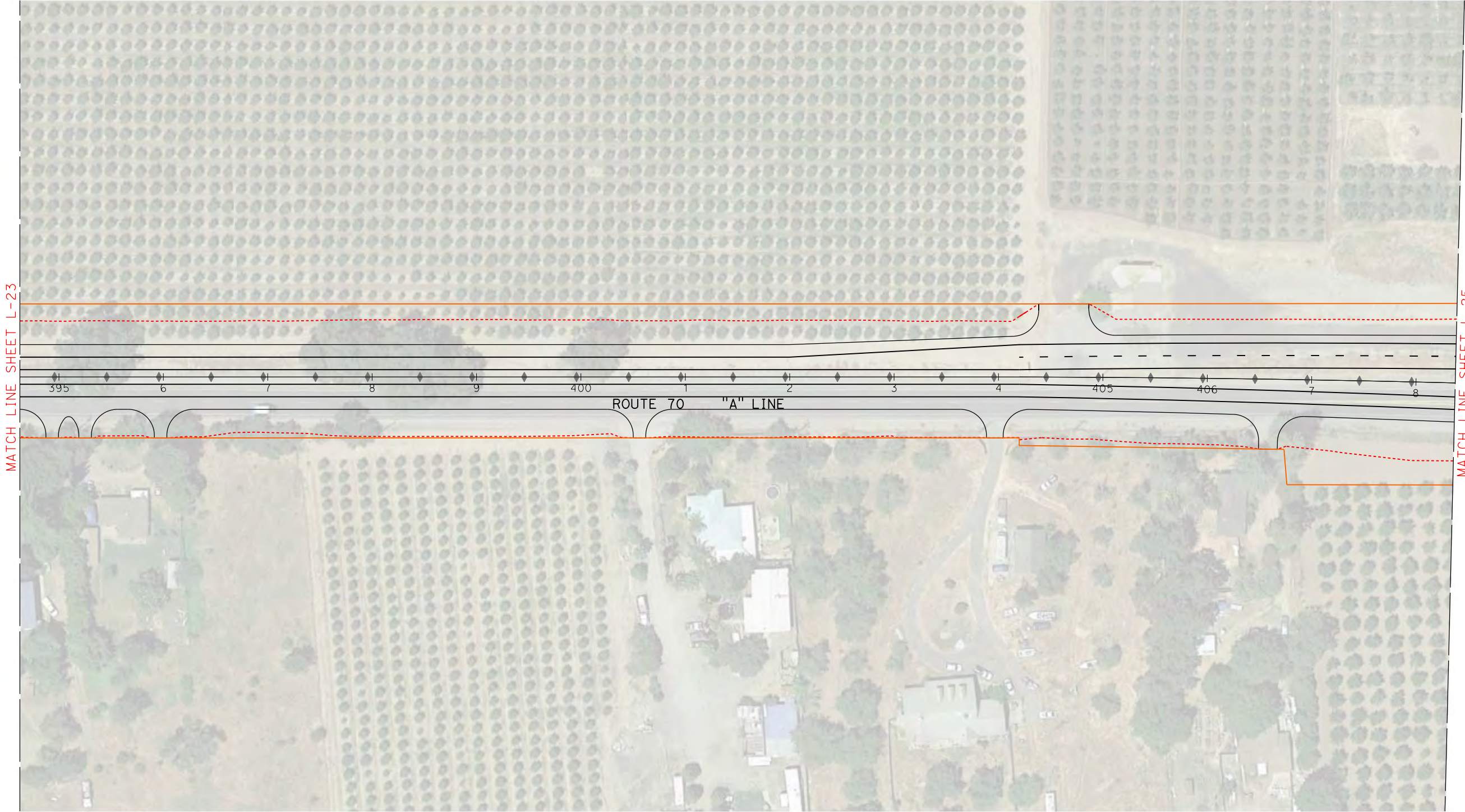
REGISTERED PROFESSIONAL ENGINEER

No.

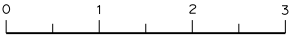
Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-24**





NOTES:

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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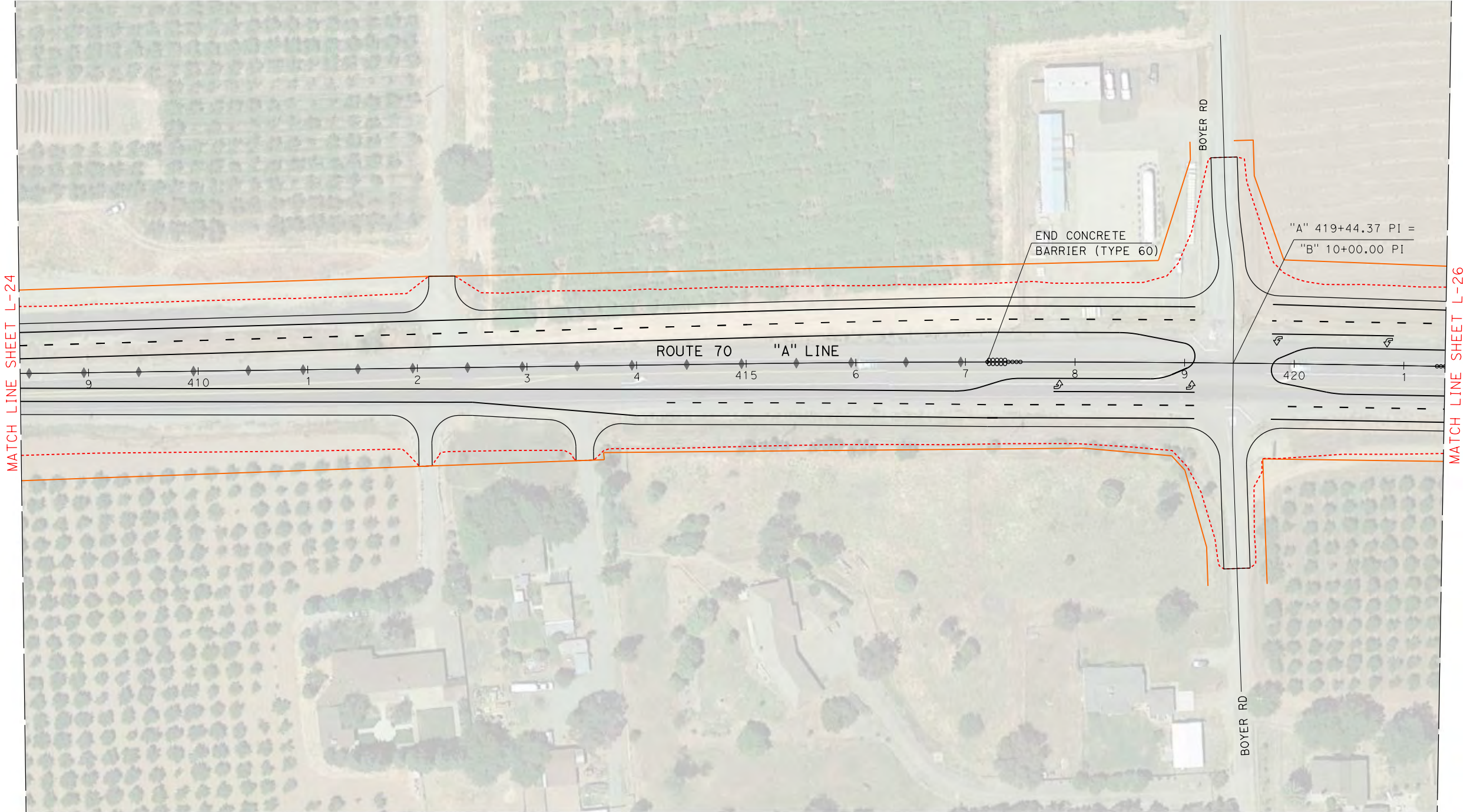
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL


STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-25**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

 **DESIGN**

FUNCTIONAL SUPERVISOR

MITCH ANDRUS

CALCULATED-  
DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

NOTES:

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YUBA CITY  
T16N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

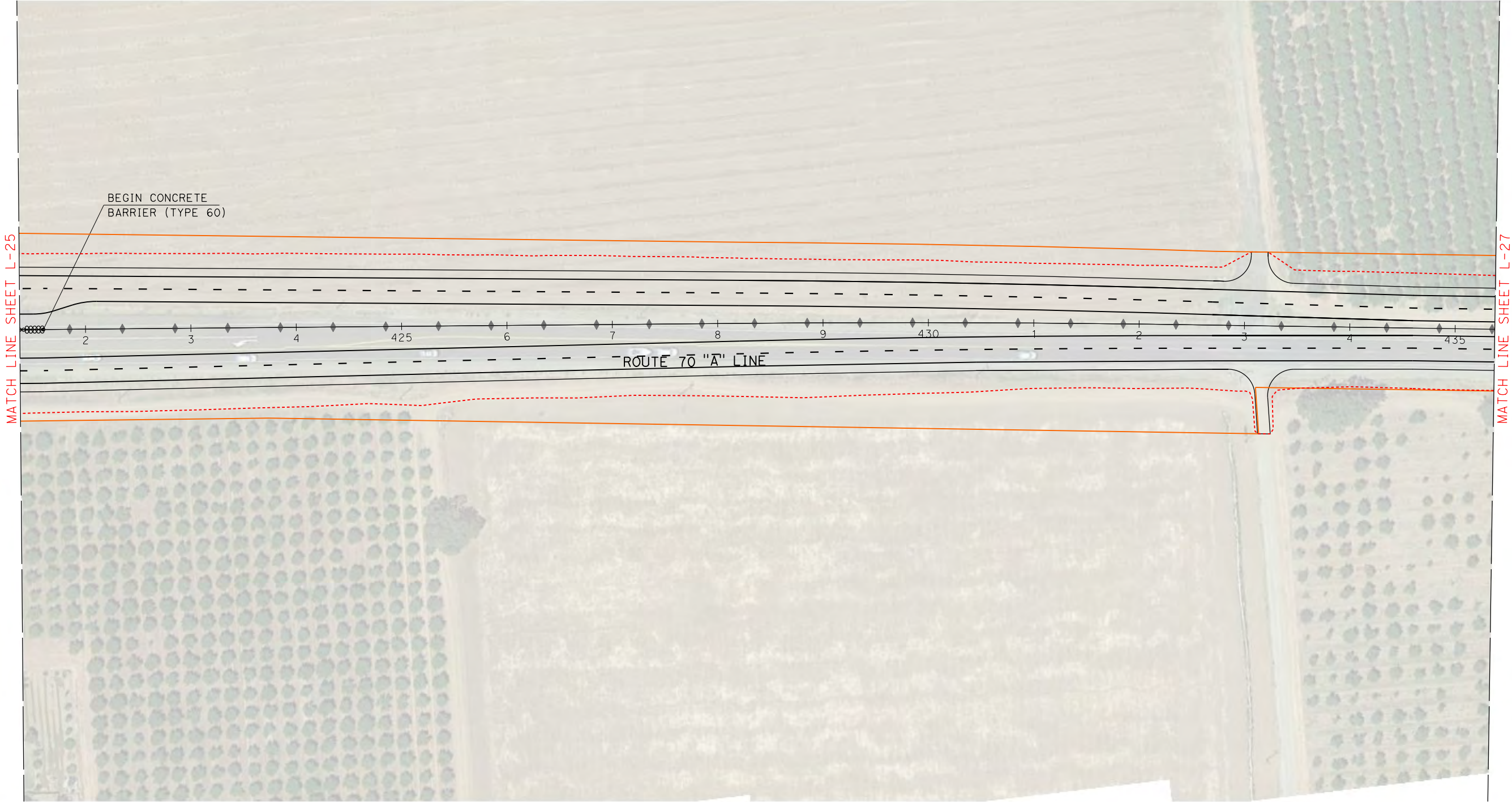
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-26**

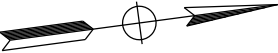


x	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR					
	DESIGN									
	MTC ANDRUS									
x			CHECKED BY	DATE	REVISOR					
x										

NOTES

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-27

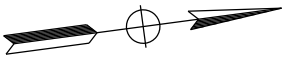


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE
Caltrans	MITCH ANDRUS		CHECKED BY		

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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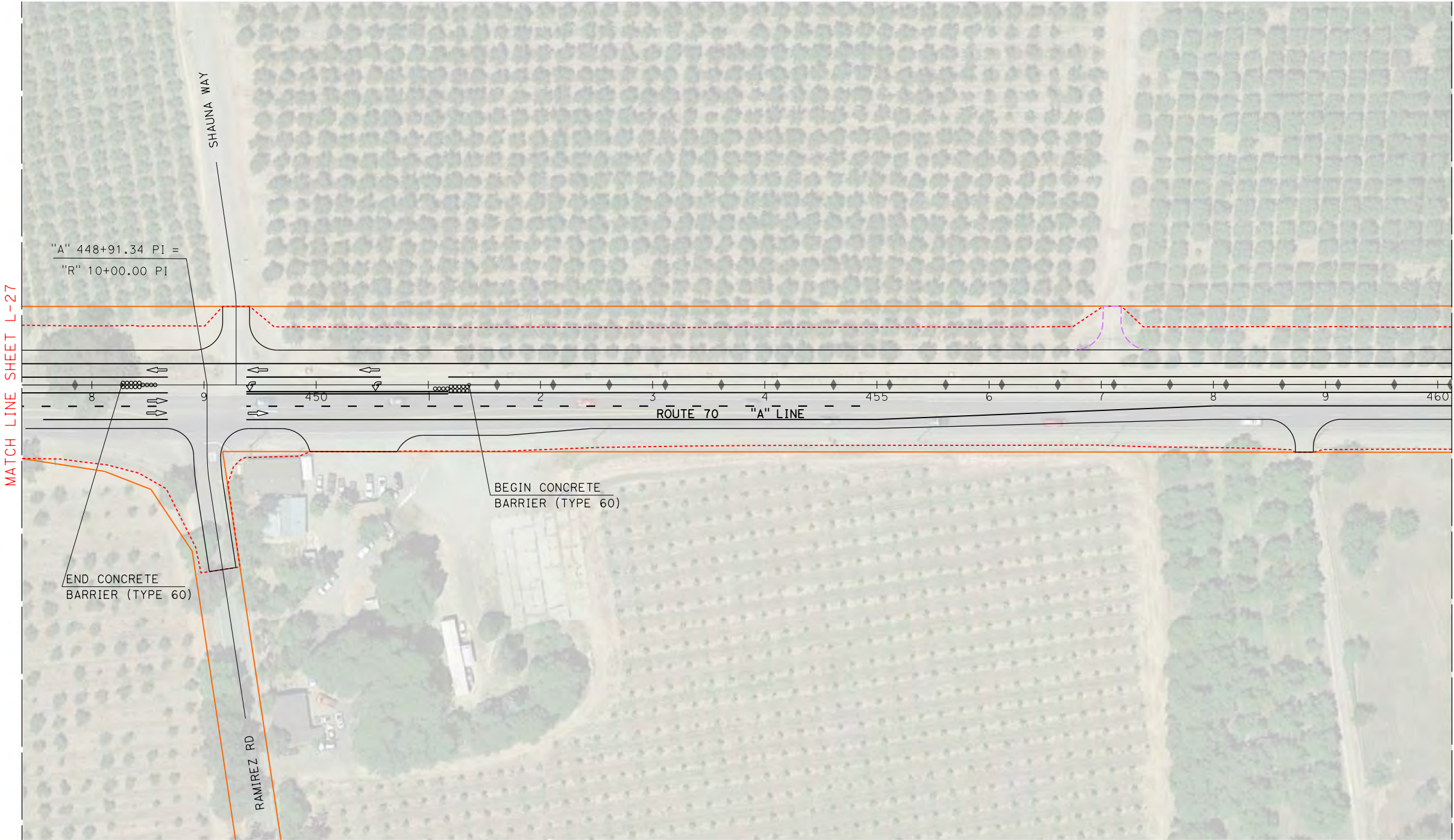
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-28

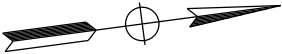


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	
MITCH ANDRUS		CHECKED BY	DATE REVISED	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-29



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	
Caltrans®		MITCH ANDRUS	CHECKED BY	DATE REVISED	

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YUBA CITY  
T16N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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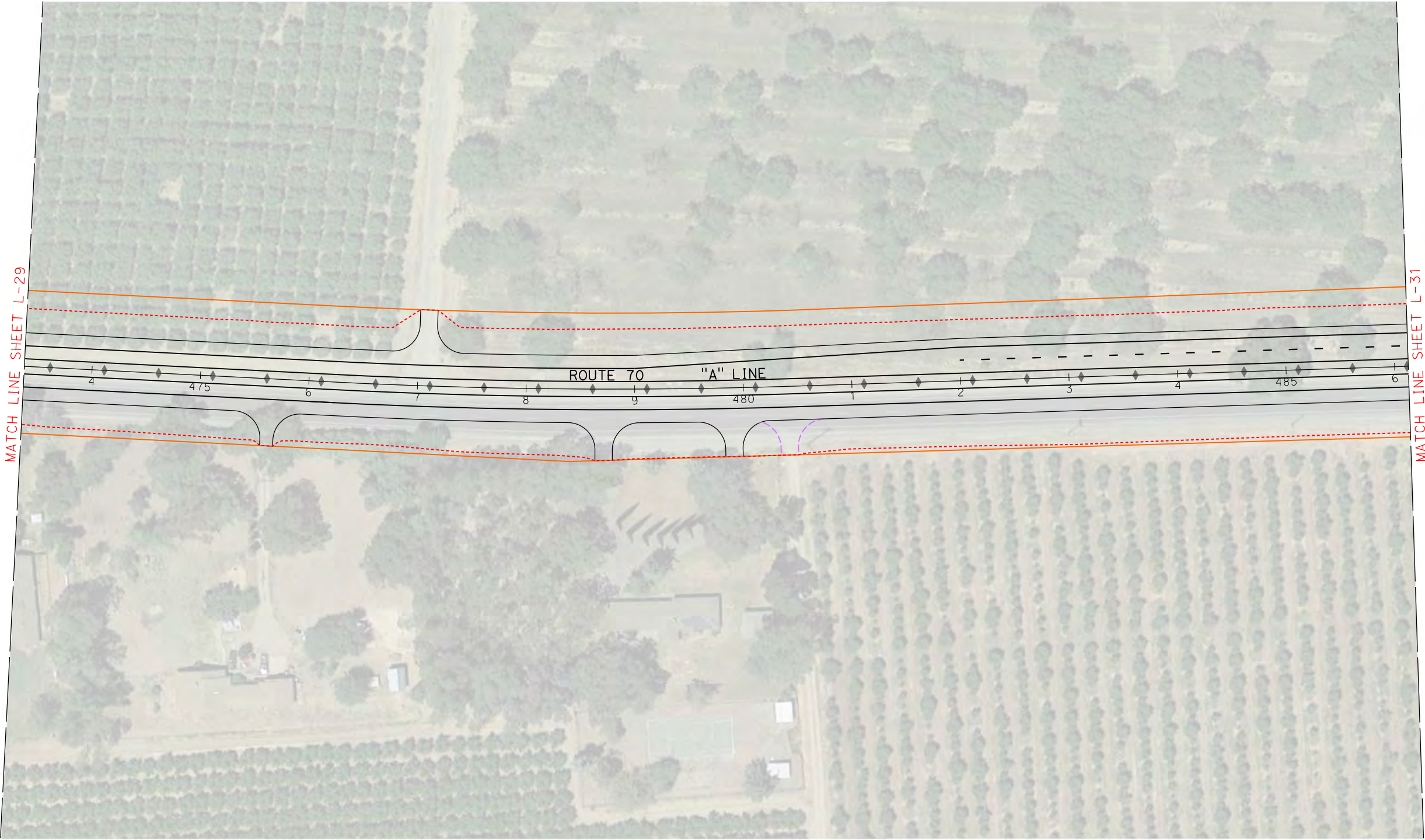
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_


CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-30



 <b>Caltrans®</b>	<b>DESIGN</b>	FUNCTIONAL SUPERVISOR		CALCULATED- DESIGNED BY	REVISED BY		
		MITCH ANDRUS					

NOTES:

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YUBA CITY  
T16 & 17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

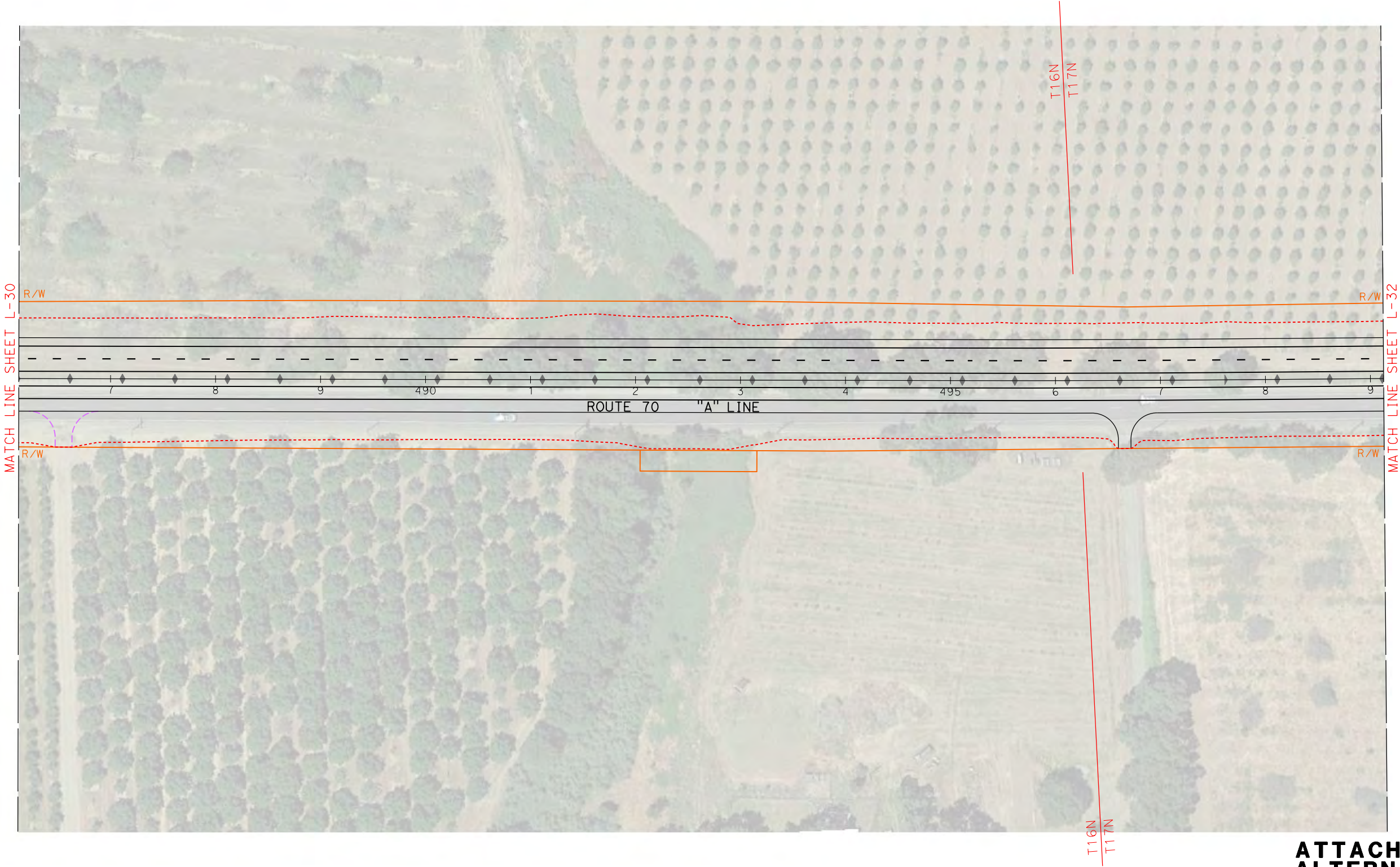
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-31



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY	REVISOR	DATE

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-32



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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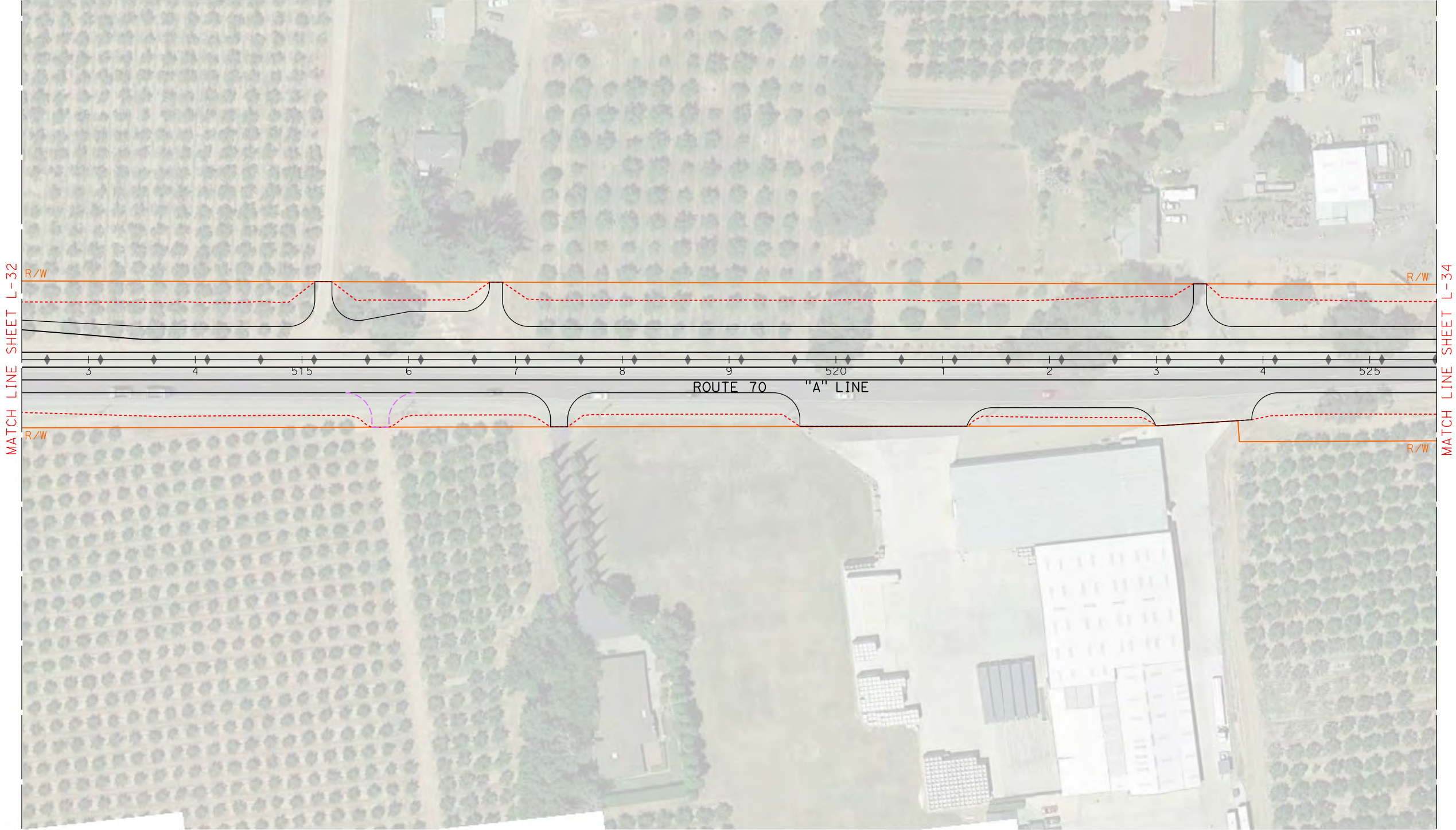
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-33



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR		
<b>Caltrans®</b>	MITCH ANDRUS	CHECKED BY	DATE	REVISOR	

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-34



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	MITCH ANDRUS	CALCULATED-BY DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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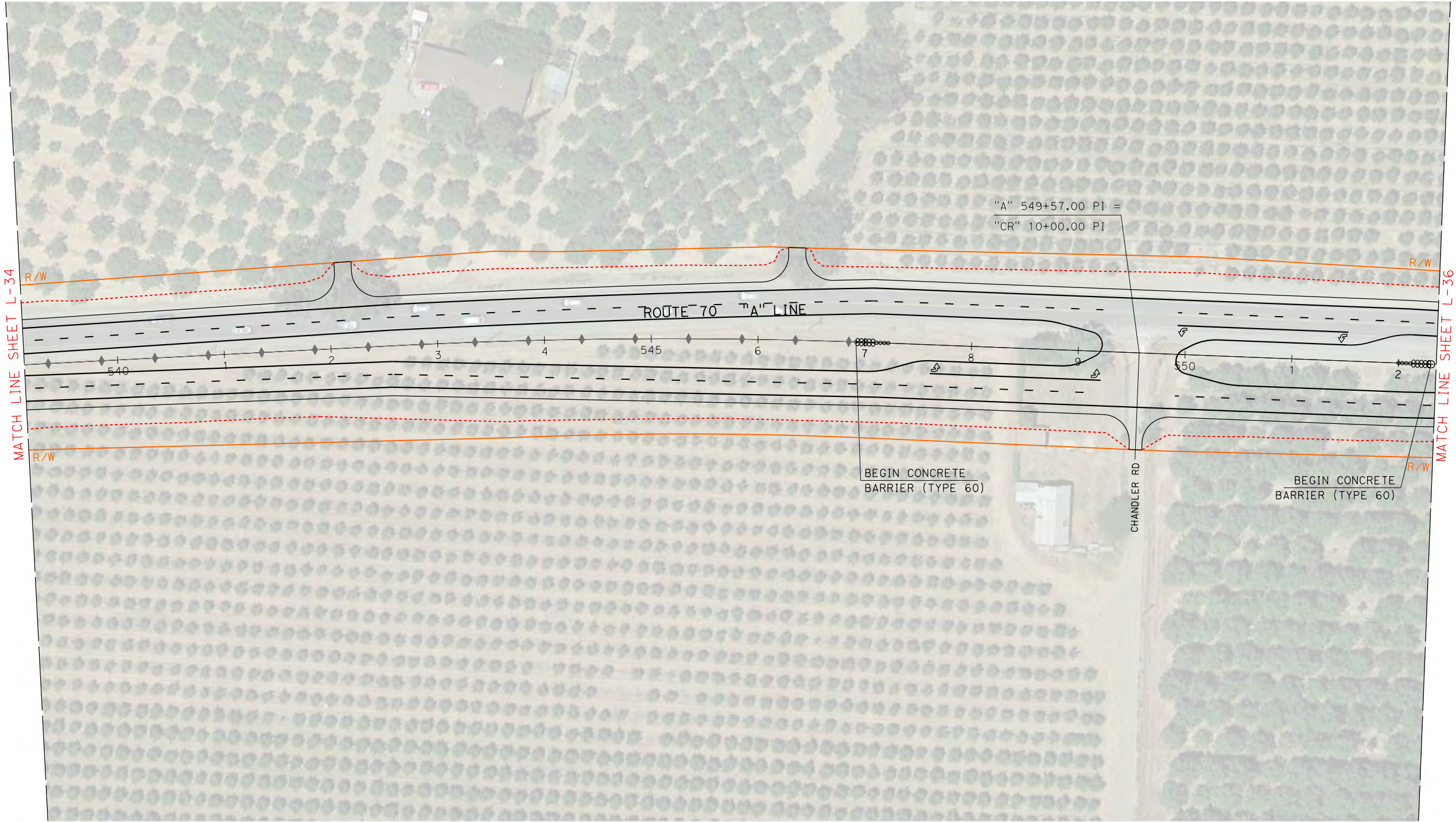
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



**ATTACHMENT B**  
**ALTERNATIVE 2**  
SCALE: 1"=50'  
**L-35**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE
MTC	ANDRUS	CHECKED BY	DATE	REVISOR	DATE

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-36



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISOR	DATE
Caltrans		MITCH ANDRUS	CHECKED BY	DATE	REVISOR

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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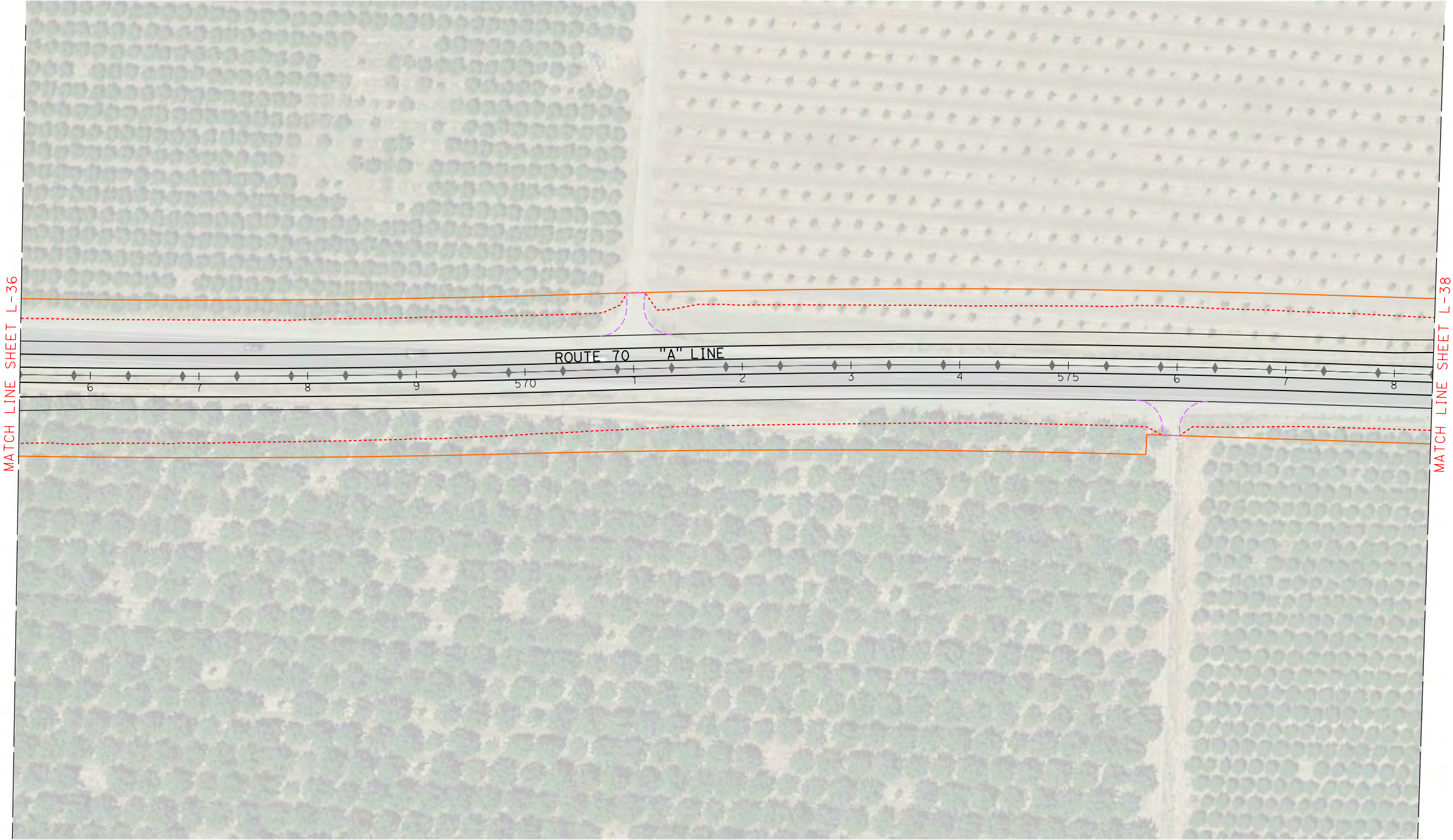
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-37



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	MITCH ANDRUS	CALCULATED- DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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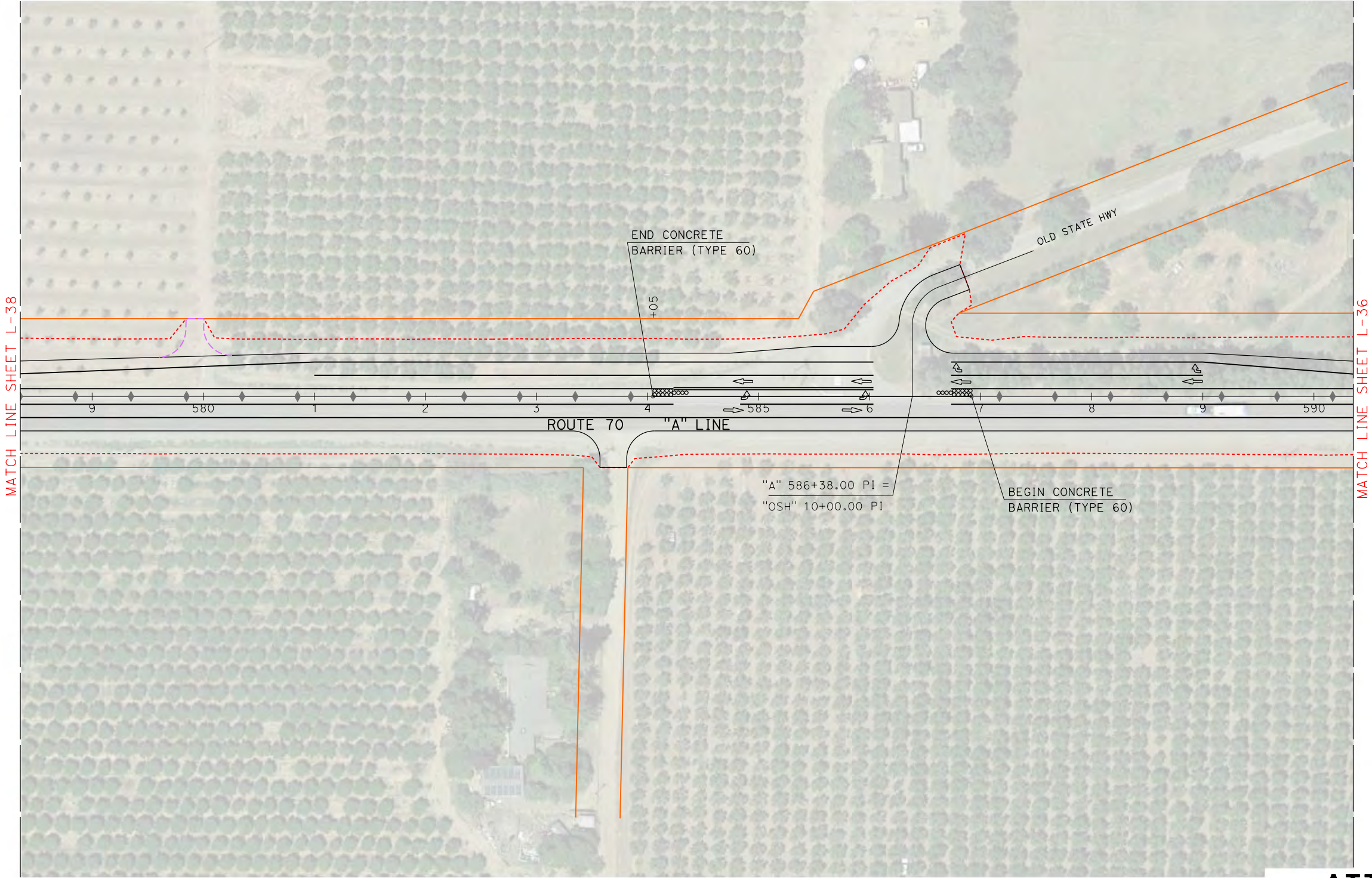
REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-38



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR MITCH ANDRUS	CALCULATED- DESIGNED BY CHECKED BY	REVISED BY DATE REVISED		

NOTES:

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YUBA CITY  
T17N R3E MDB&M  
HONCUT RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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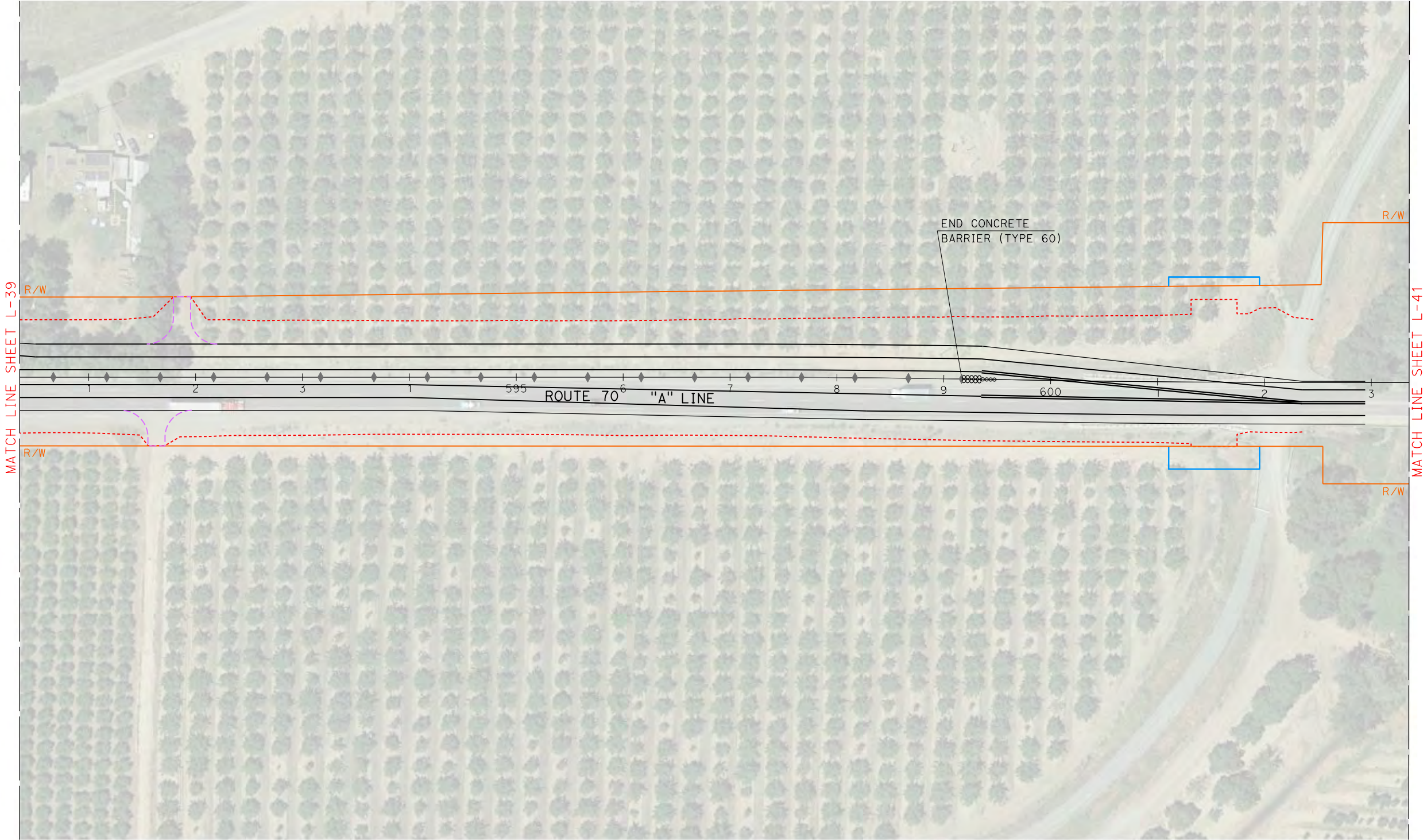
REGISTERED PROFESSIONAL ENGINEER

No. \_\_\_\_\_

Exp. \_\_\_\_\_

CIVIL

STATE OF CALIFORNIA



ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-39

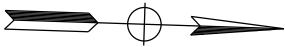


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED- DESIGNED BY	REVISED BY	
<b>EtCulttrans®</b>	MITCH ANDRUS	CHECKED BY	DATE	REVISED

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YUBA CITY  
T17N R3E MDB&M  
NEW HELVETIA RANCHO



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Yub	70	16.2/25.8		
REGISTERED CIVIL ENGINEER			DATE		
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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.

CIVIL

STATE OF CALIFORNIA

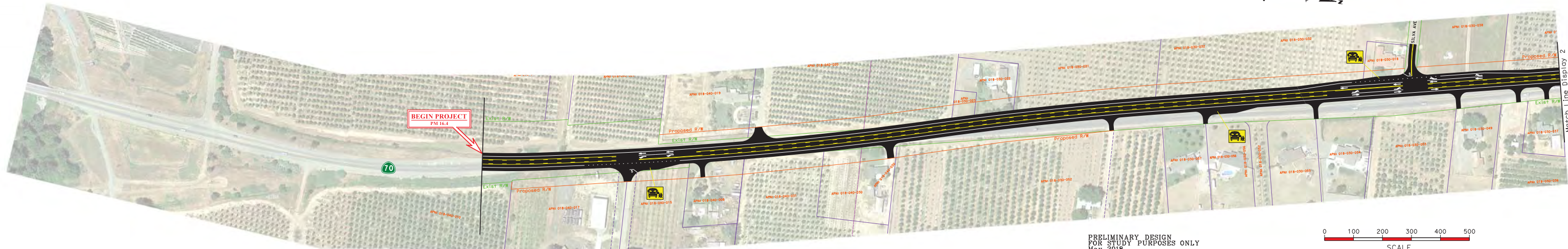


ATTACHMENT B  
ALTERNATIVE 2  
SCALE: 1"=50'  
L-40

## Appendix C Right-of-Way Acquisitions

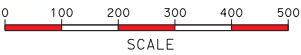
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PRELIMINARY DESIGN  
FOR STUDY PURPOSES ONLY  
May, 2018

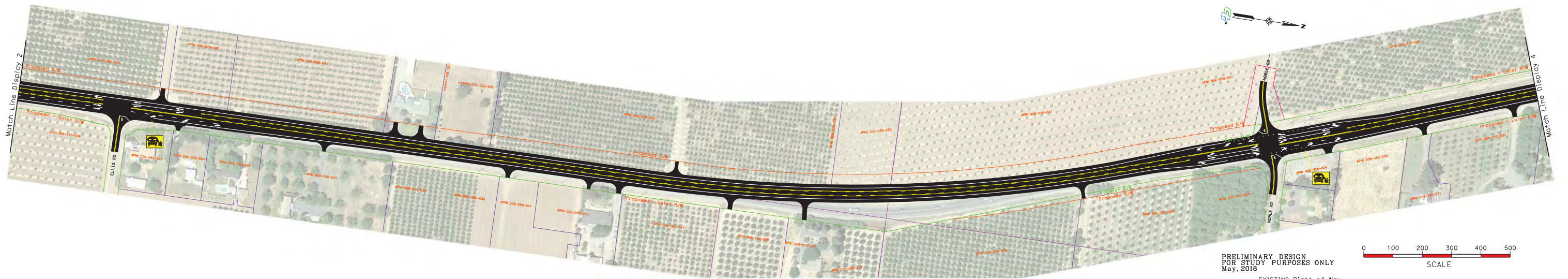
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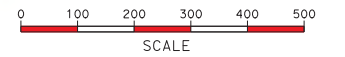
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PRELIMINARY DESIGN  
FOR STUDY PURPOSES ONLY  
May, 2018

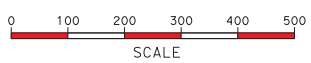


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PRELIMINARY DESIGN  
FOR STUDY PURPOSES ONLY  
May, 2018

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— PROPOSED Right of Way



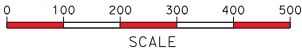
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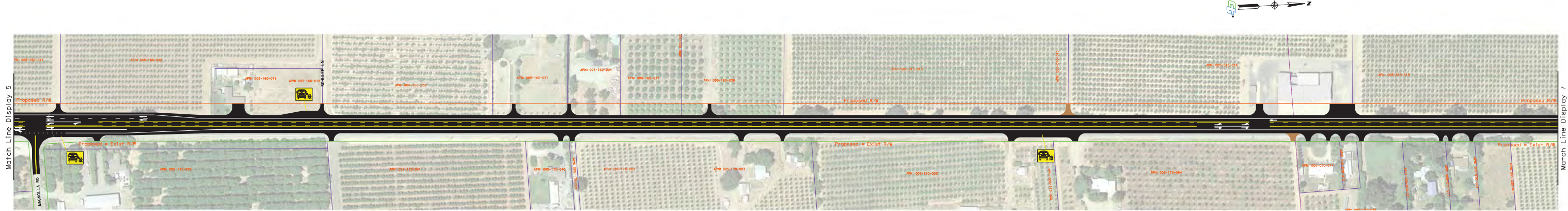


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FOR STUDY PURPOSES ONLY  
May, 2018

EXISTING Right of Way  
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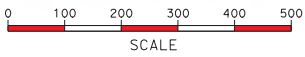


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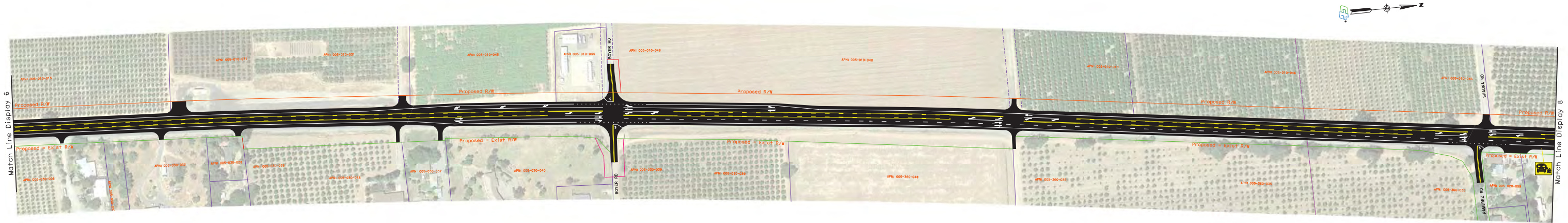
PRELIMINARY DESIGN  
FOR STUDY PURPOSES ONLY  
May, 2018

— EXISTING Right of Way  
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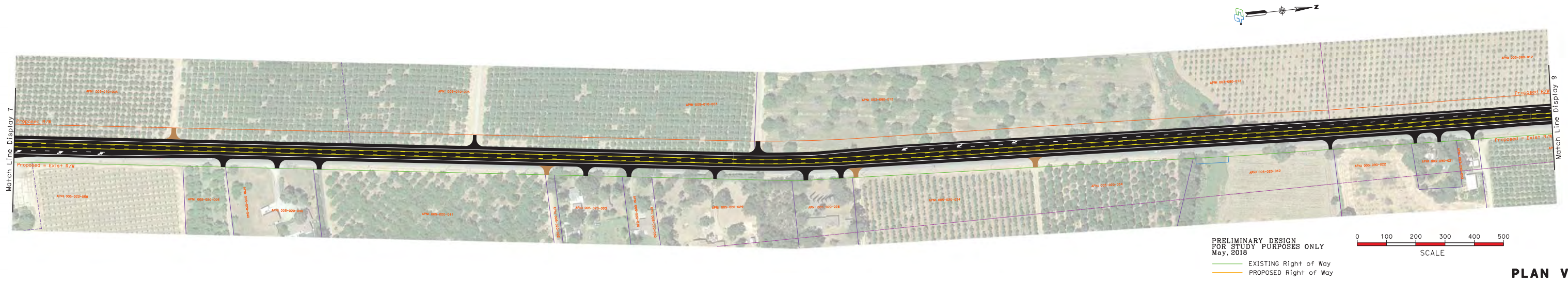
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May, 2018

— EXISTING Right of Way  
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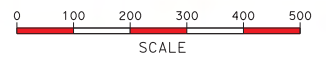
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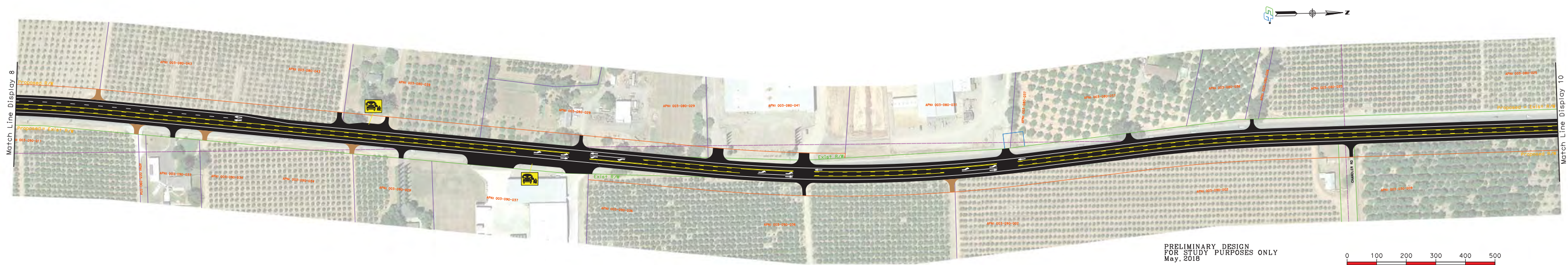
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May, 2018

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— PROPOSED Right of Way



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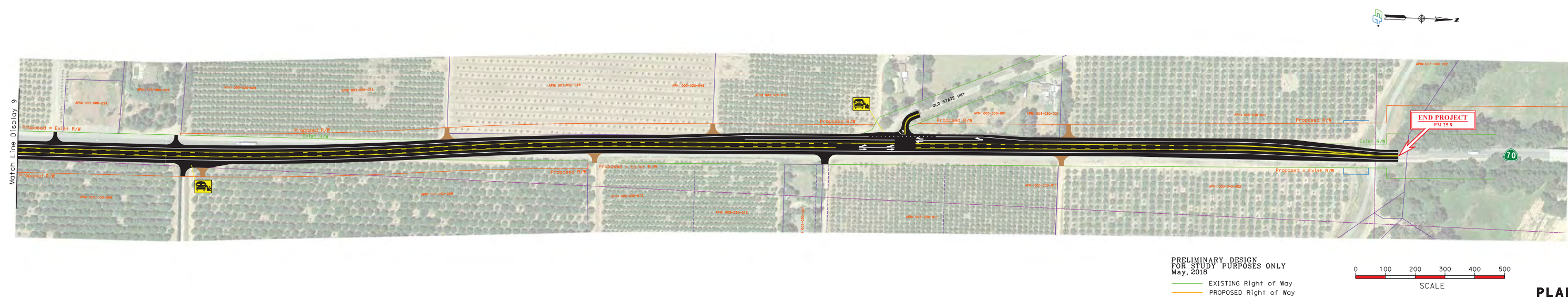


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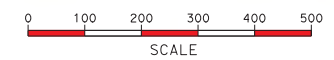
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May, 2018

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## Appendix D NRCS Consultation

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**FARMLAND CONVERSION IMPACT RATING**

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres:                      %	Amount of Farmland As Defined in FPPA Acres:                      %			
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS			
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100			
Total Site Assessment (From Part VI above or local site assessment)		160			
<b>TOTAL POINTS (Total of above 2 lines)</b>		260			
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Reason For Selection:					
Name of Federal agency representative completing this form:					
Date:					

(See Instructions on reverse side)

Form AD-1006 (03-02)



## **STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM**

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at [http://offices.usda.gov/scripts/ndISAPI.dll/oip\\_public/USA\\_map](http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map), or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

## **INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM**

*(For Federal Agency)*

**Part I:** When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

**Part III:** When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

**Part VI:** Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

**Part VII:** In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$
---

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

## Appendix E Relocation Assistance Program

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# Summary of Relocation Benefits

---

## E.1 California Department of Transportation Relocation Assistance Program

### E.1.1 Declaration of Policy

“The purpose of this title is to establish a *uniform policy for fair and equitable treatment* of persons displaced as a result of federal and federally assisted programs in order that such persons *shall not suffer disproportionate injuries* as a result of programs designed for the benefit of the public as a whole.”

The Fifth Amendment to the U.S. Constitution states, “No Person shall...be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation.” The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

### E.1.2 Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state’s relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

### **E.1.3 Relocation Assistance Advisory Services**

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are “decent, safe, and sanitary.” Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe, and sanitary” replacement dwelling, available on the market, is offered to them by Caltrans.

#### **E.1.3.1 Residential Relocation Payments**

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

##### ***Moving Costs***

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.



### **Purchase Differential**

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

### **Rent Differential**

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable “decent, safe, and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below.

To receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

### **Down Payment**

The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to Caltrans’ initiation of negotiations. The one-year eligibility period in which to purchase and occupy a “decent, safe and sanitary” replacement dwelling will apply.

### **Last Resort Housing**

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

#### **E.1.4 Nonresidential Relocation Assistance**

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

##### **E.1.4.1 Moving Expenses**

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to \$2,500, for reasonable expenses actually incurred.

##### **E.1.4.2 Reestablishment Expenses**

Reestablishment expenses related to the operation of the business at the new location, up to \$25,000 for reasonable expenses actually incurred.

### **E.1.4.3 Fixed In Lieu Payment**

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than \$1,000 nor more than \$40,000.

### **E.1.5 Additional Information**

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any federal law providing local “Section 8” Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans’ Division of Right of Way and Land Surveys. California’s law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

More information regarding Caltrans’ Division of Right of Way’s Relocation Assistance Program can be found on the internet at <http://www.dot.ca.gov/hq/row/rap/index.htm>.

## Appendix F Title VI Policy Statement

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**DEPARTMENT OF TRANSPORTATION**

OFFICE OF THE DIRECTOR  
P.O. BOX 942873, MS-49  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-6130  
FAX (916) 653-5776  
TTY 711  
www.dot.ca.gov



*Making Conservation  
a California Way of Life.*

April 2018

**NON-DISCRIMINATION  
POLICY STATEMENT**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page:  
[http://www.dot.ca.gov/hq/bep/title\\_vi/t6\\_violated.htm](http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm).

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email [Title.VI@dot.ca.gov](mailto:Title.VI@dot.ca.gov), or visit the website [www.dot.ca.gov](http://www.dot.ca.gov).

A handwritten signature in blue ink, appearing to read "Laurie Berman".

LAURIE BERMAN  
Director

*"Provide a safe, sustainable, integrated and efficient transportation system  
to enhance California's economy and livability."*

## Appendix G Traffic Study

---

# State Route 70 Segments 4 & 5 Safety Improvements in Yuba County Transportation Analysis Report



Prepared for:



March 2019



RS18-3722

# Transportation Analysis Report

State Route 70 Segments 4 & 5  
Safety Improvements in Yuba County

03-YUB-70 PM 16.3/25.8

EA 03-4F3800  
Project ID 03 1400 0153

**March 2019**

Prepared By: David Stanek Date: March 15, 2019

Phone Number 916-329-7332  
Firm Name Fehr & Peers  
Location Sacramento, CA

## Planning

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Phone Number \_\_\_\_\_  
Office Name \_\_\_\_\_

## Traffic Operations

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Phone Number \_\_\_\_\_  
Office Name \_\_\_\_\_



# Transportation Analysis Report

State Route 70 Segments 4 & 5  
Safety Improvements in Yuba County

03-YUB-70-PM 16.3/25.8

EA 03-4F3800  
Project ID 03 1400 0153

**March 2019**

This report was prepared under my direction and responsible charge. I attest to the technical information contained herein and have judged the qualification of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.



A handwritten signature in black ink that reads "David Stanek".

3/15/19

David Stanek, P.E.  
Registered Professional Civil Engineer  
Fehr & Peers

Date

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## Chapter 1. **Introduction**

This transportation analysis report was prepared for the State Route (SR) 70 Safety Improvements project. The report contains the results and findings of the transportation operations analyses, while the detailed analysis calculations are compiled in a separately-bound appendix.

The purpose of this report is to analyze the project design alternatives and their effects on the transportation network. The report focuses on a comparison of alternatives that are each designed to improve current and future traffic operations and safety for intersections and roadways. Portions of the analysis results will also be used to comply with environmental impact analysis requirements for the California Environmental Quality Act (CEQA).

### **1.1 Purpose and Need**

The project purpose is to achieve a significant reduction in traffic fatalities and serious injuries on SR 70 between Laurellen Road and the Butte/Yuba County line. Between August 6, 2010 and August 5, 2013, this segment of SR 70 had 85 reported collisions, and there were 7 fatalities. Although the total collision rate is about 65 percent of the statewide average for similar facilities, the actual fatality collision rate is more than 4.5 times the statewide average. The seven fatal collisions can be summarized as follows: two involved tractor-trailers being struck while making turning movements, three involved cross centerline head-on collisions, one involved an unsafe passing movement, and one involved a pedestrian that was struck.

Most of the existing shoulder widths do not meet current standards, and obstacles, such as roadside ditches, trees, utility poles, and other fixed objects, are located within 20 feet of the traveled way. Wider paved shoulders would provide more space for inattentive drivers to move back into the travel lane, act as acceleration and deceleration area for vehicles accessing the highway, and provide an all-weather path for bicyclists and pedestrians. Providing an unpaved shoulder would allow farm equipment to travel on the shoulder rather than in traffic, provides Caltrans maintenance crews a safer work zone, and provides California Highway Patrol officers an enforcement area. Turn pockets and a median refuge provided by a two-way left-turn lane would improve accessibility and safety for left-turning vehicles to and from the highway and would reduce delays and rear-end collisions that occur when left-turners are waiting for a gap in oncoming traffic to complete their turn.

### **1.2 Project Description**

The project proposes to widen SR 70 between Laurellen Road and the Butte/Yuba County line. The elements of the roadway widening are listed below.

- Provide a 14-foot median to facilitate left turns to and from SR 70



- Widen shoulders to increase recovery area, facilitate right turns to and from SR 70, and accommodate slower moving traffic (farm equipment, bicycles, etc.)

## 1.3 Project Alternatives

The components of the project alternatives are described below. Design concept layouts are provided in the appendix. Figure 1 shows the limits and type of widening for each alternative.

- Alternative 1 would provide a three-lane cross-section. One travel lane would be provided in each direction with a center two-way left-turn lane to access side streets and driveways.
- Alternative 2 would start with the same cross-section as Alternative 1 and replace the center two-way left-turn lane with a median barrier. Breaks would be provided in the median barrier at intersections to allow for left turns and minor street through movements.
- Alternative 4, the no-build alternative, would maintain the current roadway configuration on SR 70 between Laurellen Road and the Butte/Yuba County line.

For the traffic operations analysis, Alternatives 1 and 2 are considered to have the same performance since the lane configuration is the same. Alternative 3, which would provide the ultimate five-lane cross-section as described in the Transportation Concept Report, is discussed in a separate report.

The traffic operations analysis includes another alternative, Alternative 1A (and 2A), which adds slow-moving vehicle lanes and right-turn acceleration and deceleration lanes at selected intersections to Alternative 1 (and 2). Northbound and southbound slow-moving vehicle lanes would be provided at two locations in each direction. The slow-moving vehicle lane lengths would vary from 2,800 to 3,520 feet. The slow-moving vehicle lanes may be signed as truck lanes (for example, R4-5 – Trucks Use Right Lane) to encourage trucks and other slow-moving vehicles to use the right lane so that faster vehicles can pass in the left lane. The locations of the slow-moving vehicle lanes as analyzed in this report are shown in Figure 1. Right-turn deceleration and acceleration lanes would be provided at the following SR 70 intersections: Silva Avenue, Saddleback Drive, Ellis Road, Noble Road, Woodruff Lane, Magnolia Road, Boyer Road, and Ramirez Road.



## Cross Sections

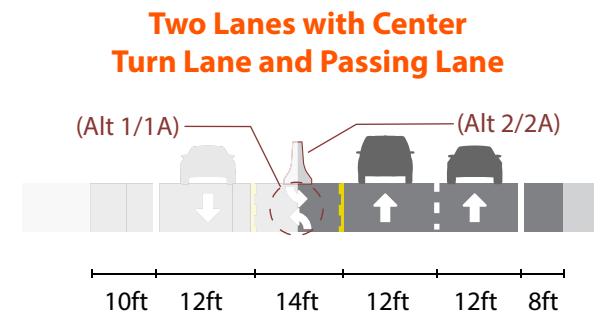
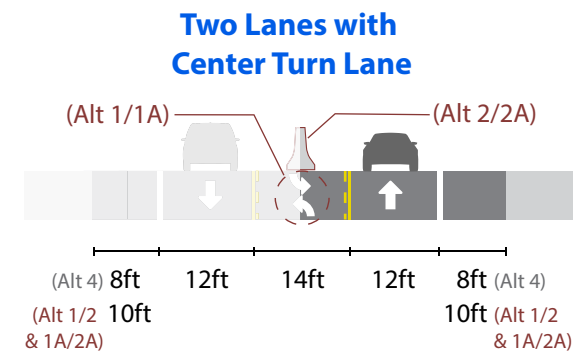
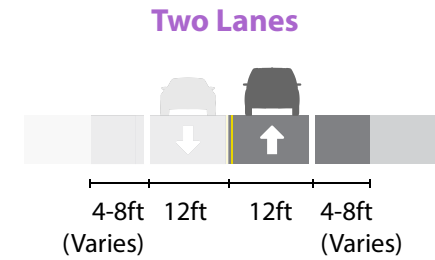


Figure 1  
Project Alternatives



## Chapter 2. **Analysis Methodology**

This chapter describes the study area and the methods used to analyze the transportation facilities.

### **2.1 Study Area**

The transportation analysis study locations are composed of highway segments and intersections. The study area extends along SR 70 from Laurellen Road to the Butte/Yuba County line. Figure 2 shows the highway segments and intersections in the study area.

The study highway segments are listed below.

1. Laurellen Road to Woodruff Lane
2. Woodruff Lane to Ramirez Road
3. Ramirez Road to Old State Highway

The study intersections are listed below.

1. SR 70/Old State Highway
2. SR 70/Ramirez Road
3. SR 70/Woodruff Lane
4. SR 70/Laurellen Road

The study highway segments and intersections are the same under the project alternatives for the future analysis years.

### **2.2 Data Collection**

The intersection traffic counts were collected in April and May 2018 on a typical midweek day (see appendix for count data). The peak period counts included heavy vehicles. At SR 70/Laurellen Road, intersection turning movement counts were collected for a 24-hour period. At the other intersections, the counts were conducted for a 12-hour period: 6:00 AM to 6:00 PM.



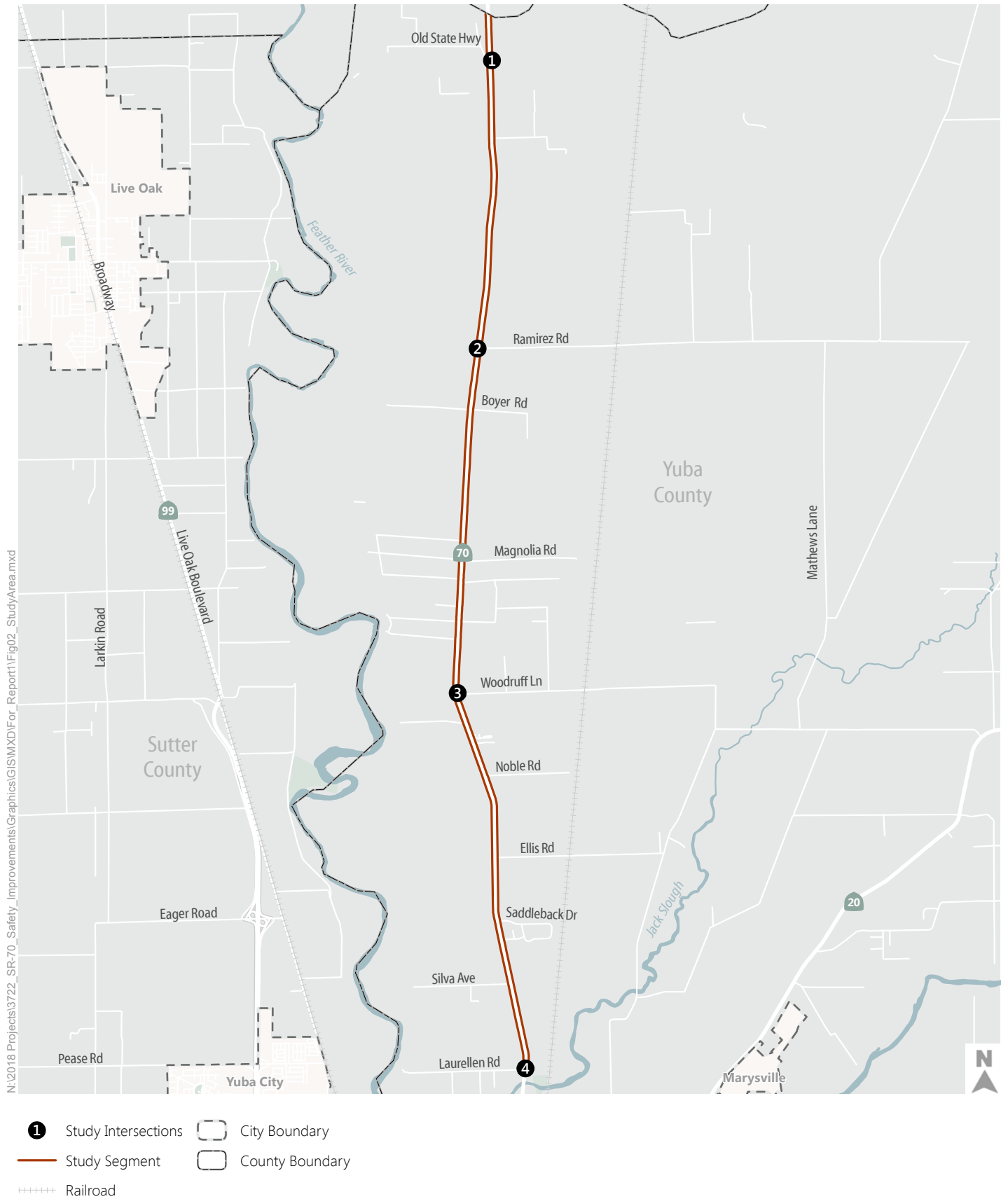


Figure 2  
Study Area



Daily volume for SR 70 was collected at Laurellen Road as part of the intersection counts. The relationship between the daily volume and 12-hour volume at SR 70/Laurellen Road was used to estimate the SR 70 daily volume for segments north of Woodruff Lane. The highway segment volumes for daily, AM peak hour, and PM peak hour are shown in Figure 3. These volumes come from the intersection counts and use the average of the adjacent intersection leg volumes as the segment volume. For example, the northbound segment volume for Laurellen Road to Woodruff Lane is the average of the northbound departure volume at SR 70/Laurellen Road and the northbound approach volume at SR 70/Woodruff Lane. The highway volume peak hour factor and peak hour heavy vehicle percentage are shown in Table 1. The daily heavy vehicle percentage of 6.5 percent and the distribution of vehicle traffic by the number of axles come from the Annual Average Daily Truck Traffic volume data (Caltrans, 2016).

**Table 1: Highway Volume Characteristics**

Highway Segment	AM Peak Hour		PM Peak Hour	
	Peak Hour Factor	Heavy Vehicle Percentage	Peak Hour Factor	Heavy Vehicle Percentage
<b>Northbound SR 70</b>				
1. Laurellen Rd to Woodruff Ln	0.94	14%	0.93	8%
2. Woodruff Ln to Ramirez Rd	0.96	13%	0.95	6%
3. Ramirez Rd to Old State Hwy	0.92	12%	0.89	6%
<b>Southbound SR 70</b>				
1. Woodruff Ln to Laurellen Rd	0.97	10%	0.95	11%
2. Ramirez Rd to Woodruff Ln	0.92	9%	0.92	9%
3. Old State Hwy to Ramirez Rd	0.86	9%	0.87	6%

Source: Fehr & Peers (2019)

Table 2 shows the peak hour time, peak hour factor, and heavy vehicle percentage for the AM and PM peak hours. The start of the morning peak hour varied from 6:30 to 7:15 AM, and the start of the evening peak hour varied from 3:30 to 3:45 PM. The intersection peak hour factors varied from 0.88 to 0.93 during the morning peak hour and from 0.93 to 0.96 during the evening peak hour. The heavy vehicle percentages were higher during the morning peak hour (10 percent) than during the evening peak hour (6 to 8 percent). Figure 4 shows the peak hour vehicle turning movement volumes and lane configurations for the study intersections.

Existing lane configurations, turn pocket lengths, and shoulder widths were taken from online aerial photographs. The lane configurations were confirmed in the field using video collected on a drive through of the corridor in October 2018. The intersection and roadway configuration for the build alternatives were provided via conceptual design layouts, which are included in the appendix.

**Table 2: Intersection Volume Data**

Intersection	AM Peak Hour			PM Peak Hour		
	Peak Hour Time	Peak Hour Factor	Heavy Vehicle Percentage	Peak Hour Time	Peak Hour Factor	Heavy Vehicle Percentage
1. SR 70/Old State Hwy	6:30-7:30 AM	0.90	10%	3:30-4:30 PM	0.93	6%
2. SR 70/Ramirez Rd	6:45-7:45 AM	0.90	10%	3:45-4:45 PM	0.95	6%
3. SR 70/Woodruff Ln	6:45-7:45 AM	0.93	10%	3:45-4:45 PM	0.93	7%
4. SR 70/Laurellen Rd	7:15-8:15 AM	0.88	10%	3:45-4:45 PM	0.96	8%

Source: Fehr & Peers (2019)

To calibrate the intersection capacity analysis models, additional observations were collected using video recording. At side-street stop-controlled intersections, the critical headway and follow-up headway were measured. The data include measurements at SR 70/Lower Honcut Road, which is adjacent to the study area in Butte County. The measured values for the major street left turn, minor street left turn, and minor street right turn movements were averaged across intersections and peak periods. Table 3 compares the observed values for ideal saturation flow rate, critical headway, and follow-up headway with the default values from the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

**Table 3: Intersection Operations Calibration Parameters**

Parameter		HCM 6th Edition Default Values	Observed Values
Critical Headway (Unsignalized)	Major Street Left	4.2 sec	4.6 sec
	Minor Street Left	6.5 sec	5.4 sec
	Minor Street Right	6.3 sec	6.0 sec
Follow-up Headway (Unsignalized)	Major Street Left	2.3 sec	3.7 sec
	Minor Street Left	3.6 sec	4.6 sec
	Minor Street Right	3.4 sec	4.0 sec

Source: Fehr & Peers (2019)

## 2.3 Travel Demand Forecasting

Butte County is covered by the Butte County Association of Governments (BCAG) travel demand forecast model, which is in the TransCAD software and has a 2014 base year and 2020 and 2040 future years. Yuba

County is covered by the Sacramento Area Council of Governments' (SACOG) SACSIM travel demand forecast model, which is in the Cube software and has a 2012 base year and a 2036 future year. For this project and an adjacent SR 70 project in Butte County (Segment 3, which extends from the Butte/Yuba County line to East Gridley Road/Stimpson Lane), a travel demand forecast model was developed starting with the BCAG model and adding the roadway network for the northwest portion of Yuba County along the SR 70 corridor north of Marysville. The roadway network and land uses for the added portion of Yuba County were based on the SACSIM model for the corresponding locations. After the base year model was validated, year 2020 and 2040 models were also prepared using the same process.

## 2.3.1 Base Year Model Development

The development of the base year (2018) model for the study area included an iterative calibration and validation process. The base year model outputs were validated against 2018 observed traffic volume counts to measure how well the model replicates existing traffic volumes. The base year (2018) model land uses, roadway network, link properties (speed, functional classification, etc.), and traffic analysis zone (TAZ) centroid connections were reviewed in the study area. The review resulted in the following model refinements during calibration.

- TAZs and centroid connectors in the study area were refined to allow for trips to more accurately be distributed between study roadways.
- Speeds on Ramirez Road, Lower Honcut Road, and Woodruff Lane were changed to balance the distribution of trips between parallel roadways.
- Three segments were added: Ramirez Road south of Fruitland Road, Mathews Lane, and Woodruff Lane with a connection to SR 20 as a new model gateway.

The model validation process involved running the model, checking the results against existing (2018) traffic volumes, and then adjusting input parameters in an iterative manner to achieve an acceptable statistical match between the model's traffic volume outputs and the observed traffic counts. This static sub-area validation method was performed for roadway segments adjacent to the six study intersections. The sub-area validation results were compared to the following validation targets discussed in *2017 California Regional Transportation Plan Guidelines for Metropolitan Planning Organizations* (CTC, January 2017):

- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the counts.
- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 14 to 68 percent depending on total volume (the larger the volume, the less deviation is permitted).
- The percent root mean square error (RMSE<sup>1</sup>) should not exceed 40 percent.

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<sup>1</sup> RMSE is a statistical measure for how close the estimated value is to the observed data, regardless of positive or negative direction.



- The correlation coefficient<sup>2</sup> between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.

Table 4 presents the results of the base year (2018) model validation. See the attachment for detailed results. Overall, the roadway model volumes compare well to the 2018 traffic volume counts, both along SR 70 and on the side streets, during the AM peak hour, PM peak hour, and daily periods. During the AM peak hour, a few locations exceeded the maximum deviation, mainly westbound on East Gridley Road (west of SR 70). The model volumes for all roadway segments during the PM peak hour and daily are within the acceptable deviation.

**Table 4: Base Year Forecast Model Validation**

Validation Statistic	Acceptance Criterion <sup>1</sup>	Model Result		
		Daily	AM Peak Hour	PM Peak Hour
Model/Count Ratio	-	1.03	1.01	0.97
Percent of Links within Caltrans Standard Deviations	> 75%	100%	89%	100%
Percent RMSE	≤ 30%	11%	25%	13%
Correlation Coefficient	> 0.88	0.99	0.96	0.99

Note: 1. 2017 California Regional Transportation Plan Guidelines (CTC, January 2017)

Source: Fehr & Peers (2019)

The following dynamic validation tests were performed to evaluate the model's sensitivity to changes in the roadway network.

- The number of lanes on East Gridley Road was increased to 4 lanes between SR 99 and SR 70. The overall screenline of volumes at SR 162, Larkin Road, and East Gridley Road between SR 99 and SR 70 increased by 2 percent on a daily basis. A minor amount of traffic appropriately shifted from Larkin Road to East Gridley Road due to the added capacity.
- A new east-west roadway link was added from Biggs East Highway, which connects to SR 99, to Welch Road at SR 70. The overall screenline of volumes across the Feather River at SR 162, Larkin Road, East Gridley Road, and the new roadway increased by 36 percent on a daily basis. Volumes appropriated shifted from SR 162 and East Gridley Road to the added roadway.

Based on the static and dynamic testing, the model is considered valid for use.

<sup>2</sup> Correlation coefficient is a variable that determines the degree to which two variables are associated. The value varies between -1 (-100%) and 1 (100%). A value closer to 1 suggests, in general, the model estimates are in line with observed data.

## 2.3.2 Future Year Model Development

Similar to the base year model, the interim (2020) and cumulative year (2040) land use and roadway network inputs from the BCAG model were reviewed, as well as the land uses and roadway network for the added portion of Yuba County based on the SACSIM model. In addition, the roadway network adjustments identified for the base year model validation were included.

Forecasting future traffic volumes is inherently uncertain. In addition to the model inputs for land use and roadway network changes, the following limitations are noted below.

- The effect of transportation network companies (such as Uber and Lyft) on trip making patterns is not included in the model.
- The effect of internet shopping on passenger and freight travel is not included.
- The effect of autonomous vehicles on facilitating trip making for non-drivers, changes to trip patterns due to zero-occupancy vehicles, and changes to roadway capacity is not included in the model.

Another model limitation is that the Camp Fire of November 2018 destroyed a majority of the residential and commercial buildings in Paradise and adjacent communities to the north and east. Residents have relocated to Chico, Oroville, and outside of Butte County as a result. Due to the population shifts, travel patterns have changed, which has resulted in higher volumes in parts of Chico, for example, and lower volumes elsewhere. The near-term displacement effect of the Camp Fire and the potential for longer-term changes in land use development during the rebuilding phase is not captured in the forecasts.

## 2.3.3 Analysis Year Forecasts

To account for model error, the future year model volumes were adjusted using a process known as the “difference method,” which adjusts model output volume forecasts based on incremental growth from existing conditions using the following formula:

$$\text{Forecast Volume} = \text{Existing Traffic Count} + (\text{Future Year Raw Model Volume} - \text{Base Year Raw Model Volume})$$

In addition, the forecasted growth was extrapolated to account for growth between the cumulative model year of 2040 and the project’s horizon year of 2043.

As part of the forecasting process, daily volumes were rounded to the nearest 10 vehicles per day and peak hour turning movement volumes were rounded to the nearest 5 vehicles per hour to acknowledge that these volumes are estimated projections. In general, decreases in turning movement volumes were not allowed between existing and future year conditions. The minimum value for a forecasted turning movement volume was set at 5 vehicles per hour.

To prepare the opening year (2023) volumes, the same process described above was applied to the interim year (2020) BCAG model. That is, the portion of the study area in Yuba County was added from the SACSIM model, the roadway network adjustments from the base year model validation were applied, and the difference method and extrapolation were used.

## 2.4 Traffic Operations Analysis

### 2.4.1 Highways

Highway operations were analyzed under AM and PM peak hour conditions according to the methodology presented in the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) as applied in the HCS7 software. LOS is a qualitative measure of traffic operating conditions that assigns a letter rating, from A (the best) to F (the worst). These ratings represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. Table 5 describes the letter ratings and thresholds for Class I two-lane highways. SR 70 is considered to be a Class I facility, the highest of the three classes, because it is a major intercity route (connecting Marysville and Oroville) and serves mostly long-distance trips. The performance measures for two-lane highways are average travel speed (ATS) and percent time spent following (PTSF). The LOS is determined by the worse LOS based on either ATS or PTSF.

**Table 5: Two-Lane Highway (Class I) LOS Thresholds**

LOS	Description	ATS <sup>1</sup>	PTSF <sup>2</sup>
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to pass.	> 55	≤ 35
B	Operating speeds are high. The limitations in passing becomes noticeable	> 50 to 55	> 35 to 50
C	Operating speeds are noticeably lower than free-flow speed and most vehicles travel in platoons.	> 45 to 50	> 50 to 65
D	Vehicle platooning increases, but passing opportunities are limited.	> 40 to 45	> 65 to 80
E	Operation is approaching capacity. There are virtually no passing opportunities. Speeds are severely curtailed.	< 35	> 80
F	Represents a breakdown in flow with unstable operating conditions.	v/c > 1 <sup>3</sup>	

Notes: 1. ATS, average travel speed, is reported in miles per hour.  
2. PTSF, percent time spent following, is reported as a percentage.  
3. Volume-to-capacity ratio is greater than 1 (demand exceeds capacity).

Source: *Highway Capacity Manual* (Transportation Research Board, 2016)

The HCM method for two-lane highway capacity analysis does not account for the following conditions that may apply in one or more analysis scenario.

- Turnouts

- Intersection turn lanes
- Two-way left-turn lanes (TWLTLs)

These design treatments provide improved operating conditions, but the analysis methodology does not capture their effect.

The following inputs were used in the highway operations analysis.

- The highway peak hour factors and heavy vehicle percentages are based on the count data collected during April and May 2018 and were used for all future analysis years.
- Class I Highway was used for all two-lane highway segments.
- The base free-flow speed was set to the posted speed limit plus 10 mph.
- Shoulder width is based on narrowest shoulder width of segment.
- The percentage of recreational vehicles (RVs) was set at 2 percent based on suggested guidance from the *Highway Capacity Manual*.
- The percentage of trucks and buses was calculated as the measured heavy vehicle percentage minus the RV percentage of 2 percent.

## 2.4.2 Intersections

The study intersections were analyzed using the performance measures of intersection delay and level of service (LOS). LOS is a qualitative measure of traffic operating conditions that assigns a letter rating, from A (the best) to F (the worst). These ratings represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. The descriptions of letter ratings and the delay thresholds for signalized and unsignalized intersections are provided in Table 6. For unsignalized intersections with some movements uncontrolled, the intersection LOS is determined by the controlled movement with the highest delay.

Intersection operations were analyzed under AM and PM peak hour conditions using the Synchro (version 10) traffic analysis software. In addition, the two-hour PM peak period (3:00 to 5:00 PM) was modeled using the SimTraffic (version 10) microsimulation software. Traffic simulation analysis allows for the direct modeling of vehicle and pedestrian interactions, delays due to queues that block turn pockets or adjacent lanes, and congestion that either constrains vehicles from reaching downstream intersections or causes queues that create additional delay at upstream intersections. The SimTraffic software was applied consistent with the methodology presented in the *Highway Capacity Manual, 6th Edition*. The SimTraffic analysis results are an average of ten model runs using different random seed values.



**Table 6: Intersection LOS Thresholds**

LOS	Description	Delay <sup>1</sup>	
		Signalized	Unsignalized
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤10	≤10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 to 20	> 10 to 15
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	>20 to 35	> 15 to 25
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and individual cycle failures are noticeable.	>35 to 55	>25 to 35
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	>55 to 80	>35 to 50
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>80 or v/c > 1 <sup>2</sup>	>50 or v/c > 1 <sup>2</sup>

Notes: 1. Delay is reported in seconds per vehicle.

2. Volume-to-capacity ratio is greater than 1 (demand exceeds capacity).

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016)

The following key inputs were included in the intersection operations analysis.

- The peak hour intersection truck percentages collected during the April-May 2018 counts were used for all future analysis years.
- In the April-May 2018 counts, bicycle and pedestrian volumes were minimal or absent during the peak hours. As a result, the conflicting bicycle and pedestrian volumes were set to zero for all analysis scenarios.
- For the simulation analysis, the 15-minute flow rates were entered into the model based on the traffic counts. A 30-minute seeding period was used to load traffic into the network before recording performance measures. For future conditions, the 15-minute interval volumes were factored up using the relationship between the existing and future peak hour volumes.

For the stop-controlled intersections, a signal warrant analysis was conducted. The signal warrants in the *California Manual on Uniform Traffic Control Devices Revision 3* (Caltrans, 2018) were applied to determine if the warrants were met under existing (2018) conditions. For future years, the volume signal warrants (1, 2, and 3) were conducted using the forecasted traffic volumes. The intersection lighting warrant was also conducted for existing and future year conditions at unsignalized study intersections where lighting is not currently present. If a signal or intersection lighting will be needed within the project's design life, these elements may need to be added to the project.

## 2.4.3 Model Development

Development of the street network and traffic volumes that comprise the Synchro/SimTraffic models required the input of geometric, traffic control and traffic flow data. The collection of this data is described above in Section 2.2.

Based on previous experience with SimTraffic application in northern California, the following adjustments to the default SimTraffic parameters were made to calibrate the model to local conditions.

- Car1 and Car2 vehicle length was increased by 2 feet to reflect a higher percentage of SUVs and light trucks in the modern vehicle fleet.
- The vehicle occurrence was adjusted to 50 percent each for Car1 and Car2 and 50 percent each for single-unit trucks (Truck SU) and tractor-trailer trucks (SemiTrk2). All other vehicle types were set to 0 percent.
- The driver parameters for yellow react, green react, and gap acceptance factor for driver types 1 through 4 were set to the values for driver type 5.
- The range in mandatory and positioning distance adjustment for all driver types was narrowed to 125 to 80 percent with a 5 percent change between adjacent driver types.

The SimTraffic models were validated to existing (2018) conditions according to volume served and intersection queuing. No manual adjustments to headway factor, turning speed or mandatory and positioning distance were needed to match observed conditions. The SimTraffic network included intersections located in Butte County that are part of a separate project (SR 70 Segment 3).

Because micro-simulation models like SimTraffic rely on the random arrival of vehicles, multiple runs are needed to provide a reasonable level of statistical accuracy and validity. The models are run up to twenty times (each using a different random seed number). Starting with the first ten runs, runs that are outliers are reviewed to determine if coding errors are present. The error is then corrected and the model is re-run. If no obvious error is found, the run is discarded and replaced with a subsequent run. This process is repeated until ten acceptable runs remain. The final results are based on an average of the ten runs.

As noted above, the SimTraffic analysis used a 15-minute seeding interval followed by a 2-hour modeling period corresponding to the 2-hour PM peak period. For SimTraffic, the peak 15-minute delay in the 2-hour analysis period was used to determine the peak hour delay and LOS.

## 2.5 Evaluation Criteria

The highway segment and intersection evaluation criteria are based on the SR 70 Transportation Concept Report. LOS D is identified as the concept LOS for rural areas in Caltrans District 3. For this project, a project impact occurs when:



1. a highway segment or an intersection worsens from LOS D or better under the no-build alternative to LOS E or worse under a build alternative or
2. the operational performance worsens for a highway segment or at an intersection operating at LOS E or worse under the no build alternative.

## 2.6 Safety Evaluation

Caltrans provided a three-year collision history (TASAS Table B) for the project area (see appendix). The collision history was reviewed for location and collision type. The hotspot locations and the more frequent collision types were identified. The potential for the project alternatives to improve safety was evaluated.



## Chapter 3. **Existing Conditions**

The existing (2018) conditions chapter presents the operations and safety of the roadway system. The operations analysis is a detailed evaluation of individual facilities with separate discussions for highway segments and intersections. Crash history for the study corridor is presented. The existing (2018) transit, bicycle, pedestrian, and freight systems are also discussed.

### **3.1 Study Facilities**

The study area extends along SR 70 from Laurellen Road in the south to the Butte/Yuba County line (see Figure 2). SR 70 is a regional highway that extends from SR 99 in Sutter County to US 395 near the Nevada state line. In the study area, the north-south highway connects Oroville in Butte County and Marysville in Yuba County. Adjacent land uses are primarily agricultural fields and associated facilities. Rural residential areas are concentrated along SR 70 between Noble Road and Woodruff Lane and on Laurellen Road and Saddleback Drive.

SR 70 is a two-lane highway from Marysville to the Butte/Yuba County line. The highway has paved shoulders that vary from 3 to 5 feet in width. Left-turn pockets are provided at Ramirez Road, Boyer Road, Magnolia Road, Woodruff Lane, Noble Road, Ellis Road, Saddleback Drive, Silva Avenue, and Laurellen Road. An approximately  $\frac{3}{4}$ -mile center turn lane exists between Noble Road and Woodruff Lane. All intersections in the study area have side street stop control. No slow-moving vehicle lanes exist in the study area, but passing zones are provided between intersections.

The major cross roads are described below.

- Old State Highway is a minor rural road that provides access to SR 70 for agricultural fields and rural homes.
- Ramirez Road is an east-west rural highway that connects SR 70 with Lower Honcut Road/La Porte Road. It provides access for rural homes and adjacent agricultural fields.
- Woodruff Lane is an east-west rural highway that connects SR 70 and SR 20. In addition to providing access for rural homes and adjacent agricultural fields, the highway provides a shorter connection than traveling through Marysville for traffic traveling to and from the north on SR 70 and to and from the east on SR 20 (reduces the distance by more than 6 miles).
- Laurellen Road is a minor rural road that provides a connection to SR 70 for a rural residential community and agricultural fields.

Figure 3 shows the daily, AM peak hour, and PM peak hour volumes for the study highway segments. Figure 4 shows the peak hour vehicle turning movement volumes, traffic control, and lane configurations for the study intersections.



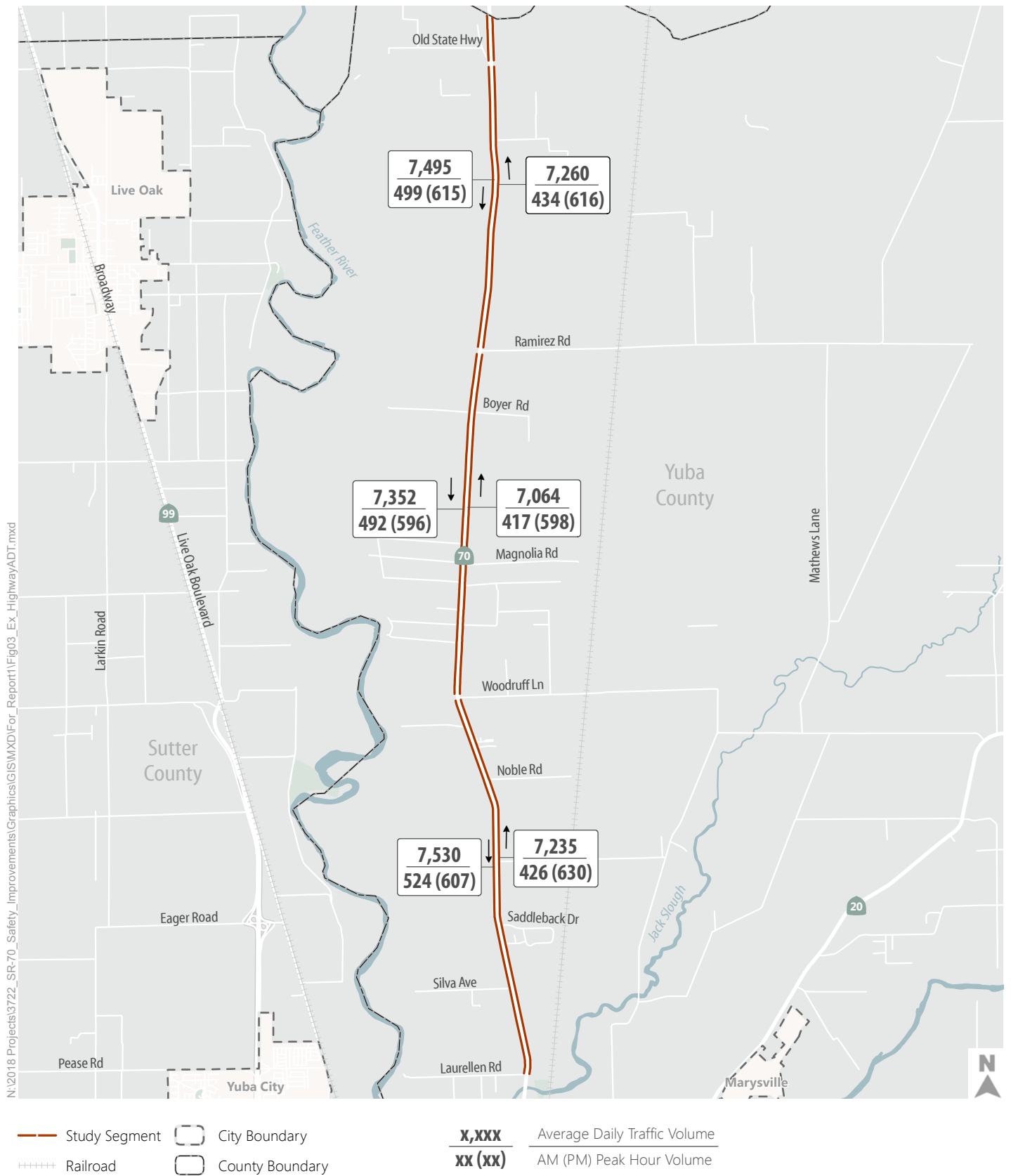


Figure 3

## Highway Segment Volumes Existing Conditions



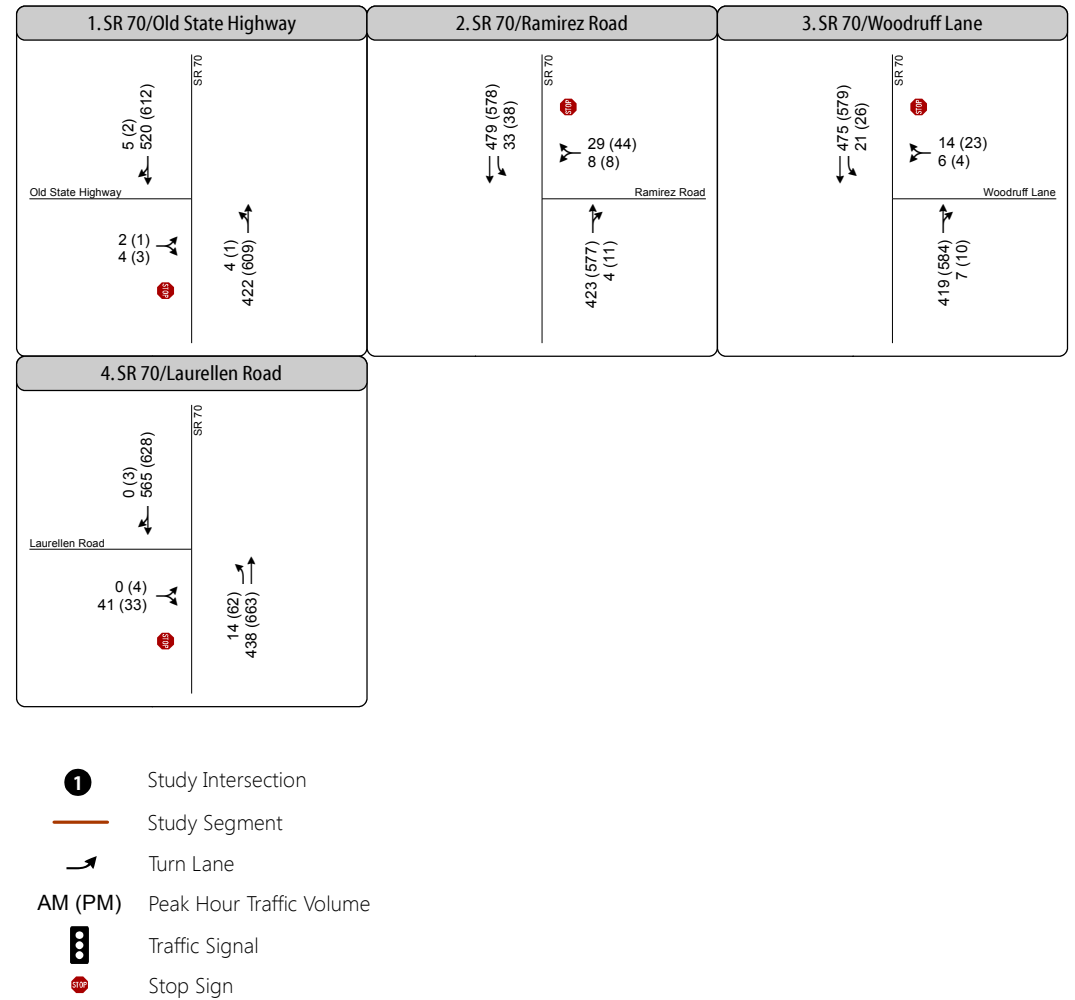


Figure 4  
Intersection Volumes and  
Lane Configurations  
Existing Conditions



## 3.2 Highway Operations

Highway operations were analyzed for existing (2018) conditions under AM and PM peak hour conditions. Table 7 shows the segment LOS, average travel speed (ATS), percent time spent following (PTSF), and travel time under existing (2018) conditions (see the appendix for detailed analysis results).

During the AM peak hour, SR 70 operates at LOS C or D conditions in the study area. More segments operate at LOS D conditions in the southbound (peak) direction than in the northbound (off-peak) direction. During the PM peak hour, all segments operate at LOS D conditions, and the PTSF values are about the same in both directions.

**Table 7: Highway Operations – Existing (2018) Conditions**

Highway Segment	Facility Type	LOS (ATS/PTSF <sup>1</sup> )		Travel Time	
		AM	PM	AM	PM
Northbound SR 70					
1. Laurellen Rd to Woodruff Ln	Two-Lane Highway	D (49/66%)	D (47/77%)	4.3	4.5
2. Woodruff Ln to Ramirez Rd	Two-Lane Highway	C (52/63%)	D (50/73%)	3.6	3.8
3. Ramirez Rd to Old State Hwy	Two-Lane Highway	C (51/60%)	D (49/72%)	3.1	3.2
			Total	11.0	11.5
Southbound SR 70					
1. Woodruff Ln to Laurellen Rd	Two-Lane Highway	D (49/72%)	D (47/75%)	4.3	4.5
2. Ramirez Rd to Woodruff Ln	Two-Lane Highway	D (52/70%)	D (50/74%)	3.6	3.8
3. Old State Hwy to Ramirez Rd	Two-Lane Highway	D (50/67%)	D (48/72%)	3.1	3.3
			Total	11.1	11.5

Notes: 1. For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure.

2. Travel time is reported in minutes

Source: W&S Solutions (2019)

Table 7 also shows the segment travel time based on the ATS. During the AM peak hour, the average time to travel the 9.3 miles between Laurellen Road and Old State Highway is about 11 minutes in both directions. During the PM peak hour, the average speed is lower, so the travel time for both directions increases to 11.5 minutes.

## 3.3 Intersection Operations

Intersection operations were analyzed for existing (2018) conditions under AM and PM peak hour conditions using the Synchro software and under PM peak period conditions using the SimTraffic software. Table 8 shows the intersection LOS and average delay under existing (2018) conditions (see the appendix for detailed analysis results including average idling time).

**Table 8: Intersection Operations – Existing (2018) Conditions**

Intersection	Traffic Control	LOS/Delay		
		AM	PM 1-hr	PM 2-hr
1. SR 70/Old State Hwy	Side Street Stop	C/15 (EBLR)	C/16 (EBLR)	C/16 (EBL)
2. SR 70/Ramirez Rd	Side Street Stop	B/14 (WBLR)	C/16 (WBLR)	B/12 (WBL)
3. SR 70/Woodruff Ln	Side Street Stop	B/13 (WBLR)	B/15 (WBLR)	A/6 (WBR)
4. SR 70/Laurellen Rd	Side Street Stop	B/14 (EBLR)	C/16 (EBLR)	B/13 (EBL)

Note: Delay is reported in seconds per vehicle. For Side Street Stop control, the worst lane group or movement is reported in parentheses. The AM and PM 1-hr results are from the Synchro model. The PM 2-hr results are from the SimTraffic model; the highest 15-minute delay from the two-hour analysis period is reported.

Source: Fehr & Peers (2019)

Under existing (2018) conditions, the study intersections operate at LOS C or better conditions during both peak hours. Conditions are similar during the AM and PM peak hours. Two intersections operate at LOS B during the morning but LOS C in the afternoon; however, the difference in average delay is about 2 seconds. The PM 1-hour and PM 2-hour analysis results are similar, with the average delay generally lower for the SimTraffic results.

Table 9 reports the queue length for intersection turn pockets on SR 70 under existing (2018) conditions. No turn pockets exist at SR 70/Old State Highway, so it is not included in the table. The queues are consistent with field observations. Average queues for the SR 70 left turns onto the minor streets at the unsignalized intersections are approximately 1 vehicle based on the Synchro analysis of AM and PM peak hours. For the SimTraffic analysis of the PM peak period, the average maximum queue is 3 vehicles (75 feet).

## 3.4 Signal and Lighting Warrants

For the stop-controlled study intersections, a signal warrant analysis was conducted as described in the *California Manual on Uniform Traffic Control Devices Revision 3* (Caltrans, 2018). The nine warrants, which are listed below, were evaluated using the HCS program.



**Table 9: Intersection Queue Length – Existing (2018) Conditions**

Intersection	Movement	Storage Length	Queue Length		
			AM	PM 1-hr	PM 2-hr
2. SR 70/Ramirez Rd	Southbound Left	115	25	25	75
3. SR 70/Woodruff Ln	Southbound Left	125	25	25	75
4. SR 70/Laurellen Rd	Northbound Left	160	25	25	100

Notes: The storage and queue lengths are reported in feet. For AM and PM 1-hr, the 95th percentile queue length from Synchro is reported. For PM 2-hr, the average maximum queue length is reported.

Source: Fehr & Peers (2019)

1. Eight-Hour Vehicular Volume
2. Four-Hour Vehicular Volume
3. Peak Hour
4. Pedestrian Volume
5. School Crossing
6. Coordinated Signal System
7. Crash Experience
8. Roadway Network
9. Intersection Near a Grade Crossing

At the study intersections, no signal warrants were met under existing (2018) conditions. The minor street traffic volumes are too low to meet the minimum thresholds for the volume warrants (the first three warrants). Pedestrian volumes (fourth warrant) are very low on the corridor, and no schools (fifth warrant) or grade crossings (ninth warrant) are located adjacent to the study intersections. The coordinated signal system warrant does not apply since the intersections are not adjacent to a coordinated signal system. Finally, the unsignalized study intersections are intersections of one major route (SR 70), not two, so the roadway network warrant does not apply.

The intersection lighting warrant as provided in the *Traffic Manual* (Caltrans, 1996) was evaluated at the three unsignalized study intersections that do not have safety lighting: Old State Highway, Ramirez Road, and Woodruff Lane. None of the intersections has an hourly volume that meets the minimum volume traffic signal warrants. The number of dark collisions at or within 500 feet of the intersections according to the TASAS data are fewer than four for any 12-month interval and fewer than six for any 24-month interval based on the 10-year collision history. So, the crash warrant is not met. Finally, no other unusual geometric conditions exist that would be improved with lighting.

## 3.5 Roadway Safety

The Traffic Accident Surveillance and Analysis System (TASAS) was queried to generate the SR 70 collision history in the project area for a three-year period from August 6, 2010 to August 5, 2013 (this period was used for the BUILD safety grant application). A concurrent safety assessment of the SR 70 corridor will provide a more recent and longer-term (10-year) collision history.

Table 10 summarizes the number of collisions by severity and compares the collision rate to statewide averages. In the three-year period, 85 collisions occurred with 7 fatality-involved collisions. The total collision rate is less than the statewide average for similar facilities, and the actual collision rate is about 65 percent of the corresponding statewide average. However, the study area has a higher than average rate of fatality collisions – more than three times higher than the statewide average for similar facilities.

**Table 10: Collision Rate**

Segment	Total Collisions	Fatality Collisions	Actual Collision Rate <sup>1</sup>			Average Collision Rate <sup>1</sup>		
			F	F&I	Total	F	F&I	Total
Laurellen Road to Butte/Yuba County Line (YUB PM 16.2 to 25.8)	85	7	<b><u>0.054</u></b>	0.30	0.65	0.014	0.42	1.01

Note: 1. The collision rate is in collisions per million vehicle-miles. "F" refers to the fatality collision rate, and "F&I" refers to the fatality and injury collision rate. Bold and underline font indicate an actual collision rate that exceeds the statewide average.

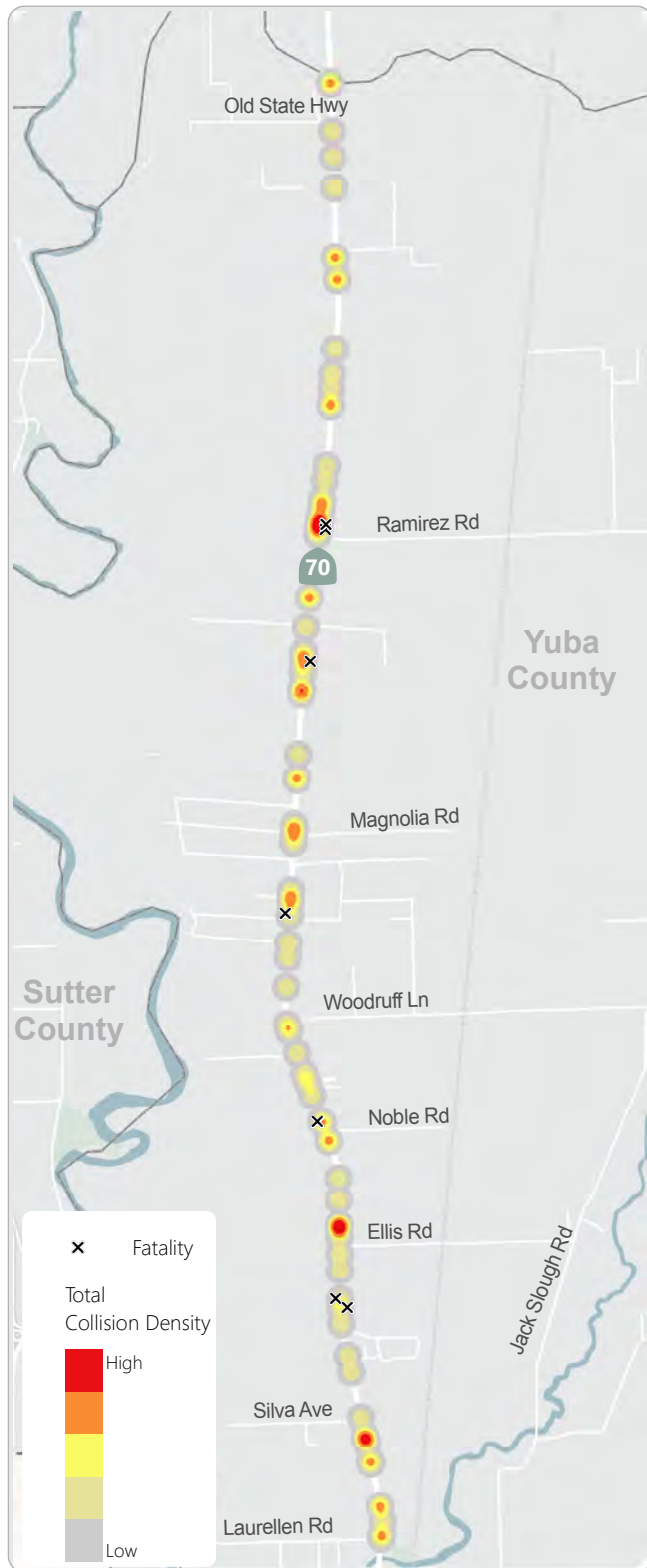
Source: TASAS Table B Summary from August 2010 to August 2013, Caltrans (2018)

The seven fatal collisions can be summarized as follows: two involved tractor-trailers being struck while making turning movements, three involved cross centerline head-on collisions, one involved an unsafe passing movement, and one involved a pedestrian that was struck.

The density of collisions is shown on Figure 5. Collisions are most frequent in the northbound direction between Magnolia Road and Ramirez Road. In the southbound direction, collisions are most frequent at Ramirez Road and between Noble Road and Ellis Road. Fatality and injury collisions are evenly distributed along the corridor.

Figure 6 shows the collisions by type for the SR 70 corridor. The most frequent collision type is hit object (40%), followed by rear end (20%) and sideswipe (13%). Figure 6 also shows the collisions by type and severity. Three collision types have a notable pattern regarding the location. Sideswipe collisions are grouped north of Ramirez Road and between Woodruff Lane and Saddleback Drive. Rear end collisions are more frequent south of Ramirez Road, particularly between Noble Road and Silva Avenue. Hit object collisions are also more frequent near Boyer Road and Ramirez Road.

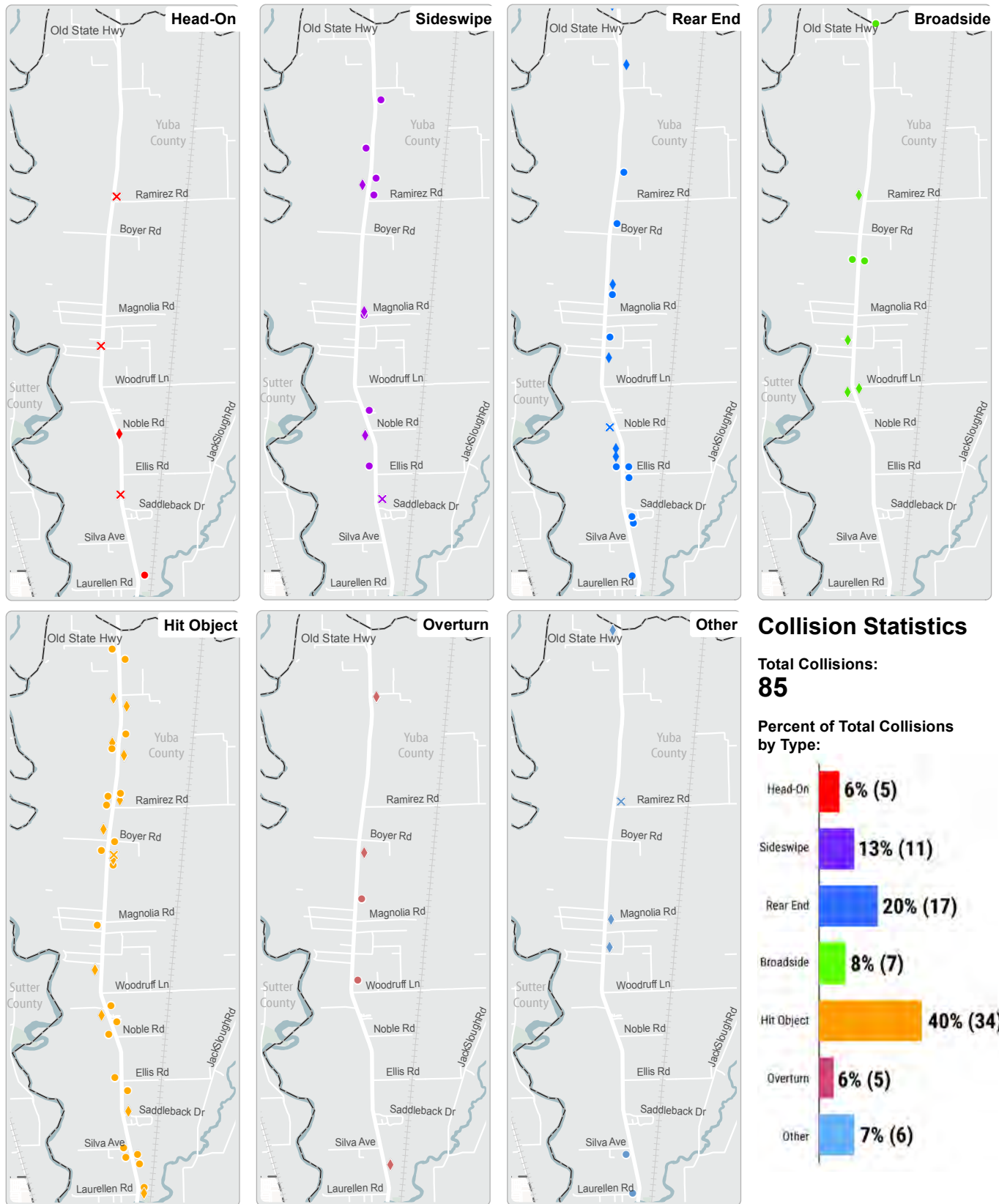
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Source: Caltrans TASAS, August 2010 to August 2013

Figure 5  
Project Area Collisions

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- ✕ Fatality
- ◆ Injury
- Property Damage Only
- ++++ Railroad
- City Boundary
- County Boundary



Figure 6

## Collision Type Distribution

Source: Caltrans TASAS, August 2010 to August 2013





## **3.6 Multimodal Facilities**

### **3.6.1 Transit System**

The transit agency for Yuba County, Yuba-Sutter Transit, does not have scheduled routes in the study area. Amtrak Thruway Connecting Service provides regional bus connections to the Amtrak station in Sacramento via SR 70. However, no Amtrak stops are located in the study area. The Marysville Joint Unified School District provides bus service to school children along SR 70.

### **3.6.2 Bicycle System**

The SR 70 corridor does not have designated bicycle facilities. Bicycles can use the paved shoulder to travel adjacent to the motor vehicle lanes. Shoulder width along the corridor varies from 3 to 5 feet. Given that the posted speed limit for vehicle traffic is 55 miles per hour, the wider shoulders provide a more comfortable experience for bicyclists. The narrowest shoulders are located between Laurellen Road and Woodruff Lane. No parallel bicycle facilities exist near the study area.

Bicycle volume is very low along the corridor. No bicycles were observed during the 12-hour counts at 3 of the 4 study intersections. For the 24-hour count at SR 70/Laurellen Road (the intersection nearest to Marysville), 9 bicycles were observed.

### **3.6.3 Pedestrian System**

The SR 70 corridor does not have designated pedestrian facilities. Pedestrians can use the paved or unpaved shoulder. Paved shoulder width along the corridor varies from 3 to 5 feet. Given that the posted speed limit for vehicle traffic is 55 miles per hour, wider shoulders are more comfortable for pedestrians. And, pedestrians are more likely to use the unpaved shoulder to travel as far from the vehicle lanes as possible.

Pedestrian volume is low along the corridor. No pedestrians were observed during the 12-hour counts at 3 of the 4 study intersections. Similar to the bicycle counts, pedestrians were only observed at SR 70/Laurellen Road, which is near Marysville. Four pedestrians were counted in a 24-hour period at this southern-most study intersection.

### **3.6.4 Freight System**

SR 70 is a Terminal Access route for truck traffic in the study area. Terminal Access routes accommodate STAA trucks. SR 70 provides access for agricultural trucks and connects industrial areas in Oroville and Marysville to the rest of the state. A Union Pacific rail line runs parallel to SR 70 between Marysville and Oroville from about ¼ to 1 ½ mile to the east.



Daily truck volume on SR 70 is estimated at about 960 trucks per day at the Butte/Yuba County Line, using the total volume measured in April 2018 and the reported truck percentage of 6.5 percent (Annual Average Daily Truck Traffic, Caltrans 2016). The truck volume is divided among 24 percent 2-axle trucks, 17 percent 3 or 4-axles trucks, and 59 percent trucks with 5 or more axles. Based on 2015 count data, the truck volume in April is about the same as the yearly average. The peak month was August, which was 34 percent higher than the yearly average in 2015. Based on this relationship, the peak month daily truck volume in 2018 is estimated to be as high as 1,290 trucks per day.

The District 3 Goods Movement Study identified SR 70 in the study area as highest priority for improving truck mobility under the base year conditions. In addition, the bridge at the Butte/Yuba County line was identified as high deficiency for over-weight permit loads.



## Chapter 4. **Travel Demand Forecasts**

This chapter presents the opening year (2023) and horizon year (2043) forecasts.

### **4.1 Opening Year Forecasts**

Figure 7 shows the daily, AM peak hour, and PM peak hour forecasts for the highway segments, and Figure 8 shows the intersection turning movement forecasts under opening year (2023) conditions.

The traffic volumes for opening year (2023) conditions are the same for the project alternatives. The two-way daily volume at the Butte/Yuba County line would increase from about 14,700 under existing (2018) conditions to 16,900 under opening year (2023) conditions. The growth of 2,200 vehicles per day is an increase of about 15 percent.

During the AM peak hour, volume at the county line is expected to grow by about 100 vehicles per hour southbound and 30 vehicles per hour northbound – about a 20 percent increase southbound and a 7 percent increase northbound. For the PM peak hour, the percentage change would be 14 to 15 percent for both directions, or about 90 vehicles per day in each direction. All roadway segments would grow from 12 to 15 percent in each direction on a daily basis, with higher growth rates on the north end of the corridor.

### **4.2 Horizon Year Forecasts**

Figure 9 shows the daily, AM peak hour, and PM peak hour forecasts for the roadway segments under horizon year (2043) conditions. Figure 10 shows the intersection turning movement forecasts for the study intersections.

Although Alternatives 1A/2A would provide passing opportunities for through vehicles, neither build alternative would increase capacity since the configuration would remain as a two-lane highway, which has a fixed capacity as defined by the *Highway Capacity Manual*. As a result, the forecasted volumes are the same all alternatives.

Compared to existing (2018) conditions, the horizon year (2043) volumes at the county line would grow by 35.6 percent from 14,700 to 19,930 vehicles per day. Traffic volume growth will be driven by the growth in regional travel. Since the adjacent land uses are expected to remain agricultural, side street volumes at the study intersections are expected to have low growth rates.

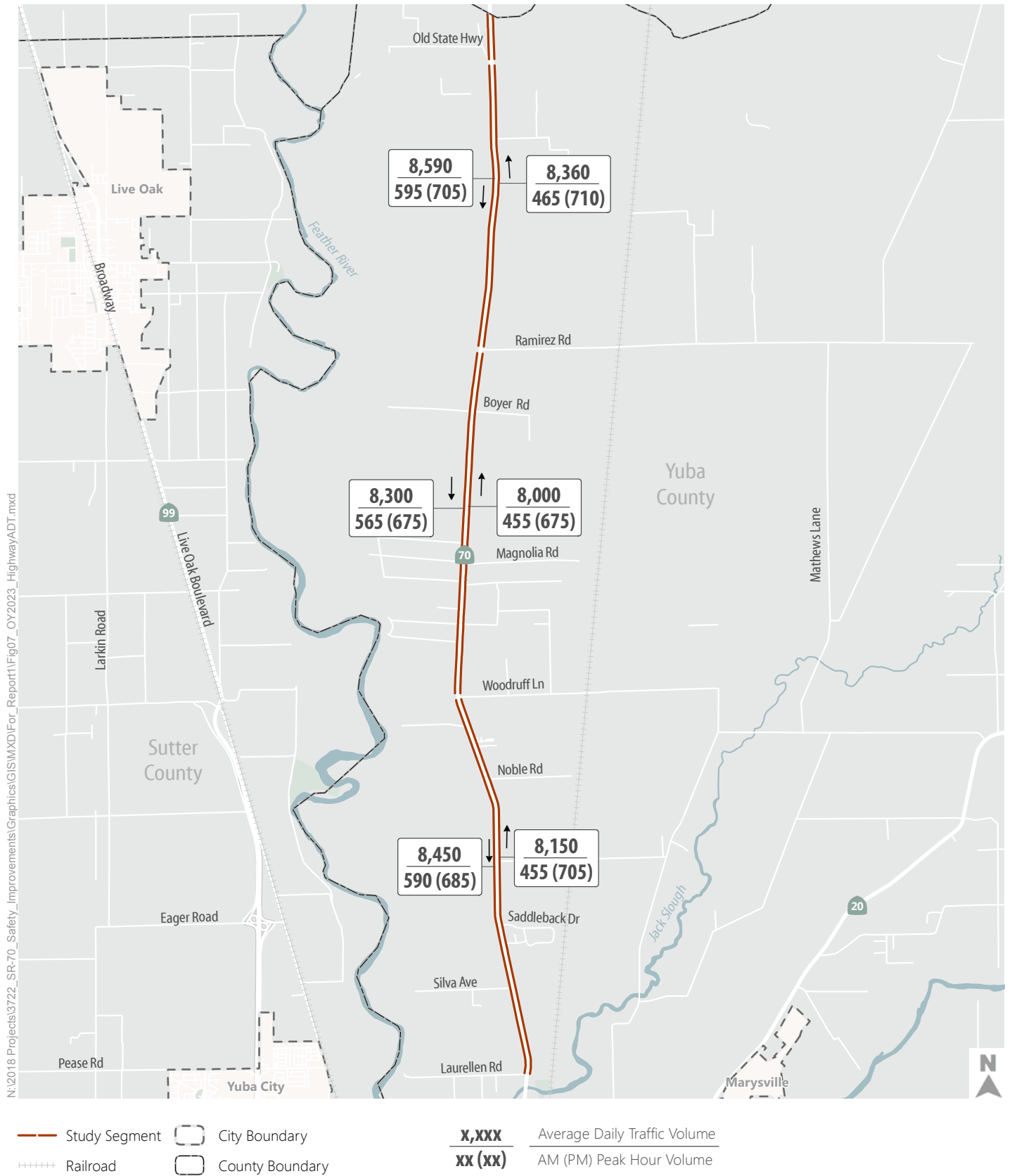


Figure 7

## Highway Segment Volumes 2023 Opening Year





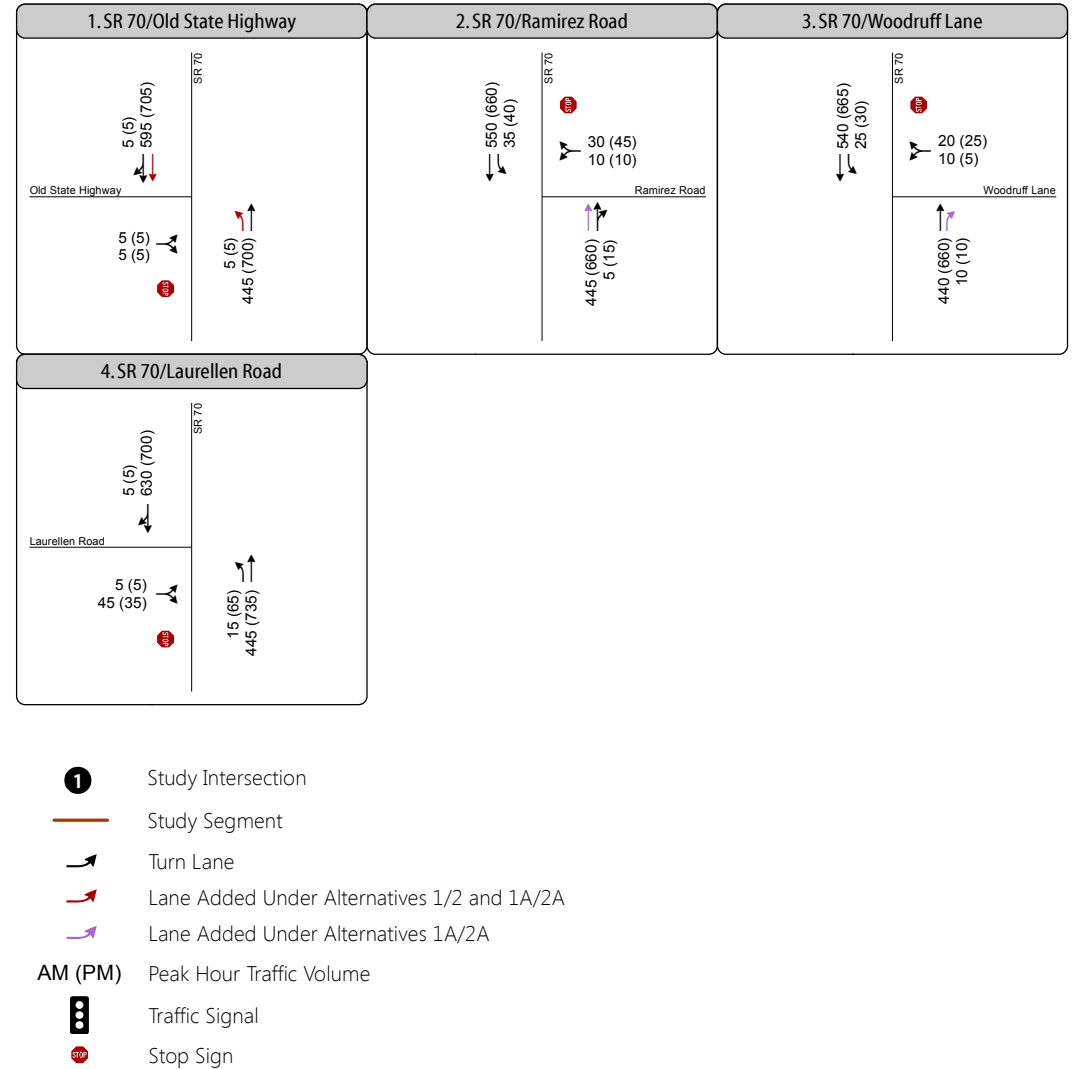


Figure 8  
Intersection Volumes and  
Lane Configurations  
2023 Opening Year



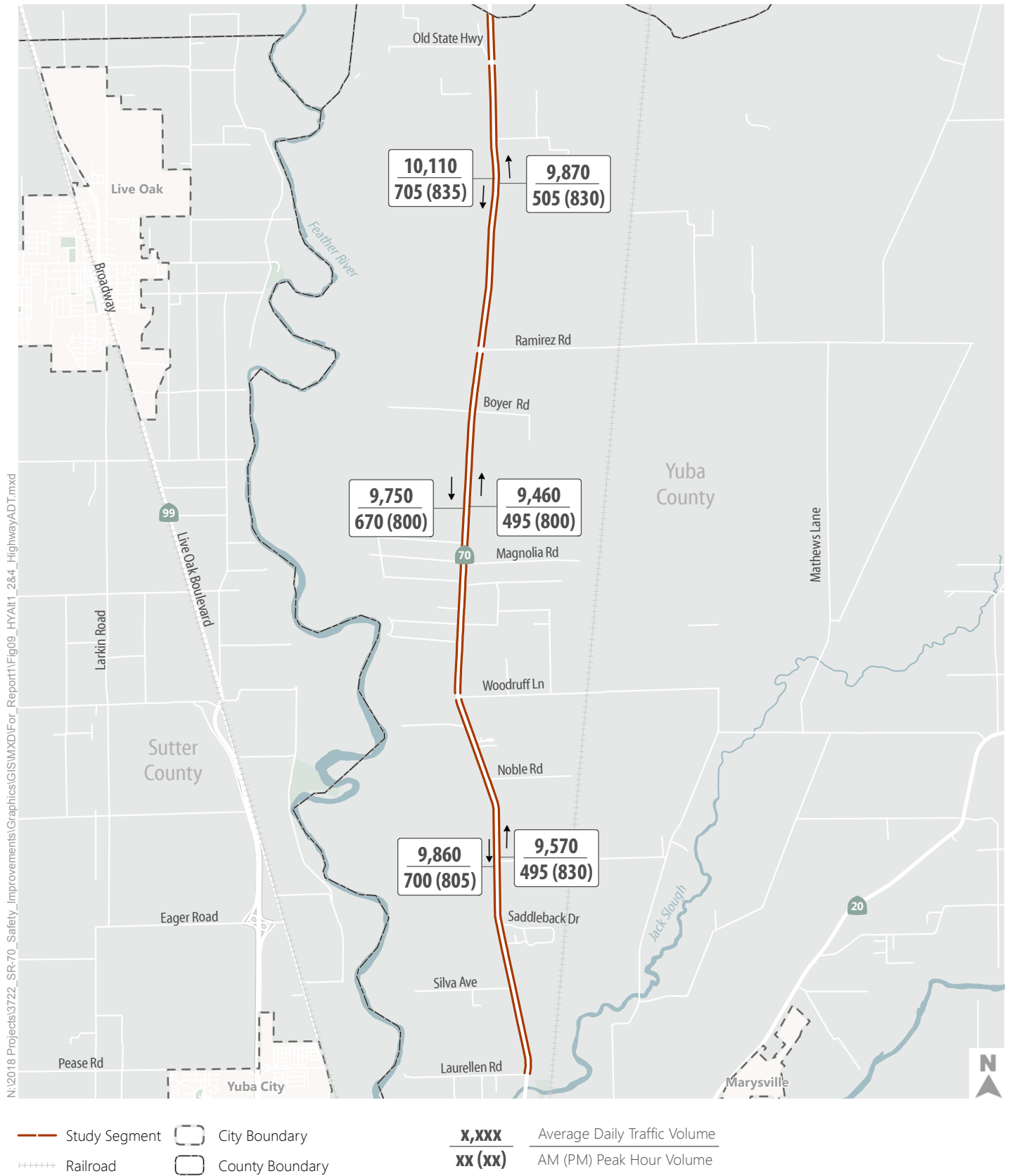


Figure 9

## Highway Segment Volumes 2043 Horizon Year



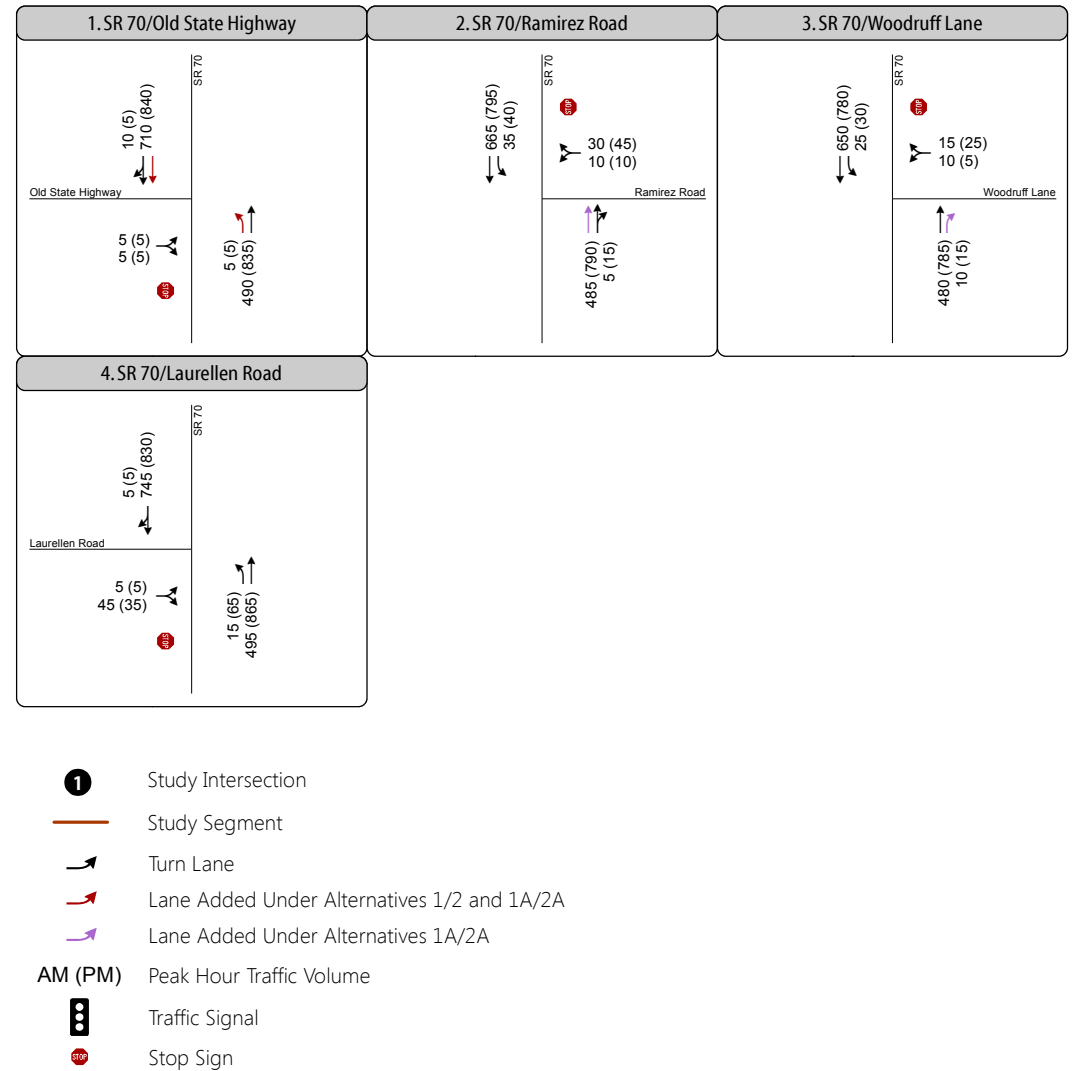


Figure 10  
Intersection Volumes and  
Lane Configurations  
2043 Horizon Year



## 4.3 Area-wide Performance Measures

To estimate the area-wide effect of the project, performance measures of vehicle miles of travel (VMT), vehicle hours of travel (VHT), and vehicle hours of delay (VHD) were estimated using the project travel demand forecasting model. To capture the potential changes, performance was measured over the entire model area, which is Butte County plus the portion of Yuba County adjacent to the study area. Since the study area is at the border of the model, the vehicles traveling through the study area will also have VMT, VHT, and VHD that occurs in the rest of Yuba County and points south.

Table 11 shows the local area-wide performance measures (see the appendix for VMT by 5-mph speed bin).

**Table 11: Area-wide Performance Measures**

Scenario	Vehicle Miles Traveled (VMT)		Daily Vehicle Hours of Travel (VHT)	Daily Vehicle Hours of Delay (VHD)
	Daily	AM & PM Peak		
Existing (2018)	5,697,500	985,800	214,700	68,400
Opening Year (2023)	6,152,200	1,062,500	256,600	98,300
Horizon Year (2043)	8,015,500	1,392,400	594,600	388,800

Source: Fehr & Peers (2019)

Compared to existing (2018) conditions, opening year (2023) conditions would have 8 percent more VMT, 20 percent more VHT, and 44 percent more VHD. By the horizon year (2043), the area-wide VMT would increase by 41 percent, VHT by 177 percent, and VHD by more than 4.5 times compared to existing (2018) conditions.

## 4.4 Induced Travel

The operational improvements provided by the build alternatives – a center turn lane, slow-moving vehicle lanes, and acceleration/deceleration lanes – are not expected to have higher traffic volumes compared to the no-build alternative since the facility capacity as a two-lane highway would be the same. However, the build alternatives would provide reduced travel time for the corridor. The phenomenon where reduced travel time (or other travel costs) leads to additional travel demand is called induced travel. The idea is that lower travel cost generates an increase in travel demand due to the following causes.

### Short-term responses

- New vehicle trips that would otherwise would not be made
- Longer vehicle trips to more distant destinations
- Shifts from other modes to driving



- Shifts from one driving route to another

#### Longer-term responses

- Changes in land use development patterns (these are often more dispersed, low density patterns that are auto-dependent)
- Changes in overall growth

In addition to route diversion, new demand may be created through changes in trip destinations, changes in travel mode, and changes in the time of day. Travel demand models can capture some, but not all, of these changes. In particular, travel demand models do not capture changes in land use development due to the reduced travel time.

Empirical data on induced travel bases the additional demand on the change in lane miles. The travel demand elasticity ranges from 0.10 to 0.60 for short-term effects (Milam et al., 2017), where the elasticity is calculated as the percent change in VMT divided by the percent change in lane miles. Table 12 compares the model-estimated VMT with the range in VMT predicted by the empirical data. For Alternatives 1/2, the addition of the center turn lane is not included because it is not used by through traffic, so no increase in lane-miles results in no change to the VMT estimate. The calculation for lane-miles for Alternatives 1A/2A includes the slow-moving vehicle lanes since through traffic uses them, but not acceleration/deceleration lanes, which are used by turning traffic.

**Table 12: Comparison of VMT Estimates – Opening Year (2023) Conditions**

Alternative	Model VMT	Lane Miles	Empirical VMT	
			Low	High
Alternatives 1/2	6,152,200	7,396	6,152,200	6,152,200
Alternatives 1A/2A	6,152,200	7,398	6,152,400	6,153,400
Alternative 4	6,152,200	7,396	-	-

Source: Fehr & Peers (2019)

Based on the empirical data, future VMT and traffic volumes on SR 70 and connecting roadways could be higher than estimated by the travel demand models. However, the elasticity values were largely derived from research conducted on urban and suburban freeways where travel delays are more severe than on SR 70, which is a rural highway. Without the congested conditions, travel demand responses are expected to be dampened. Since trip generation rates of existing land uses are not constrained by congestion in the model area, they are not likely to change as a result of induced travel effects. Instead, trip lengths could increase. As a result, the model generated traffic volume estimates are reasonable for traffic operations analysis, but the VMT estimates used for air quality, greenhouse gas, and energy impact analysis should acknowledge the potentially higher VMT levels in Table 12.



## Chapter 5. **Opening Year Conditions**

This chapter presents the operations analysis under opening year (2023) conditions.

### **5.1 Highway Operations**

Highway operations were analyzed for opening year (2023) conditions under AM and PM peak hour conditions. Table 13 shows the segment LOS and associated performance measure (see the appendix for detailed analysis results).

Compared to existing (2018) conditions, operations under the opening year (2023) would worsen under the no-build alternative (Alternative 4) due to increasing traffic volumes. However, the LOS would remain the same for all study segments.

The three-lane cross-section under Alternatives 1/2 would widen shoulders and reduce left-turn delay by extending the center two-way left-turn lane to the entire segment. However, passing zones would be eliminated. As a result, the operational performance would be worse than Alternative 4. For the opening year (2023), three segments would have LOS E conditions during the AM and/or PM peak hour compared to no segments with LOS E under Alternative 4. With Alternatives 1A/2A, slow-moving vehicle lanes would be added to the corridor in two locations in each direction. As a result, conditions would be improved to LOS D or better during both peak hours compared to Alternatives 1/2. (Alternatives 2 and 2A are the same as Alternatives 1 and 1A except that a median barrier would be provided in place of a TWLTL. As a result, the analysis results are the same for these pairs of alternatives.)

The following highway segments would have deficient operations (worse than LOS D) for opening year (2023) conditions under Alternatives 1/2:

- LOS E for northbound SR 70 from Laurellen Road to Woodruff Lane (PM)
- LOS E for northbound SR 70 from Ramirez Road to Old State Highway (PM)
- LOS E for southbound SR 70 from Old State Highway to Ramirez Road (AM and PM)

The above segments would also be project impacts since the operations (LOS E) would be worse than operations (LOS D) under Alternative 4 (No Build). To mitigate the project impacts under Alternatives 1/2, the roadway changes with Alternatives 1A/2A, slow-moving vehicle lanes and acceleration/deceleration lanes at selected intersections, could be implemented to improve operations to LOS D or better.

**Table 13: Highway Operations – Opening Year (2023) Conditions**

Highway Segment	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
	Type	AM	PM	Type	AM	PM	Type	AM	PM
<b>Northbound SR 70</b>									
1. Laurellen Rd to Woodruff Ln	Two-Lane	D (51/67%)	<b><u>E (48/81%)</u></b>	Two-Lane	C (53/53%)	C (50/64%)	Two-Lane	D (48/66%)	D (46/80%)
2. Woodruff Ln to Ramirez Rd	Two-Lane	D (52/66%)	D (50/80%)	Two-Lane	C (51/62%)	D (49/75%)	Two-Lane	C (51/63%)	D (49/76%)
3. Ramirez Rd to Old State Hwy	Two-Lane	D (51/69%)	<b><u>E (48/82%)</u></b>	Two-Lane	B (52/46%)	C (50/58%)	Two-Lane	C (50/62%)	D (47/77%)
<b>Southbound SR 70</b>									
1. Woodruff Ln to Laurellen Rd	Two-Lane	D (50/78%)	D (48/80%)	Two-Lane	D (50/78%)	D (48/80%)	Two-Lane	D (48/77%)	D (46/79%)
2. Ramirez Rd to Woodruff Ln	Two-Lane	D (51/77%)	D (49/80%)	Two-Lane	D (53/66%)	D (51/69%)	Two-Lane	D (51/73%)	D (49/77%)
3. Old State Hwy to Ramirez Rd	Two-Lane	<b><u>E (49/81%)</u></b>	<b><u>E (48/82%)</u></b>	Two-Lane	D (52/67%)	D (50/68%)	Two-Lane	D (49/72%)	D (47/77%)

Note: For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

Source: W&S Solutions (2019)

Table 14 presents the travel time for the highways segments under opening year (2023) conditions. Compared to existing conditions, travel times under Alternative 4 (No Build) would increase by 10 to 15 seconds in both directions during both peak hours. With the center turn lane provided by Alternatives 1/2, travel times would be reduced by up to 20 seconds compared to Alternative 4. Alternatives 1A/2A would provide further reductions so that the average travel time would be about 10.8 minutes during the AM peak hour and 11.2 minutes during the PM peak hour, which would be lower than existing (2018) conditions).

**Table 14: Highway Travel Time – Opening Year (2023) Conditions**

Highway Segment	Alternatives 1/2		Alternatives 1A/2A		Alternative 4	
	AM	PM	AM	PM	AM	PM
<b>Northbound SR 70</b>						
1. Laurellen Rd to Woodruff Ln	4.2	4.4	4.0	4.2	4.4	4.6
2. Woodruff Ln to Ramirez Rd	3.6	3.8	3.7	3.9	3.7	3.9
3. Ramirez Rd to Old State Hwy	3.1	3.3	3.0	3.1	3.1	3.3
Total	10.8	11.4	10.7	11.2	11.2	11.8
<b>Southbound SR 70</b>						
1. Woodruff Ln to Laurellen Rd	4.2	4.4	4.2	4.4	4.4	4.6
2. Ramirez Rd to Woodruff Ln	3.7	3.9	3.6	3.7	3.7	3.9
3. Old State Hwy to Ramirez Rd	3.2	3.3	3.0	3.1	3.2	3.3
Total	11.1	11.5	10.8	11.2	11.3	11.8

Note: Travel time is reported in minutes.

Source: W&S Solutions (2019)

## 5.2 Intersection Operations

Intersection operations were analyzed for opening year (2023) conditions during the AM and PM peak hours. Table 15 shows the intersection LOS and average delay (see the appendix for detailed analysis results).

With the increase in traffic volumes from existing (2018) conditions, the delay values would increase, but the LOS would remain at LOS C or better for all intersections under the build alternatives. For Alternative 4, the intersections would have LOS C or better conditions under the Synchro analysis of the AM and PM peak hours. For the SimTraffic analysis of the PM peak period, conditions would worsen to LOS D at Ramirez Road.

Since all intersections would operate with LOS D or better under opening year (2023) conditions for all alternatives, no intersections would have deficient operations, and no alternatives would have project impacts.



Table 16 shows the queue length for SR 70 turn pockets under opening year (2023) conditions. While queue lengths would increase at some locations due to the growth in volume, all queues would be contained within the storage length.

## 5.3 Signal and Lighting Warrants

The volume-based signal warrants (1-3) were evaluated for the study intersections under opening year (2023) conditions. The hourly volumes were forecasted by using the model growth for the respective analysis period: AM 3-hour peak period from 6 to 9 AM, midday period from 9 AM to 3 PM, and PM 3-hour peak period from 3 to 6 PM. Although the volumes increase under opening year (2023) conditions, none of the signal warrants would be met.

The volume-based lighting warrant was evaluated for the unlighted study intersections under opening year (2023) conditions. Even with the increase in hourly volumes, none of the study intersections would meet the volume warrant for lighting.

**Table 15: Intersection Operations – Opening Year (2023) Conditions**

Intersection	Traffic Control	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
		AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr
1. SR 70/Old State Hwy	Side Street Stop	B/14 (EBLR)	C/16 (EBLR)	B/11 (EBL)	B/14 (EBLR)	C/16 (EBLR)	B/12 (EBL)	C/17 (EBLR)	C/21 (EBLR)	C/25 (EBL)
2. SR 70/Ramirez Rd	Side Street Stop	B/14 (WBLR)	C/17 (WBLR)	B/13 (WBL)	B/13 (WBLR)	B/14 (WBLR)	A/10 (WBL)	C/15 (WBLR)	C/19 (WBLR)	C/18 (WBL)
3. SR 70/Woodruff Ln	Side Street Stop	B/14 (WBLR)	C/16 (WBLR)	A/9 (WBL)	B/14 (WBLR)	C/16 (WBLR)	A/5 (WBL)	B/14 (WBLR)	C/16 (WBLR)	A/6 (WBR)
4. SR 70/Laurellen Rd	Side Street Stop	C/17 (EBLR)	C/18 (EBLR)	C/20 (EBL)	C/17 (EBLR)	C/18 (EBLR)	C/15 (EBL)	C/17 (EBLR)	C/18 (EBLR)	C/16 (EBL)

Note: LOS and delay (seconds per vehicle) are reported. For Side Street Stop control, the worst lane group or movement is also reported in parentheses. The AM and PM 1-hr results are from the Synchro model. The PM 2-hr results are from the SimTraffic model; the highest 15-minute delay from the two-hour analysis period is reported.

Source: Fehr & Peers (2019)

**Table 16: Intersection Queue Length – Opening Year (2023) Conditions**

Intersection	Move-ment	Storage Length	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
			AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr
1. SR 70/Old State Hwy	NBL	120	25	25	50	25	25	50	n/a	n/a	n/a
2. SR 70/Ramirez Rd	SBL	120	25	25	75	25	25	100	25	25	75
3. SR 70/Woodruff Ln	SBL	160	25	25	75	25	25	75	25	25	75
4. SR 70/Laurellen Rd	NBL	200	25	25	100	25	25	100	25	25	100

Notes: The storage and queue lengths are reported in feet. For AM and PM 1-hr, the 95th percentile queue length from Synchro is reported. For PM 2-hr, the average maximum queue length is reported. n/a – not applicable

Source: Fehr & Peers (2019)

## Chapter 6. **Horizon Year Conditions**

This chapter presents the operations analysis of the roadway system under horizon year (2043) conditions and an assessment of safety and multimodal systems affected by the proposed project.

### **6.1 Highway Operations**

Highway operations were analyzed for horizon year (2043) conditions during the AM and PM peak hours. Table 17 shows the segment LOS and associated performance measure.

Operations under the horizon year (2043) would worsen under the no-build alternative (Alternative 4) due to increasing traffic volumes. Compared to existing (2018) conditions, the AM peak hour conditions would have one segment worsening from LOS C to D in the northbound direction and one segment worsening from LOS D to E. The PM peak hour would have all segments worsening from LOS D to E.

For Alternatives 1/2, all segments would operate at LOS E in the southbound direction during both peak hours. In the northbound direction, all segments would have LOS D during the AM peak hour and E during the PM peak hour. With the operational improvements in Alternatives 1A/2A, conditions would improve to LOS D or better in the northbound direction and all but one segment in the southbound direction. For the southbound segment between Woodruff Lane and Laurellen Road, no slow-moving vehicle lane would be added in Alternatives 1A/2A, so the LOS E conditions from Alternatives 1/2 would be unchanged. The upstream southbound slow-moving vehicle lane located north of Woodruff Lane would provide some benefit to downstream operations, but the analysis procedure does not account for a slow-moving vehicle lane in an adjacent segment.

The following highway segments would have deficient operations (worse than LOS D) for horizon year (2043) conditions under Alternatives 1/2:

- LOS E for all segments of northbound SR 70 (PM)
- LOS E for all segments of southbound SR 70 (AM and PM)

The following highway segments would have deficient operations (worse than LOS D) for horizon year (2043) conditions under Alternatives 1A/2A:

- LOS E for southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)

**Table 17: Highway Operations – Horizon Year (2043) Conditions**

Highway Segment	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
	Type	AM	PM	Type	AM	PM	Type	AM	PM
<b>Northbound SR 70</b>									
1. Laurellen Rd to Woodruff Ln	Two-Lane	D (50/69%)	<b><u>E (46/85%)</u></b>	Two-Lane	C (52/54%)	D (48/68%)	Two-Lane	D (47/68%)	<b><u>E (44/84%)</u></b>
2. Woodruff Ln to Ramirez Rd	Two-Lane	D (51/69%)	<b><u>E (48/84%)</u></b>	Two-Lane	C (50/64%)	D (47/78%)	Two-Lane	D (50/65%)	<b><u>E (47/81%)</u></b>
3. Ramirez Rd to Old State Hwy	Two-Lane	D (50/70%)	<b><u>E (46/86%)</u></b>	Two-Lane	B (52/48%)	C (48/63%)	Two-Lane	C (49/65%)	<b><u>E (45/82%)</u></b>
<b>Southbound SR 70</b>									
1. Woodruff Ln to Laurellen Rd	Two-Lane	<b><u>E (49/82%)</u></b>	<b><u>E (47/83%)</u></b>	Two-Lane	<b><u>E (49/82%)</u></b>	<b><u>E (47/83%)</u></b>	Two-Lane	<b><u>E (47/81%)</u></b>	<b><u>E (44/82%)</u></b>
2. Ramirez Rd to Woodruff Ln	Two-Lane	<b><u>E (50/82%)</u></b>	<b><u>E (47/84%)</u></b>	Two-Lane	D (52/71%)	D (49/72%)	Two-Lane	D (50/78%)	<b><u>E (47/82%)</u></b>
3. Old State Hwy to Ramirez Rd	Two-Lane	<b><u>E (49/83%)</u></b>	<b><u>E (45/86%)</u></b>	Two-Lane	D (51/69%)	D (47/72%)	Two-Lane	D (48/76%)	<b><u>E (45/82%)</u></b>

Note: For two-lane highway segments, the performance measures of average travel speed (ATS) in miles per hour and percent time spent following (PTSF) are reported in parentheses. LOS is determined by the worse LOS based on each performance measure. Bold and underline font indicates segments that would operate worse than the concept LOS.

Source: W&S Solutions (2019)





The following highway segments would have deficient operations (worse than LOS D) for horizon year (2043) conditions under Alternative 4:

- LOS E for all segments of Northbound SR 70 (PM)
- LOS E for southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)
- LOS E for two segments of southbound SR 70 from Old State Highway to Woodruff Lane (PM)

The following build alternatives would have project impacts since operations would worsen compared to Alternative 4 (no build):

- Alternatives 1/2
  - All segments of northbound SR 70 (PM)
  - All segments of southbound SR 70 (AM and PM)
- Alternatives 1A/2A
  - Southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)

For both build alternatives, the southbound SR 70 segment from Woodruff Lane to Laurellen Road is an impact because the PTSF would worsen due to the elimination of the passing zones with the median. Although the PTSF would worsen, the ATS would improve with the project leading to a higher corridor speed compared to the no build alternative.

Most of the project impacts under Alternatives 1/2 could be mitigated by constructing the slow-moving vehicle lanes proposed in Alternatives 1A/2A. The remaining project impact for Alternatives 1/2 is also a project impact under Alternatives 1A/2A. To mitigate the impact in Alternatives 1A/2A, a slow-moving vehicle lane could be added to the segment by either (1) extending the slow-moving vehicle lane north of Woodruff Lane through the Woodruff Lane intersection or (2) constructing a separate slow-moving vehicle lane between Woodruff Lane and Laurellen Road.

Table 18 presents the travel time for the highways segments under horizon year (2043) conditions. Compared to existing conditions, travel times under Alternative 4 (no build) would increase in both directions by 30 seconds during the AM peak hour and 45 seconds during the PM peak hour. With the center turn lane provided by Alternatives 1/2, travel times would be reduced by up to 20 seconds compared to Alternative 4. Alternatives 1A/2A would provide further reductions so that the average travel time would be about 10.8 minutes during the AM peak hour and 11.7 minutes during the PM peak hour. The AM peak hour travel time under Alternatives 1A/2A would be lower than the existing (2018) travel time of about 11 minutes, but the PM peak hour travel time would still be greater than the existing (2018) travel time of about 11.5 minutes.

## 6.2 Intersection Operations

Intersection operations were analyzed for horizon year (2043) conditions under AM and PM peak hour conditions. Table 19 reports the intersection LOS and average delay (see the appendix for detailed analysis results).

**Table 18: Highway Travel Time – Horizon Year (2043) Conditions**

Highway Segment	Alternatives 1/2		Alternatives 1A/2A		Alternative 4	
	AM	PM	AM	PM	AM	PM
<b>Northbound SR 70</b>						
1. Laurellen Rd to Woodruff Ln	4.2	4.6	4.1	4.4	4.5	4.8
2. Woodruff Ln to Ramirez Rd	3.7	3.9	3.8	4.0	3.8	4.0
3. Ramirez Rd to Old State Hwy	3.1	3.4	3.0	3.3	3.2	3.5
Total	11.1	11.9	10.8	11.7	11.5	12.3
<b>Southbound SR 70</b>						
1. Woodruff Ln to Laurellen Rd	4.3	4.5	4.3	4.5	4.5	4.8
2. Ramirez Rd to Woodruff Ln	3.8	4.0	3.6	3.9	3.8	4.0
3. Old State Hwy to Ramirez Rd	3.2	3.5	3.1	3.3	3.3	3.5
Total	11.3	12.0	10.8	11.7	11.5	12.3

Note: Travel time is reported in minutes.  
Source: W&S Solutions (2019)

During the AM and PM peak hours, the build alternatives would provide LOS C or better conditions at the study intersections. Alternative 4 (no build) would have nearly all intersections operate at LOS C, but one intersection (Old State Highway) would operate at LOS D during the PM peak hour.

The PM peak period analysis in SimTraffic shows generally similar or higher LOS and delays. Alternatives 1/2 and 1A/2A would have LOS C or better at all intersections. In contrast, Alternative 4 would have LOS E at Old State Highway and LOS D at Ramirez Road since no two-way left turn lane would be provided.

Table 20 shows the queue length under horizon year (2043) conditions. Similar to opening year (2023) conditions, all queues would be contained in the proposed storage lengths.

The following intersections would have deficient operations (worse than LOS D) for horizon year (2043) conditions under Alternative 4:

- LOS E for SR 70/Old State Highway (PM 2-hour peak period)

Under the build alternatives, all intersections would operate acceptably with LOS D or better. As a result, no project impacts would occur at intersections under horizon year (2043) conditions.

**Table 19: Intersection Operations – Horizon Year (2043) Conditions**

Intersection	Traffic Control	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
		AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr
1. SR 70/Old State Hwy	Side Street Stop	C/15 (EBLR)	C/18 (EBLR)	C/17 (EBL)	C/15 (EBLR)	C/18 (EBLR)	C/24 (EBL)	C/19 (EBLR)	D/26 (EBLR)	<b><u>E/38 (EBL)</u></b>
2. SR 70/Ramirez Rd	Side Street Stop	C/15 (WBLR)	C/20 (WBLR)	C/18 (WBL)	B/14 (WBLR)	C/15 (WBLR)	C/19 (WBL)	C/17 (WBLR)	C/23 (WBLR)	D/33 (WBL)
3. SR 70/Woodruff Ln	Side Street Stop	C/15 (WBLR)	C/18 (WBLR)	A/7 (WBL)	C/15 (WBLR)	C/18 (WBLR)	A/8 (WBL)	C/15 (WBLR)	C/18 (WBLR)	A/9 (WBR)
4. SR 70/Laurellen Rd	Side Street Stop	C/19 (EBLR)	C/22 (EBLR)	C/15 (EBL)	C/19 (EBLR)	C/22 (EBLR)	C/19 (EBL)	C/19 (EBLR)	C/22 (EBLR)	C/17 (EBL)

Note: LOS and delay (seconds per vehicle) are reported. For Side Street Stop control, the worst lane group or movement is also reported in parentheses. The AM and PM 1-hr results are from the Synchro model. The PM 2-hr results are from the SimTraffic model; the highest 15-minute delay from the two-hour analysis period is reported. Bold and underline font indicates segments that would operate worse than the concept LOS.

Source: Fehr & Peers (2019)

**Table 20: Intersection Queue Length – Horizon Year (2043) Conditions**

Intersection	Move-ment	Storage Length	Alternatives 1/2			Alternatives 1A/2A			Alternative 4		
			AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr	AM	PM 1-hr	PM 2-hr
1. SR 70/Old State Hwy	NBL	120	25	25	50	25	25	50	n/a	n/a	n/a
2. SR 70/Ramirez Rd	SBL	120	25	25	75	25	25	100	25	25	75
3. SR 70/Woodruff Ln	SBL	160	25	25	75	25	25	75	25	25	75
4. SR 70/Laurellen Rd	NBL	200	25	25	100	25	25	100	25	25	100

Note: The storage and queue lengths are reported in feet. For AM and PM 1-hr, the 95th percentile queue length from Synchro is reported. For PM 2-hr, the average maximum queue length is reported. n/a – not applicable

Source: Fehr & Peers (2019)

## 6.3 Signal and Lighting Warrants

The volume-based signal warrants (1-3) were evaluated for the study intersections under horizon year (2043) conditions. The hourly volumes were forecasted by using the model growth for the respective analysis period: AM 3-hour peak period from 6 to 9 AM, midday period from 9 AM to 3 PM, and PM 3-hour peak period from 3 to 6 PM. Although the volumes increase under horizon year (2043) conditions, none of the signal warrants would be met.

The volume-based lighting warrant was evaluated for the unlighted study intersections under horizon year (2043) conditions. Even with the increase in hourly volumes, none of the study intersections would meet the volume warrant for lighting.

## 6.4 Roadway Safety

The continuous two-way left-turn lane proposed in Alternatives 1 and 1A should reduce the number of head-on, rear end, and sideswipe collisions as noted below.

- Drivers making a left turn from SR 70 to access homes, businesses, cross streets, agricultural areas, etc. will have a lane other than the through lane to decelerate and stop, if needed, to complete their turning movement.
- Drivers making a left turn onto SR 70 from homes, businesses, cross streets, agricultural areas, etc. will have a lane to turn into and either to wait for an acceptable gap or to accelerate to join through traffic in their direction of travel.
- The center lane will act as a median buffer for inattentive drivers to self-correct prior to entering the opposing lane of traffic.
- Vehicles using the center lane signals to other drivers that they are slowing to prepare for a turn, which allows other drivers to act accordingly. Without the center lane, it may be difficult for other drivers to perceive the slowing vehicle.

The proposed cross section for Alternatives 1/2 (and 1A/2A outside of the slow-moving vehicle lanes) includes widening the shoulders to 10 feet. Providing 10-foot shoulders would allow parking for disabled vehicles away from mainline traffic. The wider shoulders would act as deceleration areas for drivers making right turns to and from the highway. The wider shoulders will provide pedestrians and bicyclists the ability to travel on a paved surface with more lateral clearance from high-speed vehicles. Similarly, slow-moving vehicles, such as agricultural vehicles, could use the wide shoulders to allow higher speed vehicles to pass.

Beyond the paved shoulder, the build alternatives would provide a 6-foot unpaved shoulder and flatten out the slopes for drainage areas. The existing shoulder area has many steep drainage ditches that are not recoverable for errant vehicles that leave the roadway. These changes to the clear recovery zone should





reduce the number of hit object and overturn collisions, which are associated with serious injuries or fatalities.

The median barrier proposed in Alternatives 2 and 2A would prevent head-on collisions by providing a physical barrier between the directions of travel. However, hit object collisions may increase with the introduction of the fixed object (i.e. median barrier) in the traveled way. Additionally, the median barrier will require out-of-direction travel from many access points and an increase in U-turns at intersections. The increase in U-turns and left-turns at the intersections may increase broadside collisions at these locations.

To enhance safety on the corridor, the following features should be considered in project design for the build alternatives.

- Shoulder and centerline rumble strips (along both sides of the two way left turn lane) to alert inattentive drivers
- Six-inch wide thermoplastic pavement markings to provide enhanced visibility of the striping during nighttime and when the pavement is wet
- Two-Way Left Turn Only signs (R3-9b) as an option per CA MUTCD 2B.24 and associated pavement markings per CA MUTCD Figure 3B-7(CA) at 0.5 mile intervals (the oversized 36 inch by 48 inch sign to provide a higher level of visibility)

## 6.5 Multimodal Facilities

### 6.5.1 Transit System

As noted above, the Amtrak Thruway Connecting Service provides regional bus connections along SR 70 to and from the Sacramento Amtrak station. Since no stops are provided in the study area, the bus service would only benefit from the improvements to vehicle operations and safety. The school bus service, however, would have these benefits plus wider shoulders of 14 feet at bus stop locations. The wider shoulders will provide enhanced safety and comfort for bus riders.

### 6.5.2 Bicycle System

Alternatives 1/2 would widen the shoulder from 5 feet or less to 10 feet in the project area. The wider shoulder will provide improved safety and comfort for bicyclists and other slower moving vehicles along SR 70. For Alternatives 1A/2A, the paved shoulder would narrow to 8 feet for the slow-moving vehicle lanes, which would reduce the bicyclist user experience. Since two lanes would exist in this section, motorists traveling in the right lane could change into the left lane, if it is available, when passing bicyclists who are traveling on the shoulder.

### **6.5.3 Pedestrian System**

Similar to bicyclists, pedestrians would benefit from the widening of the shoulder from 5 feet or less to 10 feet under Alternatives 1/2. The wider shoulder will provide improved safety and comfort for pedestrians. In particular, one of the seven fatalities on the corridor involved a pedestrian. In addition, a 6-foot unpaved shoulder of aggregate base would be provided that pedestrians could use to stay farther from high-speed vehicles. For Alternatives 1A/2A, the paved shoulder would narrow to 8 feet for the slow-moving vehicle lanes, which would reduce the pedestrian user experience. Since two lanes would exist in this section, motorists traveling in the right lane could change into the left lane, if it is available, when passing pedestrians who are traveling on the shoulder.

### **6.5.4 Freight System**

The build alternatives would be constructed to accommodate the STAA trucks as required by SR 70's designation as a Terminal Access route. Trucks would also benefit from the operational and safety benefits of the project as described above. In particular, two of the seven fatal collisions involved trucks, so safety improvements will benefit the freight system. The build alternatives would not address the deficiency at the Butte/Yuba County line bridge that was identified in the District 3 Goods Movement Study. The bridge will be modified and/or replaced under a separate project that will widen SR 70 in Butte County.

## **6.6 Transportation System/Demand Management**

The study area does not experience peak hour congestion (LOS F conditions) and is not expected to experience peak hour congestion under horizon year (2043) conditions. As a result, no bottlenecks occur in the study area. Since congestion does not exist and will likely not occur, the need for transportation system and/or demand management is low. Potential actions to manage the transportation system and transportation demand in rural areas are listed below.

- Install CCTV cameras and/or traffic monitoring stations along the corridor to facilitate traveler information and emergency response
- Encourage ridesharing programs and establish park-and-ride lots in adjacent cities
- Accommodate school bus and future local bus service along the corridor



## Chapter 7. **Summary and Conclusions**

### **7.1 Deficiencies**

The study locations that would operate worse than LOS D are summarized below by alternative. There are no deficiencies under existing (2018) conditions.

#### Alternatives 1/2, Opening Year (2023)

- Highway Segments
  - Northbound SR 70 from Laurellen Road to Woodruff Lane (PM)
  - Northbound SR 70 from Ramirez Road to Old State Highway (PM)
  - Southbound SR 70 from Old State Highway to Ramirez Road (AM and PM)

#### Alternatives 1/2, Horizon Year (2043)

- Highway Segments
  - Northbound SR 70 from Laurellen Road to Old State Highway (PM)
  - Southbound SR 70 from Old State Highway to Laurellen Road (AM and PM)

#### Alternatives 1A/2A, Horizon Year (2043)

- Highway Segments
  - Southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)

#### Alternative 4, Horizon Year (2043)

- Highway Segments
  - Northbound SR 70 from Laurellen Road to Old State Highway (PM)
  - Southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)
  - Southbound SR 70 from Old State Highway to Woodruff Lane (PM)
- Intersections
  - SR 70/Old State Highway (PM)



## 7.2 Project Impacts

A project impact occurs where (1) the LOS threshold is exceeded and (2) the conditions are worse in the build alternative (Alternatives 1/2 or 1A/2A) than the no-build alternative (Alternative 4). The significance threshold as noted in Section 2.5 is LOS D.

### Alternatives 1/2, Opening Year (2023)

- Highway Segments
  - Northbound SR 70 from Laurellen Road to Woodruff Lane (PM)
  - Northbound SR 70 from Ramirez Road to Old State Highway (PM)
  - Southbound SR 70 from Old State Highway to Ramirez Road (AM and PM)

### Alternatives 1/2, Horizon Year (2043)

- Highway Segments
  - Northbound SR 70 from Laurellen Road to Old State Highway (PM)
  - Southbound SR 70 from Old State Highway to Laurellen Road (AM and PM)

### Alternatives 1A/2A, Horizon Year (2043)

- Highway Segments
  - Southbound SR 70 from Woodruff Lane to Laurellen Road (AM and PM)

## 7.3 Potential Mitigation Measures

Potential mitigation measures for the project impacts identified in the previous section and additional improvements are provided below.

- For Alternatives 1/2, the opening year (2023) impacts could be mitigated by constructing the slow-moving vehicle lanes and acceleration/deceleration lanes at intersections that are included in Alternatives 1A/2A.
- For Alternatives 1/2, the horizon year (2043) impacts in both directions between Woodruff Lane and Old State Highway could be mitigated by constructing the slow-moving vehicle lanes and acceleration/deceleration lanes at intersections that are included in Alternatives 1A/2A.
- For Alternatives 1/2 and 1A/2A, the horizon year (2043) impacts to southbound SR 70 from Woodruff Lane to Laurellen Road could be mitigated by adding a slow-moving vehicle lane.



## 7.4 Design Designation

Table 21 shows the traffic volume data needed for the design designation per the *Highway Design Manual* (Caltrans, 2018). The traffic index for roadway pavement design was calculated according to the *Highway Design Manual* (see the appendix for detailed calculations). The distribution of trucks, based on the number of axles, comes from the 2016 Annual Average Daily Truck Traffic volume data.

**Table 21: Traffic Data for Design Designation**

Parameter	Scenario		
	Existing (2018)	Opening Year (2023)	Horizon Year (2043)
Annual ADT Volume	14,765	16,910	19,930
Peak Hour Volume	1,237	1,410	1,665
Directional Split (%)	50%		
Trucks (%)	6.5%		
10-Year Traffic Index	10.5		
20-Year Traffic Index	11.0		

Source: Fehr & Peers (2019)

## 7.5 Design Recommendations

To enhance safety, the following pavement marking and signing treatments should be considered in project design for the build alternatives.

- Shoulder and centerline rumble strips (along both sides of the two way left turn lane) to alert inattentive drivers
- Six-inch wide thermoplastic pavement markings to provide enhanced visibility of the striping during nighttime and when the pavement is wet
- Two-Way Left Turn Only signs (R3-9b) as an option per CA MUTCD 2B.24 and associated pavement markings per CA MUTCD Figure 3B-7(CA) at 0.5 mile intervals (the oversized 36 inch by 48 inch sign to provide a higher level of visibility)

The study intersections did not meet any of the CA MUTCD warrants for signal installation. As a result, the existing intersection control using stop signs on the side streets is recommended to continue.

The volume warrant for intersection lighting was not met at the study intersections that do not have safety lighting. Therefore, the project does not need to include the installation of safety lighting at the study intersections.



## 7.6 Alternatives Comparison

Table 22 compares the alternatives based on the horizon year (2043) performance measures reported above. The performance measures are the average PM peak hour travel time in both directions, highway operations deficiencies, and intersection operations deficiencies.

**Table 22: Alternative Comparison Summary – Horizon Year (2043) Conditions**

Performance Measure	Alternatives 1/2	Alternatives 1A/2A	Alternative 4
PM Peak Hour Travel Time (minutes)	12.0	11.7	12.3
Highway Operations Deficiencies	6	1	6
Intersection Operations Deficiencies	0	0	1

Source: Fehr & Peers (2019)

Compared to Alternative 4 (no build), Alternatives 1/2 and 1A/2A would provide a lower average travel time in both directions. The travel time savings would be about 15 seconds for Alternatives 1/2 and about 30 seconds for Alternatives 1A/2A. Both Alternatives 1/2 and 4 would have operational deficiencies for all study highway segments. The slow-moving vehicle lanes proposed in Alternatives 1A/2A would reduce the deficient highway segments from 6 to 1. If one or more of the slow-moving lanes were eliminated, highway operations would degrade when compared to Alternative 4. Both build alternatives would eliminate the intersection operations deficiency.

The build alternatives will improve safety over the no-build alternative through wider paved and unpaved shoulders. The wider paved shoulders may reduce rear end collisions since right-turning vehicles can use the shoulder to decelerate and slower moving vehicles (farm equipment, bicycles, etc.) can use the shoulder to allow faster-moving vehicles to pass. The addition of the unpaved shoulder and the changes to the drainage areas should reduce the number of hit object and overturn collisions, which are associated with serious injuries or fatalities.

With Alternatives 1 and 1A, the center turn lane will facilitate left turns to and from the highway and also act as a median buffer for inattentive drivers. As a result, head-on, rear end, and sideswipe collisions may be reduced. With Alternatives 2 and 2A, a median barrier would further reduce the potential for head-on collisions. However, the barrier would increase out-of-direction travel for local traffic accessing the highway and would increase U-turns at intersections, which may increase broadside collisions.



## Chapter 8. References

The references cited in the Transportation Analysis Report are listed below.

- 2017 California Regional Transportation Plan Guidelines for Metropolitan Planning Organizations, <http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/docs/2017RTPGuidelinesforMPOs.pdf>, California Transportation Commission, January 2017
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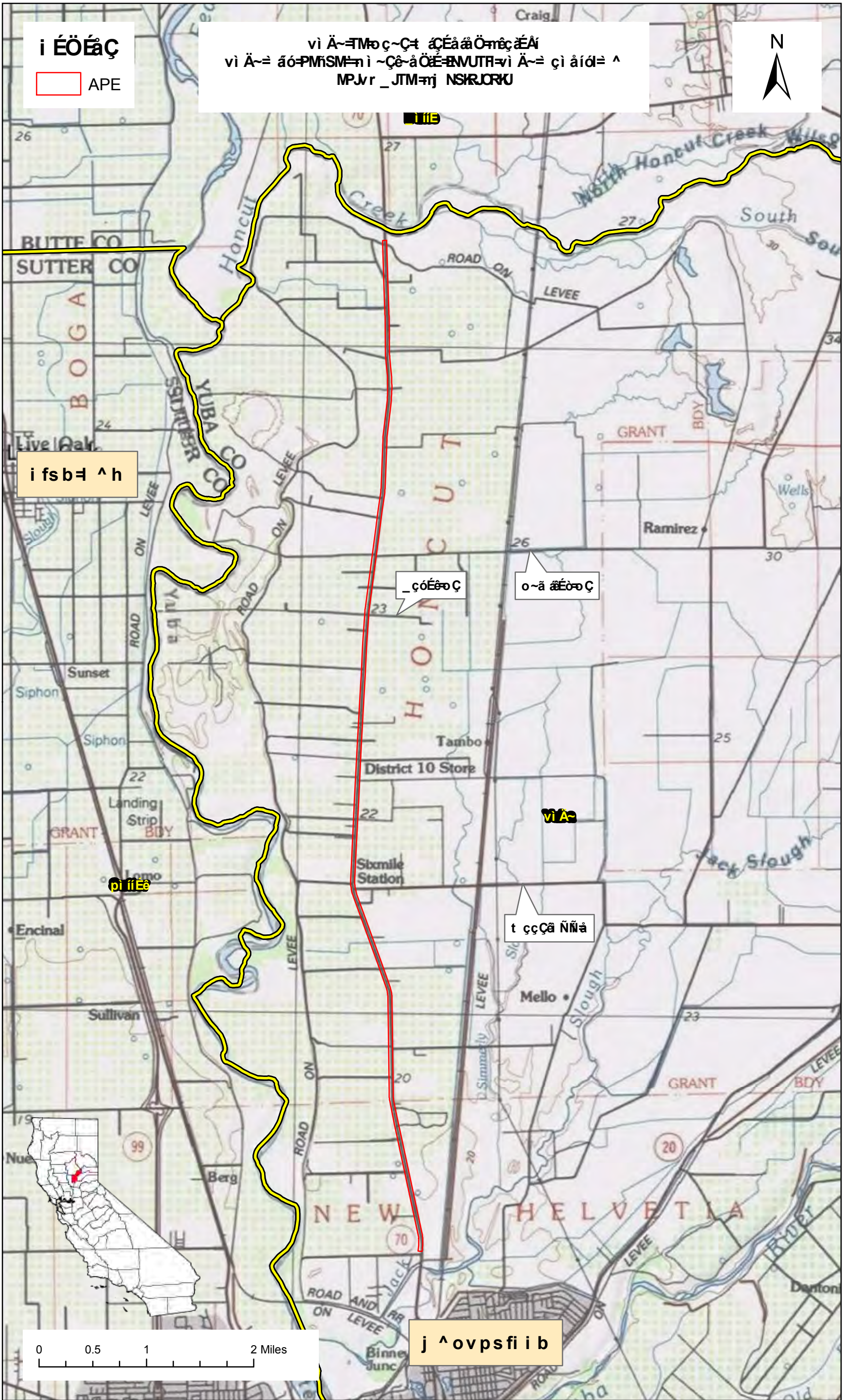




## Appendix H Area of Potential Effects (APE)

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**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 1 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153

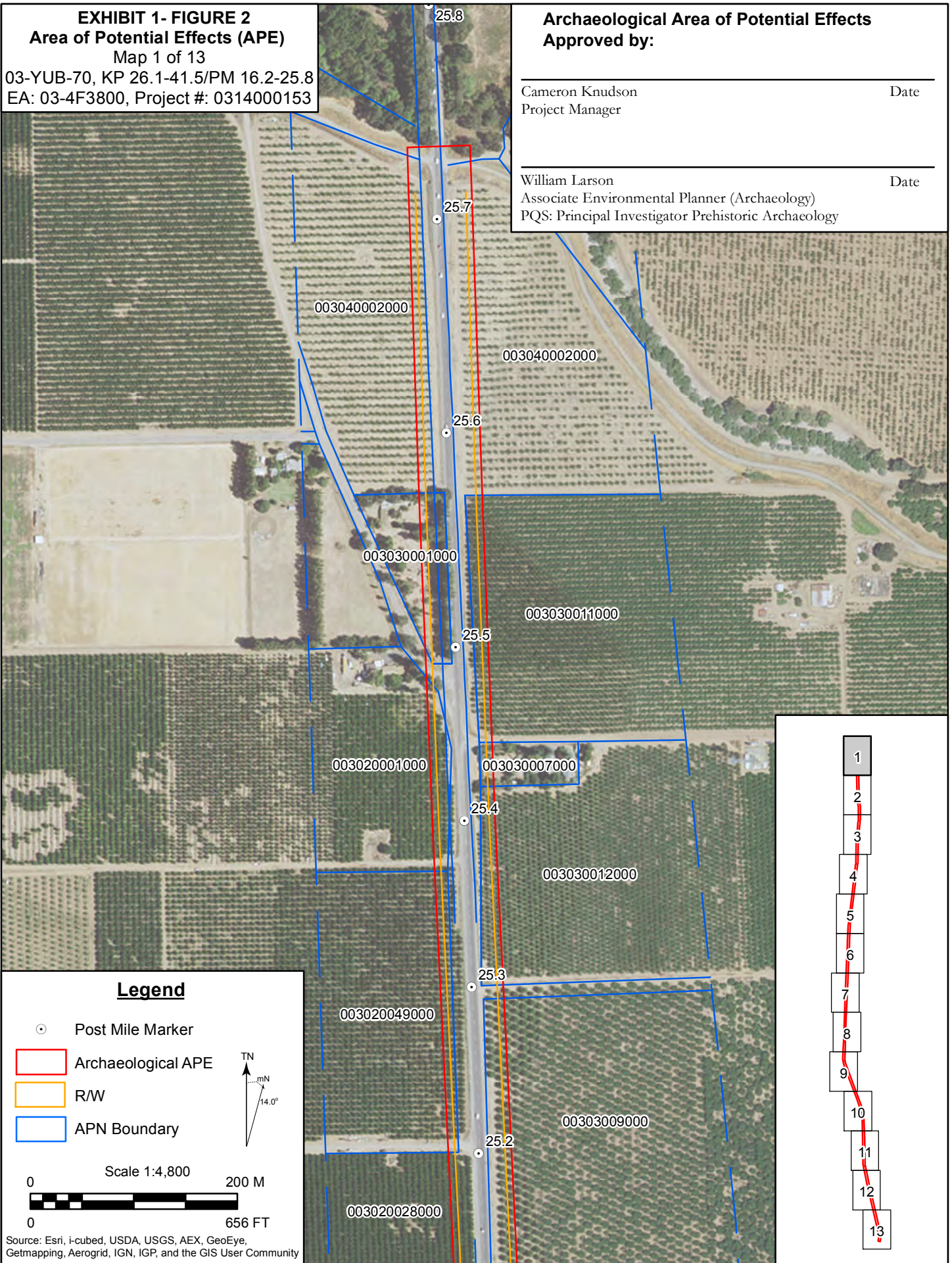
**Archaeological Area of Potential Effects**  
**Approved by:**

Cameron Knudson  
Project Manager

Date

William Larson  
Associate Environmental Planner (Archaeology)  
PQS: Principal Investigator Prehistoric Archaeology

Date



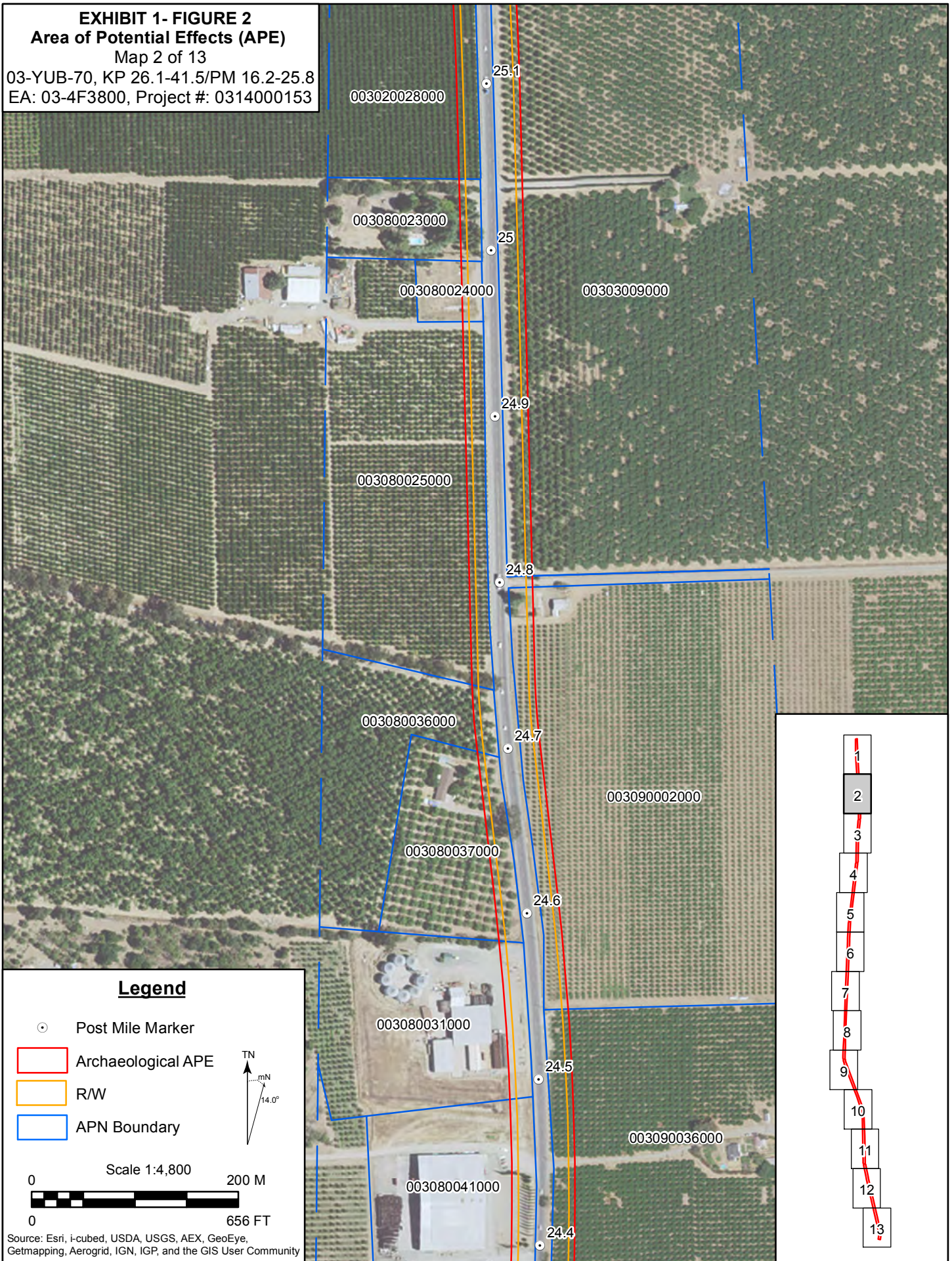


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 2 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



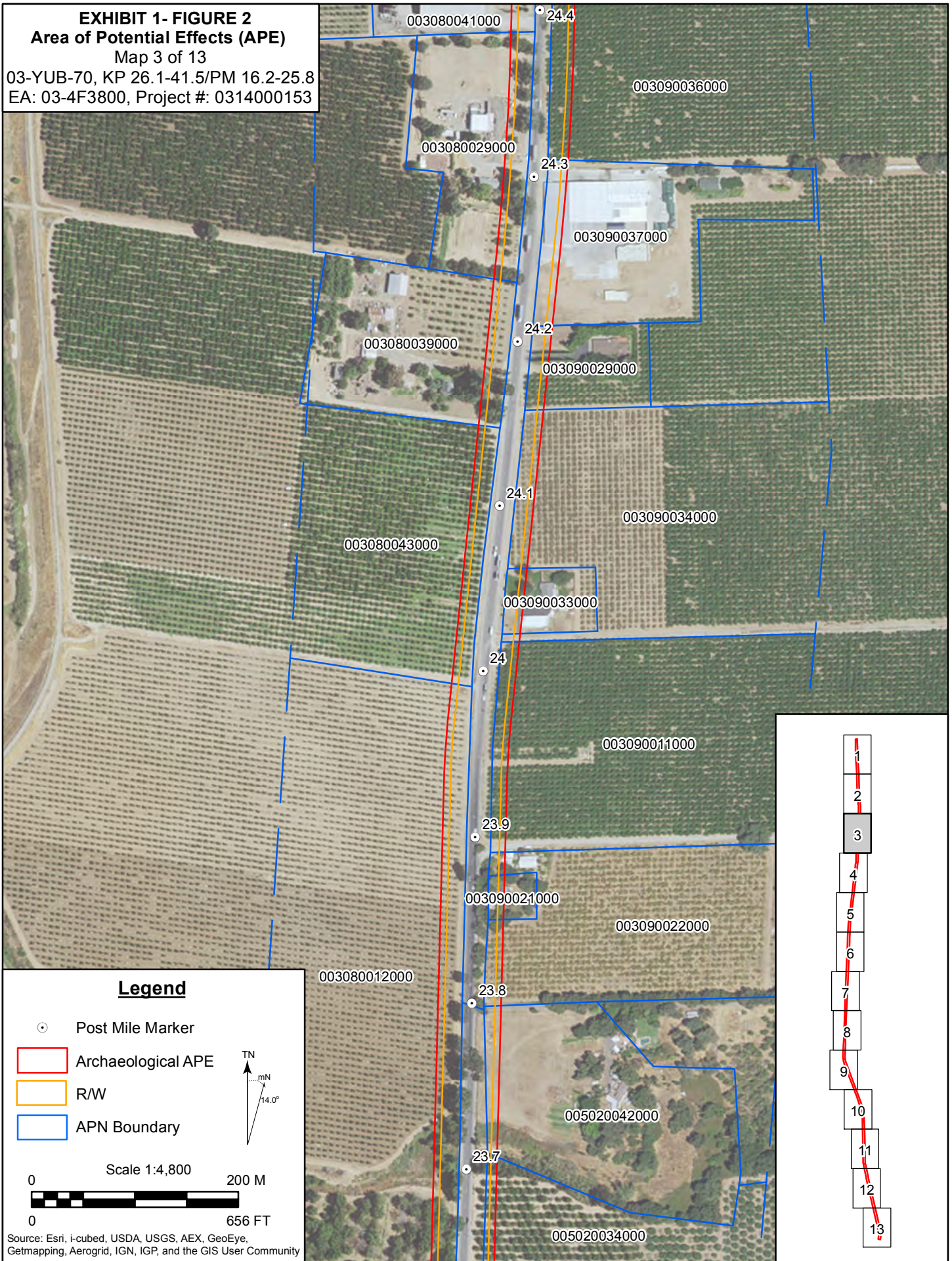


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 3 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



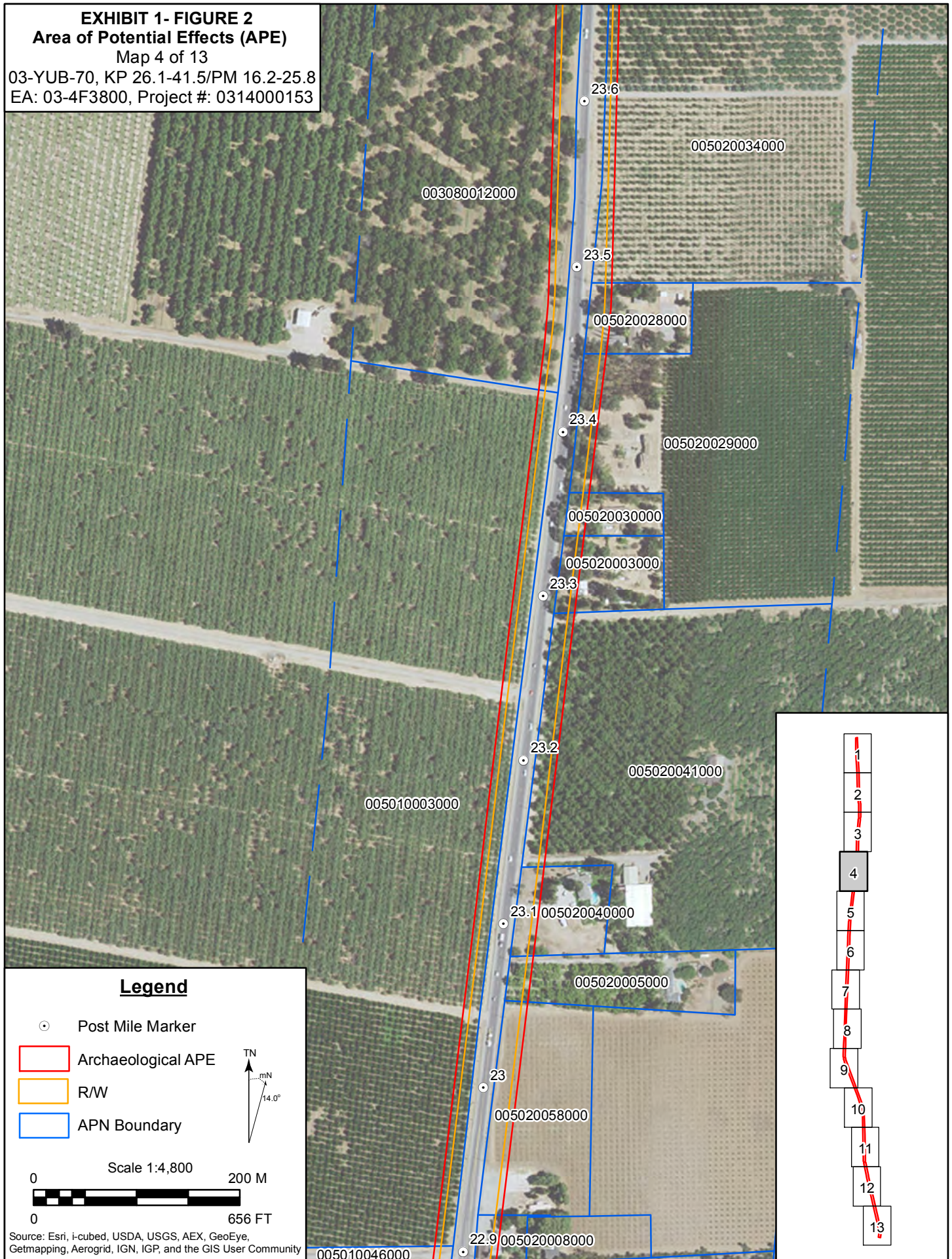


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 4 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



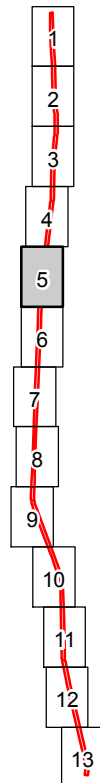
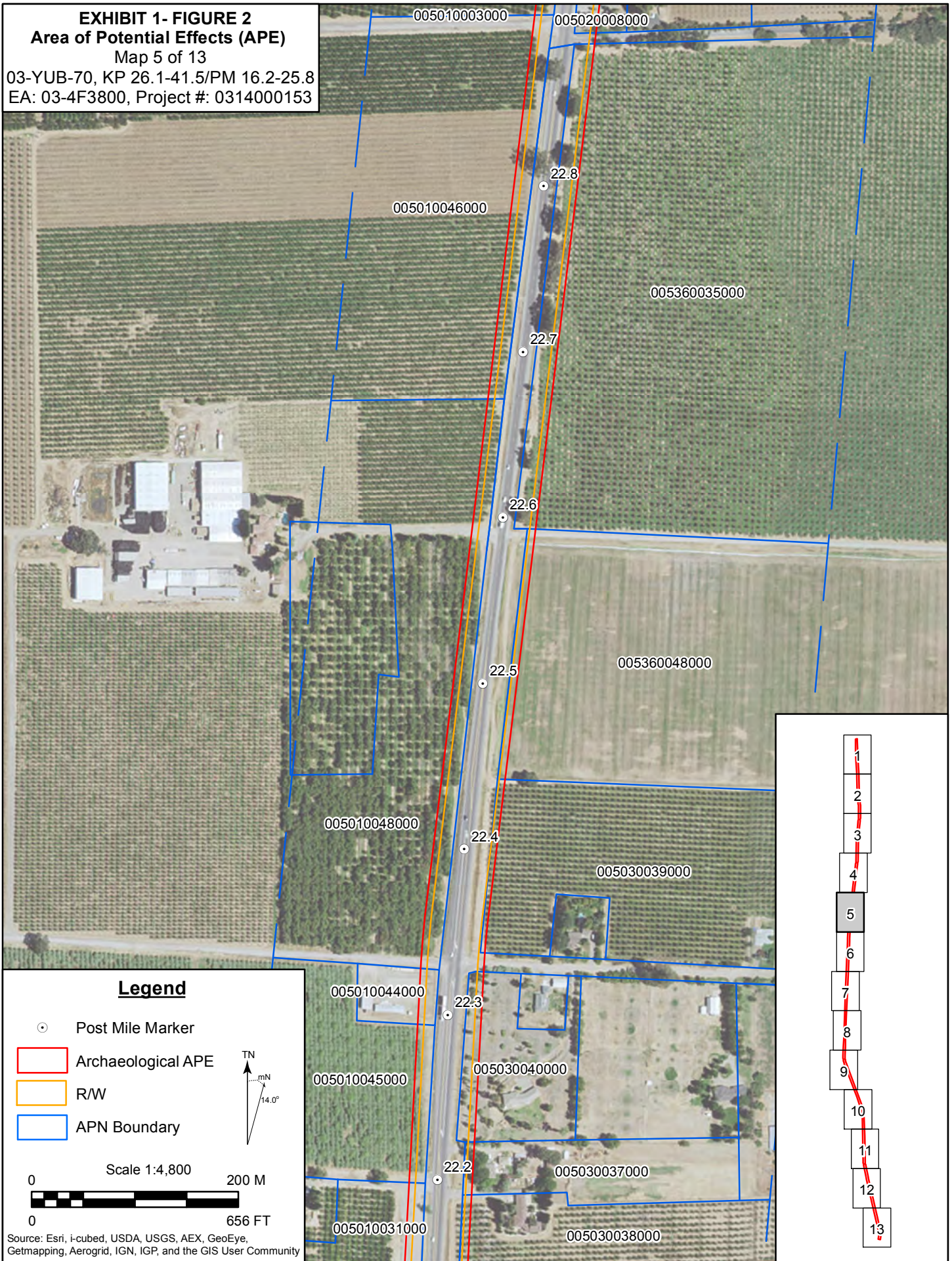


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 5 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



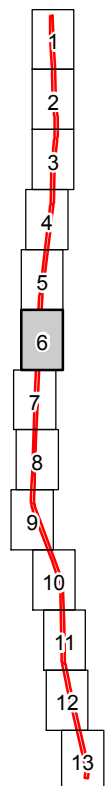
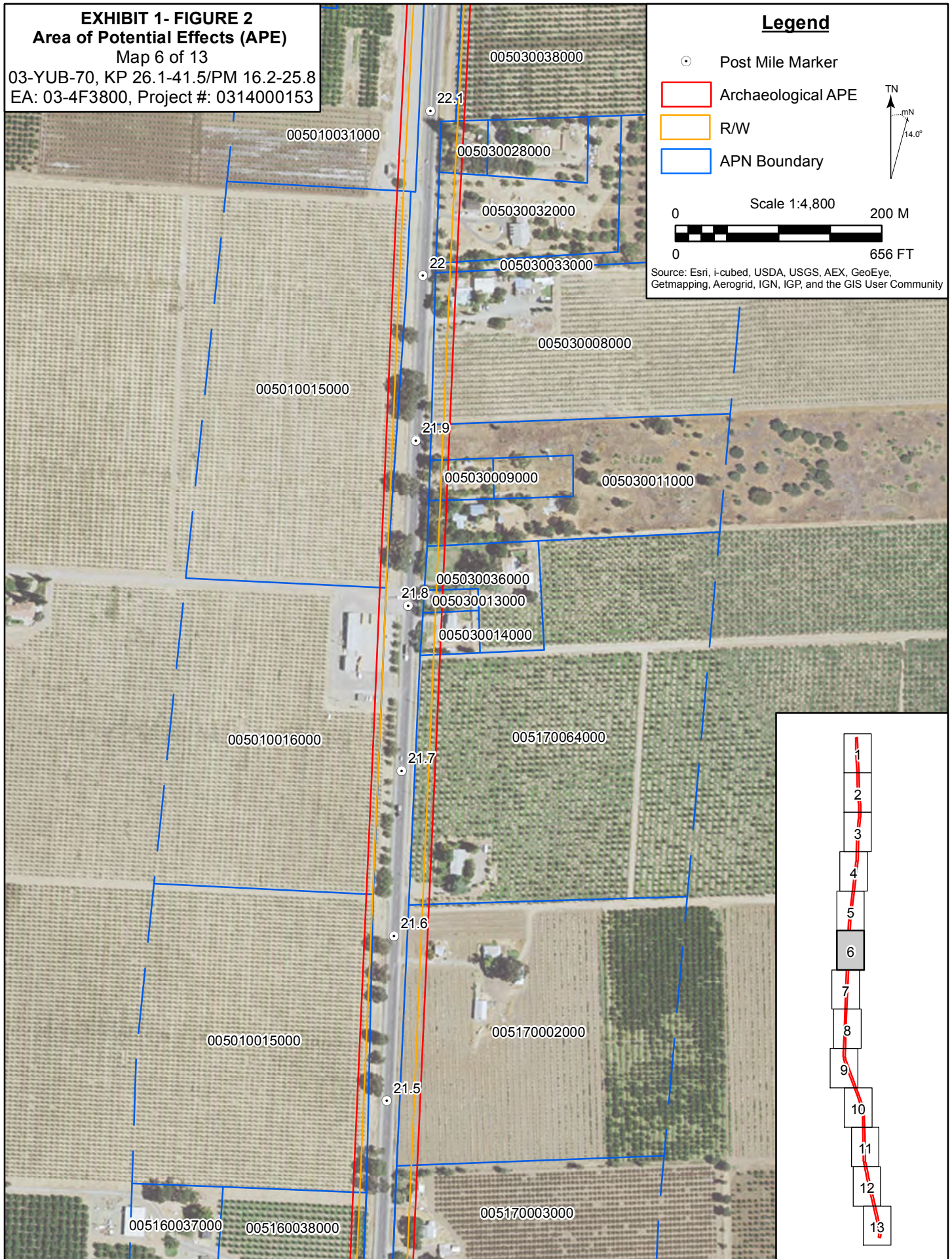


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 6 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



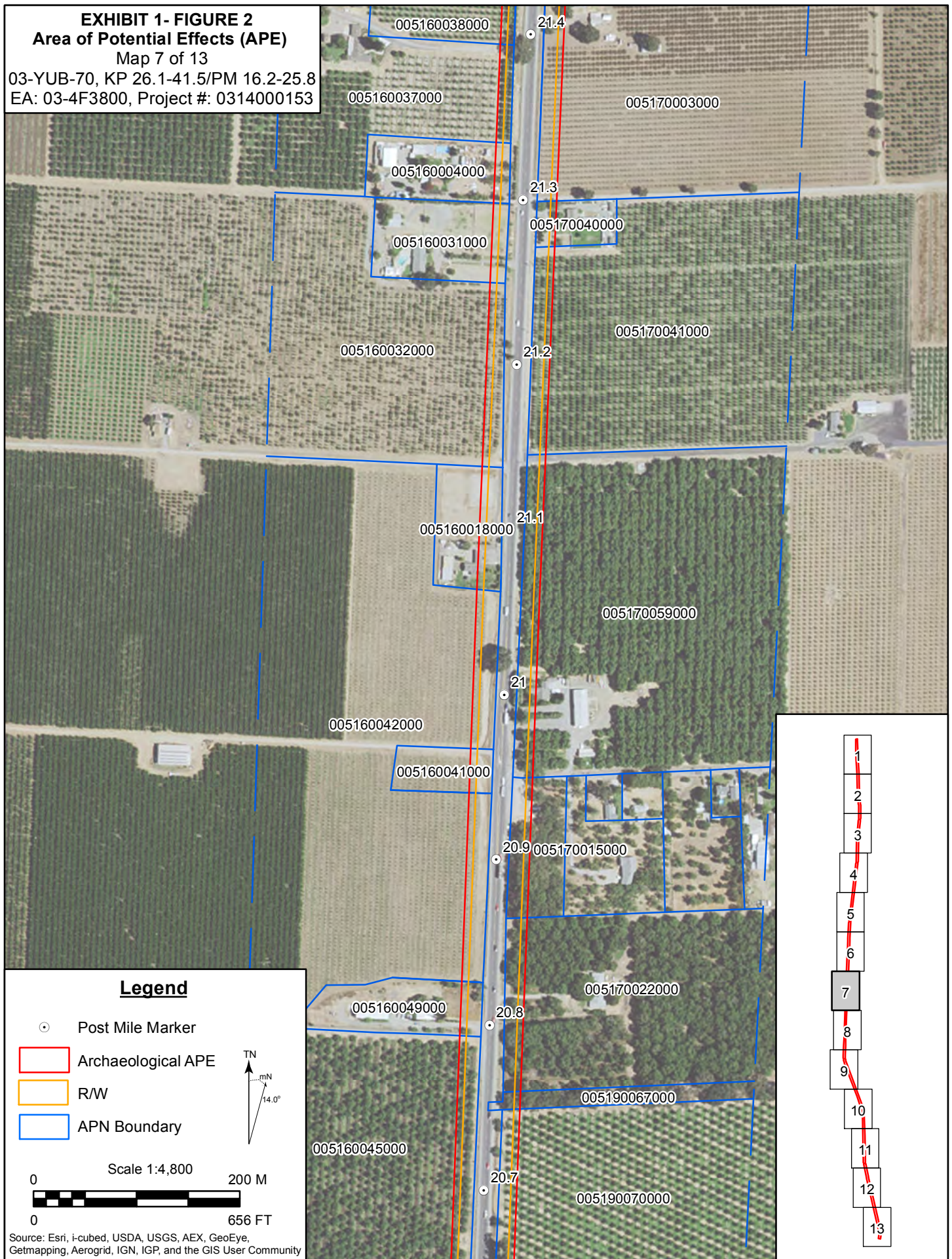


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

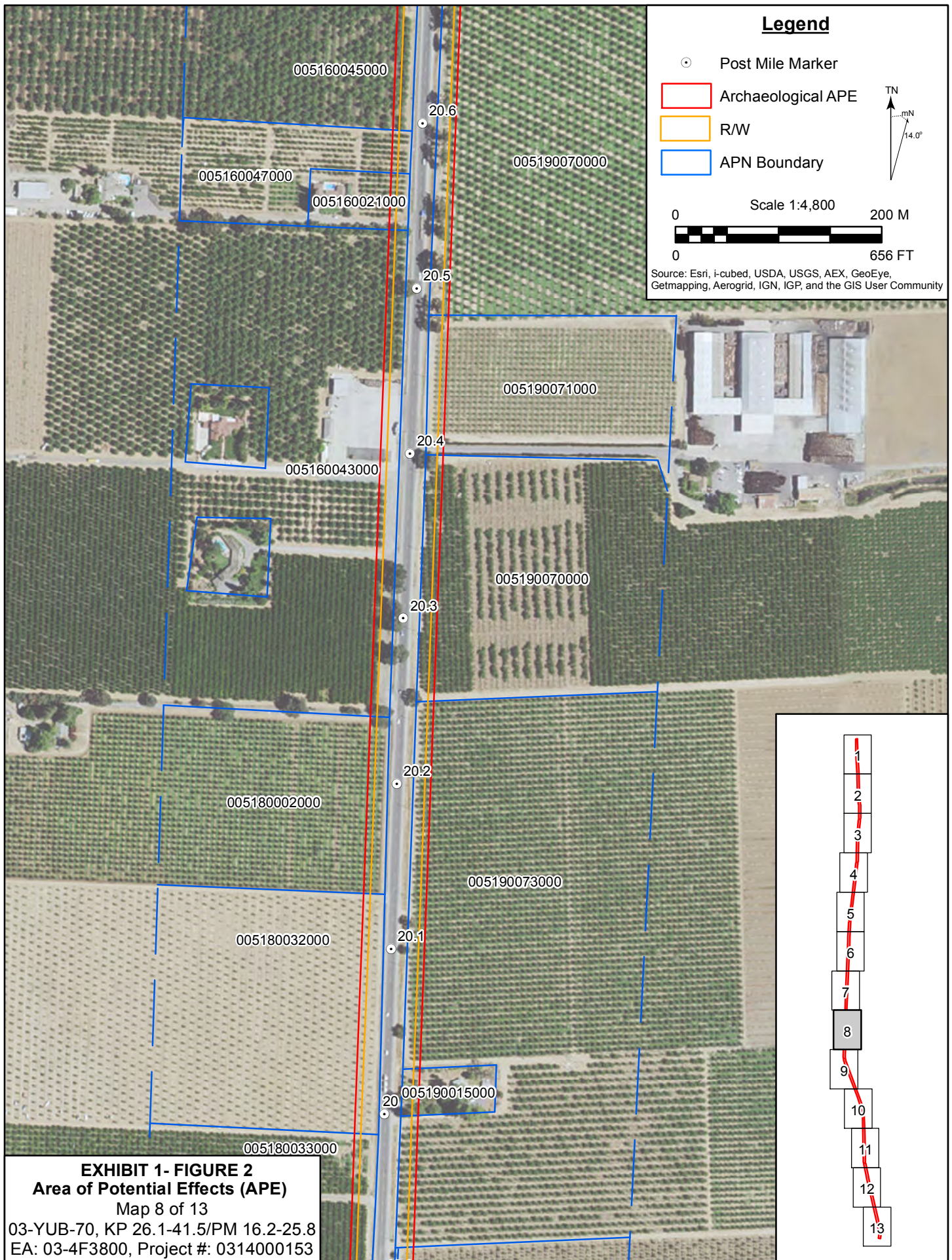
Map 7 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153

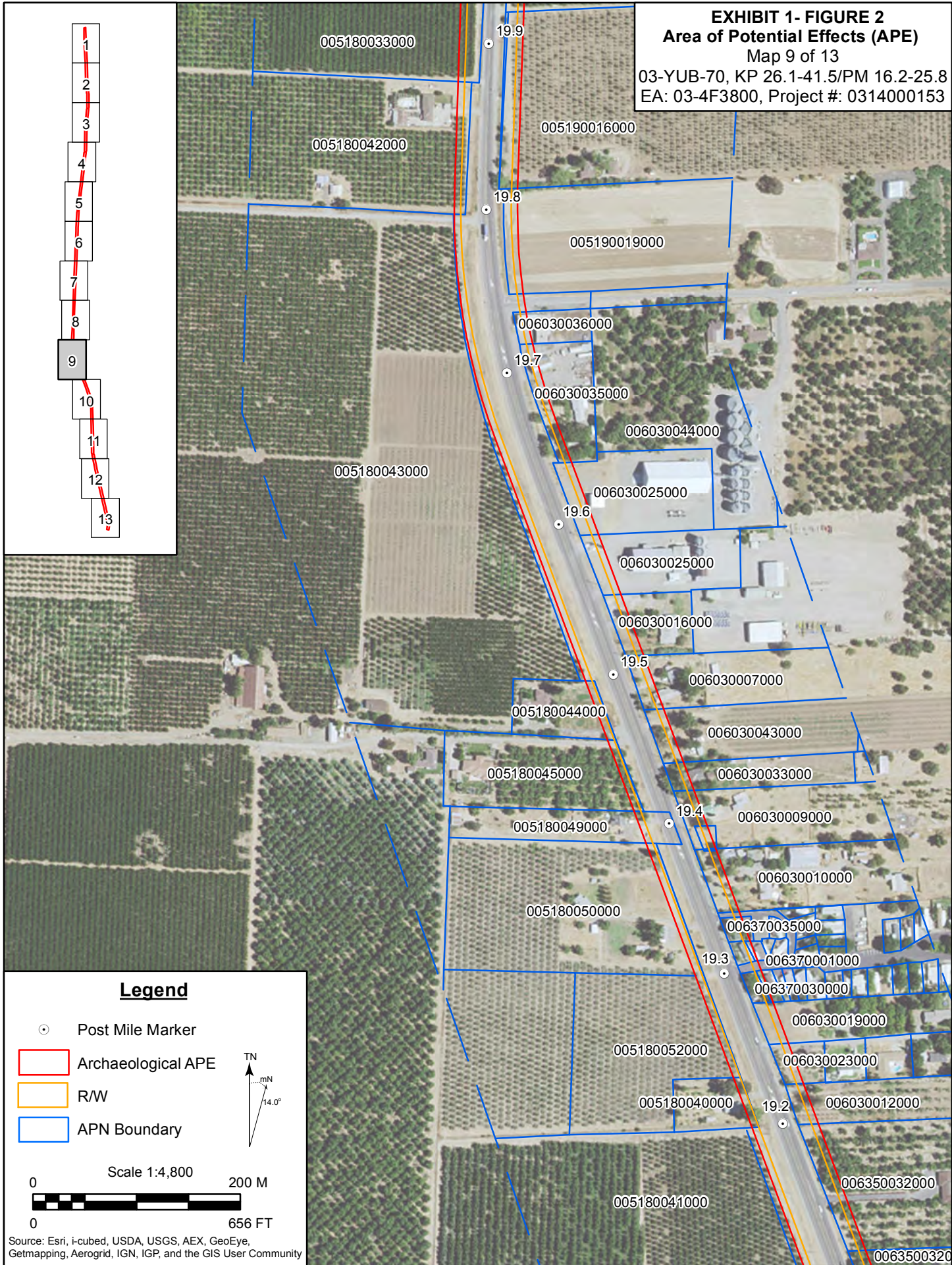
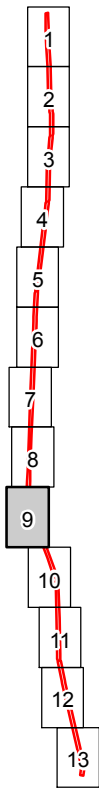








**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**  
 Map 9 of 13  
 03-YUB-70, KP 26.1-41.5/PM 16.2-25.8  
 EA: 03-4F3800, Project #: 0314000153



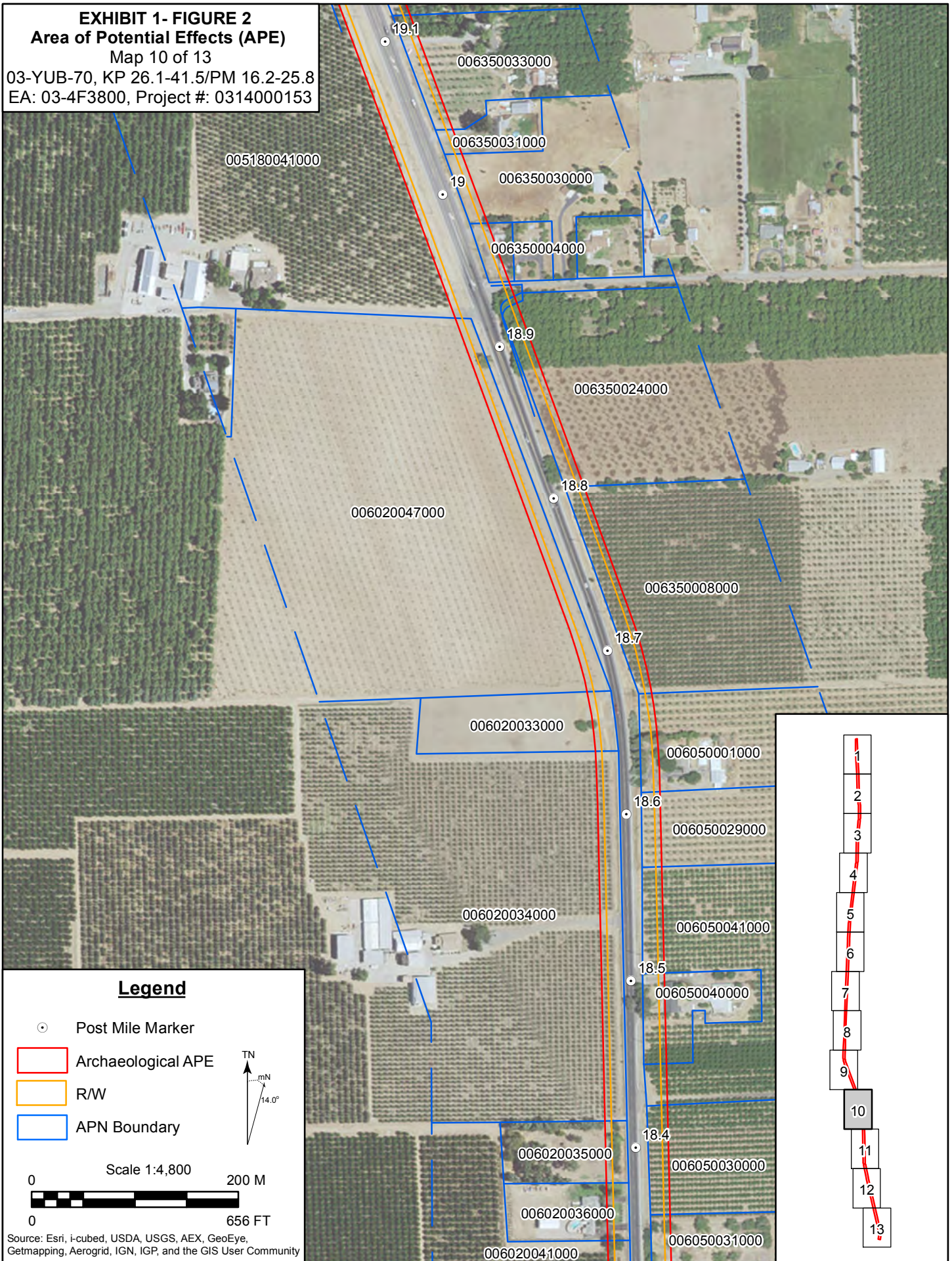


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 10 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

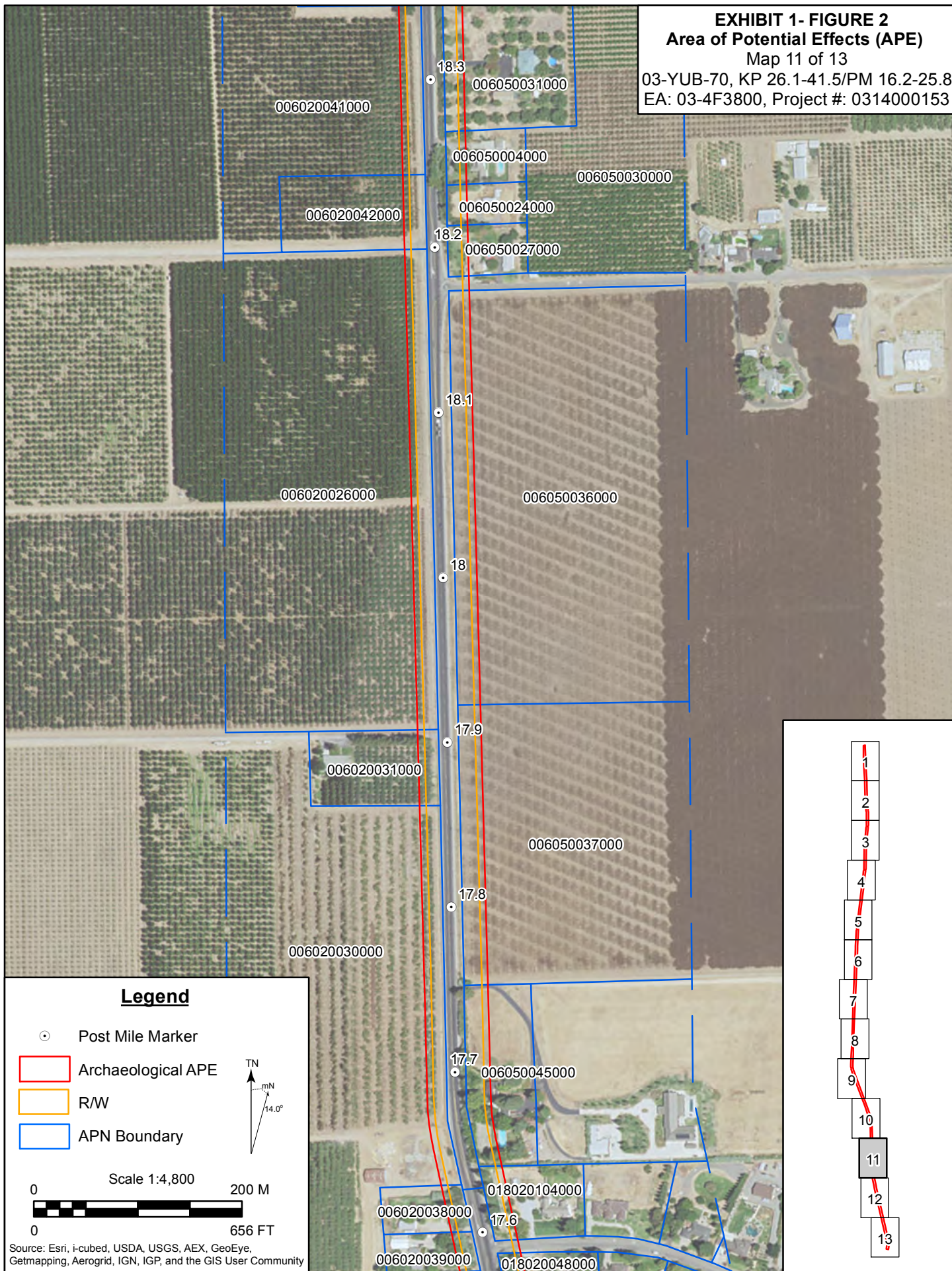
EA: 03-4F3800, Project #: 0314000153





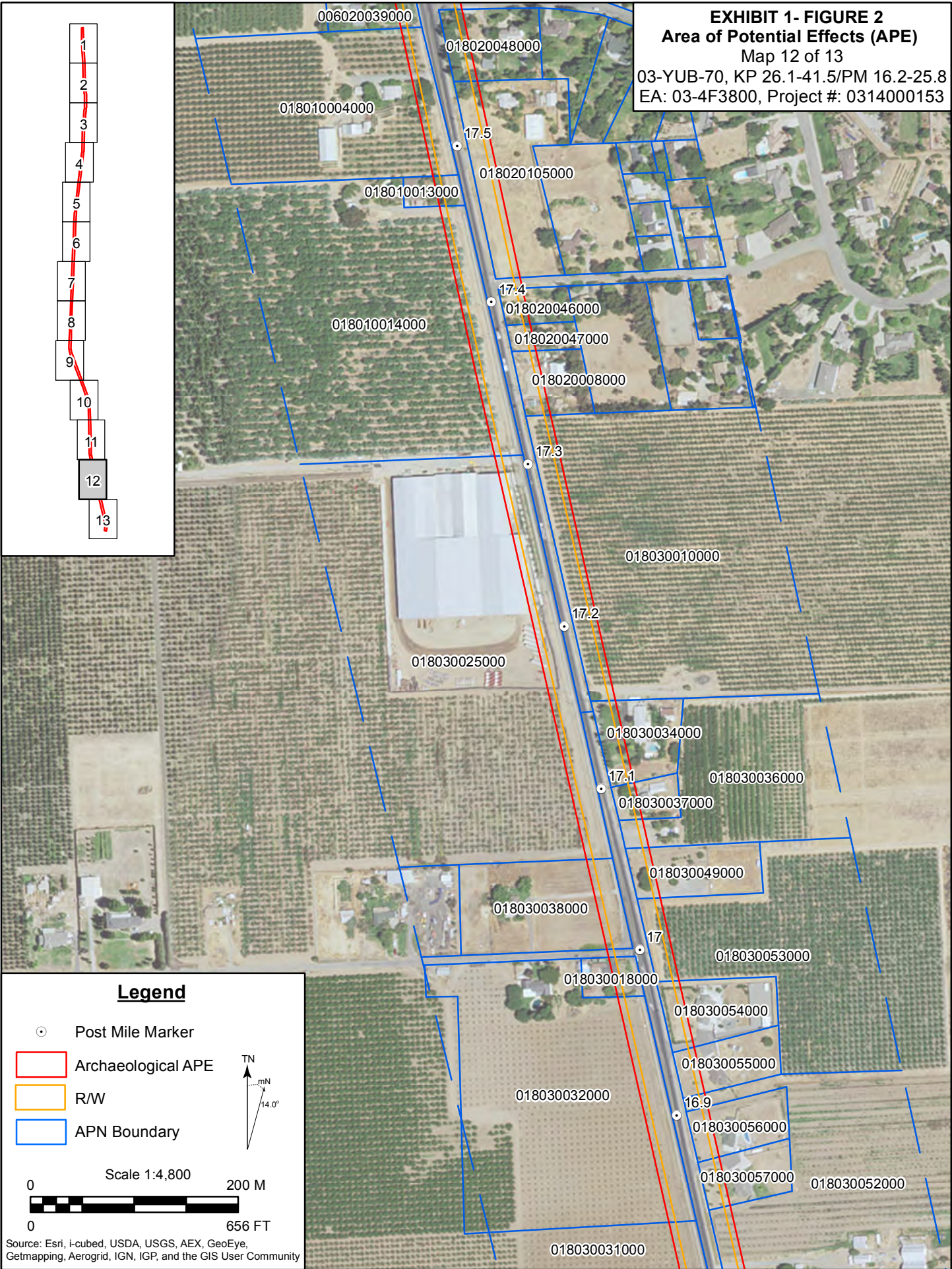
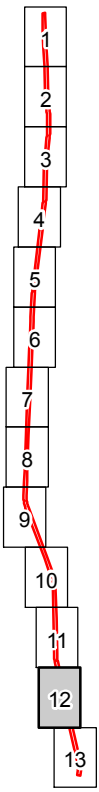
# **EXHIBIT 1- FIGURE 2** **Area of Potential Effects (APE)**

Map 11 of 13  
 03-YUB-70, KP 26.1-41.5/PM 16.2-25.8  
 EA: 03-4F3800, Project #: 0314000153





**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**  
 Map 12 of 13  
 03-YUB-70, KP 26.1-41.5/PM 16.2-25.8  
 EA: 03-4F3800, Project #: 0314000153



**Legend**

- Post Mile Marker
  - Archaeological APE
  - R/W
  - APN Boundary
- TN  
↑  
mN  
14.0°

Scale 1:4,800

0 200 M

0 656 FT

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

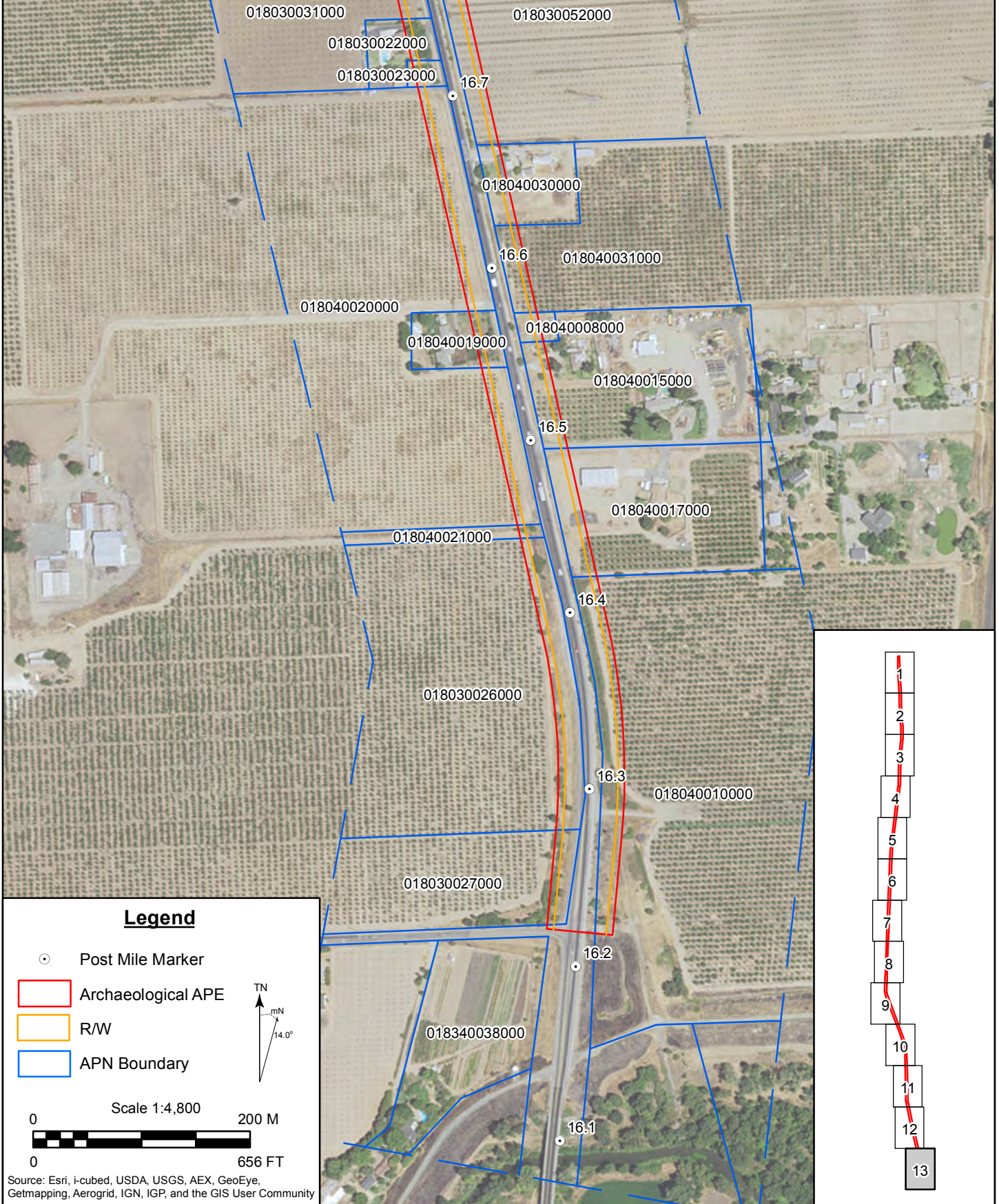


**EXHIBIT 1- FIGURE 2**  
**Area of Potential Effects (APE)**

Map 13 of 13

03-YUB-70, KP 26.1-41.5/PM 16.2-25.8

EA: 03-4F3800, Project #: 0314000153



## Appendix I      Land Cover Types in the Biological Study Area

---





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





Figure 3a  
Land Cover Types in the Biological Study Area  
Alternative 1





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





Figure 3a  
Land Cover Types in the Biological Study Area  
Alternative 1





**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





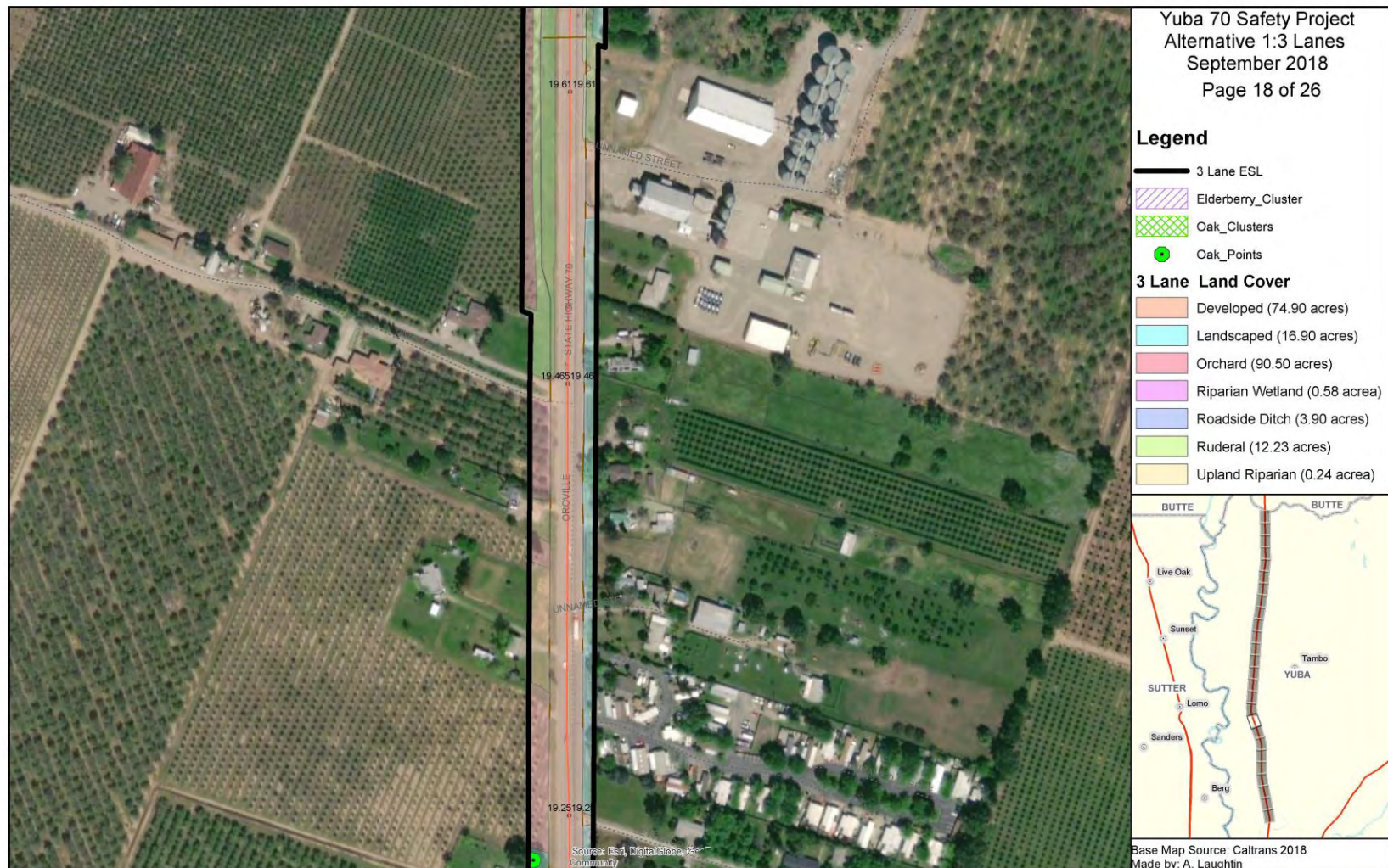
**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





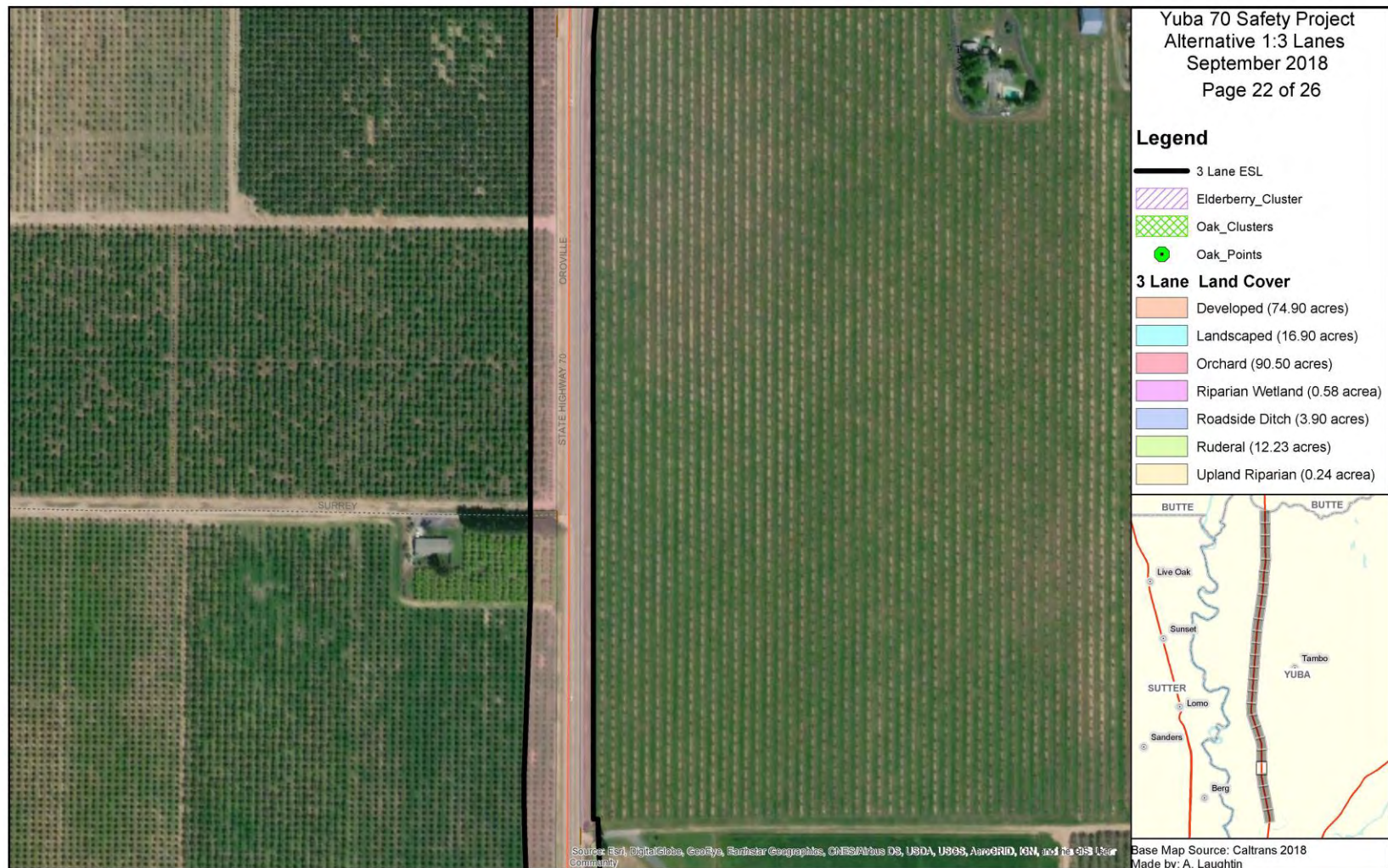
**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
**Land Cover Types in the Biological Study Area**  
**Alternative 1**





**Figure 3a**  
Land Cover Types in the Biological Study Area  
Alternative 1





Figure 3b  
Land Cover Types in the Biological Study Area  
Alternative 2





Figure 3b

**Land Cover Types in the Biological Study Area  
Alternative 2**





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





Figure 3b  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**



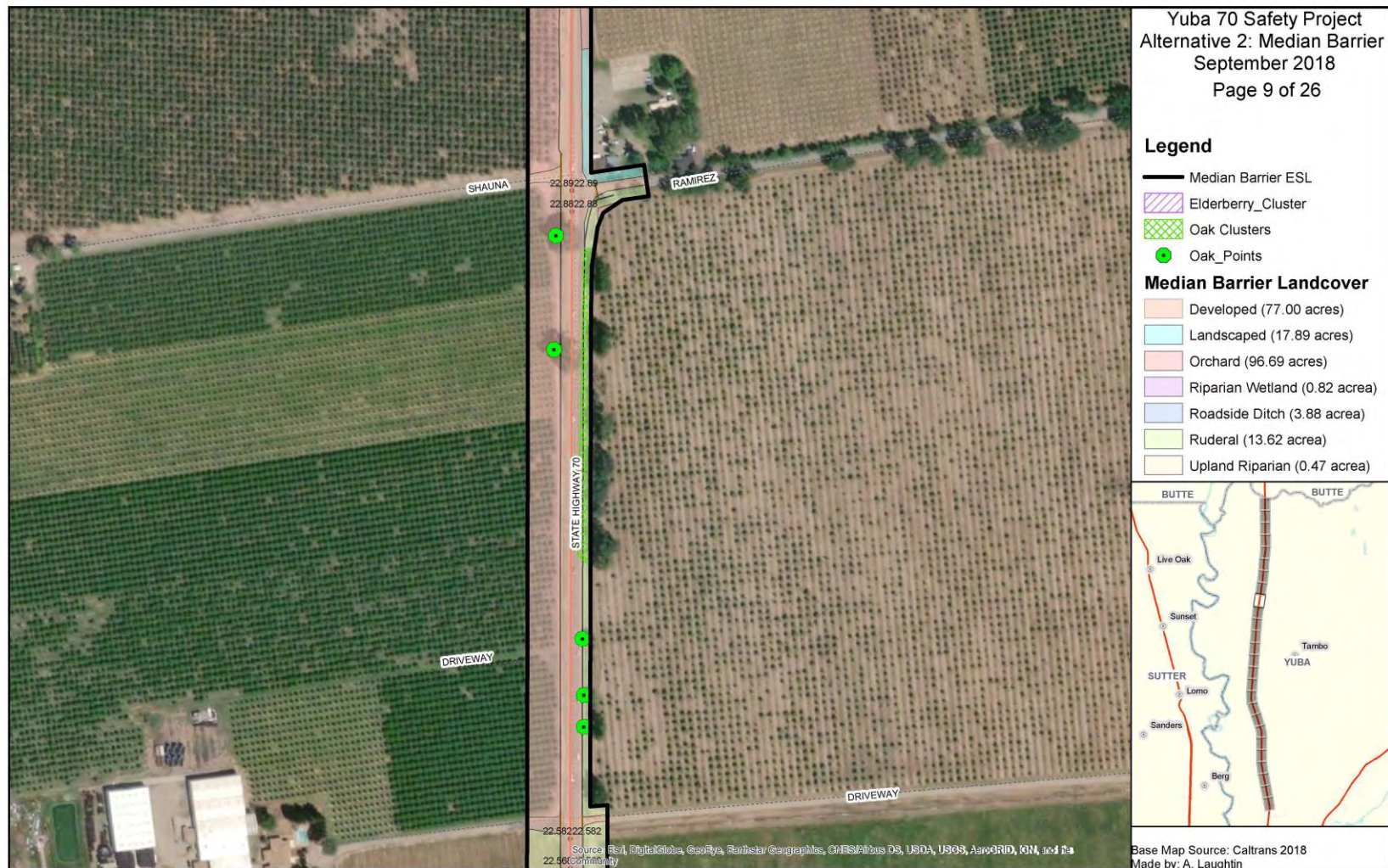


Figure 3b  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





Figure 3b  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





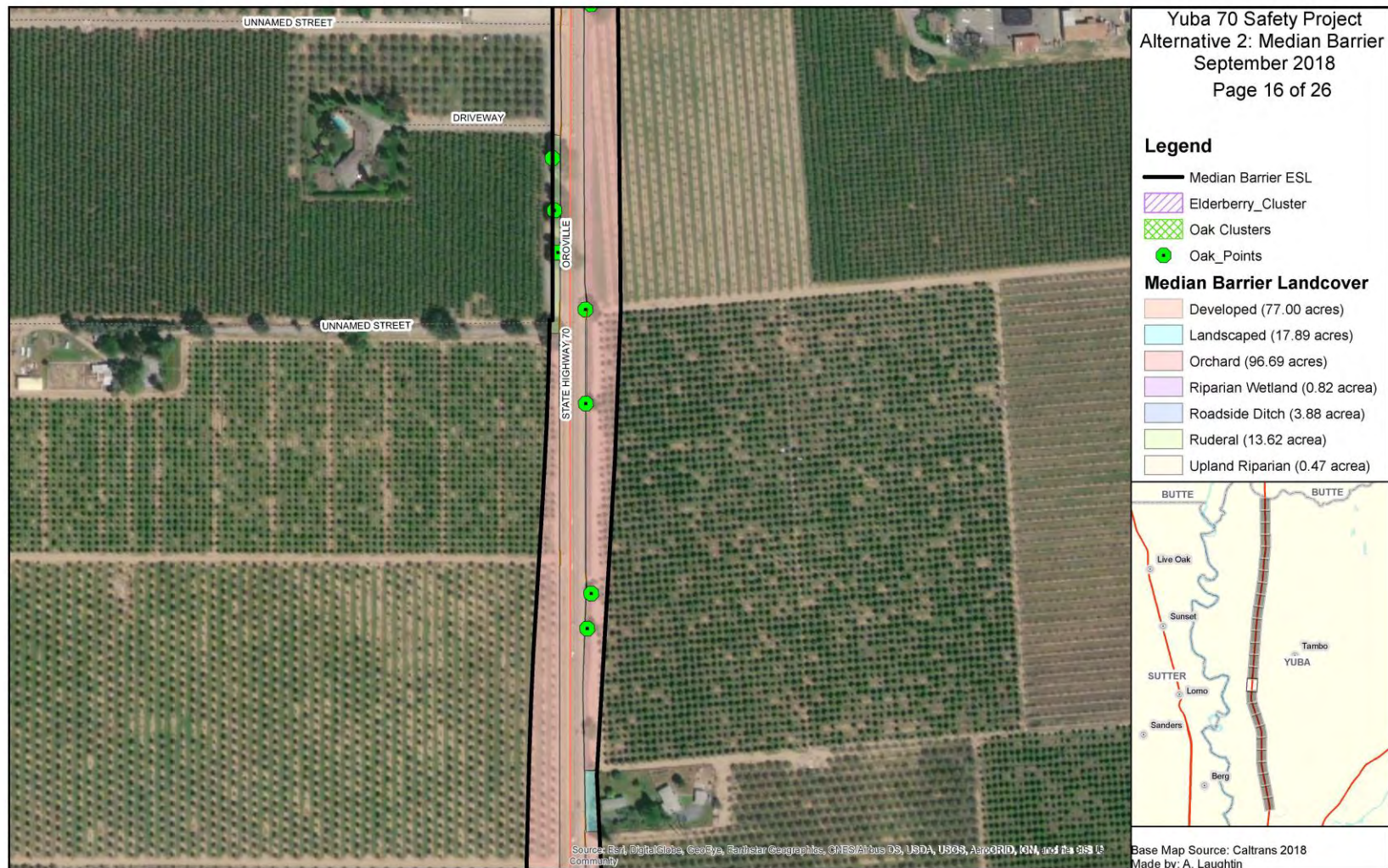
Figure 3b  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





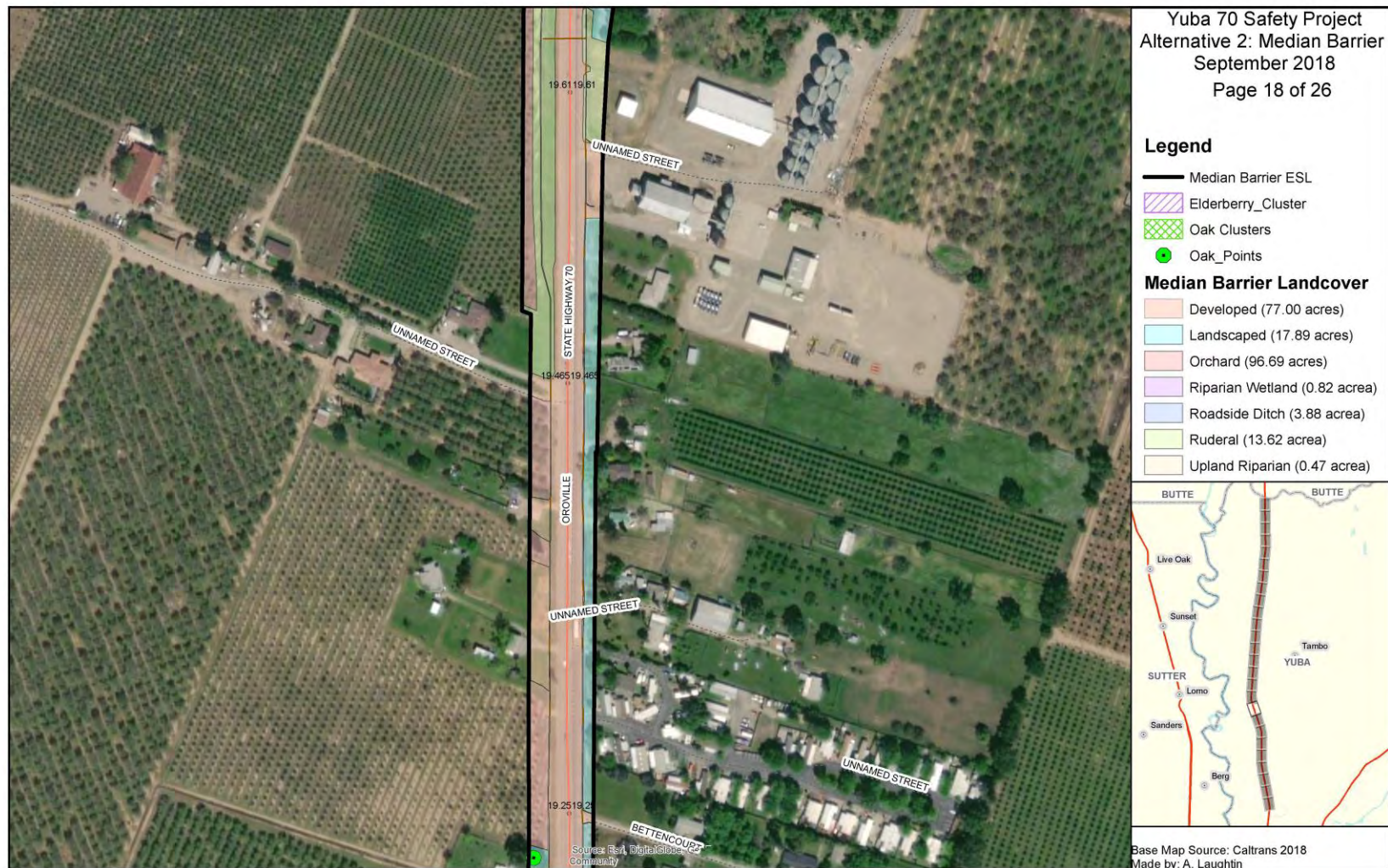
**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
**Land Cover Types in the Biological Study Area**  
**Alternative 2**





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2





**Figure 3b**  
Land Cover Types in the Biological Study Area  
Alternative 2



## Appendix J    Special-Status Species Lists

---



## Selected Elements by Scientific Name

### California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad</span>(Bangor (3912144)</span> OR </span>Biggs (3912146)</span> OR </span>Browns Valley (3912124)</span> OR </span>Gridley (3912136)</span> OR </span>Honcut (3912135)</span> OR </span>Loma Rica (3912134)</span> OR </span>Palermo (3912145)</span> OR </span>Sutter (3912126)</span> OR </span>Yuba City (3912125))  
AND </span>County</span> IS </span>(Yuba)

03-4F380 Yuba-70 Safety

Updated 9/10/18

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Agelaius tricolor</i></b> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<b><i>Astragalus tener var. ferrisiae</i></b> Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<b><i>Buteo swainsoni</i></b> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Delphinium recurvatum</i></b> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
<b><i>Desmocerus californicus dimorphus</i></b> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
<b><i>Downingia pusilla</i></b> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<b><i>Emys marmorata</i></b> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<b><i>Erethizon dorsatum</i></b> North American porcupine	AMAFJ01010	None	None	G5	S3	
<b><i>Great Valley Cottonwood Riparian Forest</i></b> Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
<b><i>Great Valley Mixed Riparian Forest</i></b> Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
<b><i>Great Valley Valley Oak Riparian Forest</i></b> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<b><i>Juncus leiospermus var. ahartii</i></b> Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
<b><i>Laterallus jamaicensis coturniculus</i></b> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<b><i>Legenere limosa</i></b> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<b><i>Lepidurus packardii</i></b> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Linderiella occidentalis</i></b> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<b><i>Melospiza melodia</i></b> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<b><i>Monardella venosa</i></b> veiny monardella	PDLAM18082	None	None	G1	S1	1B.1
<b><i>Northern Hardpan Vernal Pool</i></b> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<b><i>Oncorhynchus mykiss irideus pop. 11</i></b> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b><i>Oncorhynchus tshawytscha pop. 6</i></b> chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
<b><i>Pseudobahia bahiifolia</i></b> Hartweg's golden sunburst	PDAST7P010	Endangered	Endangered	G2	S2	1B.1
<b><i>Riparia riparia</i></b> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<b><i>Thamnophis gigas</i></b> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<b><i>Vireo bellii pusillus</i></b> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 28



## Plant List





### Inventory of Rare and Endangered Plants

9 matches found. *Click on scientific name for details*

#### Search Criteria

Found in Yuba County, Found in Quads 3912146, 3912145, 3912144, 3912136, 3912135, 3912134, 3912126 3912125 and 3912124;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Remove Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Listing Status	Federal Listing Status	Photo
<a href="#">Astragalus pauperculus</a>	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	4.3			
								1988 Dean Wm. Taylor
<a href="#">Brodiaea sierrae</a>	Sierra foothills brodiaea	Themidaceae	perennial bulbiferous herb	May-Aug	4.3			
								2006 Robert E. Preston, Ph.D.
<a href="#">Clarkia biloba ssp. brandegeae</a>	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2			
								2008 Virginia Moran
<a href="#">Downingia pusilla</a>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2			
								2011 Dylan Neubauer
	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2			

[Juncus](#)  
[leiospermus](#)  
[var. ahartii](#)



2004 Carol W. Witham

[Legenere](#)  
[limosa](#)

legenere Campanulaceae annual herb Apr-Jun 1B.1



1993 Dean Wm. Taylor

[Monardella](#)  
[venosa](#)

veiny monardella Lamiaceae annual herb May,Jul 1B.1

no photo available

[Pseudobahia](#)  
[bahiifolia](#)

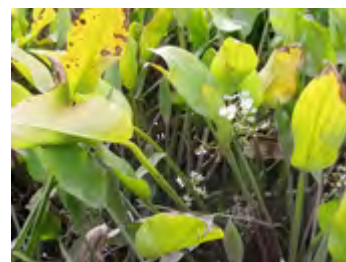
Hartweg's golden sunburst Asteraceae annual herb Mar-Apr 1B.1 CE FE



2001 John Game

[Sagittaria](#)  
[sanfordii](#)

Sanford's arrowhead Alismataceae perennial rhizomatous herb (emergent) May-Oct(Nov) 1B.2



2007 Wendy Fisher

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 10 September 2018].

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[CalPhotos](#)

**Questions and Comments**

[rareplants@cnps.org](mailto:rareplants@cnps.org)

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## Laughtin, Alexandra@DOT

---

**From:** Laughtin, Alexandra@DOT  
**Sent:** Monday, September 10, 2018 1:47 PM  
**To:** nmfswcrca.specieslist@noaa.gov  
**Cc:** Laughtin, Alexandra@DOT  
**Subject:** Federal Highway Administration - Yuba-70 Safety Project; EA: 03-4F380

Federal agency: Federal Highway Administration - California Division  
Federal agency address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708  
Non-federal agency representative (if any): California Department of Transportation  
Non-federal agency representative (if any) address: 703 B Street, Marysville, CA 95901  
Project title: Yuba-70 Safety Project;  
Point-of-Contact: Alexandra Laughtin, [Alexandra.laughtin@dot.ca.gov](mailto:Alexandra.laughtin@dot.ca.gov), (530) 741-5531

Quad Name **Bangor**  
Quad Number **39121-D4**

### ESA Anadromous Fish

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) - **X**  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) -

### ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat -  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat -

### **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH - **X**  
Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -

Quad Name **Biggs**  
Quad Number **39121-D6**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) - **X**  
SRWR Chinook Salmon ESU (E) - **X**  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat - **X**  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -  
CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat - **X**

### **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

Quad Name **Browns Valley**

Quad Number **39121-B4**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -



sDPS Green Sturgeon Critical Habitat - **X**

### **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

Quad Name **Gridley**

Quad Number **39121-C6**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat - **X**

## **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

Quad Name **Honcut**

Quad Number **39121-C5**

## **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

## **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat - **X**

## **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH - **X**  
Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -

Quad Name **Loma Rica**

Quad Number **39121-C4**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) - **X**  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) -

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat -  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -  
CCV Steelhead Critical Habitat -  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat -

### **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH - **X**



Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -

Quad Name **Palermo**

Quad Number **39121-D5**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) - **X**  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat - **X**  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -  
CCV Steelhead Critical Habitat - **X**  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat - **X**

### **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH - **X**  
Groundfish EFH -

Coastal Pelagics EFH -  
Highly Migratory Species EFH -

Quad Name **Sutter**  
Quad Number **39121-B6**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) - **X**  
SRWR Chinook Salmon ESU (E) - **X**  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat - **X**  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -  
CCV Steelhead Critical Habitat - **X**  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat - **X**

### **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH - **X**  
Groundfish EFH -  
Coastal Pelagics EFH -

Highly Migratory Species EFH -

Quad Name **Yuba City**

Quad Number **39121-B5**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat - **X**

### **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -



Thanks,

*Alex Laughtin*

Associate Environmental Planner/NS

[Alexandra.Laughtin@dot.ca.gov](mailto:Alexandra.Laughtin@dot.ca.gov)

Caltrans North Region

703 B Street

Marysville, CA 95901

Phone: 530.741.5531



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

September 10, 2018

Consultation Code: 08ESMF00-2018-SLI-2474

Event Code: 08ESMF00-2018-E-09503

Project Name: 03-4F380 Yuba-70 Safety Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

#### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

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## Project Summary

Consultation Code: 08ESMF00-2018-SLI-2474

Event Code: 08ESMF00-2018-E-09503

Project Name: 03-4F380 Yuba-70 Safety Project

Project Type: TRANSPORTATION

**Project Description:** Caltrans is proposing a safety project on State Route (SR) 70 [Post Mile (PM) 16.2/25.8] from 0.2 miles north of Laurellen Road to Honcut Creek Bridge [Bridge No. 16 0020] in Yuba County, California, north of Marysville. The safety project will construct eight-foot shoulders and establish a Clear Recovery Zone (CRZ) with a minimum width of 20 feet. The CRZ may incorporate side slopes of 4:1 or less, and remove any physical obstructions, such as trees, utility poles, and other fixed objects. Roadside ditches may be constructed outside the CRZ. Should the project include a 14-foot-wide paved striped median barrier, it would allow a refuge for drivers turning left across traffic. . Where dense clusters of homes occur, the median may be a Two Way Left Turn Lane (TWLTL). At County maintained roads, and certain ag-related businesses, the median may be a designated left turn pocket. In areas with fewer homes, the median may be used to construct a road which consists of two lanes in one direction and one lane in the other direction (2+1). The project team is considering increasing the shoulder backing width to six feet, which would allow farm equipment to travel on the shoulder instead of in the travel way, provide Caltrans maintenance crews a safer work zone and allow California Highway Patrol officers an enforcement area. At County maintained roads and certain ag-related businesses, Caltrans is considering deceleration lanes/right turn pockets, as well as acceleration lanes to allow merging traffic to match highway speeds. There are numerous school bus stops throughout the project limits; therefore, designated areas may have the shoulder width increased to 14-feet to provide areas for buses to pull over and give students safer access on and off the bus. Where needed, existing driveways along the corridor may be modified to conform to the new design. As warranted, driveway culverts will be replaced to convey drainage flows in the roadside ditches. In addition, there may be minor shifts in the horizontal alignment and minor adjustments in vertical profile to correct existing non-standard features. Existing cross culverts will be extended or replaced as needed.

**Project Location:**

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.24003876949739N121.5999731476752W>

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Counties: Butte, CA | Yuba, CA

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## Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

### Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

### Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

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## Fishes

NAME	STATUS
<b>Delta Smelt</b> <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</a>	Threatened

## Crustaceans

NAME	STATUS
<b>Conservancy Fairy Shrimp</b> <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
<b>Hartweg's Golden Sunburst</b> <i>Pseudobahia bahiifolia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1704">https://ecos.fws.gov/ecp/species/1704</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



## Appendix K Native American Consultation/ Historical Consultation

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# Appendix B

## Native American Consultation

Native American Heritage Commission Request  
Native American Heritage Commission Response  
Native American Contacts List  
Native American Consultation Letters  
United Auburn Indian Community (UAIC) Response  
Consultation Request Follow Up Emails

## Sacred Lands File & Native American Contacts List Request

### NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364

Sacramento, CA 95814

(916) 653-4082

(916) 657-5390 – Fax

[nahe@pacbell.net](mailto:nahe@pacbell.net)

*Information Below is Required for a Sacred Lands File Search*

Project: \_\_\_\_\_

County: \_\_\_\_\_

USGS Quadrangle

Name: \_\_\_\_\_

Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section(s): \_\_\_\_\_

Company/Firm/Agency:

\_\_\_\_\_  
Contact Person: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Project Description:

\_\_\_\_\_  
Project Location Map is attached



**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Blvd., ROOM 100  
West SACRAMENTO, CA 95691  
(916) 373-3710  
Fax (916) 373-5471



November 24, 2015

Kim Tremaine  
Tremaine & Associates, Inc.

Sent Via Email: ktremaine@tremaine.us  
Number of Pages: 3

RE: Yuba-70 Road Widening Project, Yuba County

Dear Ms. Tremaine:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

A handwritten signature in cursive script, appearing to read "Katy Sanchez".

Katy Sanchez  
Associate Environmental Planner

**Native American Contact List  
Yuba County  
November 24, 2015**

Butte Tribal Council  
Ren Reynolds  
1693 Mt. Ida Road  
Oroville , CA 95966

Maidu

(530) 589-1571

Strawberry Valley Rancheria  
Cathy Bishop, Chairperson  
P.O. Box 667  
Marysville , CA 95901  
catfrmsac2@yahoo.com  
(916) 501-2482

Maidu  
Miwok

Mooretown Rancheria of Maidu Indians  
Gary Archuleta, Chairperson  
#1 Alverda Drive  
Oroville , CA 95966  
frontdesk@mooretown.org  
(530) 533-3625

Maidu  
KonKow / Concow

(530) 533-3680 Fax

Mooretown Rancheria of Maidu Indians  
Bill Cornelius, Tribal Administrator  
#1 Alverda Drive  
Oroville , CA 95966  
(530) 533-3625

Maidu  
KonKow/Concow

(530) 533-3680 Fax

United Auburn Indian Community of the Auburn Rancheria  
Gene Whitehouse, Chairperson  
10720 Indian Hill Road  
Auburn , CA 95603  
(530) 883-2390 Office

Maidu  
Miwok

(530) 883-2380 Fax

Enterprise Rancheria of Maidu Indians  
Art Angle, Vice Chairperson  
2133 Monte Vista Avenue  
Oroville , CA 95966  
info@enterpriserancheria.  
(530) 532-9214

Maidu

(530) 532-1768 Fax

T' si-Akim Maidu  
Eileen Moon, Vice Chairperson  
P.O. Box 1246  
Grass Valley , CA 95945  
(530) 274-7497

Maidu

Enterprise Rancheria of Maidu Indians  
Glenda Nelson, Chairperson  
2133 Monte Vista Avenue  
Oroville , CA 95966  
info@enterpriserancheria.  
(530) 532-9214

Maidu

(530) 532-1768 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Yuba-70 Road Widening Project, Yuba County.

**Native American Contact List  
Yuba County  
November 24, 2015**

T' si-Akim Maidu  
Grayson Coney, Cultural Director  
P.O. Box 1316                      Maidu  
Colfax                      , CA 95713  
(530) 383-7234

United Auburn Indian Community of the Auburn Rancheria  
Marcos Guerrero, Tribal Preservation Committee  
10720 Indian Hill Road                      Maidu  
Auburn                      , CA 95603                      Miwok  
mguerrero@auburnrancheria.com  
(530) 883-2364 Office

(530) 883-2320 Fax

United Auburn Indian Community of the Auburn Rancheria  
Jason Camp, THPO  
10720 Indian Hill Road                      Maidu  
Auburn                      , CA 95603                      Miwok  
jcamp@auburnrancheria.com  
(916) 316-3772 Cell  
(530) 883-2390  
(530) 888-5476 - Fax

T' si-Akim Maidu  
Don Ryberg, Chairperson  
P.O. Box 1246                      Maidu  
Grass Valley , CA 95945  
(530) 274-7497

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Yuba-70 Road Widening Project, Yuba County.



Name/ Affiliation	Title	Date Letter Mailed	Date Emailed	Date Called	Call Results	Response Date	Response Type	Response Summary
<b>Enterprise Rancheria of Maidu Indians</b>								
Art Angle	Vice Chairperson	2/3/2017	3/28/17					No response
Glenda Nelson	Chairperson	2/3/2017	3/28/17					No response
<b>Strawberry Valley Rancheria</b>								
Cathy Bishop	Chairperson	2/3/2017	3/28/17			2/4/2017	Mail	Address undeliverable
<b>Mooretown Rancheria of Maidu Indians</b>								
Bill Cornelius	Tribal Administrator	2/3/2017		4/10/17	Answered			No longer works there, received updated contact information
Guy Taylor	EPA Project Manager			4/10/17	Left message			Updated contact information
Gary Archuleta	Chairperson	2/3/2017	3/28/17					No response
<b>T'si-Akim Maidu</b>								
Grayson Coney	Cultural Director	2/3/2017		4/10/17	Left message			No response
Eileen Moon	Vice Chairperson	2/3/2017		4/10/17	Couldn't connect	2/4/2017	Mail	Address undeliverable
Don Ryberg	Chairperson	2/3/2017		4/10/17	Couldn't connect			No response
<b>United Auburn Indian Community</b>								
Jason Camp	Tribal Heritage Preservation Officer	2/3/2017	3/28/17					No response
Marcos Guerrero	Tribal Preservation Committee	2/3/2017	3/28/17					No response
Gene Whitehouse	Chairperson	2/3/2017	3/28/17			3/2/2017	Mail	Project area located within their aboriginal tribal lands. Requests copies of environmental documents and archaeological reports. Recommends a tribal monitor be present during ground disturbing activities. Wants to set up consultation meeting and stay updated on the progress.
<b>Butte Tribal Council</b>								
Ren Reynolds		2/3/2017		4/10/17	Left message			No response



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Ren Reynolds  
Butte Tribal Council  
1693 Mt. Ida Road  
Oroville, CA 95966

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Reynolds,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Ms. Cathy Bishop  
Strawberry Valley Rancheria  
P.O. Box 667  
Marysville, CA 95901

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Ms. Bishop,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map





# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Bill Cornelius  
Mooretown Rancheria of Maidu Indians  
#1 Alverda Drive  
Oroville, CA 95966

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Cornelius,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Art Angle  
Enterprise Rancheria of Maidu Indians  
2133 Monte Vista Avenue  
Oroville, CA 95966

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Angle,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

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# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Gary Archuleta  
Mooretown Rancheria of Maidu Indians  
#1 Alverda Drive  
Oroville, CA 95966

Subject: Consultation Regarding Yuba-70 Road Widening Project

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Gene Whitehouse  
United Auburn Indian Community  
10720 Indian Hill Rd  
Auburn, CA 95603

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Whitehouse,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map





# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Ms. Eileen Moon  
T'si-Akim Maidu  
P.O. Box 1246  
Grass Valley, CA 95945

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Ms. Moon,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Grayson Coney  
T'si-Akim Maidu  
P.O. Box 1316  
Colfax, CA 95713

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Coney,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Marcos Guerrero  
United Auburn Indian Community  
10720 Indian Hill Rd  
Auburn, CA 95603

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Guerrero,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Jason Camp  
United Auburn Indian Community  
10720 Indian Hill Rd  
Auburn, CA 95603

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Camp,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map





# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

3 February 2017

Mr. Don Ryberg  
T'si-Akim Maidu  
11442 Butler Rd.  
Grass Valley, CA 95945

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Mr. Ryberg,

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,

Kim Tremaine  
President

Attachment: Location Map



MIWOK United Auburn Indian Community  
MAIDU of the Auburn Rancheria

Gene Whitehouse  
Chairman

John L. Williams  
Vice Chairman

Calvin Moman  
Secretary

Jason Camp  
Treasurer

Gabe Cayton  
Council Member

March 2, 2017

Kim Tremaine  
Tremaine & Associates, Inc.  
1220 Smith Court  
Dixon, CA 95620

Subject: Consultation Regarding Yuba-70 Road Widening Project

Dear Kim Tremaine,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects. The UAIC would like to consult on this project.

In order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that are completed for the project. We also request copies of environmental documents for the proposed project so that we have the opportunity to comment on appropriate identification, assessment and mitigation related to cultural resources. We recommend UAIC tribal representatives observe and participate in all cultural resource surveys. If you are interested, the UAIC's preservation department offers a mapping, records and literature search services program that has been shown to assist project proponents in complying with the necessary resource laws and choosing the appropriate mitigation measures or form of environmental documentation during the planning process.

The UAIC's preservation committee would like to set up a meeting or site visit, and begin consulting on the proposed project. Based on the preservation committee's identification of cultural resources in and around your project area, UAIC recommends that a tribal monitor be present during any ground disturbing activities. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the documents requested above and consulting on your project. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or by email at [mguerrero@auburnrancheria.com](mailto:mguerrero@auburnrancheria.com) if you have any questions.

Sincerely,

Gene Whitehouse,  
Chairman

CC: Marcos Guerrero, CRM

Dear Ms. Bishop,

I am writing to follow up on the consultation request letter we mailed to you on February 3, 2017 which was returned to us as undelivered. The address we have for you is P.O. Box 667 Marysville, CA. Would you be willing to provide us with a current address for tribal correspondence so that we can update our records?

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,  
Elizabeth Fernandez  
Staff Archaeologist  
Tremaine & Associates

Dear Mr. Angle or Ms. Nelson,

I am writing to follow up on the consultation request letter we mailed to you on February 3, 2017.

Tremaine & Associates is acting on behalf of Caltrans to consult regarding Section 106, CEQA, and AB52 on the above-mentioned project. The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge in Yuba County (Post Mile 16.2-25.8) (see attached Location Map). Ground disturbances will involve excavation at a depth of 1 to 2 feet below grade for the highway section, the construction of new roadside ditches at a depth of 2 to 4 feet below existing grade, and flat grading for the installation of utility poles.

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Sincerely,  
Elizabeth Fernandez  
Staff Archaeologist  
Tremaine & Associates



Dear Mr. Archuleta,

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Staff Archaeologist  
Tremaine & Associates

Dear Mr. Camp,

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Elizabeth Fernandez  
Staff Archaeologist  
Tremaine & Associates

# Appendix C

## Historical Consultation

Mary Aaron Museum research request

Yuba Feather Historical Association Museum research request

Yuba Historical Society research request





# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

13 March 2017

Mary Aaron Museum  
704 D Street  
Marysville, CA 95901

Re: Yuba-70 Road Widening Project

Dear Mary Aaron Museum,

TREMAINE & ASSOCIATES, INC. (TREMAINE) has been contracted on behalf of Caltrans to conduct a cultural resources survey for the Yuba-70 Road Widening Project in Yuba County (see attached Map). The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge (Post Mile 16.2-25.8) within the Honcut & Yuba City USGS quadrangles (T17N/R3E; T16N/R3E; T15N/R3E; Honcut & New Helvetia Grants, Mt. Diablo Meridian).

We are consulting with you at this stage to determine if you have any knowledge of historical resources in the area. We would greatly appreciate any information you can supply. If you have any questions or concerns, please do not hesitate to email me at [efernandez@tremaine.us](mailto:efernandez@tremaine.us). Thank you very much.

Sincerely,

Elizabeth Fernandez  
Staff Archaeologist

Attached: Project Location Map



# TREMAINE & ASSOCIATES

Archaeology GIS Geophysics

13 March 2017

Yuba Feather Historical Association Museum  
19096 New York Flat Road  
Forbestown, CA 95941

Re: Yuba-70 Road Widening Project

Dear Yuba Feather Historical Association Museum,

TREMAINE & ASSOCIATES, INC. (TREMAINE) has been contracted on behalf of Caltrans to conduct a cultural resources survey for the Yuba-70 Road Widening Project in Yuba County (see attached Map). The proposed project will involve road widening and safety improvements to reduce collisions along a 10-mile section of SR 70 from Laurellen Road to South Honcut Creek Bridge (Post Mile 16.2-25.8) within the Honcut & Yuba City USGS quadrangles (T17N/R3E; T16N/R3E; T15N/R3E; Honcut & New Helvetia Grants, Mt. Diablo Meridian).

We are consulting with you at this stage to determine if you have any knowledge of historical resources in the area. We would greatly appreciate any information you can supply. If you have any questions or concerns, please do not hesitate to email me at [efernandez@tremaine.us](mailto:efernandez@tremaine.us). Thank you very much.

Sincerely,

Elizabeth Fernandez  
Staff Archaeologist

Attached: Project Location Map



# TREMAINE & ASSOCIATES

Archaeology  GIS  Geophysics

13 March 2017

Yuba Historical Society  
330 9<sup>th</sup> St.  
Marysville, CA 95901

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