Madera 99 Widening

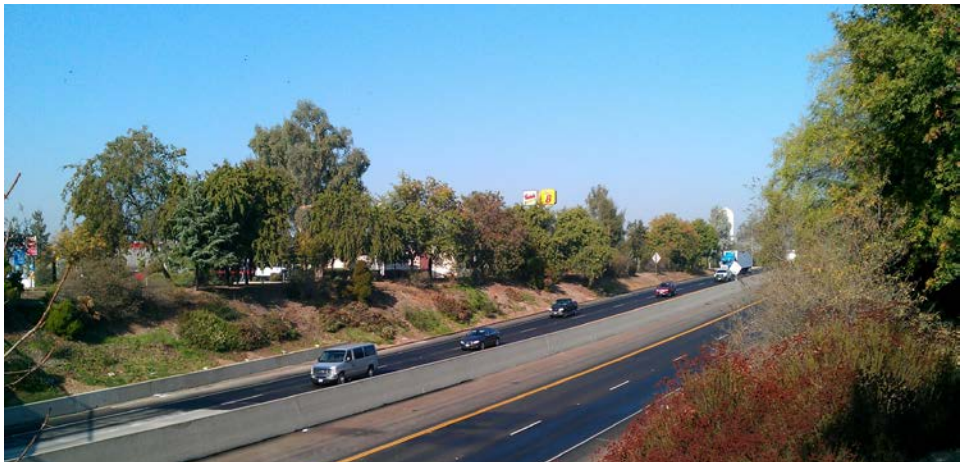
On State Route 99 from 0.1 mile south of Avenue 12 Overcrossing to 0.8 mile north of Avenue 17 Overcrossing in Madera County, California

06-MAD-99-PM R7.5/15.1

Project No. 06-0000-0973

EA: 06-47090

Initial Study
with Proposed Mitigated Negative Declaration



Prepared by the

State of California Department of Transportation

February 2015

Caltrans

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Madera County, California. The document describes the project, the existing environment that could be affected by the project, potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at the Caltrans district office at 1352 West Olive Avenue, Fresno, CA 93728, the Madera County Library at 121 North G Street, Madera, CA 93637, and the Madera Ranchos Branch Library at 37167 Avenue 12, Suite 4C, Madera, CA 93636. See Appendix E for a list of bound technical reports. The document can also be accessed electronically at the following website: http://www.dot.ca.gov/dist6/environmental/envdocs/d6.
- We welcome your comments. If you have any concerns about the project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Michelle Ray, Senior Environmental Planner
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA, 93721

- Submit comments via email to: michelle.ray@dot.ca.gov.
- Submit comments by the deadline: June 19, 2015.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and build all or part of the project.

For individuals with sensory disabilities, this document is 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 Caltrans, Attn: Michelle Ray, Sierra Pacific Environmental Analysis, 855 M Street, Suite 200 Fresno, CA 93721; (559) 445-5286 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

Project Description and Background:

Note: *Pursuant to (State) Division 13, California Public Resources Code*—This project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA). A Categorical Exclusion will be signed for National Environmental Policy Act (NEPA) compliance at project approval.

Project Title:	**Madera 99 Widening**
Lead Agency Name and Address:	**California Department of Transportation**
Contact Person and Telephone Number:	**Michelle Ray, (559) 445-5286**
Project Sponsor's Name and Address:	**Madera County Transportation Authority,** **2001 Howard Road, Suite 201** **Madera, CA 93637**
Approved By:	**Signature:** Michelle Ray **Date:** 02/13/15 **Title: Senior Environmental Planner**
Project Location:	On State Route 99 from 0.1 mile south of Avenue 12 Overcrossing to 0.8 mile north of Avenue 17 Overcrossing in Madera County, California
General Plan Description:	Commercial/Industrial, Low/Medium/High Density Residential, Open Space, Resource Conservation/Agriculture, and Other Public and Semi-Public Uses
Zoning:	The project primarily consists of the following General Plan zones: CH: Highway Commercial PF: Public Facilities I: Industrial C1: Light Commercial C2: Heavy Commercial R3: Residential District–1 unit per 2,000 square feet RCO: Resource Conservation and Open Space
Description of Project:	The California Department of Transportation proposes to widen State Route 99 from 4 lanes to 6 lanes (one lane in each direction) in Madera County. The widening would occur from north of Avenue 12 to just north of Avenue 17 (post mile 7.5 to 15.1) and would occur mostly within the median. Approximately 2 feet of permanent easement would be required from the County of Madera on the west side of State Route 99, just north of Avenue 12. Temporary construction easements at two locations may be required for the installation of soundwalls. No permanent right-of-way acquisition is proposed (see Appendix A for a detailed description).
Surrounding Land Uses and Setting:	The land use within the project corridor is primarily urban as the freeway cuts across the city of Madera. Uses include dense residential, commercial, industrial, and government facilities

	and then transitions to agricultural use on each end of the project corridor.
Other Public Agencies Whose Approval is Required:	See Appendix D, Permits and Approvals.

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project. Please see the CEQA checklist for additional information. Any boxes ***not*** checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no adverse impacts were identified; therefore, no further discussion of those issues is in this document.

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

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to widen State Route 99 from 4 lanes to 6 lanes (one lane in each direction) on State Route 99 in Madera County. The widening would occur from north of Avenue 12 to just north of Avenue 17 (post mile 7.5/15.1) and would occur mostly within the median.

Determination

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

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

The proposed project would have no effect on: land use, growth, farmlands, community resources, emergency services, utilities, traffic and transportation/bicycle and pedestrian facilities, geology/soils/seismic/topography, cultural resources, paleontology, hazardous waste or materials, wetlands or invasive species.

In addition, the proposed project would have no significant effect on: air quality, water quality/hydrology, biological, and visual resources with the implementation of avoidance and minimization measures.

In addition, the proposed project would have no significantly adverse effect on noise because the following mitigation measures would reduce potential effects to insignificance:

- Noise abatement was found to be reasonable and feasible at two locations. Two soundwalls are proposed to be built at the edge of shoulder on the west side of State Route 99, between Central Avenue and the Fresno River and along the right-of-way on the east side of State Route 99 between South Madera Avenue and 7th Street in order to lower noise levels from freeway traffic.

_____ _____

Michelle Ray
Branch Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation

Date

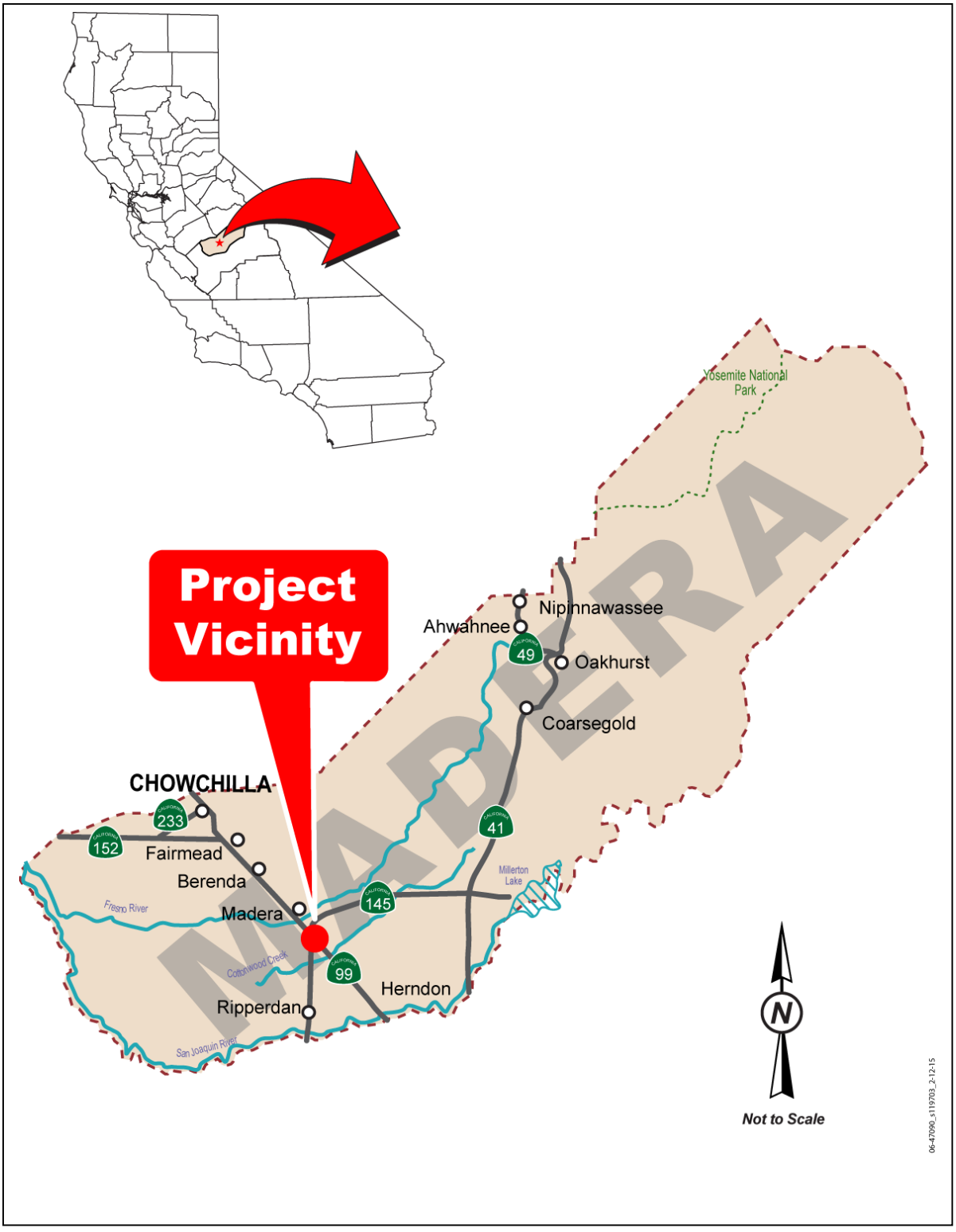


Figure 1-1 Project Vicinity Map

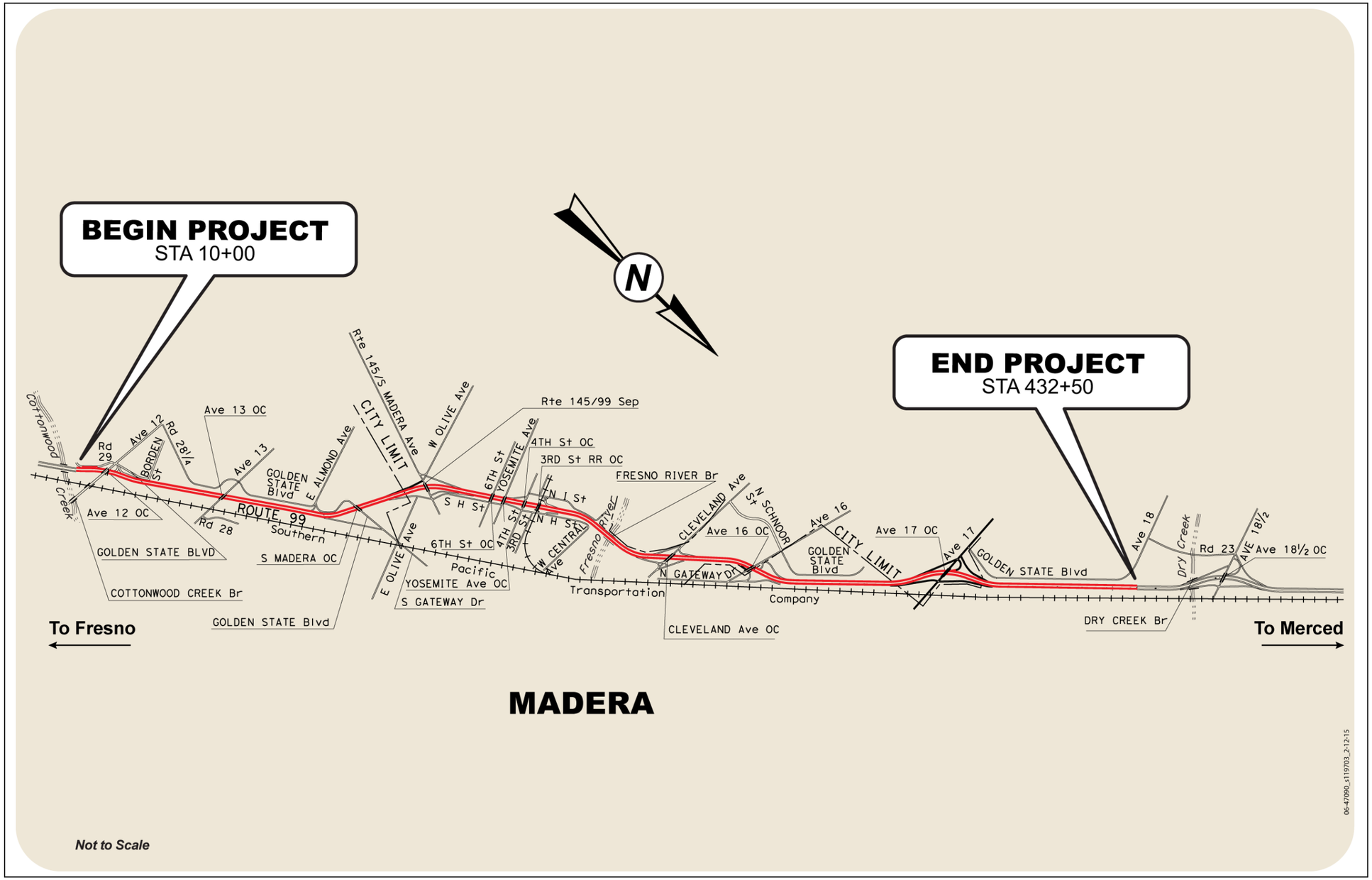


Figure 1-2 Project Location Map

CEQA Environmental Checklist

06-MAD-99	R7.5/15.1	0600000973
Dist.-Co.-Rte.	P.M/P.M.	Project ID#

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 indicated no impacts. A NO IMPACT answer in the last column reflects this determination. Where a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA—not NEPA—impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project, Forest Legacy Assessment Project, and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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

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

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XIV. PUBLIC SERVICES:

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

XV. RECREATION:

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

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

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

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

Additional Explanations for Questions in the Impacts Checklist

I. Aesthetics (checklist question c and d)

Affected Environment

The following discussion is based on the Visual Impact Assessment dated November 6, 2013.

The landscape within the project limits is characterized by relatively flat topography with the exception of the Fresno River which bisects the middle of the project. At the river, the topography abruptly changes to modest drop offs to the river bottom. The river itself is about 120 feet wide and is generally dry except during the winter season. The highway provides the only other noticeable visual change in the surrounding flat topography as the roadway rises and falls in areas of embankment and excavation. Except for trees that grow naturally near the river and those planted along the roadside and in developed area, this area of the valley is void of trees. The flat topography lends itself to extensive views of the foothills of the Sierra Nevada to the east and the distant coastal mountain range to the west. The land use within the project corridor is primarily urban as the freeway transects the city of Madera. Dense residential, commercial, industrial, and government facilities surround the project corridor. On each end of the project corridor, however, the land use quickly transitions to agricultural use.

It has been determined that no qualifying scenic resources, as defined in the Caltrans Standard Environmental Reference manual and as defined in the enactment of Section 15300.2(d) of the California Environmental Quality Act Implementation Guidelines, will be affected by the implementation of the proposed project. No portion of the project is within a designated or eligible State Scenic Highway.

Environmental Consequences

Visual resources of the project setting are defined and identified by assessing visual character and visual quality in the project corridor. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project.

The project would require the removal of approximately 7,200 feet of oleander in the median between Avenue 16 and the north end of the project. Concrete median barrier would replace the oleander. An additional 1,400 feet of oleander would be removed from the west side of State Route 99 between Avenue 12 and Almond Avenue in order to accommodate the widening to the west. At Almond Avenue, approximately 15 eucalyptus trees would be removed from the interchange area in order to accommodate the modification of the ramps.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The visual quality of the existing corridor would be slightly altered by the project. Although the removal of the oleanders would cause a

visual change, the addition of the concrete median barriers and noise barriers would strengthen the visual quality in terms of unity. The resource change would be low.

Neighbors (people with views to the road) and highway users (people with views from the road) would be affected by the proposed project. The existing vegetation to be preserved to the greatest extent feasible, would act as a visual screen to reduce neighbor's sensitivity to the new noise barriers. Highway users would be sensitive to the oleander removal due to the increase in headlight glare from oncoming traffic. However, this project proposes to replace the median oleander with 56-inch high concrete barrier which would provide a screen from direct headlight glare. Overall, the average viewer response to the proposed project is expected to be low.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance or minimization measures have been identified and can lessen visual impacts caused by the project. This section describes avoidance and/or minimization measures to address specific visual impacts. These would be designed and implemented with concurrence of the District Landscape Architect.

The following measures to avoid or minimize visual impacts are proposed to be incorporated into the project:

- Existing mature trees and shrubs would be removed only when necessary for the construction of the project. At the areas of new noise barriers, existing vegetation would remain in place to the greatest extent feasible. Replacement planting would be included with the project to replace the overall effect of a landscaped corridor.
- Noise barriers would be designed in compliance with the city of Madera's General Plan Policy N-9, with visually attractive colors and textures that would be complementary to the surrounding area. They would be designed as small/low as possible consistent with the need to reduce noise to acceptable levels.
- Where feasible, concrete median barrier will be Type 60 G which will provide screening from oncoming direct headlight glare, and offset the decrease in screening that the median oleander provided.
- Aesthetics of roadside elements would be in harmony with the Madera County State Route 99 Corridor Aesthetic Concept, a master planning document developed by Madera County, the city of Madera, and Caltrans to provide aesthetic guidance for improvements with the corridor.

I. Air Quality (checklist question c and d)

Affected Environment

The following discussion is based on the Air Quality Study Report dated February 2015.

The proposed project is located in the San Joaquin Valley floor where the topography is generally flat to rolling, and the climate is characterized by long, very warm

summers, and short, cool winters. Precipitation is related to latitude and elevation, with the northern portions of the valley receiving approximately 12–14 inches of rain a year, while the southern portion has an annual average of less than six inches. Snow rarely falls on the Valley floor, but heavy winter accumulations are common in the Sierra Nevada Mountains.

There is one ambient air monitor located near the proposed project in Madera County. The 28261 Avenue 14 monitor is about 1 mile east of State Route 99 at Avenue 14. The pollutants monitored at the 14th Ave monitor are ozone, particles smaller than 2.5 micrometers ($PM_{2.5}$) and particles smaller than 10 micrometers (PM_{10}). The $PM_{2.5}$ has only been monitored at this location since 2010. The number of days for which readings from this station exceeded the state and federal standards for ozone are shown in Table 1.1.

Table 1.1 Ozone Days Over Federal and State Standards

	Federal	State
2008 O_3 8-hour		
2013	22	46
2012	30	48
2011	15	28
2010	11	18
1997 O_3 8-hour		**O_3 1-hour**
2013	4	3
2012	7	9
2011	0	1
2010	7	9

Source: ARB ADAM Database (January 2015)

Madera County is non-attainment for the state and federal ozone and $PM_{2.5}$ standards (see Table 1.1). The county is also in non-attainment for the state PM_{10} standard, but attainment-maintenance for the federal standard. Refer to Table 1.2 for State and Federal Ambient Air Quality Standards and attainment status of the San Joaquin Valley Air Basin.

TABLE 1.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Ozone (O_3) [2]	1 hour 8 hours	0.09 ppm 0.070 ppm	--- [4] 0.075 ppm (4^{th} highest in 3 years)	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 (NOx) 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.	Federal: Non-attainment State: Non-attainment
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm [1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Unclassified-attainment State: Unclassified-attainment
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 $\mu g/m^3$ 20 $\mu g/m^3$	150 $\mu g/m^3$ --- [2] (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_{10}.	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.	Federal: Attainment-maintenance State: Non-attainment
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual 24 hours (conformity process [5]) Secondary Standard (annual; also for	--- 12 $\mu g/m^3$ --- ---	35 $\mu g/m^3$ 12.0 $\mu g/m^3$ 65 $\mu g/m^3$ 12 $\mu g/m^3$ (98^{th} percentile	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	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric	Federal: Non-attainment State: Non-attainment

TABLE 1.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
	conformity process [5])		over 3 years)	the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm [6] (98^{th} percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of storm water. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Federal: Unclassified State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm [7] (99^{th} percentile over 3 years) 0.5 ppm [9]	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.	Federal: Unclassified State: Attainment
Lead (Pb)[3]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [11]	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.	Federal: Attainment State: Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: n/a State: Attainment

TABLE 1.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [8] Standard	Federal [8] Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: n/a State: Unclassified
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.	Federal: n/a State:
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: n/a State:

Adapted from Sonoma-Marin Narrows Draft EIR and California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf).

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; ppb=parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012 and secondary annual standard set at 15 µg/m^3.

3 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_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

4 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.

5 The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 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.

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

7 EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of 9/2012.

8 State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.

9 Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

10 Standards no longer apply in CA starting in 2013 (1 year after designations to attainment/unclassified statewide) were completed. Do not use or quote any more. Will be removed in 2013 edition of this table.

11 Lead NAAQS are not considered in Transportation Conformity analysis.

Greenhouse Gases and Climate Change: Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Environmental Consequences

Regional Conformity

The proposed project is fully funded and is in the 2014 Madera County Transportation Commission's Regional Transportation Plan, which was found to conform by the Madera County Transportation Commission on July 18, 2014, and Federal Highway Administration and Federal Transit Administration adopted the air quality conformity finding on December 14, 2014. The project is included in Madera Council of Governments financially constrained 2015 Federal Transportation Improvement Program, and the associated conformity analysis adopted by the Madera County Transportation Commission on July 23, 2014, and federally approved on December 14, 2014.

Project-level Analysis

The Carbon Monoxide analysis used the UC Davis December 1997 Transportation Project-Level Carbon Monoxide Protocol (CO) Protocol to determine if any impacts are expected from the project. Madera is unclassified-attainment for both the federal and state standard. There is no CO ambient air monitor in Madera County.

Following the Chapter 3 decision tree from the CO Protocol:

- Is the project in a CO non-attainment area? No.
- Does the project worsen air quality? No.
- Project Satisfactory, No Further Analysis Needed

Particulate Matter Analysis

Each project needs a PM_{10} and/or a $PM_{2.5}$ analysis for National Environmental Policy Act and California Environmental Quality Act whether or not the project is located in a non-attainment or maintenance area.

Project types listed in 40 CFR 93.126 do not require any hot spot analysis for conformity purposes. All other projects in areas subject to conformity for particulate matter (PM_{10} or $PM_{2.5}$) must have documented consideration with Interagency Consultation and Public Involvement of whether or not they are Projects of Air Quality Concern (POAQC); if they are in fact POAQC, a full quantitative analysis is needed.

In December 2010, the Environmental Protection Agency issued guidance for Quantitative Analysis for Analyses that began on December 23, 2012, or later. The 2010 guidance has been superseded by updated guidance issued in November 2013.

PM_{10}

The project is located in an area that is in attainment-maintenance for federal PM_{10} standards and non-attainment the state standard. A conformity analysis for this project as Not a Project of Air Quality Concern was conducted and submitted to the San Joaquin Valley Council of Governments' Directors' Association Interagency Consultation Group on January 16, 2015. Caltrans discussed this project with Environmental Protection Agency and determined that the project fit into the category of not a POAQC because there was no significant increase between the no project and the project truck traffic or truck percentage. The total truck increase due to the project would range from approximately 400–700 trucks for the future Project alternative when compared to the future No Project alternative. The Interagency Consultation Partners concurred on February 9, 2015.

$PM_{2.5}$

The project is located in an area that is in non-attainment for federal $PM_{2.5}$ standards and non-attainment the state standard. A Conformity analysis for this project as Not a Project of Air Quality Concern was conducted and submitted to the San Joaquin Valley Council of Governments' Directors' Association Interagency Consultation Group (IAC) on January 16, 2015. Caltrans discussed this project with Environmental Protection Agency and determined that the project fit into the category of not a POAQC because there was no significant increase between the no project and the project truck traffic or truck percentage, as discussed in the previous PM_{10} section. For most of the project, the new lanes will be adjacent to the median. The Interagency Consultation Partners concurred on February 9, 2015.

Mobile Source Air Toxics

These pollutants are a subset of the 188 air toxics defined in the Clean Air Act. They are now federally regulated under 40 Code of Federal Regulations 1502.22 by the U.S. Environmental Protection Agency. Mobile source air toxics are 21 compounds

emitted from highway vehicles and non-road equipment. The six priority mobile source toxics are acrolein, benzene, butadiene, diesel particulate matter, formaldehyde, naphthalene and polycylic organic matter (POM). The Federal Highway Administration issued interim guidance on December 6, 2012, for analysis in National Environmental Policy Act documents. There are no existing ambient air standards for the seven main toxics. Currently, available technical tools do not enable us to predict the project-specific health impacts, so only a qualitative analysis is conducted.

The Federal Highway Administration has issued interim guidance on how mobile source air toxics should be addressed in National Environmental Policy Act documents for highway projects. Federal Highway Administration A has developed a tier approach for analyzing mobile source air toxics in National Environmental Policy Act documents. Depending on the specific project circumstances, mobile source air toxics has identified three levels of analysis:

1. No analysis for projects with no potential for meaningful mobile source air toxic effects;
2. Qualitative analysis for projects with low potential mobile source air toxic effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxic effects.

Level 1 projects are exempt projects with no potential for meaningful mobile source air toxic effects. These projects require no analysis. The types of projects included in this category are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c)
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

Level 2 projects have low potential for mobile source air toxic effects, and require only a qualitative analysis. Types of projects included in this category are those that serve to improve operations of highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase mobile source air toxic emissions. This category covers a broad range of projects.

Level 3 projects are those that have higher potential mobile source air toxic. These require quantitative analysis to differentiate alternatives. To fall into this category, a project must:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or

- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the annual average daily traffic is projected to be in the range of 140,000 to 150,000 or greater by the design year; and also
- Proposed to be located in proximity to populated areas.

Caltrans considers this project to fit into Level 2 as a project with low potential for mobile source air toxic effects. The EMFAC 2011 model was used to estimate mobile source air toxic emissions in Table 1.3. The Project emissions are higher in 2020 than with the No Project alternative. This is usually due to higher speeds in the Project alternative. In the 2040 horizon year, the No Project emissions are higher than the Project emissions. This is due to the No Project's very slow speeds where vehicles operate a low efficiency.

Table 1.3 Projected Mobile Source Air Toxics in Grams per Year

Year	Benzene	Acrolein	Acetaldehyde	Formaldehyde	Butadiene	Napthalene	Polycylic Organic Matter	Diesel Particulate Matter
Existing	2,017	71	1,969	4,417	351	100	102	21,514
2020 No Project	644	22	583	1,311	102	39	26	4,578
2020 Project	728	25	634	1,439	119	46	28	4,981
2040 No Project	1,240	39	1,420	2,520	201	118	48	7,843
2040 Project	985	35	832	1,696	163	74	39	6,841

Source: Caltrans District 6 Environmental Engineering CT-EMFAC runs (August 2014). 1 ton = 907,184.74 grams

Under the Project alternative in the design year, it is expected there would be reduced mobile source air toxic emissions in the immediate area of the project, relative to the No Project alternative, due to the reduced vehicle miles traveled associated with more direct routing, and due to U.S. Environmental Protection Agency's mobile source air toxic reduction programs.

Construction Impacts

During construction, the proposed project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors at some residences very close to the right-of-way may cause occasional annoyance and complaints.

Estimated construction emissions are predicted to be above the District limits for requiring that an Air Impact Analysis be submitted to the San Joaquin Valley Air Pollution Control District. The emissions are listed in Table 1.4 and were estimated using the Sacramento Metropolitan Air Pollution Control District's emission calculation spreadsheet tool. Caltrans requires the contractor to be responsible for submitting the Indirect Source Review Air Impact Analysis and paying any applicable application and emission reduction fees.

Table 1.4 Estimated Construction Emissions

Pollutant	District Limit	Emissions Estimate
Oxides of Nitrogen	2 tons or more	15 Tons
PM_{10}	2 tons	4 Tons

Source: Caltrans Central Region Environmental Engineering (September 2014)

Avoidance, Minimization, and/or Mitigation Measures

Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 14-9.02 "Air Pollution Control" and Section 14-9.03 "Dust Control" require the contractor to comply with San Joaquin Valley Unified Air Pollution Control District rules, ordinances, and regulations.

The proposed project would be subject to the San Joaquin Valley Air Pollution Control District's Rule 9510, also known as the Indirect Source Rule. The intent of the rule is to decrease the amount of oxides of nitrogen and PM_{10} from off-road equipment during the construction phase.

IV. Biological Resources (checklist question a and b)

Threatened and Endangered, or Special-Status Species

Affected Environment

A Natural Environment Study (Minimal Impacts) was completed for this project in January 2015. Federal, State of California and California Native Plant Society species lists are located in Appendix B. Caltrans' Federal Endangered Species Act determinations are listed in Appendix C. Special-status animal species with the potential to occur within or near the project area include: Swainson's hawk, burrowing owls and migratory birds and raptors protected under the Migratory Bird and Treaty Act.

Burrowing Owl (Athene cunicularia):

Burrowing owl is listed by the State of California as a Species of Special Concern, and is protected by the Migratory Bird Treaty Act. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Suitable owl habitat may also include trees and shrubs if the

canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat: both natural and artificial burrows provide protection, shelter, and nests for burrowing owls. Burrowing owls typically use burrows made by mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

Swainson's hawk (Buteo swainsoni)

Swainson's hawk, is listed by the State of California as threatened, and is protected by the Migratory Bird Treaty Act. The Migratory Bird Treaty Act states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The Migratory Bird Treaty Act is the domestic law that affirms, or implements, the United States' commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each of the conventions protects selected species of birds that are common to both countries (i.e., they occur in both countries at some point during their annual life cycle).

The Swainson's hawk is a summer migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. It winters in South America. The hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley, and it forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Formerly abundant in California, the population has declined from the loss of nesting habitat.

The Swainson's hawk eats mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and, rarely, fish. It soars at various levels in search of prey, catching insects and bats in flight. It may also walk on the ground to catch invertebrates and other prey. The hawk roosts in large trees, but will roost on the ground if no trees are available.

Breeding occurs from late March to late August, with peak activity occurring in late May through July. Nests are composed of a platform of sticks, bark, and fresh leaves built in a tree or bush, or on a utility pole from 4 to 100 feet above ground. Nests occur in open riparian habitat, in scattered trees, or in small groves in sparsely vegetated flatlands. Nests are usually found near water in the Central Valley, but they can also be found in arid regions. Clutch size is 2 to 4 eggs, with an incubation period of 25-28 days.

The Swainson's hawk was historically regarded as one of the most numerous raptors in the state. The dramatic decline in the population of the hawk has been attributed to the loss of native nesting and foraging habitat, and more recently to the loss of suitable nesting trees. This loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs.

Environmental Consequences

According to California Natural Diversity Database, the closest burrowing owl occurrence is located approximately 0.5 mile west of the project site. Although no burrowing owls were observed during field visits, there is potential for burrowing owls to be present surrounding the project site.

At Almond Avenue, approximately 15 eucalyptus trees will be removed from the interchange area in order to accommodate the modification of the ramps. According to California Natural Diversity Database, the closest Swainson's hawk occurrence is located approximately 15 miles east of the project site. Although no active Swainson's hawk nests were identified within the biological study area during surveys, suitable nesting habitat is present and there is potential for Swainson's hawk to be present.

Avoidance, Minimization, and/or Mitigation Measures

No impacts to Swainson's hawk, burrowing owls, migratory birds and raptors are anticipated to occur as a result of the project with the implementation of avoidance and minimization efforts described below. No compensatory mitigation is proposed for potential impacts to Swainson's hawk due to implementation of these measures:

Preconstruction surveys for migratory birds and raptors would be conducted by a qualified biologist during the migratory bird nesting season (February 15 to September 1) prior to construction. If an active nest is found, a 100-foot buffer would be established around the nest. An environmental awareness training would be provided by a qualified biologist to all personnel working on the project site as well as on-site monitoring by a qualified biologist.

Preconstruction surveys for Swainson's hawk would be conducted according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Tech. Advis. Comm., 2000). The surveys would be conducted the nesting season prior to the start of construction. If an active Swainson's hawk nest is detected minimization efforts would be coordinated with the California Department of Fish and Wildlife and may include a no-work buffer zone around an active nest and/or a qualified biologist would monitor an active nest during construction activities to ensure that no interference with the hawk's breeding activities would occur. Work may be temporarily suspended if nesting birds are found. If an active nest is found, a 600-foot buffer would be established around the nest.

Riparian Habitat

Affected Environment

Riparian habitat occurs along the edges of Fresno River. The habitat occurring with the biological study area has been altered from its native state due to human activities and the introduction of non-native invasive species that have taken over portions of the bank of the Fresno River. Vegetative species include: ripgut brome, red brome, wild oats, and willow (*Salix sp.*).

Environmental Consequences

Construction of Soundwall 1 (SW1) could potentially impact riparian habitat near the Fresno River. However, permanent and temporary impacts would be determined during the final design phase of the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

If impacts to the riparian habitat near the Fresno River are to occur due to construction of Soundwall 1, coordination with the California Department of Fish and Wildlife would be required to address these impacts and potential avoidance, minimization, and mitigation measures. The California Department of Fish and Wildlife may require a Streambed Alteration Agreement for impacts to riparian habitat.

IX. Hydrology and Water Quality (checklist questions c, d, e, and h)

Affected Environment

A location hydraulic study was prepared on January 25, 2011, to identify and evaluate the base floodplain encroachments by the proposed project. A water quality assessment report for the project was completed in January 2014, to evaluate potential project impacts on surface and groundwater quality and to describe mitigation measures to reduce potential impacts.

The project lies within the Hydrologic Unit San Joaquin Valley Floor, Hydrologic Areas of Madera and Berenda Creek, Hydrologic Sub-Areas Unidentified (HSA 545.20) and Unidentified (HSA 545.30). Fresno River is the water body located within the project limits. Cottonwood Creek is located close to the southern limit of the project and Dry Creek is located close to the northern limit of the project.

The existing pavement runoff within the project limits either sheet flows or is captured in the median and conveyed to the outside where it is partially stored within in the vegetated areas and Caltrans right-of-way while the rest of the flow goes to basins, and ultimately to the canals.

Designated Floodplains

The project is located on Flood Insurance Rate Map, Madera County, California and Incorporated Areas, Community Panel Number 060170 1170 E dated September 26, 2008. It designates a short segment of the project limits between Avenue 12½ and Avenue 13 as “ZONE AH” which is defined as the Special Flood Hazard. This area is subject to flooding by the 1% annual chance flood with depths of 1 to 3 feet (usually areas of ponding).

Surface Water Quality

The Clean Water Act requires States to identify water bodies that are considered impaired, which means the water body does not meet water quality standards. States must then place these water bodies onto a list, referred to as the "Clean Water Act Section 303(d) List of Water Quality Limited Segments."

There is no 303(d) receiving water bodies within the project limits. However, Cottonwood Creek is a 303(d) listed water body that is located in close proximity. Cottonwood Creek is listed for E. coli and unknown toxicity.

Groundwater Quality

The project is located in parts of the southern portion of the Madera Groundwater sub-basin, and the northern portion of the Kings Groundwater sub-basin. The majority of the project lies within the Kings Groundwater sub-basin. The Kings sub-basin is bounded on the north by the San Joaquin River. Groundwater quality conditions in the San Joaquin River Region vary throughout the area.

The groundwater is predominantly of bicarbonate type. The major cations are calcium, magnesium, and sodium. Sodium appears higher in the western portion of the sub-basin where some chloride waters are also found.

Dibromochloropropane, a soil fumigant nematicide, and nitrates can be found in groundwater along the eastern side of the sub-basin. Shallow brackish groundwater can be found along the western portion of the sub-basin. Elevated concentrations of fluoride, boron, and sodium can be found in localized areas of the sub-basin. Most groundwater contamination sites are small and rarely affect water quality supplies on a regional basis. These sites may require cessation of pumping from one or two water supply wells, or the installation of wellhead treatment. The project area lies within the Fresno Sole Source Aquifer. However, the project is not anticipated to have any significant impacts on the aquifer.

Environmental Consequences

Designated Floodplains

The proposed project will have a transverse encroachment into the 100-year floodplain as designated by Federal Emergency Management Agency Firm Maps. Encroachment will occur between Avenue 12½ and Avenue 13. The risks associated with the implementation of the proposed project are not significant. This segment of the project as proposed, does not constitute a significant floodplain encroachment as defined in the Code of Federal Regulations, Title 23, Section 650.105(q). This proposed project will not support incompatible floodplain development.

Surface and Ground Water Quality

The proposed outside widening due to a tight median from Avenue 12 to Almond Avenue will require re-grading of existing side slopes on the west of State Route 99. The rest of the widening, north of Almond Avenue, is to the median and should not affect existing outside storage for runoff by construction activities. At proposed crown median sections, runoff will sheet flow to the outside and store within existing unpaved areas. There would be no increase of impervious areas or additional flow at proposed depressed median locations; therefore, the current drainage system is adequate and will not be improved.

The total disturbed soil area is approximated to be 38.0 acres. The existing impervious area is 29.0 acres. There would be a new net area of 6.0 acres, for a total of 35 acres. The project is located in the city of Madera. A risk level for this project was calculated to be a low sediment risk and a low receiving water body risk, thus resulting in Risk Level l. There are no drinking water reservoirs or recharge facilities within project limits. This proposed project would not involve reuse of soil containing aerially deposited lead.

The project would increase the impervious area within the project limits. Additional impervious areas proposed for the project may increase the volume and velocity of the storm water drainage. Increased flows should have a negligible impact on downstream flow.

Construction of the proposed project has the potential to contribute pollutants into nearby receiving water bodies like Cottonwood Creek and the Fresno River. These pollutants include sediment and silt, associated with soil disturbance because of construction activities, and chemical pollutants associated with the construction materials that are brought onto the project site. In addition, fueling or maintenance of construction vehicles may occur within the project site during construction, so there is risk of accidental spills or releases of fuels, oils, or other potentially toxic materials.

Once in operation, the proposed project would not result in an increase in impervious surface areas, and any increase in storm water runoff is not anticipated. Operation of the project has the potential to affect water quality. Potential pollutant sources associated with operation of the proposed project include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care.

Avoidance, Minimization, and/or Mitigation Measures

Designated Floodplains

The installation of metal thrie-beam barrier in the median in lieu of concrete barrier at the transverse encroachment of the 100-year floodplain will eliminate any additional backwater and will allow normal flood pattern to continue.

Surface and Ground Water Quality

The proposed project would have less than significant impacts to water quality when avoidance, minimization, and proposed mitigation measures are incorporated.

Due to the potential of the project to impact water bodies such as the Fresno River and Cottonwood Creek, Caltrans may obtain the following permits: Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife, a Section 404 permit from the U.S. Army Corps of Engineers, and a Section 401 certification from the Regional Water Quality Control Board.

The proposed project activities would create approximately 38.0 acres of disturbed soil area. Since this is greater than 1.0 acre, a Storm Water Pollution Prevention Plan will be required, under Caltran’s Statewide Permit. The plan will include the Construction Site Best Management Practices addressing good housekeeping and

non-storm water management which set the minimum standards for protection of water quality. Measures to avoid and reduce potential impacts to water quality in the construction area will be specified in the Storm Water Pollution Prevention Plan.

The following avoidance and minimization measures are recommended to minimize short-term construction and long-term operational water quality impacts associated with implementation of the project:

- The project is required to consider treatment Best Management Practices because it indirectly discharges storm water to a water body and adds more than 1acre of new net impervious area. Bioswales will be used to infiltrate storm water runoff and trap sediment prior to discharging to the pumping stations that eventually discharge into retention basins owned and maintained by Madera Irrigation District. In addition to the bioswales, which are approved permanent treatment Best Management Practices, the pump stations contain sumps that also provide further settling of sediment as do the Madera Irrigation District retention basins prior to final discharge to surface water bodies.
- The project activities shall conform to Caltrans NPDES Permit and the requirements of the National Pollutant Discharge (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-009-D)(SWRCB, 2009), NPDES No. CAS000003, (Statewide Construction General Permit or Statewide CGP) as amended by Order No. 2010-0014-DWQ General Permit No. CAS000002 and any subsequent General Permit in effect at the time of project construction. This permit authorizes storm water and authorized non-storm water discharges from Caltrans construction properties, facilities, and activities and would be required prior to commencement of the construction phase of the project. As part of this permit requirement, a Storm Water Pollution Prevention Plan (following guidance in the current version of the Caltrans Storm Water Pollution Prevention Plan) shall be prepared in accordance with Caltrans 20 10 Standard Specification Section 13,Water Pollution Control, prior to construction consistent with the requirements of the Regional Water Quality Control Board. The Storm Water Pollution Prevention Plan will incorporate all applicable Best Management Practices to ensure that adequate measures are taken during construction to minimize water quality impacts.
- Erosion control measures shall be implemented during construction of the proposed project. These measures shall conform to the provisions in Section 21, Erosion Control of the Caltrans Standard Specifications, and the special provisions included in the contract for the project. Such provisions shall include the preparation of a Storm Water Pollution Prevention Plan, which describes and illustrates placement of Best Management Practices within the project site.
- To the extent practicable, activities that increase the erosion potential shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. Temporary erosion and sediment control structures shall be in place and

operational and shall be maintained during the duration of project construction until permanent erosion control structures are in place.

- Suitable Best Management Practices, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.
- All disturbed areas would be restored to pre-construction contours.
- Construction specifications shall include the following measures to minimize the potential for adverse effects resulting from accidental spills of pollutants (e.g., fuel, oil, grease):
    1. A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
    2. Equipment and hazardous materials shall be stored a minimum of 50 feet away from surface water features.
    3. Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from surface water features or within an adequate fueling containment area.

XII. Noise (checklist questions a through d)

Affected Environment

The Noise Study Report for the project was completed in January 2014. A Noise Abatement Decision Report was signed on March 27, 2014.

Land uses identified within the project limits include single-family and multi-family residences, hotels/motels, and places of worship. The remaining land uses are commercial establishments, gas stations, restaurants, and office buildings. Terrain in the area is relatively flat, except for the existing freeway. State Route 99 is depressed compared to the surrounding land at various locations within the project limits. Figures 1-3 through 1-11 show locations of receptors and proposed soundwall locations.

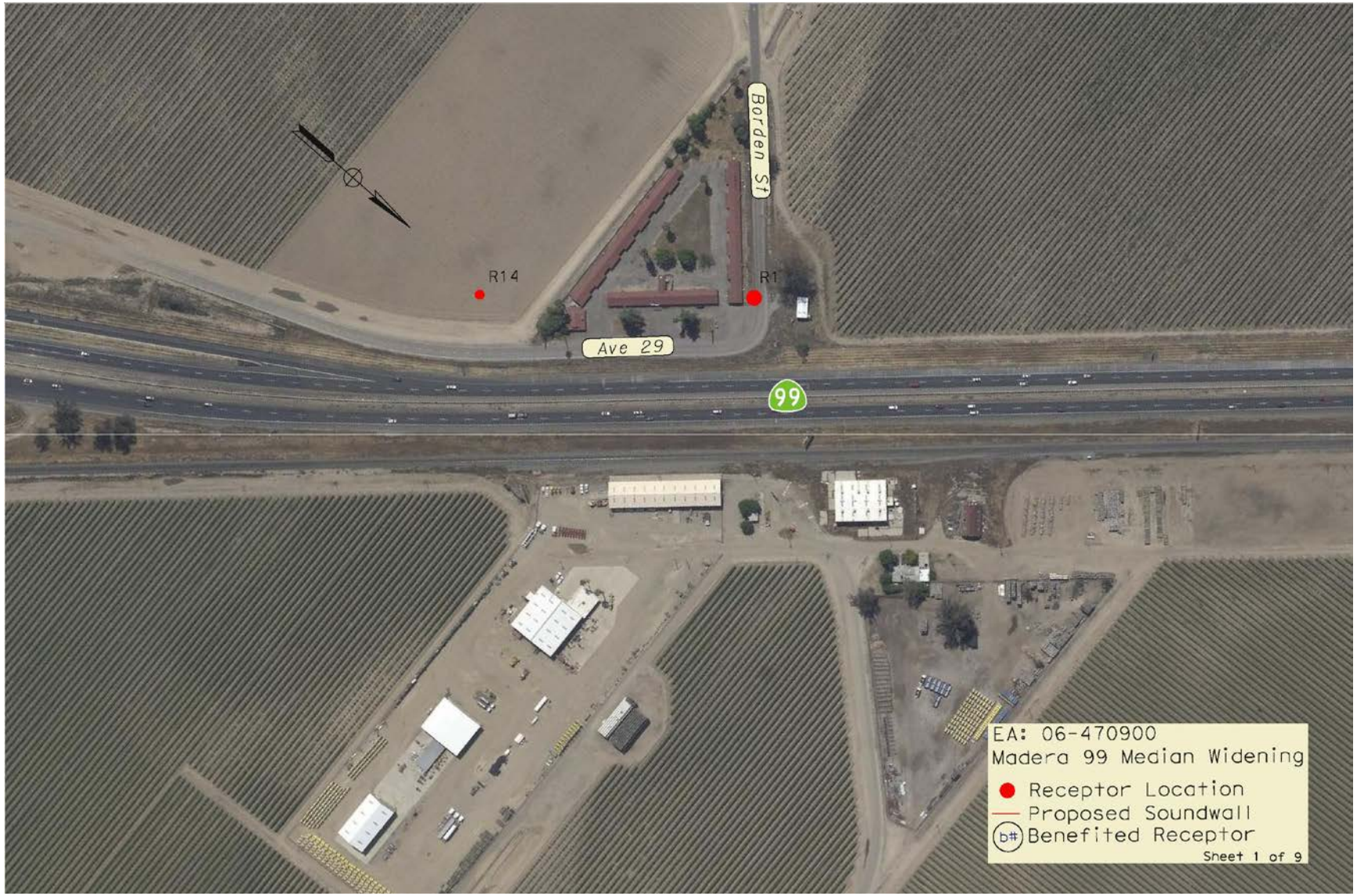


Figure 1-3 Receptor Locations and Proposed Soundwalls (Sheet 1 of 9)

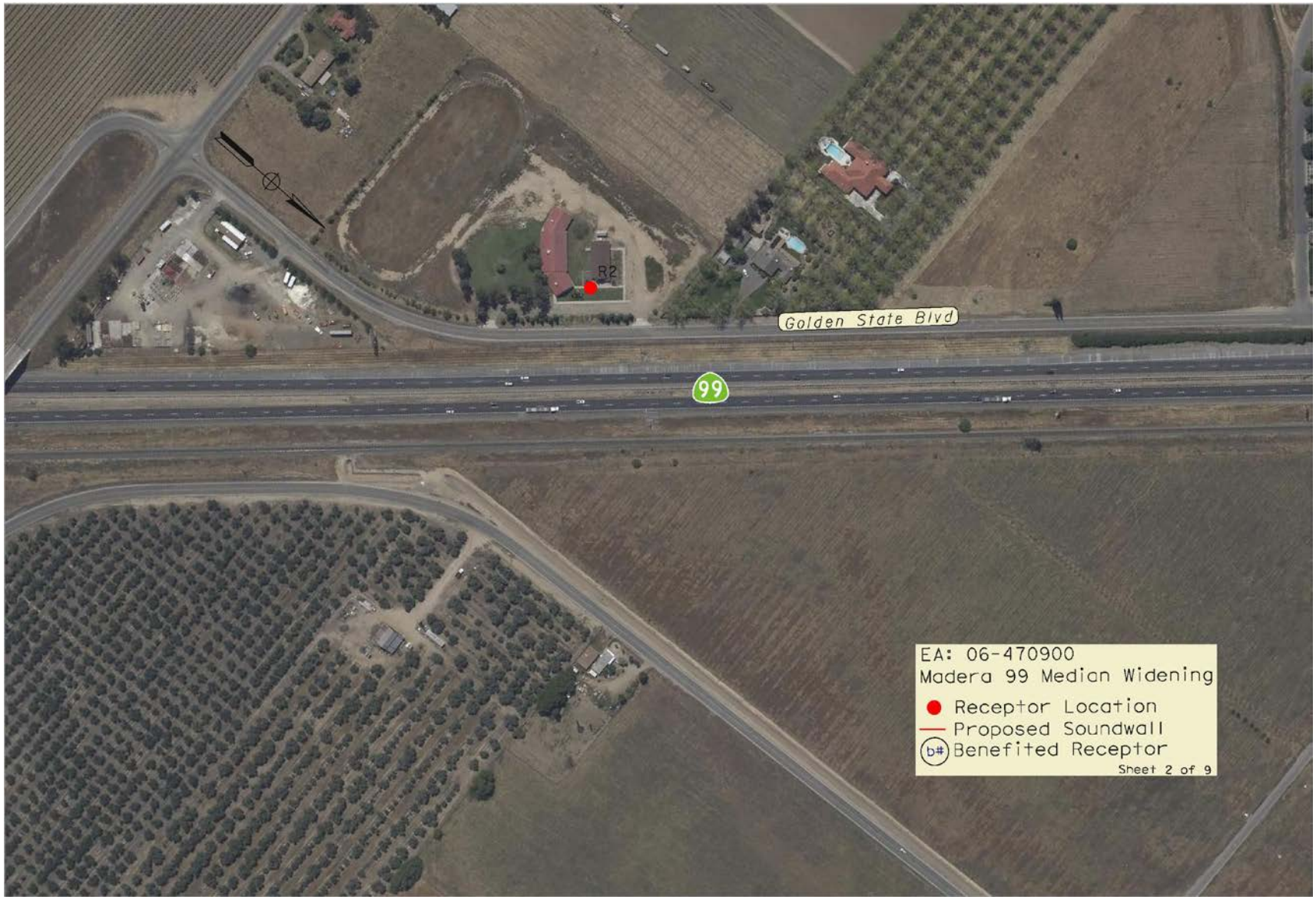


Figure 1-4 Receptor Locations and Proposed Soundwalls (Sheet 2 of 9)

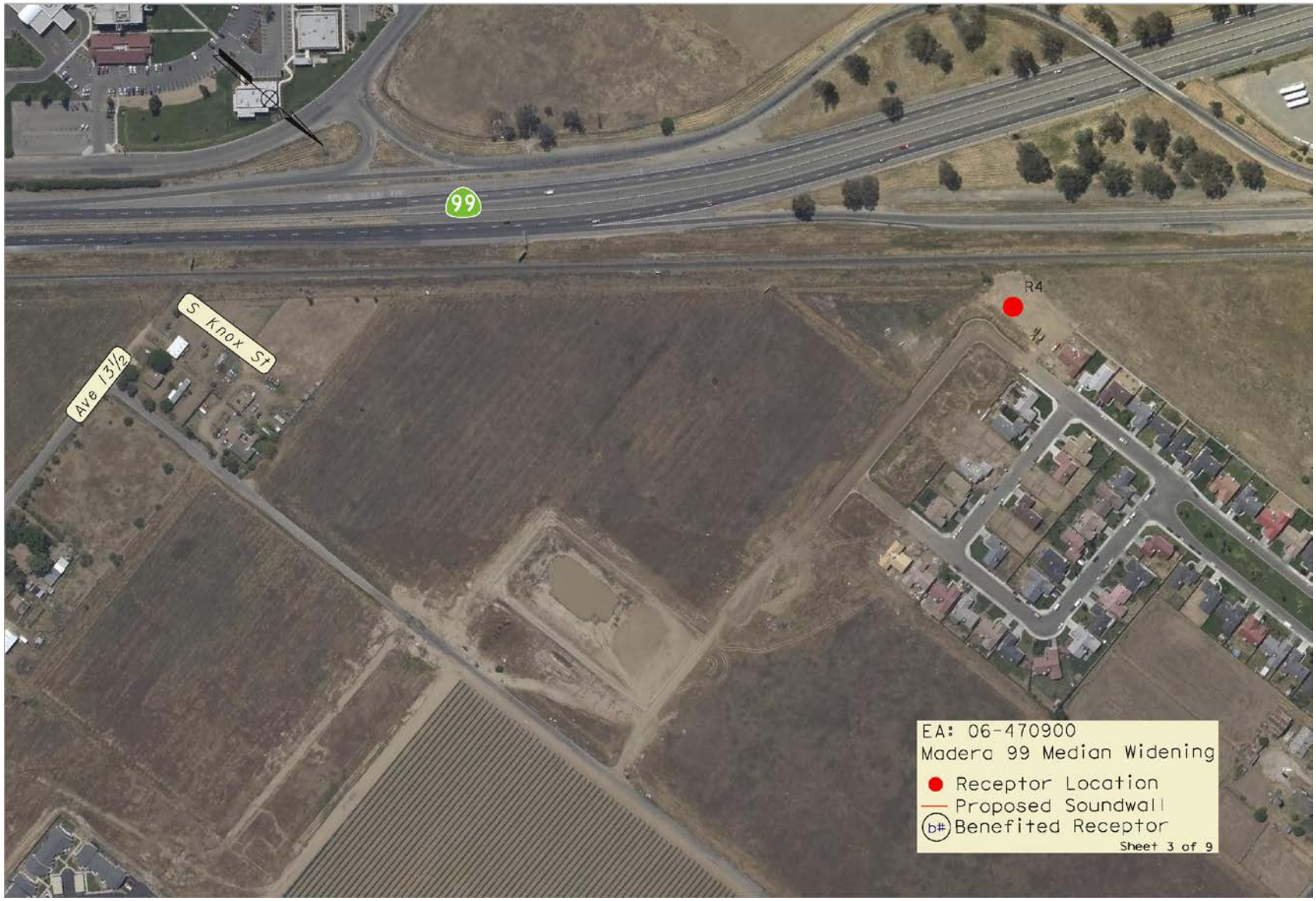


Figure 1-5 Receptor Locations and Proposed Soundwalls (Sheet 3 of 9)

Figure 1-6 Receptor Locations and Proposed Soundwalls (Sheet 4 of 9)

Figure 1-7 Receptor Locations and Proposed Soundwalls (Sheet 5 of 9)

Figure 1-8 Receptor Locations and Proposed Soundwalls (Sheet 6 of 9)

Figure 1-9 Receptor Locations and Proposed Soundwalls (Sheet 7 of 9)

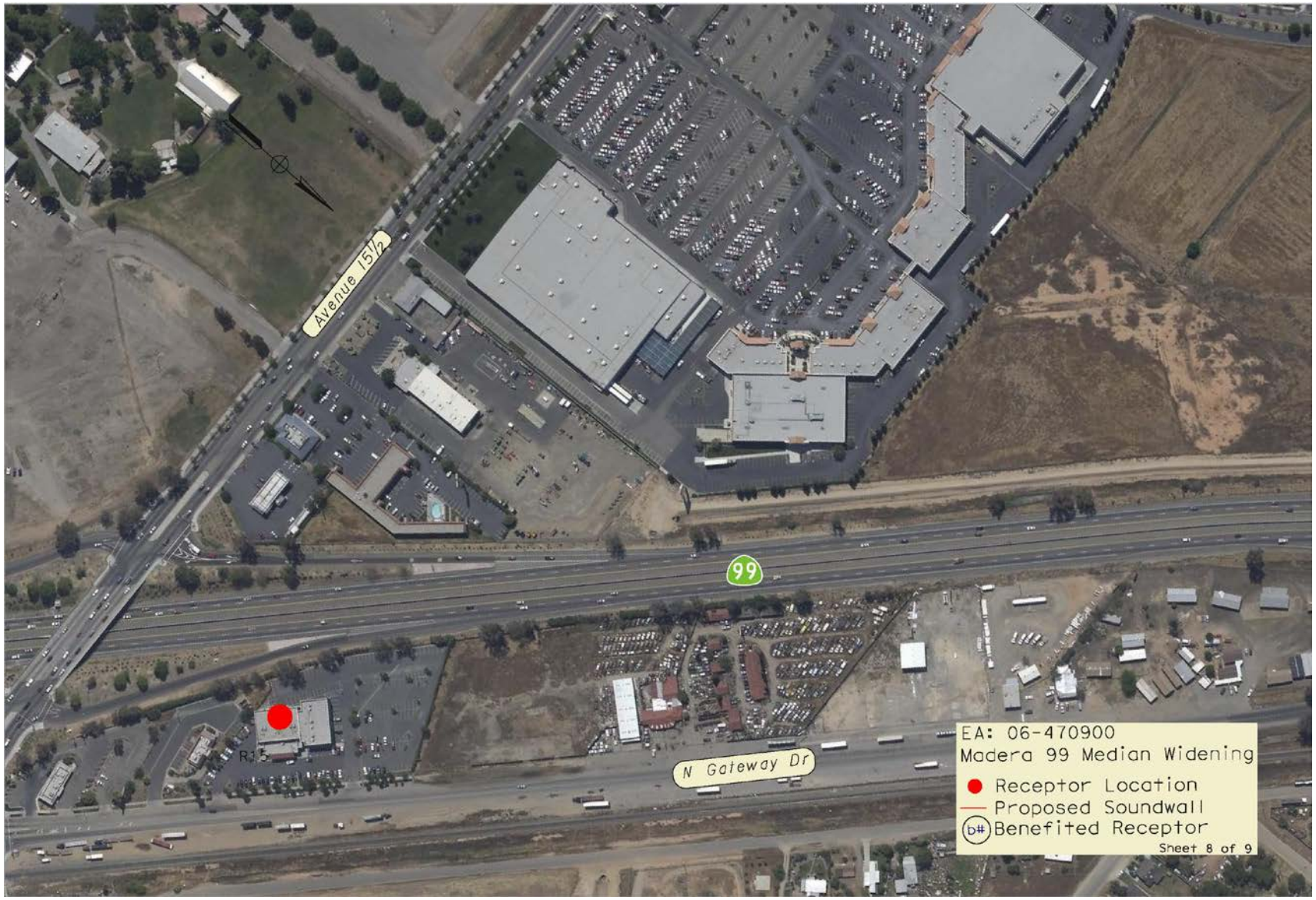


Figure 1-10 Receptor Locations and Proposed Soundwalls (Sheet 8 of 9)

Figure 1-11 Receptor Locations and Proposed Soundwalls (Sheet 9 of 9)

Environmental Consequences

The proposed project is a Type I according to the Federal Highway Administration noise regulations because the project would physically alter an existing highway by increasing the number of through-traffic lanes. This would include restriping existing pavement for the purpose of adding a through-traffic lane as this project proposes. Under Title 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact.

Traffic noise impacts, as defined in Title 23 CFR 772.5, occur when the predicted noise level in the design year approaches or exceeds the Noise Abatement Criteria specified in Title 23 CFR 772, or a predicted noise level substantially exceeds the existing noise level.

Level of service C and 2040 forecasted traffic information were used to predict traffic noise levels and analyze noise impacts at receivers on both sides of the freeways. In general, modeled future noise levels were higher than measured noise levels: typically 1 to 7 decibels above the existing peak hour noise levels.

Noise measurements were conducted at selected receiver locations along State Route 99 to evaluate the existing noise levels and to calibrate the traffic noise model. Short-term noise monitoring (10 minutes each) was conducted at 12 locations in March 2013. Noise measurements were conducted with Brüel and Kjaer models 2238 sound level meter. Measured hourly average noise levels from the short-term monitoring ranged from 55 to 70 dBA (A-weighted decibels) in the peak noise hour. Traffic was counted on the freeways near a measurement site and classified by vehicle type (e.g., autos, medium trucks, heavy trucks). The purpose of the field traffic counts was to calibrate the Traffic Noise Model 2.5 model so that the prediction of future noise levels could be made more accurately.

Level of service C and 2040 forecasted traffic information were used to predict traffic noise levels and analyze noise impacts at receivers on both sides of the freeways. In general, modeled future noise levels were higher than measured noise levels: typically 1 to 7 decibels above the existing peak hour noise levels.

In March 2013, short-term (10-minute) noise measurements were conducted at 14 sites in order to evaluate the existing noise environment. The measured sites are indicated with the letter “R” in Table 1.5. The data collected is representative of nearby frequent outdoor use areas. Noise measurements were collected between 9:00 a.m. and noon and also at 3:00 p.m. Traffic volumes were counted during measurements. Measurements were taken during peak levels where traffic was moving at a free pace (peak hour traffic volumes) that occurred around 9:00 a.m. and also 3:00 p.m. Long-term monitoring was not done and considered unnecessary to determine the noise peak hour for this project, since traffic conditions were suitable to uniform short-term samples of 10 minutes for each collection period. Table 1.5 summarizes predicted future noise levels with and without the project and the reasonableness and feasibility of noise abatement.

Traffic noise impacts are considered to occur at receiver locations where predicted design-year traffic noise levels are at least 12 decibels greater than existing noise levels, or where predicted design year traffic noise levels approach or exceed the Noise Abatement Criteria for the applicable activity category. Twenty-six impacted receiver locations were identified and are shown on Table 1.5. Where traffic noise impacts are identified, noise abatement must be considered for reasonability and feasibility as required by Title 23 CFR 772 and the Protocol. As stated in the Protocol, noise abatement is only considered for areas of frequent human use, such as residential backyards and common use areas at multifamily residences that would benefit from a lowered noise level. Noise abatement was not considered for 11 of the impacted receiver locations because they were not considered areas of frequent human use.

Table 1.5 Noise Impact Analysis

Receptor # and Location	Sound wall I.D.	Land Use	Existing Noise Level (dBA)	Predicted Noise Level without Project (dBA)	Predicted Noise Level with Project (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Feasible/ Reasonable
							8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	
R1—1239 S. Golden State Blvd.		MOT	69	71	73	Yes	N/A	N/A	N/A	N/A	N/A	N/A
R2—1212 S. Golden State Blvd.		POW	68	69	72	No	N/A	N/A	N/A	N/A	N/A	N/A
R4—2062 Varbella Park		SFR	56	57	59	No	N/A	N/A	N/A	N/A	N/A	N/A
R6—1300 Gateway Dr.		COM	70	71	74	No						
R7—505 S. H St.	SW3	SFR	72	73	75	Yes	71	69	67	67	66	Yes/Yes
R7-1—317 S. I St.		SFR	69	71	74	Yes	N/A	N/A	N/A	N/A	N/A	N/A
R9—425 N. H St.		SFR	66	68	70	No						
R14—Southwest corner of Ave 12/Borden St.		UND	68	69	72	No	N/A	N/A	N/A	N/A	N/A	N/A
R15—1140 N. Gateway Dr.		RES	62	64	67	No						
R16—16279 Sharon Blvd.		MH	65	67	71	No	N/A	N/A	N/A	N/A	N/A	N/A
R20—2842 N. Golden State Blvd.		COM	66	67	71	No						
R23—1029 Riverview St.	SW2	SFR	71	72	75	Yes	71	70	68	67	N/A	Yes/Yes
R25—401 N. H St.		COM	67	68	70	No	N/A	N/A	N/A	N/A	N/A	N/A
R26—113 E. Lewis St.	SW4	SFR	68	69	74	Yes	69	66	65	64	63	Yes/No
b1—1025 Riverview Dr.	SW2	SFR	70	71	74	Yes	70	69	67	66	N/A	Yes/Yes
b2—1021 Riverview Dr.	SW2	SFR	69	71	74	Yes	70	69	67	66	N/A	Yes/Yes
b3—1017 Riverview Dr.	SW2	SFR	69	71	73	Yes	70	69	67	66	N/A	Yes/Yes
b4—1013 Riverview Dr.	SW2	SFR	69	71	74	Yes	70	69	67	66	N/A	Yes/Yes

Table 1.5 Noise Impact Analysis

b5—1009 Riverview Dr.	SW2	SFR	70	71	74	Yes	71	69	67	67	N/A	Yes/Yes
b6—1005 Riverview Dr.	SW2	SFR	70	71	74	Yes	71	70	68	68	N/A	Yes/Yes
b7—1201 W. Central Ave.	SW2	SFR	70	71	74	Yes	71	70	69	69	N/A	Yes/Yes
b8—231 W. Central Ave.	SW1	SFR	69	70	73	Yes	70	68	68	65	64	Yes/No
b9—216 W. Central Ave.	SW1	SFR	70	71	74	Yes	71	68	66	65	64	Yes/No
b10—725 N. H St.	SW1	SFR	72	74	76	Yes	71	68	67	66	65	Yes/No
b11—717 N. H St.	SW1	SFR	72	73	76	Yes	71	68	67	65	65	Yes/No
b31—826 Terrace Pl.	SW1	MFR	72	73	76	Yes	72	69	68	67	66	Yes/No

MFR: multifamily residence MOT: motel/hotel MH: mobile home COM: commercial POW: place of worship UND: undeveloped
SFR: single family residential RES: restaurant
N/A: not applicable due to design restriction for barrier heights on edge of shoulder.

Source: Noise Study Report (January 2014)

Construction Impacts

This project is estimated to last for approximately 2 years and 4 months. During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 1.6 shows noise levels produced by construction equipment commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 decibels per doubling of distance.

Table 1.6 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)

Construction noise varies greatly depending on the construction process, type and condition of equipment used, as well as layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Construction noise estimates are approximate because of the lack of specific information available at the time of the assessment. Temporary construction noise impacts would be unavoidable at areas located immediately adjacent to the proposed project alignment.

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. During certain construction phases, processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction related vibration impacts such as human annoyance or, in some cases, building damages. There are cases where it may be necessary to use this type of equipment in close proximity to residential buildings.

Avoidance, Minimization, and/or Noise Abatement Measures

This report analyzes noise barriers with heights ranging from 8 to 16 feet to determine feasible noise abatement. Soundwalls are considered feasible when they provide a noise reduction of at least 5 decibels. The Noise Reduction Design Goal, which is one measure in determining whether a soundwall is reasonable, is achieved when a barrier is predicted to provide a noise reduction of at least 7 decibels at one or more benefitted receivers. Other considerations include topography, access requirements, other noise sources, and safety considerations.

Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance and the cost per benefited residence. From a cost perspective, the estimated cost of the noise barrier should be equal or less than the total cost allowance calculated for the barrier to be considered reasonable. 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.

The following is a discussion of noise abatement considered for each area where traffic noise impacts are predicted. Table 1.7 summarizes key information used in determining noise abatement decisions regarding noise barrier construction for the proposed project.

Table 1.7 Noise Barrier Evaluation

Barrier Number	Location Description	Noise Barrier Height (feet)	Number of Benefited Residences	Total Reasonable Allowance	Cost of Soundwall	Acoustically Feasible?	Cost less than Allowance?
SW1	Along the right-of-way on the east side of State Route 99 between Roberts Street and the Fresno River	10	14	$770,000	$898,000	Yes	No
SW2	At the edge of shoulder on the west side of State Route 99, between Central Avenue and the Fresno River	14	8	$440,000	$392,000	Yes	Yes
SW3	Along the right-of-way on the east side of State Route 99 between South Madera Avenue and 7th Street	10	10	$880,000	$460,000	Yes	Yes
SW4	At the right-of-way on the west side of State Route 99 along the South Madera Avenue southbound on-ramp	10	1	$55,000	$672,000	Yes	No

Source: Noise Study Report (January 2014)

Soundwall 1 (SW1)

Receiver B8, B9, B10, B11, and B31 east of Route 99 along H Street and the State right-of-way between Robert Street and the Fresno River consists of the following receiver categories: 15 one- and two-story residences, a church (United Pentecostal Church), one apartment complex represented by b31. The predicted noise levels for the design year with the project at these represented receivers vary between 73 and 76 dBA. A 10-foot noise barrier located along the right-of-way on the east side of State Route 99 is expected to provide 7 decibels or more of traffic noise reduction for 14

residences. SW1 will start from approximately north of Roberts Street and extend north toward the Fresno River for an approximate length of 2,245 feet to cover the apartments by the river. The cost allowance for this wall is calculated at $770,000 based on a cost allowance of $55,000 per benefited receiver. The estimated cost of the soundwall is $898,000, exceeding the cost allowance. Therefore, this soundwall is not reasonable.

Soundwall 2 (SW2)

The area west of State Route 99 between Central Avenue and the Fresno River consists of eight single-family residences represented by receivers R23 and B1 through B7. The predicted noise levels for the design year with the project at these represented receivers vary between 73 and 75 dBA. SW2 is proposed along the edge of shoulder on the west side of State Route 99 and is expected to provide 7 decibels in traffic noise reduction at most locations with a 14-foot noise barrier. The barrier would start from approximately Central Avenue and extend north toward the Fresno River for a total length of approximately 700 feet. The wall will provide noise attenuation for 8 single-family residences. The total cost allowance for the benefited residences is $440,000 based on a cost allowance of $55,000 per benefited receiver. The cost of the soundwall is estimated at $392,000 and is less than the cost allowance. Therefore, this soundwall is considered reasonable.

Soundwall 3 (SW3)

The area east of State Route 99 between 7th Street and South Madera Avenue/Route 145 and adjacent to the highway consists of the following categories: 16 one- and two-story residences and represented by receiver R7. The predicted noise level for the design year with the project at the represented receiver is 75 dBA. A soundwall at a height of 10 feet on the east side of State Route 99 expected to provide 7 decibels of traffic noise reduction at several locations. The wall would start from approximately 7th Street and extend south for a total length of approximately 1,150 feet. The total cost allowance for the benefited residences is $880,000 based on a cost allowance of $55,000 per benefited receiver. The cost of the soundwall is estimated at $460,000 and is less than the cost allowance. Therefore, this soundwall is considered reasonable.

Soundwall 4 (SW4)

The area west of State Route 99 and south of South Madera Avenue/Route 145 consists of a cluster of homes located diagonal to State Route 99. The first row of residences in this area is represented by R26 (closest receiver to State Route 99). The predicted worst-hour noise level at this receiver is 74 dBA. The soundwall would be located on the right-of-way on the west side of State Route 99, along the South Madera Avenue (Route 145) southbound on-ramp. A 10-foot wall is proposed between 11th Street and South Gateway Drive for a total length of approximately 1,679 feet. The wall would be feasible for only 1 receiver (R26) is expected to provide 7 dBA in traffic noise reduction. The total cost allowance for the benefited residence is $55,000. The estimated cost of the soundwall is $672,000, exceeding the cost allowance. Therefore, this soundwall is not reasonable.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of soundwalls at: the edge of shoulder on the west side of State Route 99, between Central Avenue and the Fresno River and along the right-of-way on the east side of State Route 99 between South Madera Avenue and 7th Street, with respective lengths and average heights of 700 feet and 14 feet; and 1,150 feet and 10 feet. Calculations based on preliminary design data show that the soundwalls will reduce noise levels by 6 to 7 dBA for 18 residences at an estimated cost of $852,000. If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision on noise abatement will be made upon completion of the project design and the public involvement processes.

The following are possible control measures that can be implemented to minimize noise disturbances at sensitive areas during construction:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impact should be used.
- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
- Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible.
- Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers.
- Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (such as mufflers, engine covers, and engine vibration isolators) intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (such as mufflers and shrouding).
- Construction activities shall be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (such as in commercial areas where

businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City or County shall occur before construction can be performed in noise-sensitive areas between 9:00 in the evening and 6:00 in the morning.

- Construction lay-down or staging areas shall be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (such as residences, hotels, and motels).
- Contractor shall prepare a Noise and Vibration Monitoring and Mitigation Plan by a qualified Acoustical Engineer and submit it for approval. The Plan must outline noise and vibration monitoring procedures at predetermined noise and vibration sensitive sites as well as historic properties.
- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a preconstruction building inspection to document the pre-construction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

The contractor shall be required to adhere to the following administrative noise control measures:

- Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

California Environmental Quality Act Noise Analysis

When determining whether a noise impact is significant under the California Environmental Quality Act, comparison is made between the existing noise levels (baseline) and the Project alternative noise levels. The California Environmental Quality Act noise analysis is independent of the National Environmental Policy Act 23 Code of Federal Regulations 772 analysis discussed previously, which is centered

on noise abatement criteria. Under the California Environmental Quality Act, the assessment involves looking at the setting of the noise impact and then at how large or perceptible any noise increase would be in the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

To illustrate the differences between California Environmental Quality Act Environmental and National Environmental Policy Act 23 Code of Federal Regulations 772 analyses, consider the following example:

The existing noise level at residential site 1 is 67 decibels; the predicted noise level under Project alternative is 70 decibels. This 3-decibel increase between existing noise levels and the Project alternative would be barely perceptible to the human ear. Therefore, under the California Environmental Quality Act, no significant noise impact would occur as a result of the project and no mitigation is required. However, under National Environmental Policy Act 23 Code of Federal Regulations 772, because the noise level at this receptor already approaches or exceeds the noise abatement criteria of 67 decibels, noise abatement would need to be considered.

The Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* specifies the policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction of federal or federal-aid highway projects. As it pertains to California Environmental Quality Act, the protocol defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 decibels.

Table 1.8 compares the 2040 traffic noise levels to existing (baseline) 2010 noise levels. All noise increases at these receptor sites are predicted to be below 12 decibels, the threshold of significance.

Table 1.8 Noise Impact Comparison

Receiver I.D. and Location	Land Use	Existing Noise Level (dBA)	Predicted Noise Level with Project (dBA)	Increase in Noise Level over Existing (dBA)
R1—1239 S. Golden State Blvd.	Motel/hotel	69	73	4
R2—1212 S. Golden State Blvd.	Place of worship	68	72	4
R4—2062 Varbella Park	Single-family residential	56	59	3
R6—1300 Gateway Dr.	Commercial	70	74	4
R7—505 S. H St.	Single-family residential	72	75	4
R7-1—317 S. I St.		69	74	5
R9—425 N. H St.		66	70	4
R14—Southwest corner of Ave 12/Borden St.	Undeveloped	68	72	4
R15—1140 N. Gateway Dr.	Restaurant	62	67	5
R16—16279 Sharon Blvd.	Mobile home	65	71	6
R20—2842 N. Golden State Blvd.	Commercial	66	71	5
R23—1029 Riverview St.	Single-family residential	71	75	5
R25—401 N. H St.	Commercial	67	70	3
R26—113 E. Lewis St.	Single-family residential	68	74	5
b1—1025 Riverview Dr.	Single-family residential	70	74	4
b2—1021 Riverview Dr.		69	74	5
b3—1017 Riverview Dr.		69	73	5
b4—1013 Riverview Dr.		69	74	5
b5—1009 Riverview Dr.		70	74	4
b6—1005 Riverview Dr.		70	74	4
b7—1201 W. Central Ave.		70	74	4
b8—231 W. Central Ave.		69	73	6
b9—216 W. Central Ave.		70	74	4
b10—725 N. H St.		72	76	4
b11—717 N. H St.		72	76	4
b31—826 Terrace Pl.	Multi-family residential	72	76	4

Source: Noise Study Report (January 2014)

The study area is primarily urban in nature with existing noise levels ranging between 56 to 72 dBA. The southern and northern portions of the project area consist of agricultural land uses. Traffic on existing State Route 99 and local street traffic are the main sources of noise in the study area. Land uses identified within the project limits include single-family and multi-family residences, hotels/motels, and places of worship. Other land uses are commercial establishments, gas stations, restaurants, and office buildings.

The predicted future noise increase at receptor sites ranges between 3 and 6 decibels as shown on Table 1.8. This is not considered to be a substantial noise increase,

therefore; mitigation was not required pursuant to the California Environmental Quality Act.

Appendix A Detailed Project Description

Project Purpose

The purpose of the project is to relieve traffic congestion and improve traffic operations by providing additional capacity on State Route 99 between Avenue 12 and Avenue 17.

Project Need

Planned development within the project area has led to increased traffic and deteriorated operations on State Route 99 between Avenue 12 and Avenue 17, resulting in the facility currently operating at a Level of Service (LOS) D. Without the proposed project, future traffic growth will degrade and the freeway will operate at capacity at a LOS E before the year 2020.

Congestion

Within the project limits, State Route 99 has become congested from an increasing regional population and local development in the city of Madera. Congestion is measured as Level of Service, which is an indicator of driving on a roadway or at an intersection and is defined in categories ranging from "A" to "F." A Level of Service "A" indicates free-flowing traffic with no hindrance to driving speed caused by traffic conditions. A Level of Service "F" indicates substantial congestion with slow-moving, stop-and-go traffic. The existing and forecasted traffic data is displayed in Table A.1.

Table A.1 State Route 99 Existing and Forecasted Traffic Within the Project Limits

Year	Segment	Level of Service (Peak Hour)		Number of Vehicles (Peak Hour)		% Trucks	
		AM	PM	AM	PM	Peak Hour	ADT
2010 Existing Facility	Northbound	B-C	B-C	1,820-2,310	2,030-2,610	12%	24%
	Southbound	B-C	C-D	1,670-2,650	2,320-2,890		
2020 Project Alternative	Northbound	B-C	B-C	2,610-3,485	2,840-3,840		
	Southbound	B-C	B-C	2,465-3,930	3,000-4,090		
2040 Project Alternative	Northbound	C-E	D-F	3,935-5,830	4,460-6,300		
	Southbound	C-F	D-F	4,050-6,005	4,350-6,480		

Source: Operational Analysis for Route 99 between Avenues 12 and 17 Memorandum (May 18, 2011)

The existing freeway would operate at capacity, or Level of Service E prior to 2020 traffic conditions. With continued development occurring around the project area, congestion for this 4-lane segment of State Route 99 is expected to worsen to a Level of Service F prior to 2025. Congestion would remain at this level until improvements are made to increase the capacity and improve the Level of Service. The Project alternative would relieve congestion and improve the Level of Service to a LOC C or better in 2020.

Safety

The collision rates for northbound and southbound State Route 99 between post miles R7.5 and 15.1 are shown in Table A.2.

Table A.2 Collision Rates

Freeway Segment	Actual			Average		
	Fatal	F+I	Total	Fatal	F+I	Total
Route 99 – Northbound	0.004	0.19	0.48	0.006	0.21	0.63
Route 99 – Southbound	0.000	0.23	0.67	0.006	0.21	0.63

Source: Safety Analysis, District 6 Office of Traffic Operations (2014)

The collision history for northbound Route 99 in collisions per million-vehicle-miles indicates that the actual fatal, fatal plus injury, and total collision rates are **lower** than the statewide average collision rates for similar roadways with comparable traffic volumes.

The collision history for southbound State Route 99 in collisions per million-vehicle-miles indicates that the actual fatal plus injury and total collision rates are **higher** than the statewide average fatal plus injury and total collision rates for similar roadways with comparable traffic volumes. However, the actual fatal collision rate is **lower** than the statewide average fatal collision rates.

Project Description

The proposed project would widen State Route 99 from 4- to 6-lanes by constructing an additional lane primarily within the median in each direction of travel between post mile 7.5 and 15.1. Approximately 2 feet of permanent easement would be required from the County of Madera on the west side of State Route 99, just north of Avenue 12. Temporary construction easements are proposed at the two proposed soundwall locations. No permanent right-of-way acquisition is proposed. The following unique features are being proposed for different segments of State Route 99 within the project limits:

Avenue 12 to Almond Avenue Segment (Post Mile 7.5/9.5)

Due to a narrow median and the close proximity of the Union Pacific Railroad located to the east of this segment, the highway would be widened to the west. Approximately two feet of permanent easement would be required west of State Route 99 just north of Avenue 12. The Avenue 12 southbound off-ramp is proposed to be realigned to accommodate the widening.

Almond Avenue to North of Avenue 16 Segment (Post Mile 9.5/12.7)

This segment passes through the urbanized area within the city of Madera and all structures within this segment were constructed around the 4-lane freeway. Because the structures limit the space within the median, the project proposes to construct an 18-foot median with 11-foot lanes rather than the standard 12-foot lane. The shoulder width within the median around the structures would be reduced as well. The roadway profile under South Madera Overcrossing is proposed to be lowered by

approximately 18 to 24 inches to meet standard vertical clearance requirement. The stopping sight distance at the median barrier would remain non-standard. The Almond Avenue southbound on-ramp is proposed to be re-aligned to accommodate the widening.

Avenue 16 to 0.8 Miles North of Avenue 17 Segment (Post Mile 12.7/15.1)

The median within this segment is 46-foot wide, which allows the construction of the standard 12-foot lanes entirely within the median. The only non-standard features for this segment would the stopping sight distance in the northbound direction north of Avenue 16 and the shoulder clearance width at the median column of the Avenue 17 Overcrossing.

Common Features of All Segments

- Based on further pavement study, an overlay will be laid as needed on existing pavement excluding recently rehabilitated pavement from post mile 10.0 to 11.6
- The areas between the pavement and the right of way line would be disturbed for drainage purposes except at the depressed section
- The median concrete barrier height within the project limits would be determined by the amount of headlight glare received from on-coming traffic; a lower barrier would be installed where stopping sight distance is hindered
- A thrie beam barrier would be installed where the freeway is designated as a Special Flood Hazard Area
- Design exceptions would include non-standard median widths, interchange spacing, vertical and horizontal clearances, and stopping sight distance.

It is anticipated that construction would begin fall of 2019 and continue until spring of 2021.

Appendix B Species Lists

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

Query Criteria: Quad is (Madera (3612081) or Kismet (3712011) or Daulton (3711918) or Bonita Ranch (3612082) or Berenda (3712012) or Gregg (3611988))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex persistens vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja campestris var. succulenta succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2	S2	1B.2
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G3	S3	1B.2
Dipodomys nitratoides exilis Fresno kangaroo rat	AMAFD03151	Endangered	Endangered	G3TH	SH	
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Gambelia sila blunt-nosed leopard lizard	ARACF07010	Endangered	Endangered	G1	S1	FP
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Leptosiphon serrulatus Madera leptosiphon	PDPLM09130	None	None	G1?	S1?	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta moesta moestan blister beetle	IICOL4C020	None	None	G2	S2	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2

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Report Printed on Tuesday, January 13, 2015 — **Information Expires 7/6/2015**

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Hardpan Vernal Pool						
Orcuttia inaequalis	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
San Joaquin Valley Orcutt grass						
Orcuttia pilosa	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
hairy Orcutt grass						
Phrynosoma blainvillii	ARACF12100	None	None	G3G4	S3S4	SSC
coast horned lizard						
Spea hammondii	AAABF02020	None	None	G3	S3	SSC
western spadefoot						
Taxidea taxus	AMAJF04010	None	None	G5	S3	SSC
American badger						
Tuctoria greenei	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
Greene's tuctoria						
Valley Sacaton Grassland	CTT42120CA	None	None	G1	S1.1	
Valley Sacaton Grassland						

Record Count: 27

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 150106020731

Current as of: January 6, 2015

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)

Thamnophis gigas
giant garter snake (T)

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (T)

Mammals

Dipodomys nitratoides exilis
Fresno kangaroo rat (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)

succulent (=fleshy) owl's-clover (T)

Orcuttia inaequalis
Critical habitat, San Joaquin Valley Orcutt grass (X)
San Joaquin Valley Orcutt grass (T)

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)
hairy Orcutt grass (E)

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)

Quads Containing Listed, Proposed or Candidate Species:

GREGG (379B)
MADERA (380A)
BONITA RANCH (380B)
DAULTON (399C)
BERENDA (400C)
KISMET (400D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the

county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or

seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 06, 2015.

CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

3 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 37120A2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	1B.1	S2	G2
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	4.2	S3.2	G4T3

Suggested Citation

CNPS, Rare Plant Program. 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 09 October 2014].

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Plant List

6 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 36120H2

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	1B.2	S2	G3T2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	1B.1	S2	G2
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	1B.2	S2	G2
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	1B.2	S1	G1
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	4.2	S3.2	G4T3
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	1B.2	S3	G3

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Plant List

4 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 37119A8

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	1B.2	S2	G4T2
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

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Plant List

2 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 36119H8

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Castilleja campestris var. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

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Plant List

4 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 37120A1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	1B.2	S2	G4T2
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

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Plant List

3 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 36120H1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	1B.2	S2	G2
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	1B.2	S1?	G1?
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

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Appendix C Species Effect Determination

The following species list was obtained from U.S. Fish and Wildlife Service on January 6, 2015, and indicates the effect determination for each of the species.

Common Name	Scientific Name	Status	Effect Determination
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	No effect on species or habitat.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	No effect on species or habitat.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	No effect on species or habitat.
Delta smelt	*Hypomesus transpacificus*	FT	No effect on species or habitat.
Central Valley steelhead	*Oncorhynchus mykiss*	FT	No effect on species or habitat.
California tiger salamander	*Ambystoma californiense*	FT	No effect on species or habitat.
California red-legged frog	*Rana draytonii*	FT	No effect on species or habitat.
Blunt-nosed leopard lizard	*Gambelia sila*	FE, FP	No effect on species or habitat.
Giant garter snake	*Thamnophis gigas*	FT	No effect on species or habitat.
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	FE	No effect on species or habitat.
San Joaquin kit fox	*Vulpes macrotis mutica*	FE	No effect on species or habitat.
Succulent owl's-clover	*Castilleja campestris var. succulenta*	FT	No effect on species or habitat.

Common Name	Scientific Name	Status	Effect Determination
San Joaquin Orcutt grass	*Orcuttia inaequalis*	FT	No effect on species or habitat.
Hairy Orcutt grass	*Orcuttia pilosav*	FE	No effect on species or habitat.
Greene's tuctoria	*Tuctoria greenei*	FE	No effect on species or habitat.
Vernal Pool Fairy Shrimp Critical Habitat		CH	No effect on species' critical habitat.
Succulent Owl's Clover Critical Habitat		CH	No effect on species' critical habitat.
San Joaquin Valley Orcutt Grass Critical Habitat		CH	No effect on species' critical habitat.
Hairy Orcutt Grass Critical Habitat		CH	No effect on species' critical habitat.
Green Tuctoria Critical Habitat		CH	No effect on species' critical habitat.

Appendix D Proposed Permits and Approvals

Agency	Permit/Authority	Purpose
U.S. Army Corps of Engineers	Nationwide Permit/Clean Water Act, Section 404	The U.S. Army Corps of Engineers issues permits for projects involving dredge or fill activities within waters of the U.S.
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	An agreement is required for work within the bed, bank, and channel of streams and other water bodies in the state of California.
Central Valley Regional Water Quality Control Board	Water Quality Certification/ Clean Water Act, Section 401	The Regional Water Quality Control Board, in coordination with the U.S. Army Corps of Engineers Section 404 process, confirms that the subject activity would comply with state water quality standards.
	Clean Water Act Section 402, National Pollutant Discharge Elimination System: Waste Discharge Permit	The Regional Water Quality Control Board requires compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order No. 2012-011-DWQ NPDES No. CAS000003) and (2) the General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (Order No. 2009-009-DWQ, NPDES No. CAS000002).

Appendix E List of Technical Reports Bound Separately

- Air Quality Study Report, May 2015
- Climate Change, February 2015
- Cultural Resources Compliance Memo, December 30, 2014
- Hazardous Waste Environmental Assessment, November 17, 2014
- Natural Environment Study/Minimal Impacts, January 13, 2015
- Location Hydraulic Study, January 25, 2011
- Noise Study Report, January 2014
- Paleontological Identification Report, October 3, 2013
- Visual Impact Assessment (Minor Level), November 2013
- Water Quality Assessment Report, January 2014