

North Paso Robles 101 Rehabilitation

Near the Town of San Miguel, San Luis Obispo County, and
Camp Roberts, Monterey County

05-SLO-101-63.2/R69.3

05-MON-101-R0.0/1.9

Project ID# 05-0002-0020

EA# 05-0G040

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

May 2013



General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this initial study that examines the potential environmental impacts of alternatives being considered for the proposed project in San Luis Obispo and Monterey counties, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you 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, 50 Higuera Street, San Luis Obispo, CA 93401; and the San Miguel Library at 254 13th Street, San Miguel, California 93451. The document can also be accessed electronically at the following website: <http://www.dot.ca.gov/dist05/projects/>
- We welcome your comments. If you would like the opportunity for a public hearing or have comments or concerns on this project, please submit any comments or concerns to Caltrans by the deadline. Submit comments via United States mail to Caltrans at the following address:

Matt Fowler, Senior Environmental Planner
California Department of Transportation, Environmental Planning
50 Higuera Street
San Luis Obispo, CA 93401

- Submit comments via e-mail to: Matt_C_Fowler@dot.ca.gov
- Submit comments by the deadline: July 3, 2013.

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 construct all or part of the project.

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

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: Matt Fowler, Environmental Central Coast Branch, 50 Higuera Street, San Luis Obispo, CA 93401; (805) 542-4603 Voice, (805) 542-4603 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

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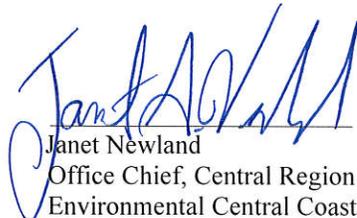
Rehabilitate Highway 101 near the town of San Miguel from post mile 63.2 to R69.3 (San Luis Obispo County) and
Camp Roberts from post mile R0.0 to R1.9 (Monterey County).

**INITIAL STUDY
with Proposed Mitigated Negative Declaration**

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

THE STATE OF CALIFORNIA
Department of Transportation

5/15/2013
Date of Approval


Janet Newland
Office Chief, Central Region
Environmental Central Coast Office
California Department of Transportation
CEQA Lead Agency

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes pavement rehabilitation of the existing Highway 101 from the San Marcos Creek Bridge in San Luis Obispo County to the Monterey County line (post miles 63.2 to R69.3) and from the Monterey County line to 0.25 mile south of East Garrison Overcrossing in Monterey County (post miles R0.0 to 1.9). Pavement rehabilitation would consist of a hot-mix asphalt-cement overlay. In addition, the project proposes to upgrade various highway elements to meet current Caltrans' safety standards. Inside and outside shoulders along the ramps and mainline would be widened and rumble strips placed. Existing metal beam guardrails and concrete barriers would be replaced. The project would replace both San Marcos Creek bridges, modify drainage systems, correct vertical clearances of existing structures, realign 0.7 mile length of southbound 101 and construct a new bridge (under crossing). A southbound on-ramp from Mission Street would be realigned, new retaining walls would be constructed and new lighting installed.

Determination

This proposed Mitigated Negative Declaration 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 regarding the project is final. This Mitigated Negative Declaration is subject to modification based on comments received by interested agencies and the public.

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

The project would have no effect on land use, growth, farmland/timberland, community impacts, geology/soil, cultural resources, paleontology, hazardous materials, air quality, noise levels, or plant species.

In addition, the proposed project would have no significant effect on utilities, emergency services, hydrology, water quality, wetlands, other waters of the United States, invasive species, climate change as a result of the project or building the project with the use of avoidance and minimization measures.

The proposed project would have no significant adverse effect on the visual/aesthetics environment, natural communities, animal species, or threatened and endangered species because the following measures would reduce potential effects to insignificance:

Visual/ Aesthetics

- Aesthetic treatment would be applied to visible retaining walls.
- Aesthetic treatment such as texture and/or color or alternative materials would be applied to all contrast surface treatment areas.
- Aesthetic treatment would be applied to all Mission Street bridge rails.
- Aesthetic treatment would be applied to slope paving if it is constructed beneath Mission Street bridges.
- Caltrans approved aesthetic treatment would be determined with input from the local community. Aesthetic architectural treatment would complement the surrounding environment. For example, color enhancements like earthen tones in colored concrete, and textures such as natural stone or bas relief would be used.
- A minimum of 50 native trees would be planted and sufficiently established within the project limits in the vicinity of structures.
- All disturbed areas would be re-vegetated with erosion-control seeding.

Natural Communities

- 3:1 replacement ratio for loss of native trees and willows (three new trees for each removed tree).

Animal Species

- Construction of grooves or ridges underneath bridge for loss of bat night-roost habitat.

Threatened and Endangered Species

Steelhead

- Work activities within or adjacent to channel will occur between May 1 and October 31 when the channel is dry.
- Capture, handling and relocation of steelhead would be done only by permitting agency authorized biologist.
- Preconstruction educational meetings for construction personnel prior to work in creeks.
- Disturbance or removal of native vegetation would be minimized with the use of environmentally sensitive area fencing.
- Altered streams would be graded to preconstruction conditions after work is completed.
- Best management practices would be required for hazardous material prevention.
- Silt fences and straw wattles would be used for erosion control measures

San Joaquin kit fox

- If kit fox were found, all project activities would cease until authorization from permitting agencies.
- Project-related vehicles restricted to a 20-mph speed limit in all project areas, excluding county roads and Highway 101.
- Prior to any ground disturbance, Caltrans will conduct an all contractors employee education program pertaining to kit fox.
- A litter control program will be initiated. No pets or firearms will be allowed on-site.
- Excavations deeper than 2 feet will be covered at the end of each work day, or have escape ramps. Each excavation will be inspected thoroughly before being filled.
- All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site would be thoroughly inspected for kit foxes before use.

- The resident engineer or their designee will be responsible for implementing these conservation measures.
- Restoration and vegetation work will use California native plant materials. Use of fiber rolls to prevent soil erosion. Application of Caltrans' best management practices.
- Preconstruction surveys conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance. The survey will identify and map any potential kit fox dens. Written results of the preconstruction survey will be submitted to the Service within 5 days after survey completion and prior to the start of ground disturbance.

Vernal pool fairy shrimp

- Proposed work would avoid the area within the railroad right-of-way that pools seasonally and supports facultative vegetation.
- Seasonal pool location would be depicted on plans and in the field with environmentally sensitive area fencing.

Janet Newland
 Office Chief, Central Region
 Environmental Central Coast
 California Department of Transportation

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes improvements to a segment of Highway 101 in northern San Luis Obispo County and southern Monterey County. The project proposes to rehabilitate an 8-mile-long segment of highway beginning in San Luis Obispo County near Monterey Road (post mile 63.2) 1.5 miles north of Paso Robles and ends near Bradley Road (post mile R1.9) in Monterey County. This portion of Highway 101 would be improved to meet many current design standards (see Figure 1 and Figure 2).

Highway 101 is a major transportation corridor through the Central Coast, linking the Bay Area to Southern California. This segment of Highway 101 is a rural four-lane divided highway passing through flat terrain. The surrounding area is composed primarily of agricultural parcels, designated areas of open space, the small town of San Miguel, and Camp Roberts.

The project proposes roadway rehabilitation throughout the project limits. The Portland cement concrete pavement within the project limits shows signs of severe distress and is continuously in need of repair. In addition, the project proposes to upgrade various highway elements to meet current Caltrans' safety standards. Inside and outside shoulders along the ramps and mainline would be widened and rumble strips placed. Existing metal beam guardrails and concrete barriers would be replaced. The project would replace both San Marcos Creek bridges, modify drainage systems, correct vertical clearances of existing structures, realign 0.7 mile length of southbound 101 and construct a new bridge over Mission Street. A southbound on-ramp from Mission Street would be realigned, new retaining walls would be constructed and new lighting installed.

The proposed project is programmed under the 2008 State Highway Operation and Protection Program with funding from the HA-22 Pavement Rehabilitation Program for delivery in fiscal year 2015/2016. The project is estimated to cost about \$60,204,000. Construction is anticipated to take three years, with a completion date scheduled in May 2018. Caltrans is the lead agency under the California Environmental Quality Act for the North Paso Robles 101 Rehabilitation Project.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to prevent further deterioration of pavement and reduce the cost of future maintenance, while upgrading the facility to current Caltrans standards to enhance safety.

1.2.2 Need

The condition of the roadway section currently triggers the need for major pavement rehabilitation based on the Caltrans annual pavement condition survey that found the pavement is severely distressed with various degrees of cracking.

The proposed project is needed to correct the following deficiencies:

- Stressed pavement deterioration that contributes to a poor driving surface and unacceptable ride quality.
- Highway features that do not conform to current design standards.

1.3 Alternatives

There are two alternatives under consideration: the Build-Alternative and the No-Build Alternative.

1.3.1 Build Alternative

Roadway Rehabilitation

The Build Alternative would rehabilitate roadway pavement on Highway 101 from approximately from 0.5 miles south of San Marcos Creek Bridges and continue north to approximately 48 yards before East Garrison Overcrossing in Monterey County. The majority of the pavement rehabilitation would consist of a crack, seat, and overlay of existing Portland cement concrete on the mainline throughout the project limits. Alternative pavement rehabilitation methods would be applied to various locations in the project limits due to vibration-related requirements. In these sensitive areas, primarily near the town of San Miguel, Portland cement concrete would be removed and replaced with full-depth hot-mixed asphalt.

Shoulder Widening

All shoulders along the mainline, which include five structures such as bridges and undercrossings would be widened. Existing inside shoulders would be widened from 2 feet to 5 feet. Outside shoulders would be widened from 8 feet to current standard of 10 feet. In addition to wider shoulders along the mainline, all on- and off-ramps would be widened.

Ramp Rehabilitation

Ramp rehabilitation would include a dense-graded asphalt concrete overlay. Shoulder widening would occur on both inside and outside ramp shoulders. The existing 2-foot-wide shoulders would be widened to 4 feet to meet current design standard. The concrete curbs would be removed and replaced with asphalt concrete dikes.

Rumble Strips

Rumble strips would be included along all shoulders of the mainline and ramps. The strips would be ground into the inside and outside shoulders.

Bridge Replacement and Widening

Both the northbound and southbound San Marcos Creek bridges at post mile 63.58 (San Luis Obispo County) would be replaced. The existing bridges are single-span structures about 30 and 36 feet wide, respectively, by 133 feet long. Wider (42 feet) and longer (206 feet) bridges are required to handle proposed shoulder widths that meet current design standards (see Appendix E, Project Design Plans).

Southbound San Marcos Creek Bridge does not have the structural integrity to withstand wider shoulders and must be replaced. Caltrans' Office of Structures recommends replacement of the northbound San Marcos Creek Bridge at the same time due to its old age and lower elevation compared to the southbound bridge. The northbound San Marcos Creek Bridge grade would be raised about four feet to match the elevation of the southbound bridge.

Realignment

The south end Mission Street on-ramp and southbound Highway 101 mainline would be reconfigured. At post mile 65.1, a new Mission Street on-ramp would be constructed on the right side of the mainline to enable motor vehicles to merge towards their left into the right lane of the mainline, commonly identified as the "slow lane". The existing on-ramp merging configuration forces vehicles to merge towards

their right into the left lane of the mainline, which is commonly referred to as the “fast lane”.

In order for the proposed on-ramp reconfiguration to occur, a segment of the mainline would be realigned and a new structure would be constructed. Approximately 0.7 miles of southbound Highway 101 would be realigned. The existing median on the southern end of San Miguel (post mile 65.5) to approximately 600 feet past San Miguel Cemetery (post mile 64.8) will be utilized for this realignment. This median has ample room to accommodate standard lane and shoulder widths, and the realigned southbound segment would run parallel to the existing northbound lanes. In addition, the mainline realignment would require construction of a new bridge that travels over the new Mission Street on-ramp (See Figure X). This new bridge would be approximately 150-feet long by 40 feet wide.

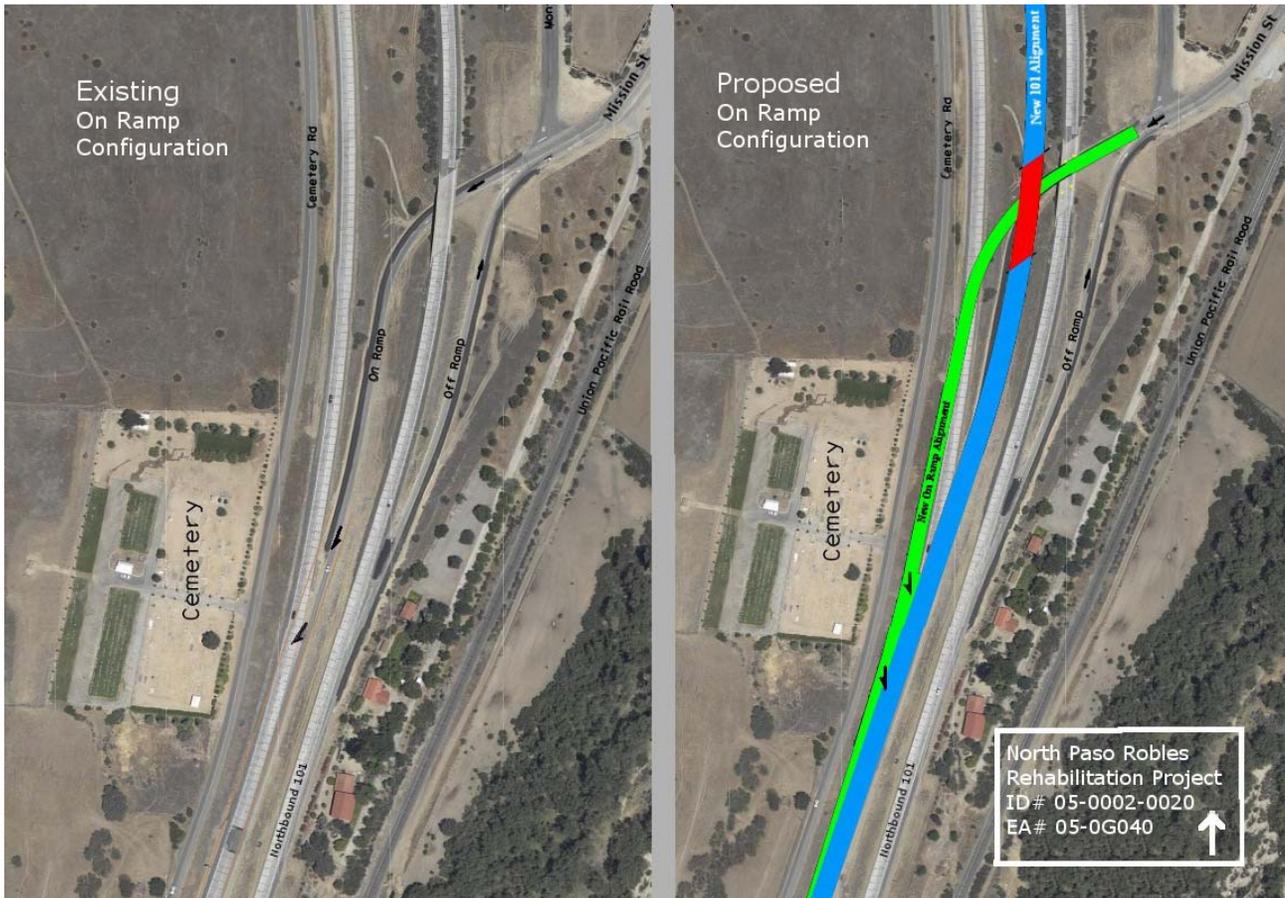


Figure 1: Mission Street On-Ramp Configuration

Concrete cement pavement in the existing southbound mainline between post mile 64.8 and 65.5 would be removed. Along most of this roadway segment the project would remove existing pavement and restore the area to a natural landscape condition; excluding approximately 1,000 feet which would be utilized for the new Mission Street southbound 101 on-ramp. Roughly 60,000 yards of fill material would be required for the southbound Highway 101 and Mission Street realignments.

Drainage

Roadway drainage conditions would be improved as part of the project. New drainage inlets and culvert connections would be built along southbound Highway 101 near the San Marcos Road intersection. A total of 13 outlets would be upgraded or modified with flared-end sections, and headwalls would be replaced as necessary. Rock slope protection would be installed at all locations that experience soil erosion. Where possible, the drainage system would be designed to allow run off to flow over paved surfaces and through vegetation before entering a vegetated drainage. Where channelized flow is required, water runoff would flow through vegetated ditches before entering a receiving water body, such as the Salinas River or San Marcos Creek.

Vertical Clearances

Nonstandard vertical clearances at South San Miguel Undercrossing, North San Miguel Undercrossing, 10th Street Undercrossing, and Camp Roberts Overcrossing would be corrected by lowering the roadways about 6 to 12 inches beneath each structure.

Retaining Wall

A retaining wall about 800 feet long would be built along northbound Highway 101 at post mile 69.05 to 69.25, roughly a quarter mile south of the San Luis Obispo/ Monterey County line. This wall is required to handle the outside shoulder widening and guardrail proposed at this location.

A retaining wall approximately 300 feet long would be built along southbound Highway 101, adjacent to Cemetery Road at approximately 80 feet from the Cemetery's entrance, between post mile 64.85 to 65.0, and would vary in height from 5 feet to 10 feet.

Metal-Beam Guardrail and Concrete Barriers

Existing guardrails would be upgraded to current standards and about 500 linear feet of new guardrail would be installed from post mile 69.11 to approximately 40 yards

south of the Monterey County line. To bring all structures to standard, existing concrete barriers would be replaced with upgraded barriers along the mainline and on the bridge structures.

In addition, six hundred feet of new guardrail would be constructed along the east side of Cemetery Road, adjacent to the proposed retaining wall and realigned southbound ramp.

Lighting and Signs

Lighting would be installed at Highway 101 ramp intersections to provide improved visibility and meet traffic standards. Existing electrical light poles would be moved to provide space for curb ramps. A traffic count station would be installed within the Caltrans right-of-way near the San Luis Obispo/Monterey County line (post mile R69.32). Roadside signs and emergency telephone boxes would be set back from their current locations, up to 15 feet, to accommodate the proposed shoulders.

1.3.2 No-Build Alternative

The No-Build Alternative would keep this segment of Highway 101 in its existing condition. Routine highway maintenance activities would increase as the roadway conditions continue to deteriorate. Small sections would be repaired as needed but repairs are anticipated to be needed frequently. Over time, the cost of routine maintenance would outweigh or increase beyond the proposed project's calculated amount.

The No-Build Alternative would not meet the purpose and need for the project, nor would it meet current design standards or offer any improvement to the highway facility. Extended shoulders would not be constructed. Adequate space for paved shoulders would not be provided, reducing the safe distance between disabled vehicles and traveling motorist. Stressed pavement would continue to deteriorate and driving conditions would become worse. Rumble strips would not be constructed. The No-Build would not install lighting at intersections that are in need of additional light for visibility, nor would this alternative repair failed drainages. In addition, the existing on-ramp from Mission Street to the southbound 101 on-ramp would continue to merge traffic into the "fast lane", a lane closest towards oncoming traffic. Mission Street would not be extended, the new bridge structure over the on-ramp, and the 0.7 mile segment of realignment would not be constructed.

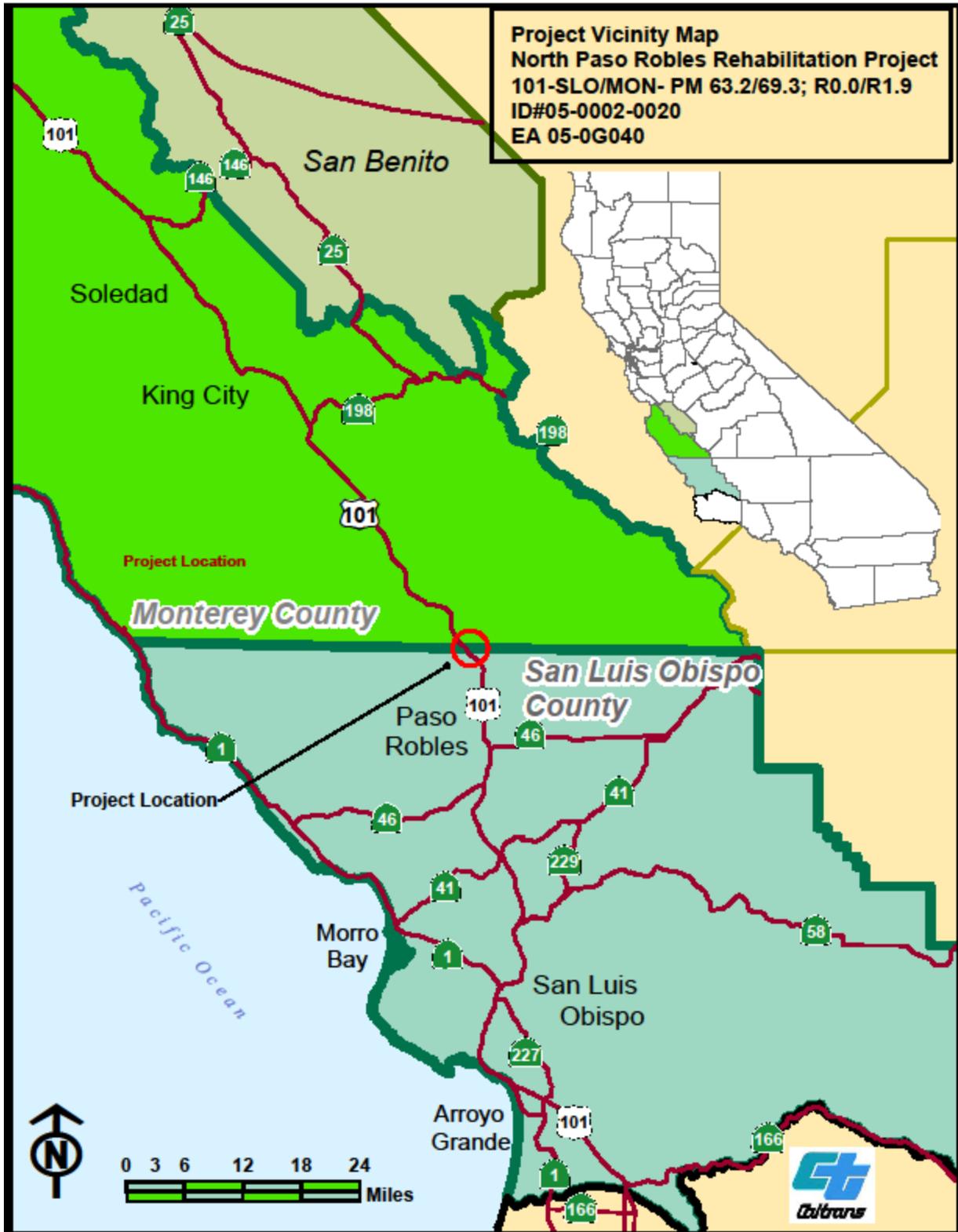
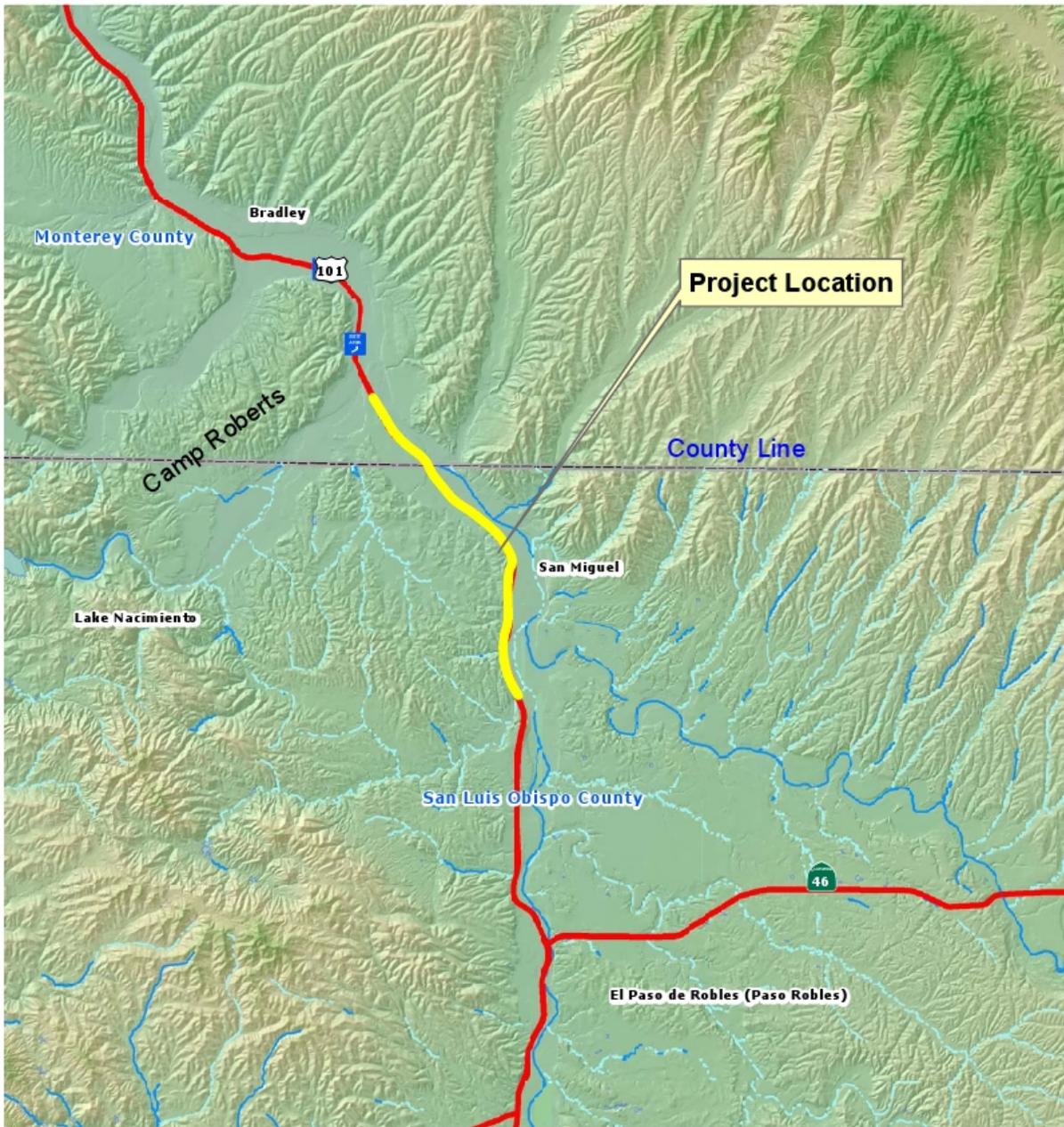


Figure 1-1 Project Vicinity Map

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Paso Robles 101 Rehab Project

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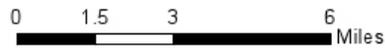


Figure 1-2 Project Location Map

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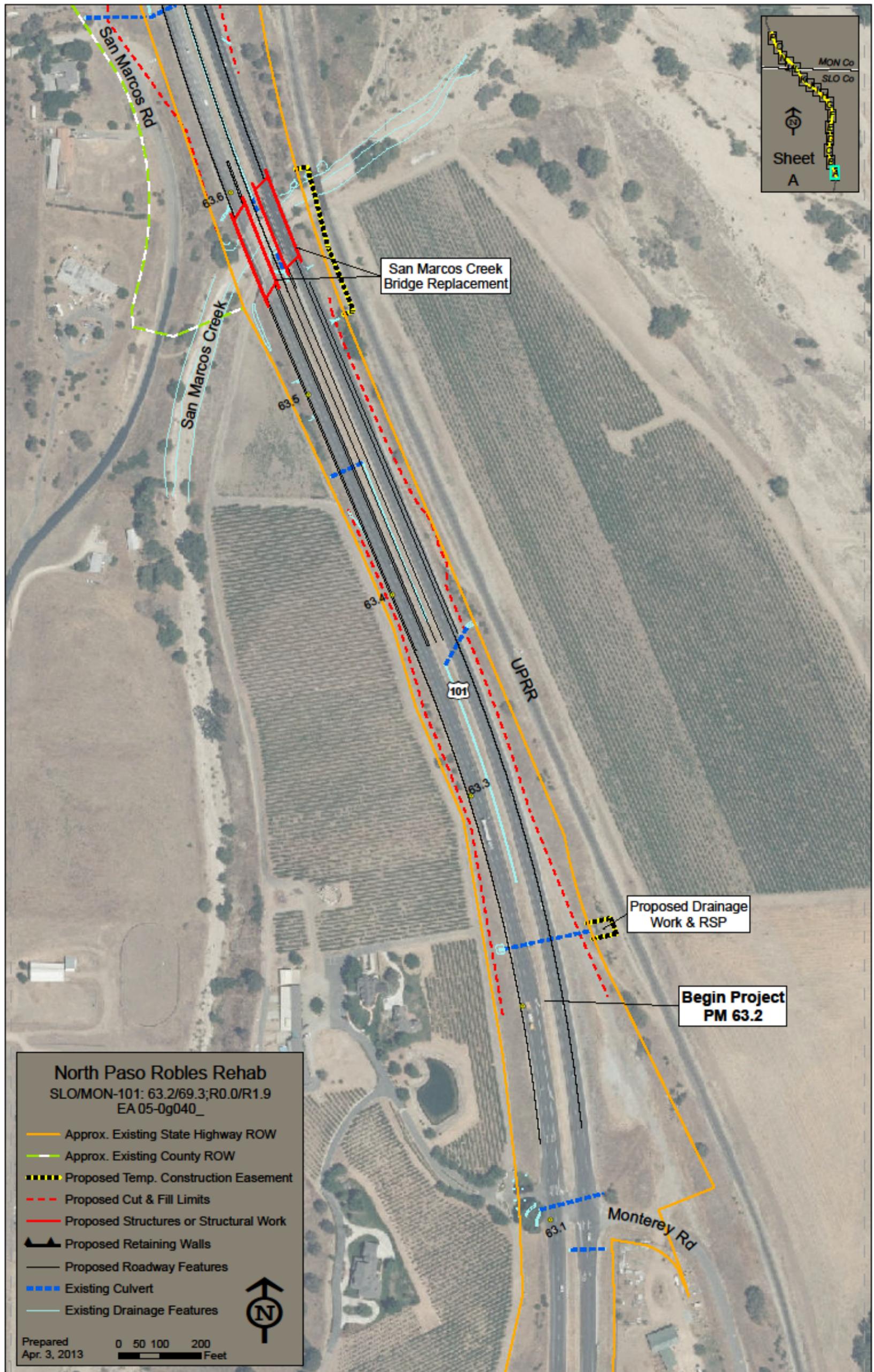


Figure 1-3a Proposed Project Layout Map

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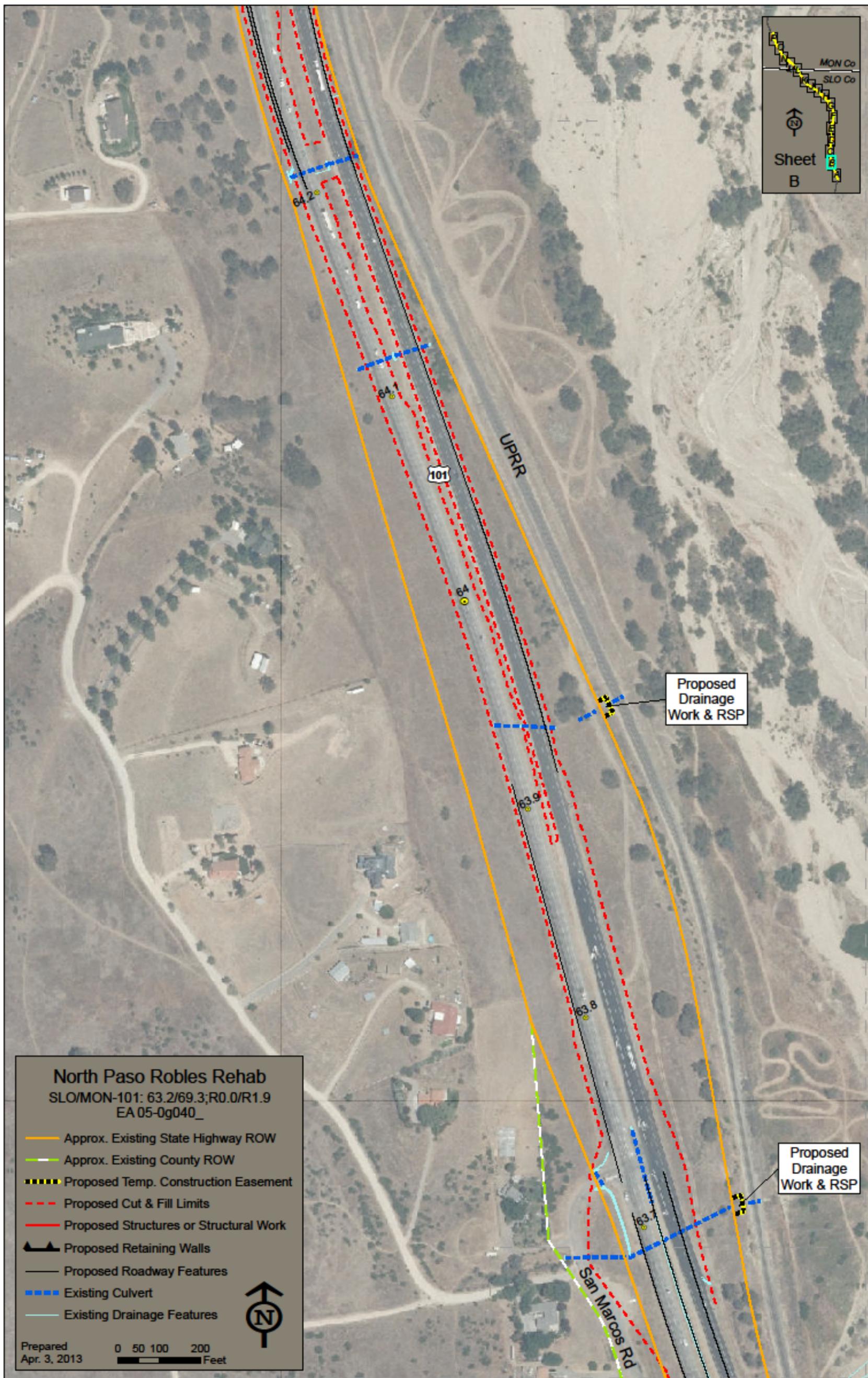


Figure 1-3b Proposed Project Layout Map

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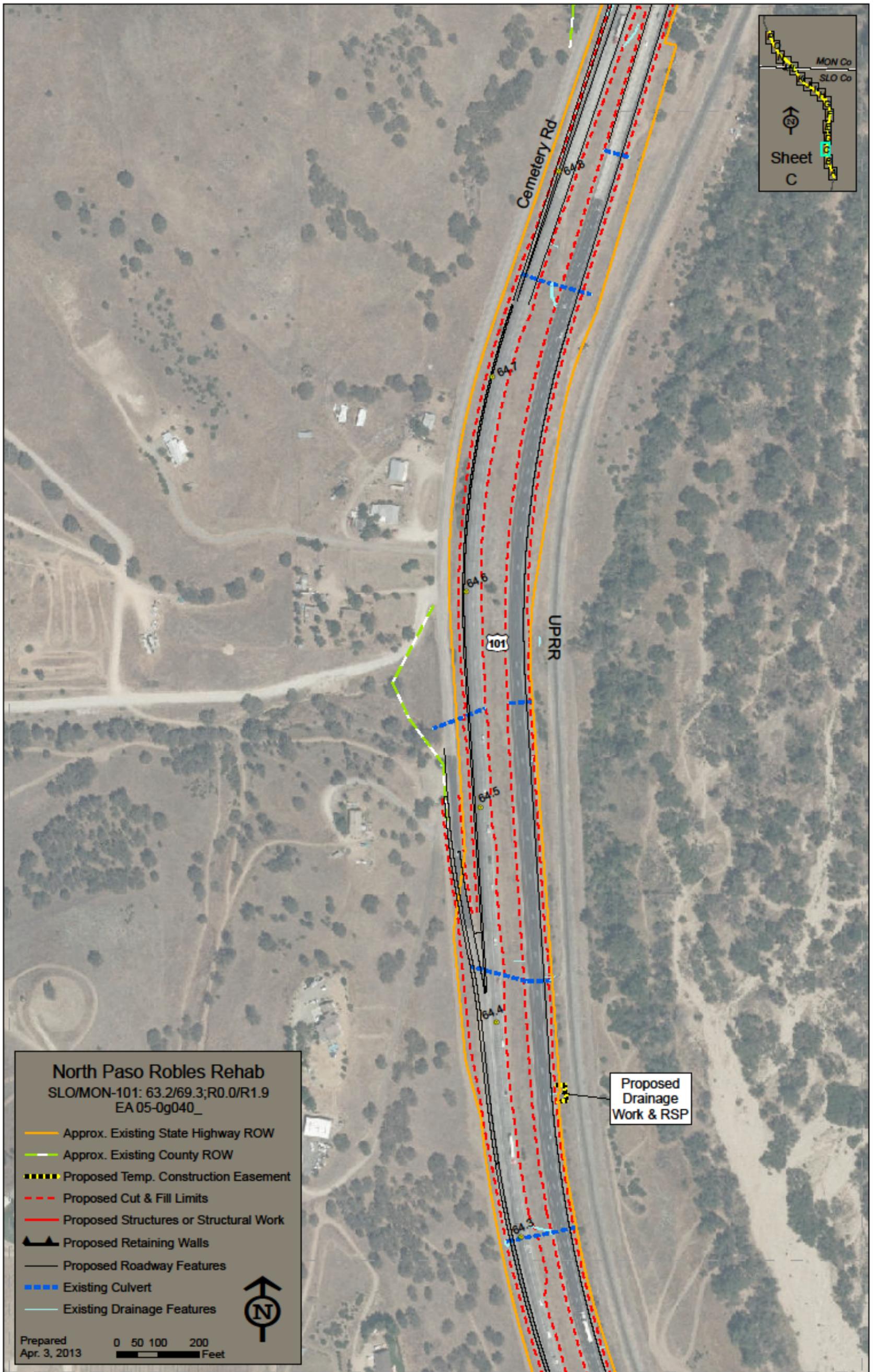


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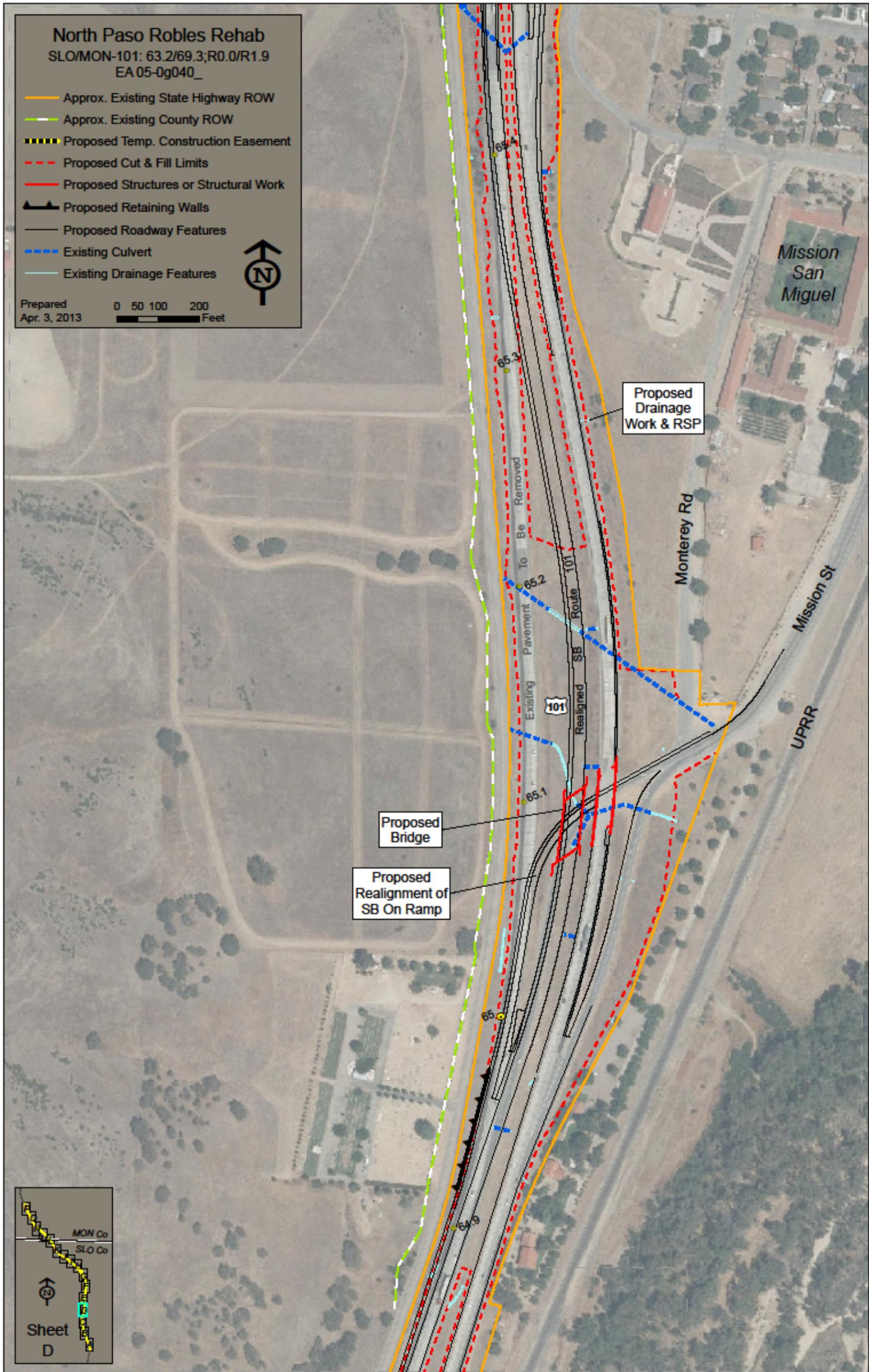


Figure 1-3d Proposed Project Layout Map

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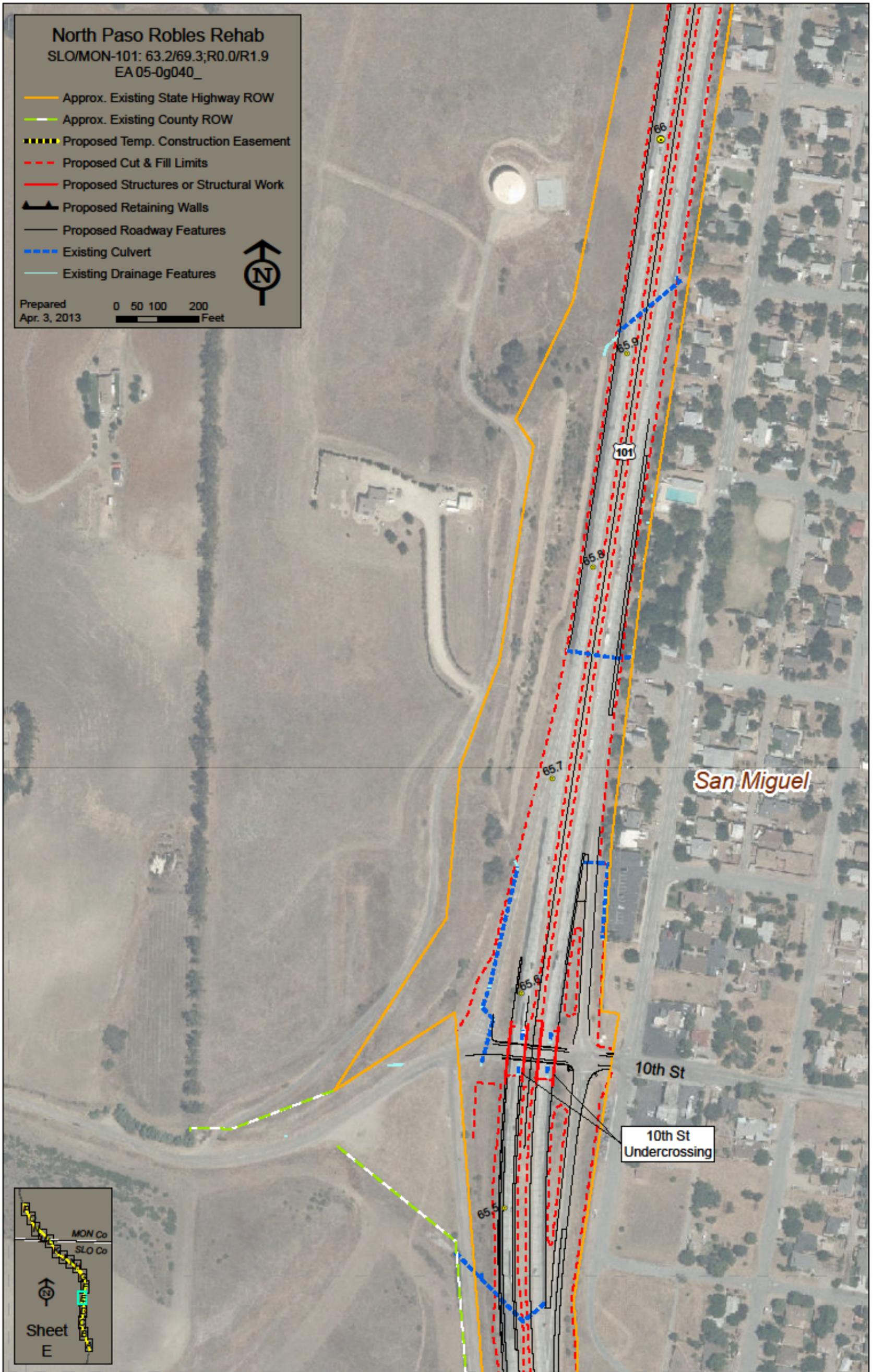


Figure 1-3e Proposed Project Layout Map

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Figure 1-3f Proposed Project Layout Map

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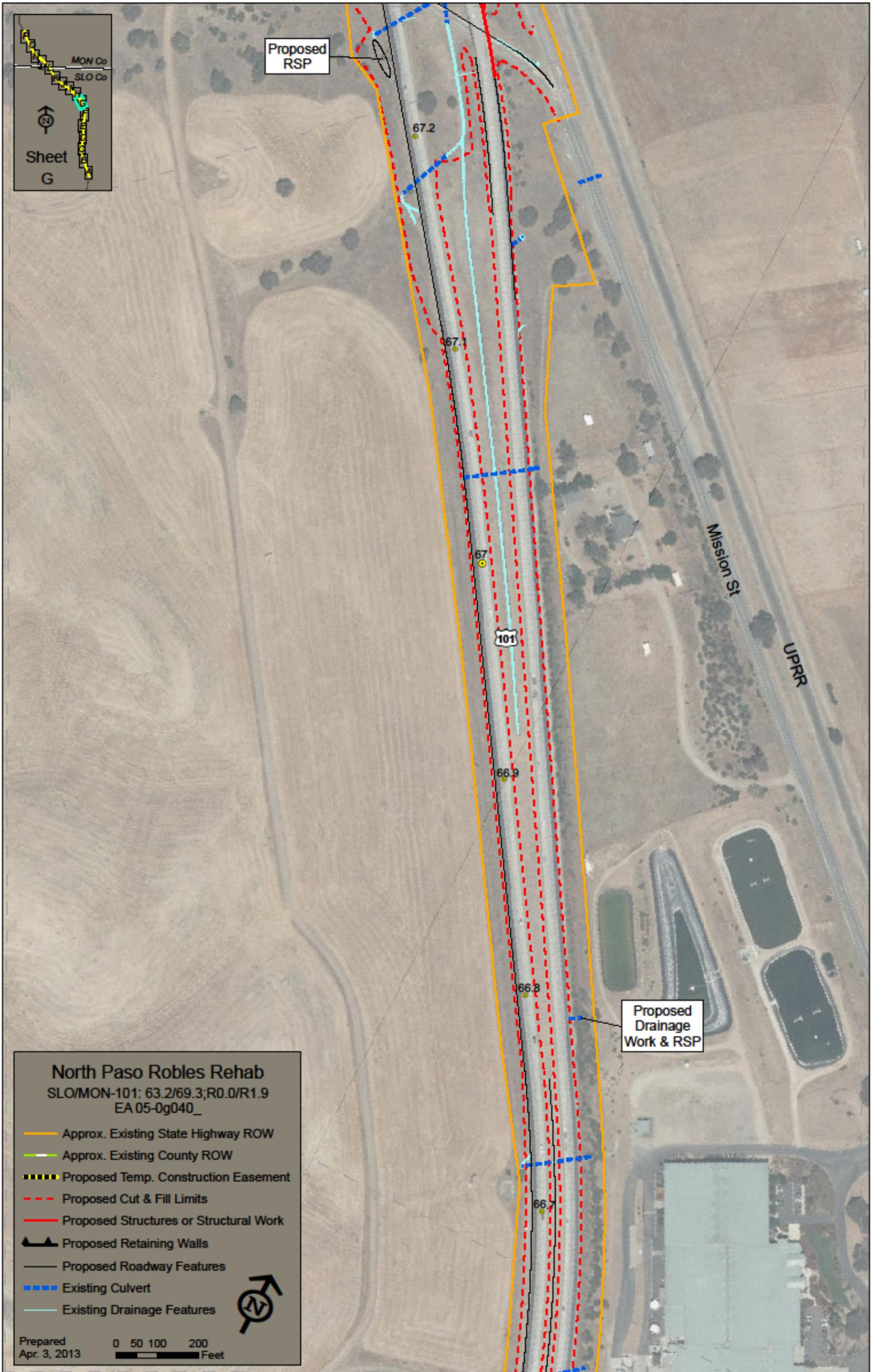


Figure 1-3g Proposed Project Layout Map

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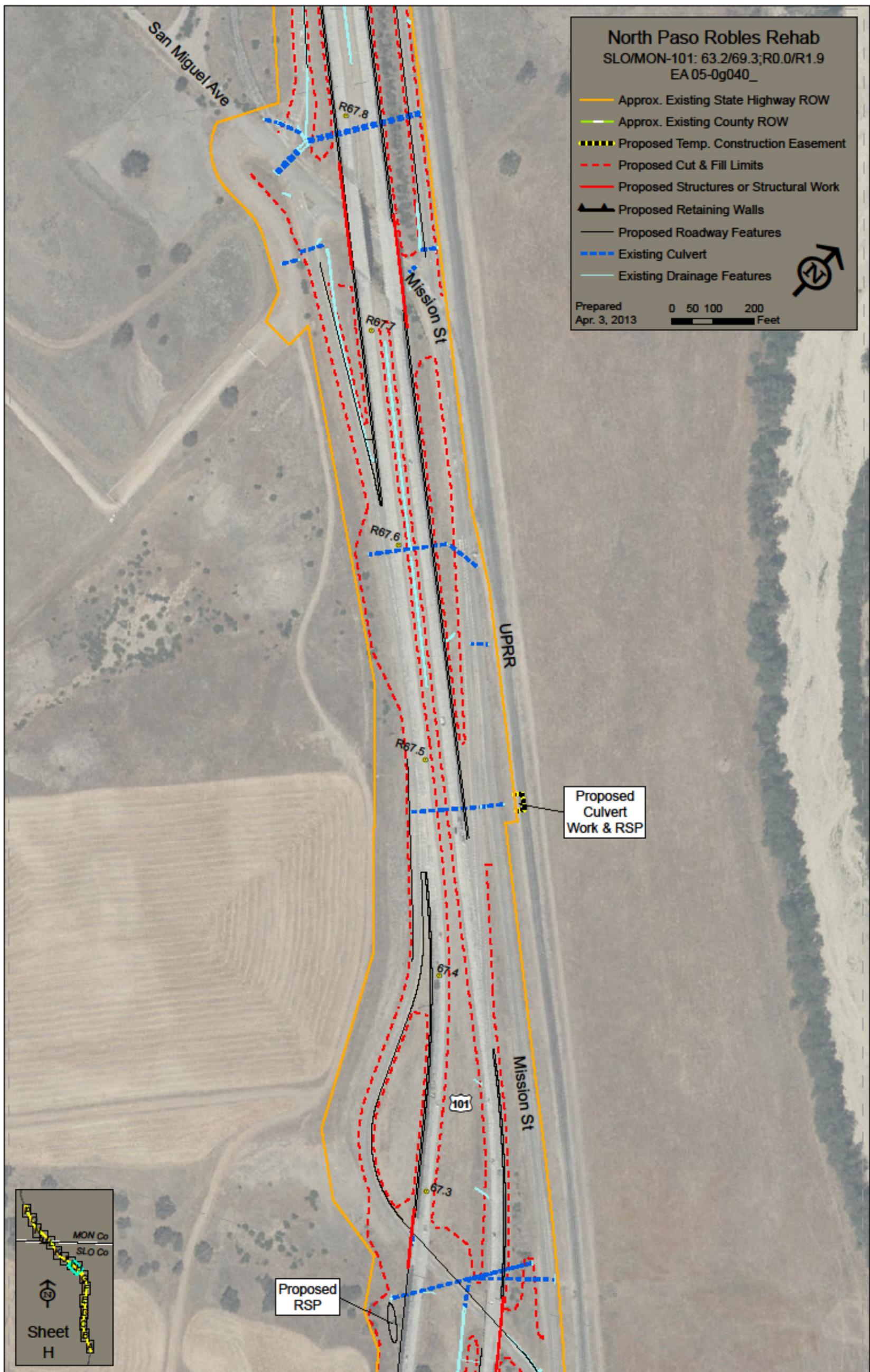


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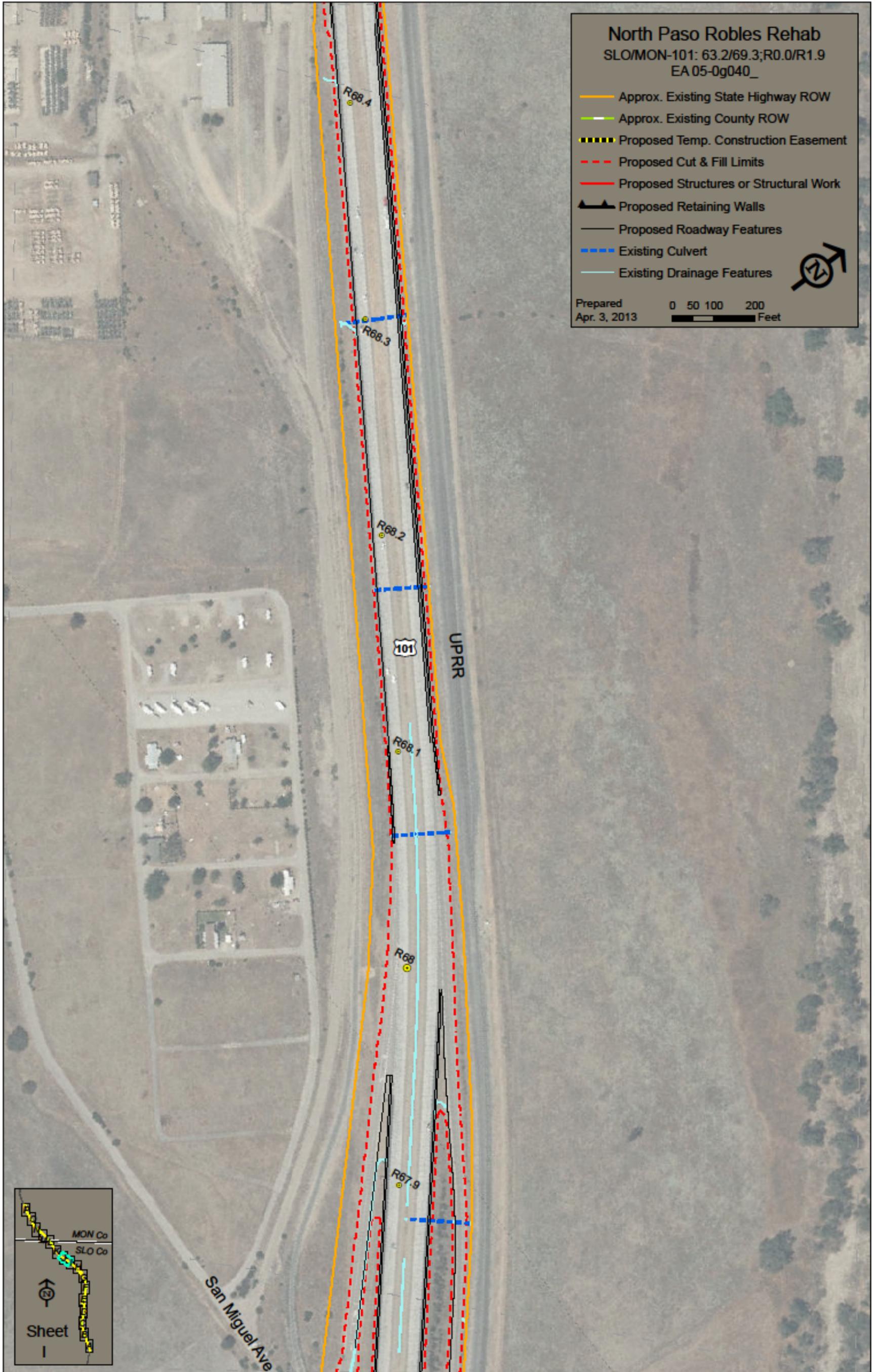


Figure 1-3i Proposed Project Layout Map

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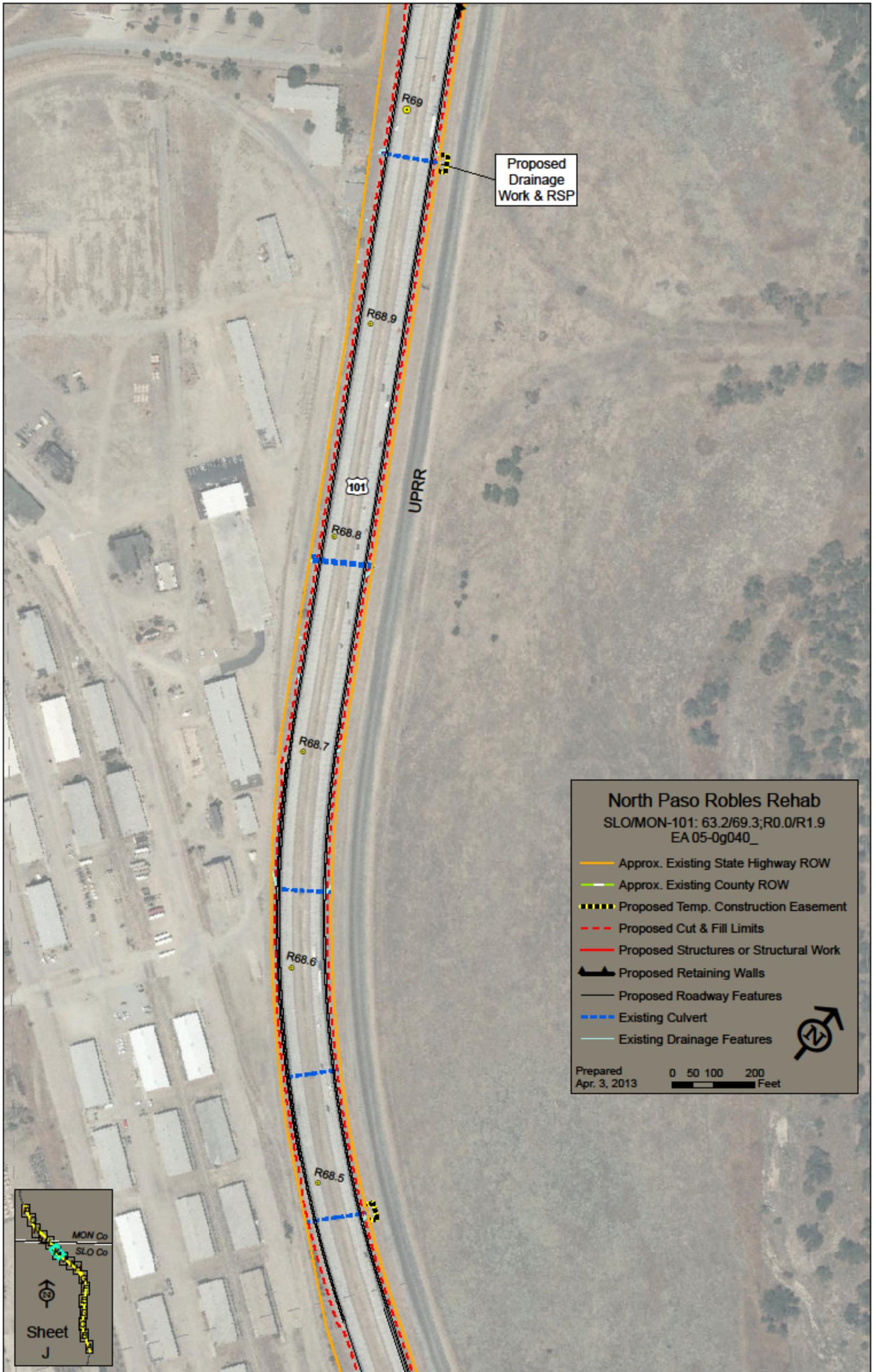


Figure 1-3j Proposed Project Layout Map

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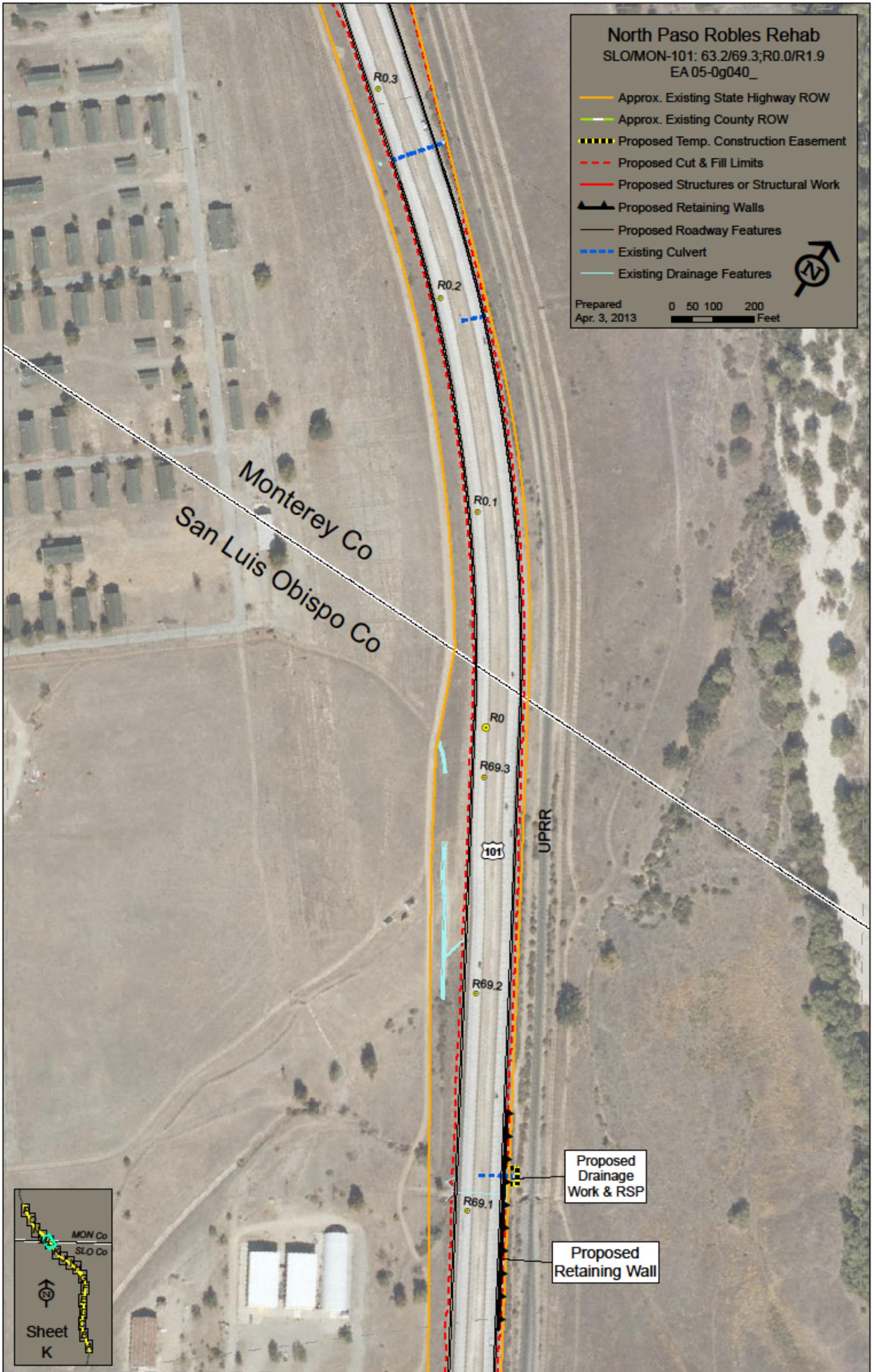


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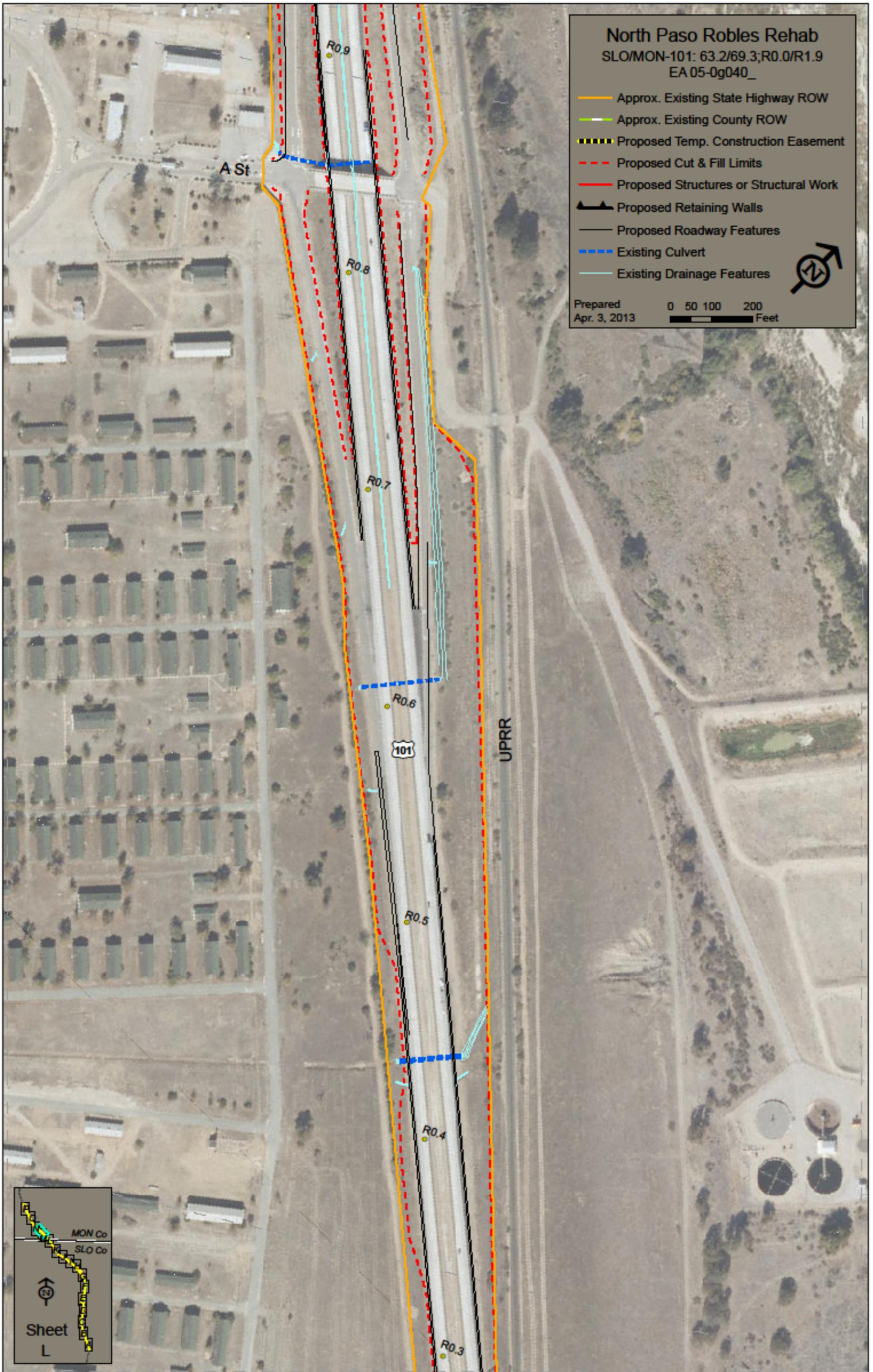


Figure 1-31 Proposed Project Layout Map

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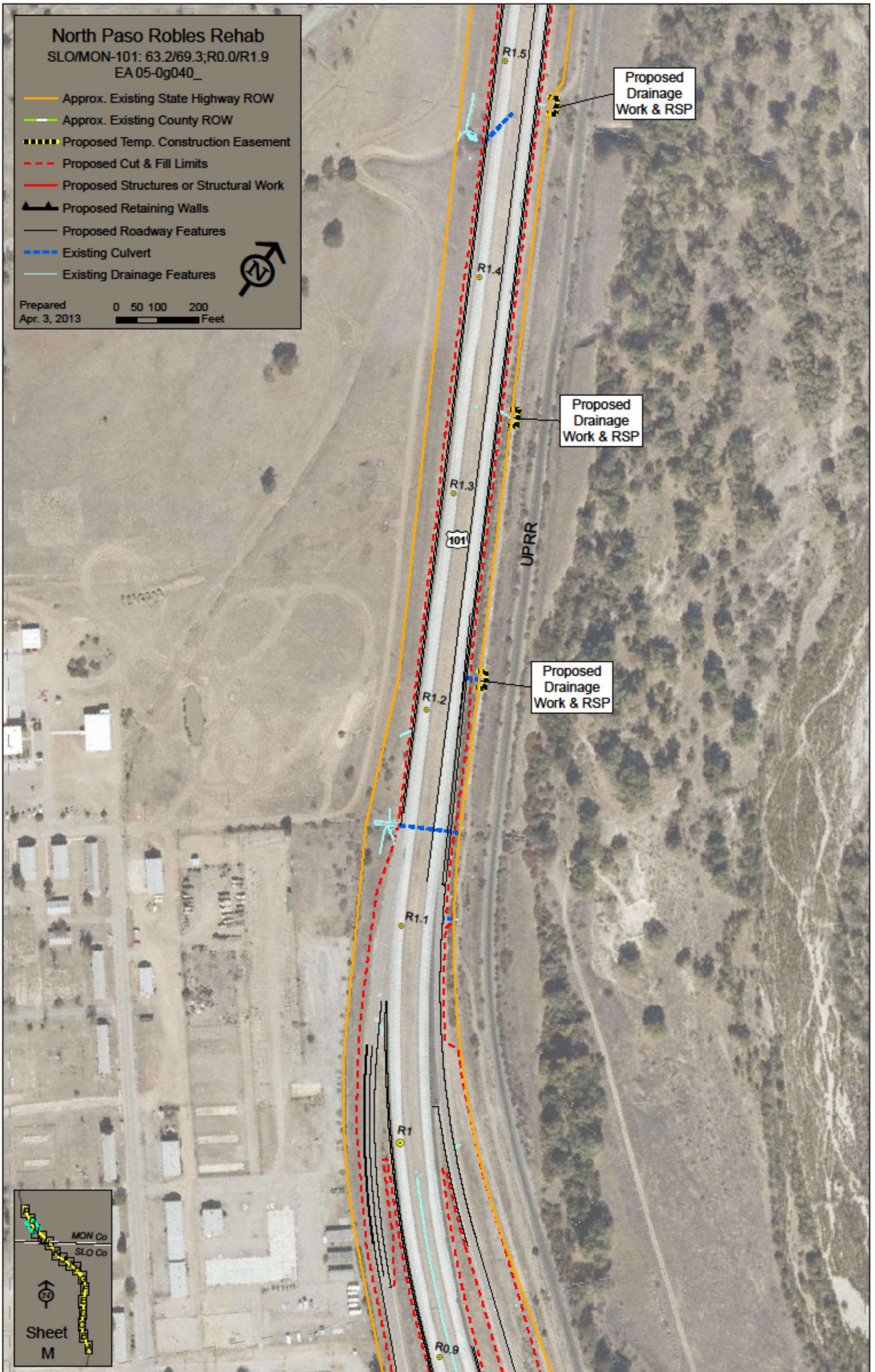


Figure 1-3m Proposed Project Layout Map

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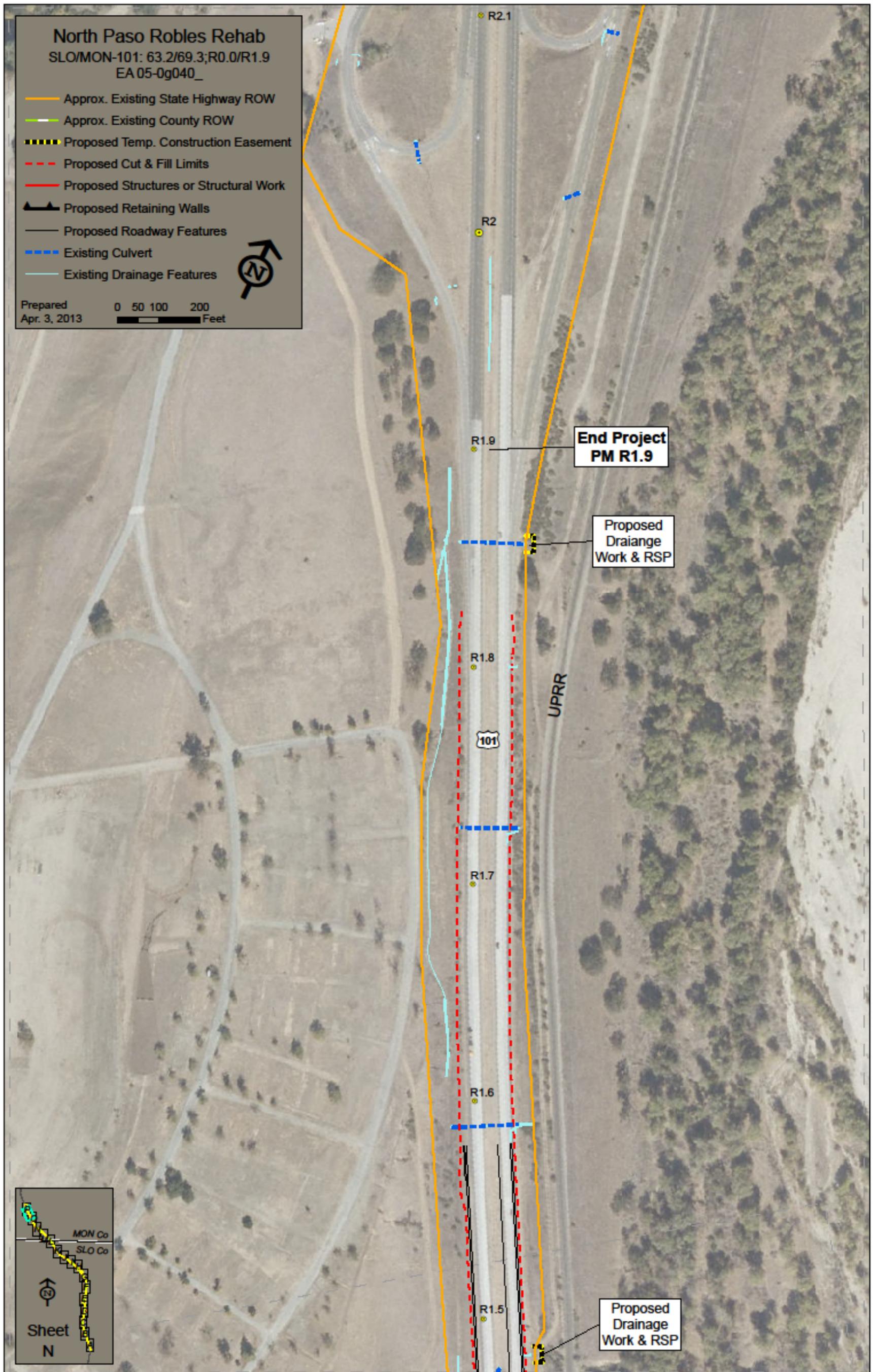


Figure 1-3n Proposed Project Layout Map

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1.4 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Table 1.1 Permits and Approvals

Agency	Permit/Approval	Status
Central Coast Regional Water Quality Control Board	Section 401 Water Quality Certification	Would be obtained prior to construction.
California Department of Fish and Wildlife	Section 1602: Streambed Alteration Agreement	Would be obtained prior to construction.
California State Water Resource Control Board	National Pollutant Discharge Elimination System Permit	Would be obtained prior to construction.
Union Pacific Rail Road	Temporary Construction Easement	Permit application would begin in design phase.
National Marine Fisheries Service	Biological Opinion for South-Central California Coast Steelhead	Received August 2012
United States Army Corps of Engineers	Section 404 Permit and Nationwide Permit 14	Would be obtained prior to construction.

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

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, this document contains no further discussion regarding these issues.

- Land Use—The proposed roadway improvements are consistent with the Monterey County and San Luis Obispo County General Plan Land Use Elements (2012).
- Growth—The proposed rehabilitation project does not add capacity to the roadway and is not anticipated to increase population growth (Project description 2012).
- Farmlands/Timberlands—The proposed project would not affect farmland as all construction would be within the existing Caltrans right-of-way. No timberlands exist in the project footprint (Geographic Information Systems 2012).
- Community Impacts—The project would not divide any communities. Minority and low-income populations would not be affected as the project would only rehabilitate existing features (Project description/census 2012).
- Traffic and Transportation/Pedestrian and Bicycle Facilities—There would be no adverse impacts on traffic and transportation because traffic volumes are not expected to increase. Benefits would be seen with improved vertical clearances at overcrossings and upgraded shoulder widths to current design standards.

- Cultural Resources—No historic properties or archaeological resources would be affected by this project (Historic Property Survey Report, March 2012; Cultural Resources Update Memorandum, September 2012).
- Geology/Soils/Seismic/Topography—Liquefaction and seismicity are not anticipated to affect the project since the soil was identified as hard clayey sandstone, and deposits under the highway consist of well-graded gravel. In addition, the design is for a roadway that meets current geotechnical standards (Preliminary Geotechnical Report, November 2011).
- Paleontology—Based on the scope of work, and the paleo-environments observed at the site, there appears to be a low probability of encountering paleontological resources (Paleontology Review Memo, February 2013).
- Hazardous Waste or Materials—No permanent impacts from hazardous materials are anticipated. Please refer to section 2.4 for temporary construction impacts (Initial Site Assessment, September 2012).
- Air Quality—The rehabilitation project would not violate any air quality standards and is not expected to have any adverse impacts on long-term air quality since no additional lanes are being added to the highway. Please refer to section 2.4 for temporary construction impacts (Air Quality Analysis Memo, October 2012).
- Noise and Vibration—The project would not produce any long-term effects from noise or vibration. Please refer to section 2.4 for temporary construction impacts (Noise Study, April 2013; Vibration Report, February 2013).
- Plant Species—No special-status plant species were found during botanical surveys. No critical habitat for federal- or state-listed plant species occurs within the biological study area (Natural Environment Study, October 2012).

2.1 Human Environment

2.1.1 Utilities/Emergency Services

Affected Environment

There are multiple utilities within the project limits. Utilities such as aerial and underground telephone and cable lines, buried fiber optics, overhead electrical lines, and high pressure natural gas lines exist in the project limits. In addition, lighting

fixtures, emergency telephone boxes, and roadway signs are along the shoulders of the highway corridor.

Environmental Consequences

Utilities at two locations would be affected from the roadway profile being lowered to meet standard clearance requirements. At the 10th Street undercrossing, AT&T, and Verizon underground telephone lines would be moved to new location. At the southbound off-ramp to north San Miguel, about 600 feet of a high-pressure natural gas line could be moved because of the grade being lowered one foot. These utilities would be replaced in their existing linear position, yet relocated deeper vertically to handle the lowered profile grade.

Due to wider roadway shoulders, other utilities such as existing lighting fixtures, emergency telephone boxes, and signs could be setback a few feet from existing locations. Additionally, wider shoulders would offer more recovery area for errant or disabled vehicles. New lighting would be installed at the Highway 101 and San Marcos Road intersection to improve ramp visibility.

Avoidance, Minimization, and/or Mitigation Measures

Utility companies would be responsible for moving their respective lines within Caltrans right-of-way. Utility companies would notify affected residents in advance of any disruption in service during utility relocation.

Potential impacts to emergency service vehicles traveling in the project construction area would be addressed with a traffic management plan.

2.1.2 Visual/Aesthetics

Regulatory Setting

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

Affected Environment

The following analysis regarding potential project-related visual/aesthetic impacts is based on the Scenic Resource Evaluation and Visual Assessment (April 2013).

The proposed project is mostly in a rural setting consisting of agricultural and open-space land. The surrounding landform is generally flat with gentle rolling hills to the east. The overall topography trends down toward the Salinas River east of the project. Scenic vistas along the highway corridor include views of the distant rural landscape, hillsides and associated ridgelines, and the adjacent riparian (creek side) corridor populated with dense stands of native trees and shrubs. The visual quality of the setting is moderately high, based primarily on these natural features and rural character.

The town of San Miguel is near the southern portion of the project. This small community has moderately dense residential and light commercial development and is home to the historic Mission San Miguel and the Rios Caledonia Adobe. In the northern segment of the project is the development associated with Camp Roberts, a California Army National Guard military base. This military base creates a somewhat urbanizing affect toward the west.

Environmental Consequences

Shoulder Widening and Rumble Strips

Extended paving for the shoulder widening and rumble strips would slightly increase the visible hardscape and visual scale of the highway; however, the project would not introduce new, incompatible, or unexpected visual elements into the viewshed. The project would not detract from the overall viewing experience for the highway user and would result in only a minor effect on the existing visual character and quality of the site and its surroundings.

Retaining Wall and Guardrail

The project proposes building a retaining wall on the northbound outer lane, about 800 feet long, at post mile 69.5 to 69.25, roughly a quarter mile south from where the San Luis Obispo/ Monterey County limits meet together. This wall includes a cable railing for maintenance safety that would be below highway elevation and not visible from the highway. A metal-beam guardrail at this post mile would be visible, although the views at this location overlook railroad tracks and a distant rural landscape. The retaining wall, cable railing, and guard rail would not obstruct or affect distant rural views.

From the perspective of the railroad, the retaining wall would be visible; however, for most railroad viewers, the retaining wall would likely appear as a logical component of the corridor in that area due to its nearness to the Camp Roberts military base

development. Project impacts to viewer sensitivity are anticipated not to be significant.

A second retaining wall with cable railing would be constructed towards the southern end of the new Mission Street southbound on-ramp. The retaining wall would be approximately 300 feet long and would vary in height between 5 to 10 feet. Although highway users heading from Mission Street onto Highway 101 southbound would experience the most noticeable visual character change, the retaining wall would not affect distant rural views from the highway. This wall would increase the built character of the highway facility and immediate setting.

Metal beam guardrail will be constructed along the eastside shoulder of Cemetery Road, located above and immediately north of the proposed retaining wall.

Bridge Replacement and Widening

The proposed project would replace both San Marcos Creek bridge structures and their bridge railings. Initially, these larger structures would be a noticeable visual change for the highway user; however, this visual change is consistent with other bridges along the highway corridor and would not appear out of character with the rural setting. This elevated roadway would slightly increase viewing opportunities of the surrounding landscape.

The project also replaces the southbound Mission Street bridge. From the highway-user perspective the new bridge would be generally consistent with other bridges along the corridor. The increased scale of the new Mission Street bridge would be most noticeable as seen from the local roadways and ramps in the immediate vicinity.

Mission Street On-ramp Reconfiguration

The project would construct a new southbound bridge structure along Highway 101 that crosses over the extended Mission Street that leads to the new on-ramp. Highway users accessing Highway 101 southbound from Mission Street would experience the most noticeable visual character change from having to pass underneath a new structure. Although, this change would be largely consistent with other bridges along the corridor, the standardization of ramp configuration and bridge structure geometry would represent a more urban visual character than what currently exists at this location.

Realignment

The 0.7 mile of Highway 101 proposed for realignment would raise the southbound highway profile approximately five feet in height from the height of the existing northbound bridge elevation. As viewed from Cemetery Road, users would experience a 23' high freeway embankment resulting from the proposed southbound lanes. As seen from the highway, this higher roadway elevation would increase viewing opportunities to the surrounding landscape. Visual access to rural landscape, hillsides, ridgelines, and native vegetation from a segment of Cemetery Road as well as certain locations along the eastern side of the mainline would be reduced by the new roadway elevation.

Lighting

To improve visibility at several ramps, new lighting is proposed. Ramp lighting is a common rural and urban highway feature seen throughout the Highway 101 corridor in San Luis Obispo and Monterey counties. The proposed lights would be consistent with viewers' expectations along the highway corridor and would not adversely affect views from any public viewpoints.

Because the project would add the type of visual features that already exist throughout the area, it would result in only a minor effect on the existing visual character and quality of the site and its surroundings. The proposed elements would not block or reduce views of scenic vistas along the highway corridor. The project would create new sources of light but would not have adverse effects; locations would be consistent with existing light found along the corridor. No adverse visual impacts would occur as a result of the project.

Avoidance, Minimization, and/or Mitigation Measures

- Aesthetic treatment would be applied to visible retaining walls.
- Aesthetic treatment such as texture and /or color or alternative materials would be applied to all contrast surface treatment areas.
- Aesthetic treatment would be applied to all Mission Street bridge rails.
- Aesthetic treatment would be applied to slope paving if it is constructed beneath Mission Street bridges.
- Caltrans approved aesthetic treatment would be determined with input from the local community. Aesthetic architectural treatment would complement the

surrounding environment. For example, color enhancements like earthen tones in colored concrete, and textures such as natural stone or concrete designs would be used.

- A minimum of 50 native trees would be planted and sufficiently established within the project limits in the vicinity of structures.
- All disturbed areas would be re-vegetated with erosion-control seeding.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

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

Affected Environment

The following analysis regarding potential project-related hydrology and floodplain impacts is based on the Preliminary Drainage Investigation and Estimate memo (October 2011) and Water Quality Assessment Report (October 2012).

Project limits fall within three different flood zones. Please refer to Figure 2-3 for flood zone areas.

The majority of the south portion of the project limits is in Zone X within the category identified by the Federal Emergency Management Administration as “Other Flood Areas.” Zone X area has a 0.2 percent chance of an annual flood every year, otherwise known as the 500-year floodplain. This zone covers the beginning of the project at post mile 63.2 (San Luis Obispo County) just south of San Marcos Creek and goes north approximately to the San Miguel Avenue/Mission Street junction at post mile R67.7 (San Luis Obispo County). However, this zone does not include the minute portion at the San Marcos Creek crossing itself which is identified under Zone A, discussed below. Another portion of Highway 101 in Zone X is located from the San Luis Obispo County/Monterey County line at post mile R69.3 to the end of the project limit at post mile R1.9 (Monterey County) just south of the East Garrison overcrossing.

At San Marcos Creek (post mile 63.6), Highway 101 crosses Zone A in a special flood hazard area subject to inundation by the 1 percent chance of annual flood. This 100-year flood zone has not yet had base flood evaluations determined.

From the San Miguel Avenue and Mission Street intersection (post mile R67.7) to the San Luis Obispo and Monterey county line at R69.3 (San Luis Obispo County). Highway 101 is in Zone D and is identified as “Other Areas,” where flood hazards are undetermined but could potentially occur.

Drainage: There are approximately 57 culverts scattered throughout the project limits. Drainage pipes and culverts are located above and below ground. Some corrugated pipe outlets are rusted out and brittle, whereas many other drainage pipes are clogged due to erosion and siltation.

Environmental Consequences

There are no regulatory floodways in the project area. The project will not significantly encroach upon the floodplain as defined in 23 CRF, Section 650.105(q). No major drainage issues exist within the project limits.

Construction of new drainage inlets and culvert connections along southbound Highway 101 near the San Marcos Road intersection would improve roadway drainage. About 13 culverts have an erosion and siltation issue which clogs them and undermines the culverts and their headwalls. Damaged headwalls would be repaired and severely eroded culvert pipes would be replaced.

Avoidance, Minimization, and/or Mitigation Measures

Rock slope protection would be placed at culvert outlets to minimize soil erosion. Embankment will be rebuilt to eliminate existing undermining situations.

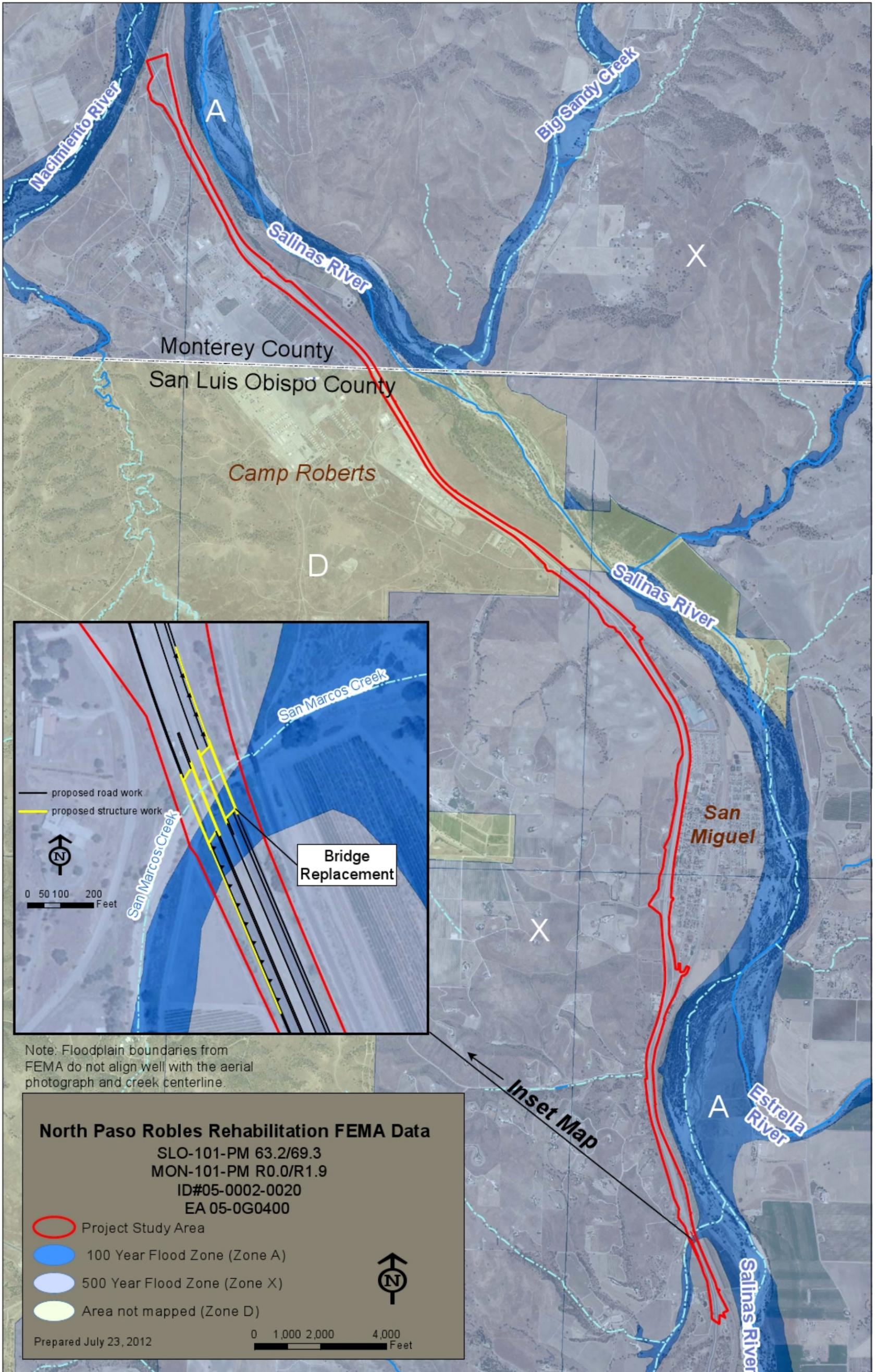


Figure 2-1 Flood Zones

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2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. The Porter-Cologne Act predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the United States such as groundwater and surface waters not considered waters of the United States.

Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB) are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable Regional Water Quality Control Boards Basin Plan. States designate beneficial uses for all water body segments and then set criteria necessary to protect these uses.

Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents, and the standards cannot be met through point source controls, the Clean Water Act requires the establishment of total maximum daily loads that specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, water pollution control, and water quality functions throughout the state. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources

within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- *National Pollution Discharge Elimination System (NPDES) Program Municipal Separate Storm Sewer Systems (MS4)*

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

Caltrans' MS4 Permit, under revision at the time of this update, contains three basic requirements:

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

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices

Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a disturbed soil area of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

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

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 certification that certifies the project would be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the United States Army Corps of Engineers. The 401

permit certification is obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and is required before the United States Army Corps of Engineers issues a 404 permit.

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

Affected Environment

The following analysis regarding potential project-related water quality and storm water runoff impacts is based on the Water Quality Assessment Report (October 2012).

Surface Water

The project is in the Atascadero Hydrologic Sub-Area (HAS 309.81) of the Paso Robles Hydrologic Area of the Salinas Hydrologic Unit of the Central Coast Hydrologic Basin Planning Area as established by the Regional Water Quality Control Board. The Central Coast Regional Water Quality Control Board has jurisdiction within the project limits. The receiving water bodies within the project limits are the Salinas River and San Marcos Creek. Both water bodies are seasonal with vast beneficial uses that include agricultural, biological, and recreational uses.

San Marcos Creek is not listed as being impaired under the 303(d) list. However, the Salinas River is 303(d) listed, but there are no total maximum daily loads specified. Pollutants of concern include sodium (Na) and chloride (Cl). Potential sources are agriculture, pasture grazing, and urban storm water run-off. The storm water runoff from the proposed bridges would be discharged into unlined channels that lead down slope to a vegetated area or ditch before it reenters a water body such as Salinas River or San Marcos Creek.

Groundwater

The project is in the Salinas Valley Groundwater Basin, Paso Robles Area Sub-basin number 3-4.06. The Paso Robles Area Sub-basin is bordered on the north by the Upper Valley Aquifer Sub-basin, on the east by the Temblor Range, on the south by the La Panza Range, and on the west by the Santa Lucia Range.

Depths to groundwater in the area range from 115 to 185 feet. However, soil boring data from the San Marcos Creek bridge investigations have indicated that the depth to local ground water is shallow, ranging from about 20 to 40 feet below ground surface.

Existing groundwater quality data indicate that the predominant positive inorganic or organic chemistry are calcium and sodium and the predominant negative water chemistry is bicarbonate. Total dissolved solids in the ground water range from 346 to 1,670 milligrams per liter. Primary impairment of the groundwater has been identified to be from total dissolved solids and nitrates.

Water quality trends indicate an increasing concentration of total dissolved solids and chloride along the Salinas River and an increasing concentration of chloride in the artesian aquifer in the area northeast of Creston. Trends also show an increasing concentration of nitrates between the Salinas and Huerhuero rivers in two locations north of State Route 46 and south of San Miguel.

Groundwater in the area is suitable for agricultural water supply, municipal and domestic water supply, and industrial use.

Environmental Consequences

The proposed project has the potential of having short-term and long-term water quality impacts from highway pollutants and erosion sediment. Short term impacts are from construction discussed in Section 2.4.

Permanent impacts would be from increased storm water runoff rates and volumes, as well as from increased storm water pollutant loads. The project proposes to add about 4.2 acres of impervious (pavement) surface to the project area. The increase in the impervious area will cause a minor increase in runoff, although a change in velocity is not anticipated. Increased runoff increases pollutants such as oil, trash, and brake linings that may discharge from the road surface during storm events.

Impacts from this project on groundwater are considered to be insignificant with application of minimization measures.

Erosion and sediment transport can occur when concentrated water flow from the highway is not adequately controlled. Erosion can cause gullies, alter creek geomorphology, change wetland hydrology, and discharge sediment above background levels to waterways. The project area, when disturbed, is expected to have a moderate to severe erosion hazard potential. Temporary erosion and sediment control BMPs will be included to reduce potential sediment loss to a maximum

allowable erosion rate, MAER, that is no greater than twenty percent of bare disturbed soils for the project. However, with incorporation of standard Caltrans' provisions during construction, it is anticipated that there will be no significant long term impacts for stormwater or water quality.

Avoidance, Minimization, and/or Mitigation Measures

The project would include permanent storm water treatment, to the maximum extent practicable, in compliance with the Caltrans Stormwater Management Plan. Best management practices would include, but are not limited to, vegetated swales/strips to minimize the discharge of highway pollutants to waterways. Please refer to Section 2.4 Construction Impacts for detailed best management practices that will be implemented during construction. In addition, please refer to Section 2.2.1 Hydrology/ Floodplain for erosion control measures.

2.3 Biological Environment

2.3.1 Natural Communities

The focus of this section is on biological communities, not individual plant or animal species. Habitat areas designated as critical habitat under the Federal Endangered Species Act are discussed in Section 2.3.4. Wetlands and other waters are discussed in Section 2.3.2.

Affected Environment

A Natural Environment Study (October 2012) was prepared to analyze potential impacts from the proposed project. This study included field surveys of the project biological study area (see Figures 2-4 and 2-5), literature reviews, database searches, and consultation with regulatory agencies.

The biological study area consists of rolling hills that slope toward the Salinas River. Most of the project footprint would be on existing paved surfaces or within 10 feet of the existing edge of pavement and includes riparian (creek side) habitat at San Marcos Creek and one unnamed tributary classified as waters of the United States.

Ruderal (Disturbed)/ Non-native Grassland

The biological study area is predominantly covered with ruderal vegetation and annual non-native grasses. Ruderal vegetation is typical of areas where the native

vegetation has been significantly altered by agriculture, grazing, construction, or other land-clearing activities. Patches of coyote bush (*Baccharis pilularis*) and a few scattered oak species exist randomly throughout the area. Most of the right-of-way is mowed annually and is dominated by non-native annual species. Plants identified during surveys are documented in the Natural Environment Study.

Riparian

Riparian habitat occurs along the banks of San Marcos Creek. Dominant species in the riparian canopy within and adjacent to the biological study area are black cottonwood (*Populus balsamifera*), arroyo willow (*Salix lasiolepis*), mulefat (*Baccharis salicifolia*), coyote bush (*Baccharis pilularis*) and poison hemlock (*Conium maculatum*). Seasonal flows in San Marcos Creek may support fish habitat. Larger trees may support nesting by migratory bird species during the nesting season (February 15 through August 31).

Environmental Consequences

Ruderal (Disturbed)/Non-native Grassland

Construction of inside and outside shoulders would require removal of vegetation. Cut or fill would potentially impact some areas of California annual grassland.

Riparian

Two black cottonwoods east of the San Marcos Creek bridges would be removed from riparian areas during reconstruction of the structures. In addition, one arroyo willow, one blue elderberry, and up to five mulefat shrubs would also be removed.

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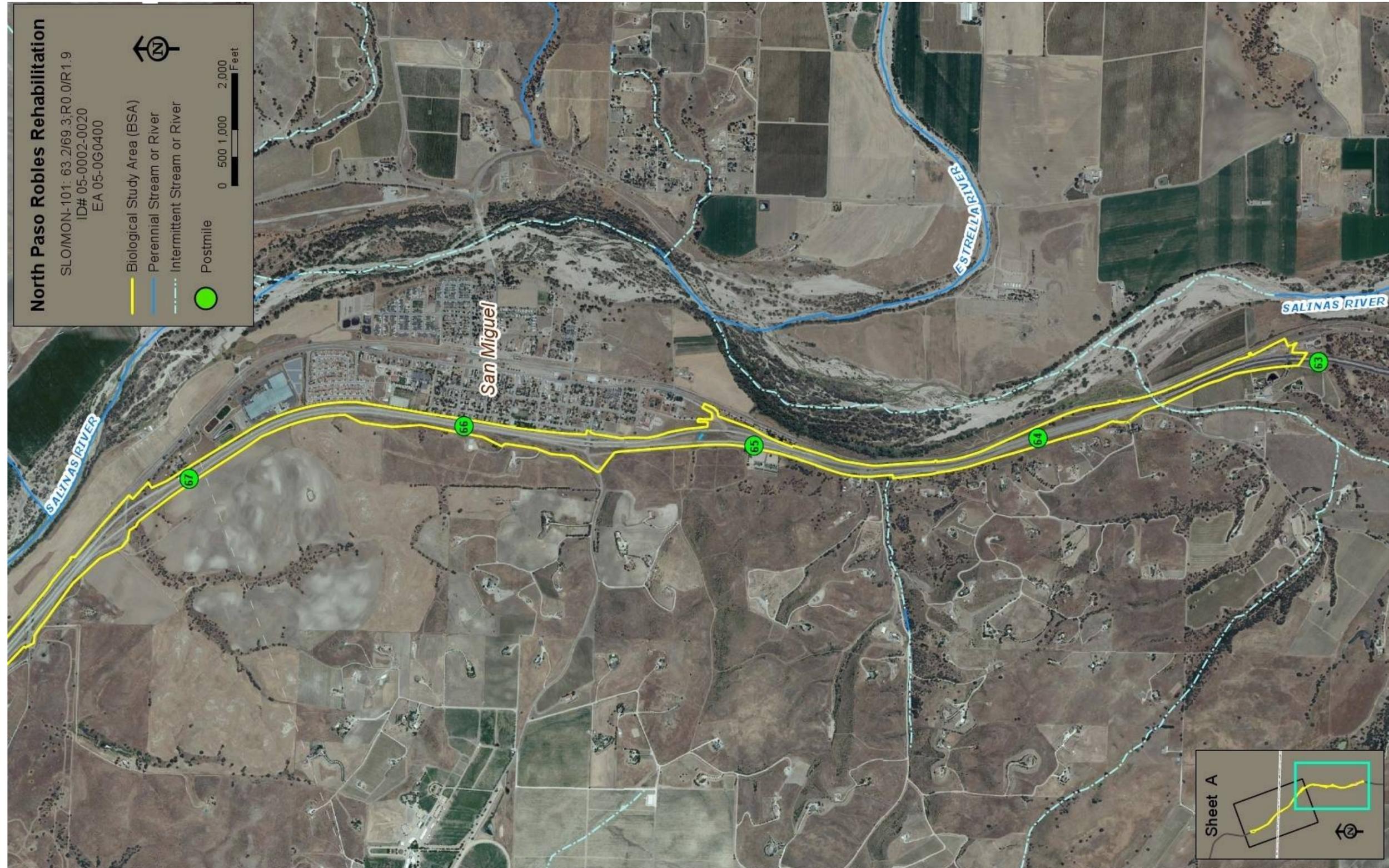


Figure 2-2 Biological Study Area

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Figure 2-3 Biological Study Area

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Avoidance, Minimization, and/or Mitigation Measures

Cut and fill for outer shoulder widening and profile or drainage work would be minimized to the extent practicable.

Native oak trees outside the area of direct impact would be delineated on project plans and marked in the field with environmentally sensitive area fencing to protect them during construction.

Riparian

- Construction work would avoid the large black cottonwood trees to the west of the highway bridges.
- Impacts to riparian vegetation would be offset by replacement planting within the project limits. Native trees and willows would be replaced at a minimum 3:1 ratio (three new trees for each removed tree). Plantings would be detailed in Caltrans' landscape architecture landscape planting plans. All riparian plantings would be monitored to ensure successful revegetation during a one-year plant establishment period.
- All work would be confined to Caltrans right-of-way and marked temporary construction easements.
- Prior to any ground-disturbing activities, environmentally sensitive area fencing would be installed around trees and riparian vegetation to be protected. Environmentally sensitive area fencing limits would be shown on the final design layout plans.
- To avoid affecting nesting birds in the riparian vegetation, all clearing would be accomplished outside the nesting season (February 15 to September 1).

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 United States Code 1344) is the primary law regulating wetlands and surface waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation).

All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration and Caltrans, as assigned, cannot undertake or provide assistance for new construction in wetlands unless the head of the agency finds 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Wildlife, the State Water Resources Control Board and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600–1607 of the California Fish and Wildlife Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. The tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider, usually define the California Department of Fish and Wildlife jurisdictional limits. Wetlands under jurisdiction of the United States Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the Clean Water Act. Please see the Water Quality Section 2.2.2 for additional details.

Affected Environment

The 2012 Natural Environmental Study examined locations of potential special aquatic resources within the biological study area. Areas suspected of being Clean Water Act or California Department of Fish and Wildlife Code 1600 jurisdictional features were evaluated for presence of definable channels and/or wetland hydrology, hydric soils, and hydrophytic vegetation. All three aspects must be identified under the ordinary high water mark to be considered waters of the United States.

Waters of the United States were identified at three locations. The intermittent San Marcos Creek at post mile 63.8 (San Luis Obispo County) under Highway 101 is one waterway. San Marcos Creek flows between November and April and is dry during the summer. At the San Marcos Creek bridges, a set of existing supports (piers) are within the creek channel below the ordinary high water mark. The second waters of the United States resource is an unnamed tributary near a culvert outlet at about post mile 69.1 (San Luis Obispo County). The third waterway stems from a culvert located at post mile 65.2, near the existing Mission street on-ramp, located in the existing median. This is an open concrete-lined culvert designed for small and short lived flows, and is surrounded by annual grasses and ruderal vegetation. Please refer to Figures 2-4 and 2-5.

Environmental Consequences

The proposed project would temporarily affect approximately 0.3 acre of waters of the United States from construction of the bridge replacements and drainage improvements. The new bridge structures would include piers in the channel below the ordinary high water mark at about the same location as the existing piers. Additional bridge supports would be outside the channel's ordinary high water mark. No grade changes, channel modifications or imported materials are proposed. Since the creek channel is within an active floodplain, it is anticipated the channel would quickly re-vegetate naturally.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to minimize or avoid impacts to wetlands and other waters:

- In-channel work at San Marcos Creek would be limited to May 1 through October 31 to avoid impacts to migrating steelhead trout.
- To minimize temporary, construction-related impacts, environmentally sensitive area fencing would be established at the creek about 12 feet away from the edge of cut and fill lines. Environmentally sensitive areas, designated off-limits to construction equipment and personnel, would be on project plans. Environmentally sensitive areas would be marked in the field and be approved by Caltrans prior to beginning any construction activities.
- All temporary impacts to other waters of the United States would be graded, as needed, to reflect their preexisting state. Temporary effects to water quality would be minimized by using best management practices from the Caltrans National Pollutant Discharge Elimination System statewide storm water permit.
- Caltrans would hydroseed channel banks with native seed mix where practicable

- Equipment staging areas and storage/stockpile areas would be placed in uplands.
- Environmentally sensitive area fencing would be placed at post mile 69.1 to avoid impacts to potential waters of the United States during construction of a retaining wall.

2.3.3 Animal Species

Regulatory Setting

Many state laws regulate impacts to wildlife. The California Department of Fish and Wildlife is responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the California Endangered Species Act. Species listed or proposed by the state as threatened or endangered are discussed in Section 2.3.4.

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Wildlife Code
- Section 4150 and 4152 of the California Department of Fish and Wildlife Code

Affected Environment

The Natural Environmental Study (2012) conducted literature reviews from the California Natural Diversity Database, which indicated potential habitat for 19 special-status animal species within the general project vicinity. Field surveys were done to determine presence of species and to assess potential project effects on these species and their habitats. Following site visits, potential habitat was identified for seven special-status animal species in the project's biological study area. Listed below are three special-status species designated as state species of concern, followed with migratory birds, including raptors. The remaining three species—steelhead trout, vernal pool fairy shrimp, and San Joaquin kit fox—are state or federally threatened or endangered species (see Section 2.3.4).

San Joaquin whipsnake (*Masticophis flagellum ruddocki*)

While the project impact area adjacent to the highway is poor quality habitat, San Joaquin whipsnakes have large ranges and individuals may use these areas for dispersal or foraging. No San Joaquin whipsnakes were sighted during biological surveys.

American badgers (Taxidea taxus)

The surrounding arid landscape is suitable habitat for these mammals; however, the study area is adjacent to the pavement along Highway 101 and highly disturbed from intensive highway maintenance and mowing. No badger sign (tracks, dens, scat) was found during field surveys of the study area.

Pallid bat (Antrozous pallidus)

Pallid bats roost in abandoned structures at the Camp Roberts military base within five miles of the San Marcos Creek bridge. The northbound bridge showed signs of use as a night roost. Bats use night roosts between nighttime foraging flights to rest and process food. No day roosts or maternity roosts were found.

Migratory Birds and Raptors

State laws protect migratory birds, their occupied nests, and their eggs from destruction. Protection under California law is found in Department Fish and Wildlife Code Sections 3503, 3513, and 3800. Swallows nest on most of the overhead structures along the project route, including the San Marcos Creek bridges. No raptor nests were observed in the biological study area during surveys done in April 2011.

Environmental Consequences

No permanent impacts are anticipated to occur for any California state species of concern identified in the study area. The San Joaquin whipsnake, American badger, and pallid bat may potentially experience temporary impacts to habitat during construction operations. The burrowing owl is considered absent due to a lack of suitable habitat within the biological study area; thus, no impacts or measures are included for this species.

San Joaquin whipsnake

Construction access routes and heavy equipment work may affect the San Joaquin whipsnake by temporarily displacing potential habitat during construction operations. This temporary disturbance would not likely displace entire populations or even individual home ranges, and would not result in substantial impact to the species.

American badger

Temporary habitat disturbance may occur during construction operations, but the proposed project would not likely displace entire populations or even individual home ranges, and would not result in substantial impact to the species.

Pallid bat

The project would replace the highway bridges at San Marcos Creek, temporarily displacing potential night roost that may occur at this location.

Migratory Birds and Raptors

Reconstruction of the San Marcos Creek bridges may temporarily affect swallow nests.

Avoidance, Minimization, and/or Mitigation Measures

The following would be incorporated into the project:

San Joaquin whipsnake

The project would install environmentally-sensitive-area fencing to minimize impacts to sensitive areas and species. The project plans would limit access to the minimum area required for construction. Impacts to whipsnakes and their habitat would be minimized since no vehicle access within these environmentally sensitive areas would be permitted. Before construction, the resident engineer and biological monitor would determine and agree upon the exact placement of environmentally sensitive area markers.

American badger

If a badger is found to be present on the project site, no work is to occur within 100 feet of the badger and/or its den until the den has been found to be vacant for three consecutive nights. If the den is a pupping den, then the 100-foot-wide buffer must remain in place until the pups have been weaned and the den abandoned.

Pallid bat

Trees would be removed between September and February. This would avoid affecting bats during the critical maternity season, ensuring the survival of first-year bats. Bats typically use trees only in warm seasons and are not expected to be present from September to February.

To replace the night roost lost during removal of the northbound San Marcos Creek bridge, the new structure would incorporate the following bat-friendly features:

- Minimized sandblasting—A final surface treatment under box-girder bridges often includes sandblasting. This smoothes the surfaces but removes any surface irregularities and roughness that bats can grasp while roosting. If the bridge construction includes sandblasting or other smoothing-out of external or internal surfaces under the bridges, all surfaces would be left rough within a few inches of the inside corners that are 90 degrees or less. This can be accomplished by placing a small board in the corners that blocks the sandblasting treatment.
- Construct grooves or ridges—Small grooves or ridges would be built into each corner underneath the bridges. Bats often grasp the slightest irregularities such as small ridges left behind in the seams between boards used in the concrete forms.

Migratory Birds and Raptors

To avoid impacts to nesting birds, trees would be removed between September 1 and February 15, the period outside the breeding season for migratory birds. If tree removal is required during the breeding season, a qualified biologist would do a focused nest survey for active migratory bird and raptor nests in the trees to be removed. If an active nest is found in a tree to be removed, Caltrans would coordinate with the California Department of Fish and Wildlife to determine an appropriate buffer based on the habits and needs of the species. The nest area would be avoided until the nest is vacated and juveniles have fledged.

The following are options for avoiding and minimizing impacts to swallows:

- If possible, no work would be done on structures with swallow nests between March and August, the swallow nesting season.
- If construction activities occur on these structures during the swallow nesting season, a qualified biologist would inspect all nests to ensure no birds are present. If the nests are abandoned, the contractor can remove the nests before March 1. Birds would then be denied access the structure by using a net barrier or actively discourage nesting.

2.3.4 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a no effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early

consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

Potential habitat for three federally listed species—steelhead trout, San Joaquin kit fox, and vernal pool fairy shrimp—were identified in the biological study area.

Steelhead trout

South Central California coast steelhead trout (*Oncorhynchus mykiss*) are considered a federally threatened species and a state species of special concern. Steelhead trout are an ocean-going form of rainbow trout native to Pacific Coast streams from Alaska south to northwestern Mexico. Wild steelhead populations in California have decreased significantly from their historic levels. Wild steelhead trout in south Central California comprise a distinct population segment of the species that is ecologically and reproductively discrete from the remainder of populations along the west coast.

San Marcos Creek is designated as critical habitat for south Central California steelhead by National Marine Fisheries Service. Steelhead trout use this portion of the creek as a migration corridor between the Salinas River and upstream spawning habitat.

No steelhead trout were observed during 2011 Caltrans biology surveys.

San Joaquin kit fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is listed by the United States Fish and Wildlife Service as federally endangered, and classified as threatened by the California Department of Fish and Wildlife. This small fox resides in the arid lands of the San Joaquin Valley, Santa Clara Valley, and Salinas Valley. They typically inhabit areas of low vegetation, usually consisting of grasslands, chenopod scrub communities, and blue oak woodlands. These mammals dig out the ground to construct dens to occupy or they modify abandoned and dormant dens constructed by similar animals.

The surrounding arid landscape is suitable habitat for these mammals; however, the study area is adjacent to the pavement along Highway 101 and highly disturbed from intensive highway maintenance and mowing. Biological reconnaissance surveys found no evidence of kit fox within or adjacent to the project limits. A population of kit fox has been documented on the Camp Roberts military reserve, although the last observation of an individual kit fox occurred in 2007. Before the 2007 sighting, one fox was observed in 2002. The 5-Year Review of the San Joaquin Kit Fox (United States Fish and Wildlife Service 2010) reports that some satellite populations in the Salinas Valley area appear to have been extirpated, including subpopulations at Camp Roberts, Fort Hunter Liggett, Pixley National Wildlife Refuge, and San Luis Wildlife Refuge. Biological reconnaissance surveys found no evidence of kit fox within or adjacent to the project limits.

Vernal pool fairy shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) are identified as federally threatened. These translucent, slender crustaceans generally less than 2.5 centimeters in length occupy temporary ponds where aquatic vertebrate predators cannot survive. They are primarily found in vernal pools and seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer.

The following are primary constituents of critical habitat for vernal pool fairy shrimp:

- Vernal pools, swales, and other wetlands and depressions that fill seasonally and can support vernal pool fairy shrimp.
- Geographic, topographic, and soil-related features that support aggregations or systems of hydrologically interconnected pools, swales, and other short-lived wetlands and depressions, the features that contribute to creating, filling, drying, and sustaining suitable habitat for vernal pool fairy shrimp. Note: Not all constituent elements need occur simultaneously for an area to be critical habitat.

At one location inside the Union Pacific Railroad right-of-way next to Highway 101 near the San Miguel Avenue and Mission Street intersection at post mile 67.4 (San Luis Obispo County), a depression occurs along the railroad tracks. At this depression, water pools during the wet season that could support vernal pool fairy shrimp. The edge of the pool is about 45 feet down slope from a Caltrans drainage outlet near railroad right-of-way. The seasonal pool measures approximately 100 feet long, 5 feet wide, and 4 to 6 inches deep. For erosion control, the project would place rock slope protection at the 8-foot-by-10-foot-by-2-foot culvert outlet. About 25 feet down slope of the culvert outlet, the dominant vegetation transitions from upland to facultative plants (tolerant of wet and dry conditions), indicating that regular ponding occurs down slope and away from the culvert outlet.

The proposed work area overlaps a corner of critical habitat unit 29B for 0.1 mile between PM 67.6 to 67.8. Surveys of this area found no features that would comprise constituent elements for critical habitat. Because the project is not anticipated to affect any suitable habitat for vernal pool fairy shrimp, the project would not affect critical habitat for vernal pool fairy shrimp.

Environmental Consequences

Caltrans completed formal Section 7 consultation with National Marine Fisheries Service for steelhead trout and critical habitat in August 2012. A letter of concurrence supporting a “not likely to affect” determination was issued by the United State’s Fish and Wildlife Service in November 2012 for San Joaquin kit fox (Natural Environment Study October 2012).

Steelhead trout

There are currently no barriers to steelhead migration, and the new bridges would not add any barriers. Rebuilding the bridges, however, would require work in the creek. Constructing new bridge structures would temporarily disturb 0.22 acre of critical habitat. No permanent impacts to steelhead or critical habitat are anticipated.

San Joaquin kit fox

The project would include all standard minimization and avoidance measures for kit fox as outlined in the standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance as mandated by the United States Fish and Wildlife Service (2011). With the avoidance and minimization measures in place, and given the number of years of negative surveys for kit fox at Camp Roberts, Caltrans determined the project is not likely to adversely affect the San Joaquin kit fox.

Vernal pool fairy shrimp

The proposed addition of rock slope protection at the culvert outlet would not change the topographic slope or hydraulic conditions that support seasonal pooling down slope of this location.

The work area that overlaps the critical habitat area had no identifiable primary constituent elements for critical habitat. The project is not anticipated to affect any suitable habitat for vernal pool fairy shrimp.

Avoidance, Minimization, and/or Mitigation Measures

Steelhead trout

- All work activities within or next to critical habitat creeks would take place between May 1 and October 31, when the channel is dry, to avoid affecting migrating steelhead trout. By May 1, San Marcos Creek is typically dry at the highway crossing and remains dry until November.
- Only qualified personnel are authorized to capture, handle, and relocate steelhead trout.
- Preconstruction educational meetings that discuss steelhead trout and other sensitive species would be required for construction personnel prior to work in creeks. A qualified biologist must conduct training sessions that familiarizes all construction personnel with the following aspects all special-status species with potential to occur in the work area: species and habitat identification; and general provisions and protections afforded by the California Department of Fish and Wildlife and federal environmental agencies.
- Disturbance or removal of native vegetation should not exceed the minimum necessary to complete operations to reduce overall impacts to steelhead and/or steelhead designated critical habitat. All disturbances to potential steelhead habitat, including riparian vegetation and jurisdictional waters in the project limits, would be minimized with the use of environmentally-sensitive-area fencing. Riparian areas disturbed during project construction would be re-vegetated using native hydroseeding or live planting methods.
- If the stream substrate is altered during work activities, it would be graded or otherwise returned to preconstruction conditions after the work is completed each season.
- The use of best management practices is required to prevent spillage of hazardous chemicals and excavated sediment into the watercourse (to reduce overall impacts to steelhead or steelhead-designated critical habitat). No fueling or equipment

maintenance would take place in waters of the United States, wetlands, or riparian habitats. Mechanical equipment would be serviced in designated staging areas outside of these habitats.

- Silt fences and straw wattles would be used to prevent excavated material and loose soil from reaching the stream. Erosion control measures would be used wherever the soil surface is disturbed to assure that disturbed banks do not erode. Where appropriate, alternative bank protection methods, such as restoration of native vegetation, root wads, or other bioengineering methods of stabilization, would be used.

San Joaquin kit fox

If kit fox are detected in the project limits, then the United States Fish and Wildlife Service and the California Department of Fish and Wildlife must be consulted pursuant to Section 7 of the Federal Endangered Species Act and the California Endangered Species Act. All project activities must cease until further authorization with the regulatory agencies is obtained.

Caltrans and the contractor would use the following standard minimization and avoidance measures as stipulated in the Standard recommendations for protection of the San Joaquin kit fox prior or during ground disturbances (United States Fish and Wildlife Service 2011).

- Project employees will be directed to exercise caution when commuting within listed species habitats. A 20 mile-per-hour speed limit will be observed in all project areas, except on county roads and State and Federal highways. Cross-country travel by vehicles will be prohibited outside of the project area unless authorized by the United States Fish and Wildlife Service (Service). Project employees will be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.
- Prior to any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program conducted by a Caltrans or Service approved biologist. The program will consist of a brief presentation by persons knowledgeable in San Joaquin kit fox biology, and legislative protection, and measures to avoid impacts to the species during project implementation.
- A litter control program will be initiated at each project site. No pets or firearms (except for law enforcement officers and security personnel) will be allowed on-site.

- Excavations deeper than 2 feet will be covered with plywood or similar material at the end of each work day, or escape ramps put in place to prevent any entrapment. Each excavation will be inspected thoroughly before being filled.
- All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater stored on the construction site overnight will be thoroughly inspected for San Joaquin kit foxes prior to being buried, capped, or otherwise used or moved. If a San Joaquin kit fox is discovered inside a pipe, the pipe should not be moved until the Service has been consulted. If the San Joaquin kit fox is in direct harm's way, the pipe may be moved to a safe location one time under the direct supervision of a qualified biologist.
- The resident engineer or their designee will be responsible for implementing these conservation measures and will represent the point of contact for the project.
- Restoration and vegetation work will use California endemic plant materials from on-site or local sources. Loss of soil from run-off or erosion will be prevented using fiber rolls or similar material and by implementing the best management practices from the Caltrans National Pollutant Discharge Elimination System statewide storm water permit.
- Prior to any ground disturbance, a preconstruction survey will be conducted for San Joaquin kit fox. The preconstruction survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance or construction activities. The survey will identify any potential kit fox dens. The status of all potential dens will be determined and mapped. Potential dens will be monitored with tracking medium for 3 days to determine the current use. If no kit fox activity is observed during this period then the den will be excavated by hand or carefully with equipment provided by the contractor, under the direction of the biologist to preclude subsequent use. If kit fox activity is observed at a den, Caltrans will contact the Service for further coordination.
- Written results of the preconstruction survey will be submitted to the Service within 5 days after survey completion and prior to the start of ground disturbance. If a natal or pupping den is discovered within the project area or within 200 feet of the project boundary, the Service will be notified immediately. If the preconstruction survey

reveals an active natal den or new information, Caltrans will notify the Service immediately for further consultation.

Vernal pool fairy shrimp

The area within the railroad right-of-way that pools seasonally and supports vegetation would be marked as environmentally sensitive areas off-limits to construction equipment and personnel. The environmentally sensitive area would be marked on project plans and in the field and would be approved by the Caltrans environmental unit prior to the start of any construction activities. Work would be done to minimize potential impacts within the railroad right-of-way.

2.3.5 Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

Affected Environment

Fifteen invasive plants on the California Invasive Plant Council’s Invasive Plant Inventory were found within the biological survey area. Of these observed invasive plant species, the red brome (*Bromus madritensis* ssp. *rubens*) and ripgut brome (*Bromus diandrus*) pose the greatest threat to the natural ecology in the project area. A complete list of the invasive plants and their scientific names is found in the 2012 Natural Environment Study.

Non-native amphibians and fish species were observed underneath the highway bridges in the San Marcos creek bed. Species such as bullfrog larvae, mosquito fish, and two species of juvenile centrarchids (largemouth bass and green sunfish) were observed in small pools under the highway bridges prior to the dry season.

Environmental Consequences

Rebuilding the San Marcos Creek bridges would require vegetation removal and soil disturbance during construction that may contain invasive plants and seed. However, none of the species on the California list of invasive species is currently used by Caltrans for erosion control or landscaping for this project. All equipment and materials would be inspected for the presence of invasive species.

Therefore, permanent impacts resulting from an introduction of invasive, non-native plant or wildlife species is not anticipated.

Avoidance, Minimization, and/or Mitigation Measures

To prevent new invasive species from being imported to the site, Caltrans requires that the project contractor implement the following control measures:

- Only certified noxious weed-free erosion control materials would be used. All straw and seed material would be certified weed-free by the County Agricultural Commissioner prior to being used at the project site. The California Department of Food and Agriculture maintains a current listing of noxious weeds.
- Imported fill material would be weed-free.

2.4 Construction Impacts

Affected Environment

Traffic and Transportation

The proposed realignment of southbound Highway 101 and the Mission Street on-ramp may temporarily impact traffic and transportation. Approximately 0.7 mile of southbound Highway 101 between post mile 64.8 (at southern end of cemetery) and post mile 65.5 (adjacent to northbound off-ramp to 10th street) would undergo reconfiguration. During construction of this realignment to bring the facility up to current design standards and to enhance safety, access to southbound Highway 101 and south Mission Street will be restricted.

Air Quality

The Air Quality Analysis (July 2011) identified the project in the South Central Coast Air Basin and the San Luis Obispo County Air Pollution Control District. These two agencies administer air quality regulations developed at the federal, state and local levels. Under California standards, the project is in non-attainment for 1- and 8-hour ozone and PM₁₀ (particulate matter smaller than 10 microns in diameter). Because the South Central Coast Air Basin is in attainment or unclassified for all national ambient air quality standards, an air quality conformity determination is not required for this project.

Noise

The project is in a predominately rural area with few potential noise receptors. In 2013, a Noise Study was prepared to evaluate the potential for adverse noise effects on noise-

sensitive receivers. The receptors identified within the project vicinity consist of a few residential homes, San Miguel Church, and the Rios Caledonia Adobe.

Vibration

A 2013 Vibration Report evaluated potential vibration-related impacts from demolition of highway structures, pile-driving, and pavement breaking. These activities have the potential to generate vibration that can annoy individuals in nearby vicinity, and can cause architectural or structural damage to residences and buildings adjacent to the work zone.

Demolition of highway structures is typically conducted with a hoe ram mounted on a backhoe which can generate vibrations. This project proposes demolition of structures at San Marcos Creek and at the South San Miguel Undercrossing. Pile-driving also produces intense ground vibration that can affect delicate structures in close proximity to the vibrating source. Pile-driving is anticipated for the construction of San Marcos Creek Bridges, South San Miguel Undercrossing, widening of overcrossings, and for the installation of retaining walls.

Pavement breaking would be applied by crack and seat operations. This construction method utilizes machinery that drops a 6-ton weighted blade onto the existing pavement multiple times per minute to break the concrete. Next, a 50-ton grid roller is driven over the severely cracked pavement to compact and set the concrete in place. This process would produce temporary vibration waves that travel and could affect adjacent sensitive and fragile structures. Sensitive structures potentially affected from crack and seat vibration include the Rios Calendonia Adobe, San Miguel Mission, structures constructed pre-1965.

- The mid 1800 Rios-Caledonia Adobe complex is next to Caltrans right-of-way at post mile 64.8 (San Luis Obispo County) and is listed in National Register of Historic Places as California Historic Landmark #936. The closest structures within the adobe is approximately 45 to 50 feet from the proposed edge of pavement.
- Founded in 1797, the San Miguel Mission complex lies east of the Caltrans right-of-way and slightly north of the Rios-Caledonia Adobe (post mile 65.2). A variety of buildings reside within the Mission's premises that are located 330 to 550 feet from the proposed edge of pavement.
- Other historic-period structures (1965 and earlier) were identified along both sides of the corridor: farmsteads, San Miguel Cemetery, Camp Roberts barracks, and older residences in the town of San Miguel east of Highway 101.

Water Quality and Storm Water Runoff

The receiving water bodies within the project limits are the Salinas River and San Marcos Creek. A Water Quality Assessment Report (2012) indicates average rainfall is about 15 inches per year, although in some areas rainfall in excess of 30 inches has been recorded.

Hazardous Waste

During construction, potentially hazardous materials such as asbestos, lead, and harmful chemicals may be encountered through removal or demolition. San Marcos Creek bridges, guardrail and barriers, roadway grinding, and soil grading could potentially have some degree of hazardousness.

Emergency Services

Emergency services that are located in the project vicinity are San Miguel Fire Department, California Department of Forestry and Fire Protection. Law enforcement from San Luis Obispo County, Monterey County, California Highway Patrol, and Paso Robles City Police Department serve this project area. San Luis Ambulance provides service to the surrounding area, while Twin Cities Community Hospital is the closest full medical facility near San Miguel located approximately 15 miles from the center of town.

Temporary Construction Easement

Railroad tracks run parallel to northbound Highway 101 for most of the project. A temporary construction easement would be needed from the Union Pacific Railroad.

Environmental Consequences

Traffic and Transportation

Construction to realign the Mission Street on-ramp is anticipated to take up to nine months to complete. Commuters and travelers leaving San Miguel would be detoured to 10th street, cross underneath Highway 101, drive on Cemetery road and access southbound Highway 101 from an on-ramp at the end of Cemetery Road. If traveling from the center of town, commuter travel time would increase up to approximately 4 minutes with this detour under normal traffic conditions.

Air Quality

Project construction would cause a temporary minimal increase in air pollutants from equipment use and dust. Construction equipment exhaust releases hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. Windblown dust from excavation, grading, and hauling may annoy or prompt some residences to complain. Air born asbestos is anticipated to be minimal if any at all.

Noise

During the construction period, some of the sensitive receptors close to the highway might experience an increase in noise levels from construction equipment. Typical construction noise can range up to 89 decibels from 50 feet away. This noise level is equivalent to a food blender at 3 feet or a diesel truck at 50 feet.

Vibration

A 2013 Vibration Report stated that structure demolition, pile-driving, and crack and seat operations might temporarily produce strong waves of vibration or ground shaking which could travel and potentially impact sensitive and fragile structures. Vibration energy has the potential to cosmetically damage the fragile exterior of a building. Severe energy waves can generate enough vibration to undermine the structural integrity of fragile buildings.

Construction vibrations can be quantified by applying a formula that accounts for wave velocity frequency, movement of soil particles, distance to receiver, and wave intensity. The vibration report suggests that pavement breaking has the maximum rating for vibration impacts.

Calculating the vibration equation for crack and seat pavement breaking activities within the project limits, a safe from damage distance or buffer distance was established. Structures farther than the “safe distance” have virtually no risk of damage during construction operations. A pavement breaking minimum distance buffer away from nearby fragile and historic-period structures will avoid vibration-related impacts. Because of stringent seismic codes and building practices used at the time of construction, it is anticipated that modern structures would not be affected.

The crack and seat pavement breaking operations proposed in the vicinity of sensitive receptors such as the Rios-Caledonia Adobe and Mission San Miguel Mission has the potential to cause architectural or/and structural damage to these historic resources. Other historic-period structures along the project corridor could experience light vibration waves from the crack and seat operations. Depending on the intensity, timing and encountered soil conditions, individuals very close to site may experience noise that considered annoying, and nearby building may experience a small amount of ground vibration.

Water Quality and Storm Water Runoff

Short term impacts would be primarily associated with pollutants and the erosion of exposed or disturbed soils during construction activities. Due to the potential erosion of unprotected or graded surfaces, runoff during the winter season is of greater concern. For if it were not controlled, sediments suspended in runoff could be carried downstream and accumulate in a

downstream watercourse, potentially harming any downstream aquatic resources and water quality.

Hazardous Waste

Both San Marcos Creek Bridges proposed for removal may be painted with lead-containing paint. Asbestos-containing materials may also be present in the structures. Guardrail posts are chemically treated with various wood preservatives. Guardrails are to be removed and replaced at various locations within the project limits. The roadway grinding for asphalt overlaying would remove traffic striping that might contain lead and chromium. Lead may be exposed when soil grading for the wider shoulder. Lead is present in soil along highways, the result of auto emissions when lead was a fuel additive.

Emergency Services

Due to temporary lane closures, emergency response times for police and fire protection could be slightly longer during construction. However, because at least one traffic lane would remain open at all times, the proposed project would not result in substantial interruption of emergency services along the mainline.

The off-ramp at Mission Street into south San Miguel will remain open during construction of the new on-ramp; thus no delay in response time should occur for emergency vehicles heading northbound to access businesses or residences south of 10th Street.

The realignment of Mission Street Highway 101 southbound on-ramp would be closed to vehicles during construction and detoured to the Cemetery Road on-ramp. Emergency services such as police and fire would not be significantly affected by the 4 minute detour to access Highway 101 southbound. Police or fire services traveling southbound would most likely be leaving a controlled incident, or assisting Paso de Robles. The city of Paso de Robles is a large urban/ rural area with a sufficient amount of resources and emergency services compared to San Miguel.

Response time for ambulances would not be affected; however, return travel time to Twin City Hospitable would be slightly higher due to the Mission Street on-ramp closure. Ambulances leaving south of 10th street would experience a minor delay from the detour. Since Twin City Hospitable is approximately 15 miles, and the detour only is an additional 2 miles, the delay is viewed as less than significant.

Temporary Construction Easement

Access to Union Pacific Railroad right-of-way would be required when widening shoulders, modifying culverts, and installing rock slope protection.

Avoidance, Minimization, and/or Mitigation Measures

Traffic and Transportation

A traffic management plan would be implemented per Caltrans' Standard Provisions.

Public outreach to the local community and advance notification in the form of signs would be provided to notify community of on-ramp closure and detour route.

Air Quality

The Caltrans standard specification pertaining to dust control and dust palliative requirements is required of all construction contracts and should effectively reduce and control emission impacts during construction. The Caltrans Standard Specification, Section 14-9.01, "Air Pollution Control," and Section 14-9.02, "Dust Control" require the contractor to comply with any requirements of the local air district's rules, ordinances, and regulations.

Noise

To minimize construction noise effects on nearby sensitive receptors (residences, church, adobe building) next to the project area, the following measures would be applied:

- When applicable, the contractor would use newer equipment with improved noise muffling to ensure that all equipment has the manufacturers' recommended noise abatement measures such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment should be inspected at intervals to ensure proper maintenance and presence of noise control devices such as mufflers and shrouding.
- Construction methods or equipment would be used that provide the lowest level of noise and ground vibration impact such as alternative low-noise pile installation methods.
- Idling equipment would be turned off when not in use.
- Temporary noise barriers should be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets.
- Implement a construction noise and/or vibration monitoring program in order to limit impacts.
- Construction activities limited to daytime hours; however, if nighttime construction is absolutely necessary, adjacent residents will be notified at a minimum of two weeks in advance.

- To the maximum extent feasible, keep noise levels relatively uniform and avoid irregular and spontaneous loud noises.
- Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity updates of all construction activities. Provide the Resident Engineer's telephone number to adjacent property owners so residents can become aware of construction activities that would produce excessive noise near their home.

Vibration

- Crack and seat operations would be prohibited within 551 feet of the Rios- Caledonia Adobe and San Miguel Mission. For other pre-1965 structures, crack and seat operations would not occur closer than 195 feet. Adjacent to the adobe, within the 551 foot border, pavement rehabilitation would include use of a wet-saw and/or backhoe to remove old pavement and replace it with full-depth hot mixed asphalt. Please refer to Appendix D for mapping of crack and seat avoidance areas.
- Modern structures 104 feet or closer to the edge of travelway would be monitored for vibration. Monitoring equipment would be placed adjacent to the residential subdivision north of San Miguel during construction to evaluate vibration levels. To avoid risk of architectural damage, if monitored vibration levels meet or exceed a peak vertical particle velocity of 0.2 inches per second, crack-and-seat operations would stop, and the alternative method of utilizing a wet-saw and/or backhoe would be employed at this location.
- The public would be informed of potential vibration effects and the use of alternative methods to reduce these impacts. Potentially affected property owners would be forewarned about the temporary vibration inconvenience through public outreach, e.g., a letter or informational meeting.
- Caltrans would apply a standard special provision that stipulates the contractor would perform before and after structural evaluations off fragile structures by a licensed structural engineer including photo/ video surveys.
- A location-specific Vibration Reduction Plan would be implemented which includes the following measures:
 - Notify residents within 300 feet of areas where pavement breaking would take place, at least two weeks in advance of the proposed activity, through local news media and/or mail.

- If night vibration near property owners approach 0.20 inches/second, motel rooms for residents living adjacent to the proposed activity would be provided.
- Monitor and record peak particle velocities near sensitive receptors identified while the highest vibration producing activities are taking place. Refer to Appendix D for mapping of sensitive receptors.
- Use rubber tires instead of tracked vehicles near vibration-sensitive areas.
- For paving operations and bridge work, assure that night joints and bridge conforms are as smooth as possible, especially where there is heavy truck traffic near residences.
- Perform activities most likely to propagate objectionable vibrations during the day, or at least before most residents retire for the night.
- Restrict pavement breaking to daylight hours.
- To minimize construction vibrations, incorporate the phases of demolition, earth-moving and ground-impacting operations so activities do not occur in the same time period.

Water Quality and Storm Water Runoff

- Work within the streambed of San Marcos Creek would be limited to October 15 to April 15 (to avoid the rainy season).
- Prior to work in or near San Marcos Creek, coffer dams, culverts, and/or other temporary water diversion features may be used. Diverted or impounded water holding sediment would not be discharged into the stream.
- Land disturbing activities and the installation of erosion and sedimentation control practices must be coordinated to reduce on-site erosion and off-site sedimentation. These measures may include mulches (above the mean high water line only), soil binders and erosion control blankets, silt fencing, fiber rolls, sediment de-silting basins, sediment traps, and check dams.
- Construction and disturbance would be limited to as small an area as feasible.
- Loose bulk materials may be applied to the soil surface as a temporary cover to protect bare soils from the effects of rainfall, increase infiltration, and reduce runoff and erosion.
- Stabilizing material such as water must be applied to the soil surface to prevent the movement of dust due to traffic, wind, and grading activities.

- To the maximum extent practical, all disturbed areas must be restored to preconstruction contours and re-vegetated with native species. Hydroseeding would be used as a temporary measure, if feasible.
- Berms would be provided along the tops of slopes to prevent water running uncontrolled down the slopes.
- Water collected in these berms would be taken down the slopes in an erosion-proof drainage system. Sediment collected within these berms would be allowed to "settle out" and would be removed from the site.
- Energy dissipaters and erosion control pads would be provided at the bottom of slope drains. Other flow conveyance control mechanisms may include earth dikes, swales, or ditches. Stream-bank stabilization measures should also be used.
- All construction related materials would be hauled off-site after construction is completed.
- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a preconstruction state.
- All construction roadway areas would be protected by perimeter straw wattles, filters, or sandbags, where applicable, to prevent excess erosion, sedimentation, and water pollution,.
- All vehicle and equipment maintenance procedures would be conducted off-site. In the event of an emergency, maintenance would occur away from the stream channel.
- All concrete curing activities would be done to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be outside the stream channel, as feasible. All stockpiles would be covered, as required by the Construction General Permit. As stated above, the main constituents of concern in storm water are highway pollutants and sediments/erosion. With the use of best management practices, there will be no adverse impacts to water quality from these pollutants.

Since this project proposes to create more than one acres of net new impervious surfaces, permanent storm water treatment Best Management Practices (BMPs) will be implemented for storm water. Biofiltration devices or vegetated buffer strips would be constructed since they can potentially infiltrate over 90% of the water volume, using either native or amended soils.

Hazardous Waste

During the project design phase, testing would be conducted for hazardous materials. If hazardous materials are present in concentrations that exceeds regulatory limits, Caltrans standard special provisions would be included in the construction contract to properly handle and dispose of these materials in accordance with all applicable laws and regulations.

Emergency Services

- A minimum of one lane on Highway 101 would remain open during construction.
- Emergency access for police and fire protection would be maintained through the provision of traffic detours.
- All emergency services, especially ambulance services and Twin City Hospitable will be notified at a minimum of 2 weeks prior to the Mission Street southbound ramp closure.
- Ground mounted signs for ramp closures would be installed at a minimum of five working days prior to ramp closure.
- A Transportation Management Plan would be implanted.

2.5 Climate Change under the California Environmental Quality Act

Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gas emissions related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).¹

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of greenhouse gas emissions in the United States is electricity generation followed by transportation. The dominant greenhouse gas emissions emitted is CO₂, mostly from fossil fuel combustion.

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies; 2) reduce growth of vehicle miles traveled; 3) transition to lower greenhouse gas emissions fuels; and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (Assembly Bill 1493), 2002: requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the United States Environmental Protection Agency administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to use its own greenhouse gas emissions standards for motor vehicles beginning with model year 2009. California agencies would be working with Federal agencies to conduct joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017–2025.

Executive Order S-3-05: (signed on June 1, 2005, by then-Governor Arnold Schwarzenegger) the goal is to reduce California's greenhouse gas emissions to 1) 2000

¹ http://climatechange.transportation.org/ghg_mitigation/

levels by 2010; 2) 1990 levels by the 2020; and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that California Air Resources Board create a plan that includes market mechanisms and rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Executive Order S-20-06 further directs state agencies to begin using Assembly Bill 32 and the recommendations made by the state’s Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California’s transportation fuels would be reduced at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research to develop recommended amendments to the California Environmental Quality Act Guidelines for addressing greenhouse gas emissions (effective March 18, 2010).

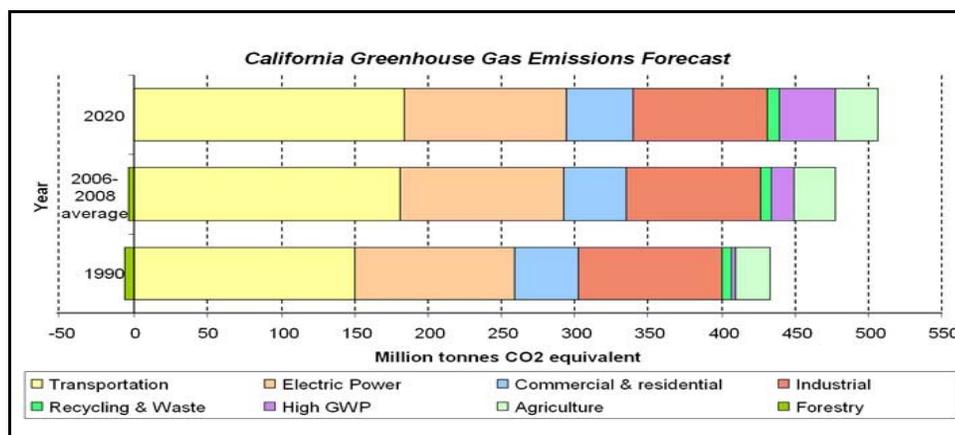
Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas emissions.² In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable.” See California Environmental Quality Act Guidelines sections 15064(h)(1) and 15130. To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The Assembly Bill 32 Scoping Plan contains the main strategies California would use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last update: 28 October 2010). The forecast estimates the emissions expected to occur 2020 if none of the foreseeable measures included in the Scoping Plan

² This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

were used. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008 (see Figure 2-4).



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

Figure 2-4 California Greenhouse Gas Forecast

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emissions reduction and climate change. Recognizing that 98 percent of California’s greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human made greenhouse gas emissions are from transportation, Caltrans created and is using the Climate Action Program published in December 2006 (see Climate Action Program at Caltrans (December 2006)).³

The project is a maintenance project that consists primarily of pavement rehabilitation and shoulder widening. There will be no increase in highway capacity since the highway would remain with the exact number of lanes as it currently exists. Thus, the proposed project is not anticipated to result in an increase in operational greenhouse gas emissions.

In actuality, Caltrans has considered measures in all project phases to assist with the reduction of greenhouse gases in order to be more energy efficient. For example, the project improves the transportation system with smoother pavement surfaces that reduces vehicle gas consumption through decreased friction, which in turn, reduces the amount of greenhouse gas emissions produced by vehicles. While construction emissions of greenhouse gases are unavoidable, there will likely be long term public benefits with improved safety and operation due to the widened shoulder and rumble strips.

³ Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Construction Emissions

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

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

Additionally, according to Caltrans Standard Specifications Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction; furthermore, the contractor must comply with Air Pollution Control District rules, ordinances, and regulations in regard to air quality restrictions.

California Environmental Quality Act Conclusion

While construction would result in a slight increase in greenhouse gas emissions during construction, Caltrans expects that there will be no operational increase in GHG emissions associated with this proposed project. However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Assembly Bill 32 Compliance

Caltrans is actively involved on the Governor's Climate Action Team as the California Air Resources Board works to use Executive Orders S-3-05 and S-01-07 to help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas

emissions. The Strategic Growth Plan would do this while handling growth in population and the economy. A suite of investment options, when combined should reduce congestion. The Strategic Growth Plan relies on a complete-systems approach to attain CO₂ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements (see Figure 2-5, Mobility Pyramid).



Figure 2-5 Mobility Pyramid

The Department of Transportation supports efforts to reduce vehicle miles traveled by planning and using smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. The Department of Transportation also supports efforts to improve transportation sector energy efficiency by increasing vehicle fuel economy in new cars, light- and heavy-duty trucks; it is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the United States Environmental Protection Agency and Air Resources Board. Lastly, the use of alternative fuels is also being considered; the Department of Transportation is participating in funding for alternative fuel research at the University of California, Davis. Table 2.1 summarizes statewide efforts that Caltrans is using to reduce greenhouse gas emissions. More detailed information about each strategy is included in the climate Action Program at Caltrans (December 2006).

Table 2.1 Climate Change/CO₂ Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy and GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 036	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.66	18.67

To the extent applicable or feasible for the project and through coordination with the project development team, the following measures would also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

The Department of Transportation, also known as Caltrans, would incorporate landscape in the project. Landscaping reduces surface warming and through photosynthesis decreases CO₂. The project proposes planting in the riparian area next to San Miguel Creek at a 3 to 1 tree-replacement ratio. These trees help reduce potential CO₂ emissions.

The project would incorporate the use of energy efficient lighting, such as LED (light emitting diode) traffic signals. LED bulbs cost \$60 to \$70 a piece but last five to six years compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent the electricity of traditional lights, which would also help reduce the CO₂ emissions from project.

According to the Department of Transportation's standard specifications, the contractor must comply with all local Air Pollution Control District rules, ordinances, and regulations in regarding air quality restrictions. These regulations include dust control, engine idling time during construction, as well as use of updated equipment.

Adaptation Strategies

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

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric

Administration (NOAA), released its interagency report on October 14, 2010 outlining recommendations to President Obama for how federal agency policies and programs can better prepare the United States to respond to the effects of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Former Governor Arnold Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This Executive Order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state, and federal public and private entities to develop The California Climate Adaptation Strategy (Dec 2009)⁴, which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy

⁴ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010⁵ to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, Oregon, and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems;
- a discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge, and storm wave data

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

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

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

⁵ The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington states as well as California.

transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Project development team meetings are scheduled on a regular basis. Multiple branches of Caltrans comprise the project development team. The meetings allow discussions of potential impacts to environmental resources from the proposed design. Discussion and brainstorming find alternative methods on how to construct a project that would avoid or minimize environmental impacts. Caltrans project development team meetings were held on April 20, 2011; September 27, 2011; November 9, 2011; February 7, 2012; and March 6, 2012.

Numerous internal Caltrans meetings took place during the environmental document preparation stage that included each environmental discipline.

In June 2011, a letter was mailed to the following interested parties notifying them of proposed project:

- San Luis Obispo County Parks
- History Center of San Luis Obispo County
- Paso Robles Pioneer Museum
- Paso Roble Historical Society
- Mission San Miguel
- Camp Roberts
- Friends of the Rios-Caledonia Adobe
- Mr. Wallace V. Ohles

The Native American Heritage Commission (NAHC) was contacted on July 6, 2011 with a letter of inquiry requesting a search of the sacred lands file, as well as contact information for Native American representatives who might have knowledge about resources in the project vicinity. Katy Sanchez, of the NAHC, responded July 14, 2011 that a records search of the Sacred Lands File indicated no Native American cultural resources in the vicinity of the project area. Additionally, the response included a list of Native American individuals who might have knowledge of cultural resources in the proposed project area.

Letters informing interested parties and seeking comment regarding this project were sent to representatives of the Salinan community on July 22, 2011.

On August 16 and 17, 2011, Salinan tribal member John Burch called District 5 Native American Coordinator Terry L. Joslin about the project. He asked about the studies conducted to date and if a Native American consultant was needed for the project. Ms. Joslin attended a Salinan Tribal meeting on September 11, 2011 and discussed the project with the tribe.

August 2011, Caltrans contacted Camp Roberts for their documentation on San Joaquin Kit Fox sightings. Caltrans biologist Morgan Robertson corresponded with Camp Roberts' biologist Paige Farrell via email.

In July 2012, Caltrans initiated contact with United States Fish and Wildlife Service for a determination concurrence that the project is not likely to adversely affect San Joaquin kit fox.

In July 2012, Caltrans initiated contact with NOAA's National Marine Fisheries Service. A Biological Assessment was submitted to National Marine Fisheries Services for impacts to South-Central Coast Steelhead.

On August 21, 2012 National Marine Fisheries Services concurred that the proposed project is not likely to adversely affect South-Central Coast Steelhead.

On November 5, 2012 the United States Fish and Wildlife Service concurred that the proposed project is not likely to affect San Joaquin kit fox.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Linda Baker, Landscape Architect. Associate Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 20 years of experience in Landscape Architecture Design and Construction Documents. Contribution: Scenic Resource Evaluation and Visual Assessment, and development and preparation of construction documents.

Paula Juelke Carr, Associate Environmental Planner (Architectural History). M.A., Independent Studies: History, Art History, Anthropology, Folklore and Mythology, University of California, Santa Barbara; B.A., Cultural Anthropology, University of California, Santa Barbara; more than 25 years of experience in California history. Contribution: Historical Resource Evaluation Report.

Robert Carr, Associate Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 20 years of experience preparing Visual Impact Assessments. Contribution: Review of Scenic Resource Evaluation and Visual Assessment.

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 19 years of environmental technical studies experience. Contribution: Water Quality Report.

Matt Fowler, Senior Environmental Planner. B.A., Geographic Analysis, San Diego State University; 11 years of environmental planning experience. Contribution: Environmental Project Manager and final editing.

Marie (Terry) Goewert, Environmental Planner (Air Quality Specialist). B.S., Foods and Nutrition, Colorado State University; 13 years environmental compliance and 7 years environmental planning experience. Contribution: Air quality technical study.

Krista Kiaha, Associate Environmental Planner. M.S., Anthropology, Idaho State University; B.A., Anthropology, University of California, Santa Cruz; 15

years of cultural resources experience. Contribution: Archeological Survey Report, Historic Property Survey Report.

Valerie Levulett, Senior Environmental Planner. Ph.D., Anthropology, University of California Davis; 40 years of experience in cultural resource and environmental studies. Contribution: Technical studies oversight.

Isaac Leyva, Engineering Geologist. B.S., Geology, California State University, Bakersfield; A.S., Cuesta College, San Luis Obispo; 20 years of experience in petroleum geology, environmental, geotechnical engineering. Contribution: Initial Site Assessment and Paleontology review.

Morgan Robertson, Associate Environmental Planner (Natural Sciences). M.S., Wildlife Biology, University of Alaska, Fairbanks, Alaska; B.S., Zoology, University of California at Davis; 17 years of experience in wildlife ecology. Contribution: Natural Environment Study.

Vladimir Timofei, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton; 11 years of environmental technical studies experience. Contribution: Noise Study and Vibration Report.

Kelso Vidal, Associate Environmental Planner. M.A., Sociology, California State University, Sacramento; 6 years of experience in environmental planning. Contribution: Wrote the Initial Study and coordinated the environmental process.

Chapter 5 Distribution List

<p>San Miguel Library 254 13th Street San Miguel, California 93451</p>	<p>SLO County Planning and Building Department 976 Osos Street San Luis Obispo, CA 93408</p>	<p>SLO County Public Works 1055 Monterey Street (room 207) San Luis Obispo, CA 93408</p>
<p>County of Monterey Resource Management Agency Planning Dept. 168 West Alisal Street, 2nd floor Salinas, CA 93901</p>	<p>County of Monterey Public Works Department 168 West Alisal Street, 2nd floor Salinas, CA 93901</p>	<p>California Highway Patrol San Luis Obispo Office (#745) 675 California Blvd San Luis Obispo, CA 93401</p>
<p>California Highway Patrol King City Office (#735) 2 Broadway Circle King City, CA 93930</p>	<p>San Miguel Fire Department 1150 Mission Street San Miguel, CA 93451</p>	<p>Bradley Fire Department 65789 Bradley Lockwood Road Bradley, CA 93426</p>
<p>Congressman Sam Farr 100 West Alisal Street, Salinas, CA 93901</p>	<p>Congresswomen Lois Capps 1141 Marsh Street, Suite 205 San Luis Obispo, CA 93401</p>	<p>United States Senator Barbara Boxer 2500 Tulare Street, Suite 5290 Fresno, CA 93721</p>
<p>United States Senator Dianne Feinstein 2500 Tulare Street, Suite 4290 Fresno, CA 93721</p>	<p>State Senator Bill Monning 1029 Palm Street, Suite 201 San Luis Obispo, CA 93401</p>	<p>Assemblyman Katcho Achadjian 1150 Osos Street, Suite #207 San Luis Obispo, CA 93401</p>

<p>Assemblymember Luis A. Alejo P.O. Box 942849 Sacramento, CA 94249-0030</p>	<p>San Luis Obispo County Air Pollution Control District 3433 Roberto Court San Luis Obispo, CA 93401</p>	<p>Monterey County Air Pollution Control District 24580 Silver Cloud Court Monterey, CA 93940</p>
<p>Central Coast Regional Water Quality Control Board 895 Aerovista Place, Suite 101 San Luis Obispo, CA 93401-7906</p>	<p>California State Water Resource Control Board P.O. Box 100 Sacramento, CA 95812-0100</p>	<p>California Department of Fish and Wildlife 1234 East Shaw Avenue Fresno, CA 93710</p>
<p>San Luis Obispo County Supervisor Supervisor Frank Mecham 1055 Monterey Street (Room D-430) San Luis Obispo, CA 93408</p>	<p>Union Pacific Railroad 1400 Douglas Street Omaha, NE 68179</p>	<p>Charter Communications Erik Edeen 270 Bridge St. San Luis Obispo, CA 93401</p>
<p>Paso Robles Chamber of Commerce 1225 Park Street Paso Robles, CA 93446</p>	<p>Verizon Communications Bryan Davis 1223 West Fairway Dr. Santa Maria, CA 93455</p>	<p>Qwest Communications George McElvain 700 West Mineral Ave, MS UT D2734 Littleton, CO 80120</p>
<p>AT&T Steve Plemons 908 28th St. Paso Robles, CA 93446</p>	<p>Southern California Gas Company Vagn Pedersen PO Box 818 Goleta, CA 93116</p>	<p>PG&E Claire Mastin 4325 South Higuera St. San Luis Obispo, CA 93401</p>
<p>Camp Roberts: Department of the Army Charles Biggs Dept. of Public Works Bldg 3022 Camp Roberts, CA 93451-5000</p>	<p>Joyce Herman Friends of the Rios-Caledonia Adobe 700 South Mission Street San Miguel, CA 93451</p>	<p>Shaun Cooper, Senior Park Planner San Luis Obispo County Parks 1087 Santa Rosa Street San Luis Obispo, CA 93408</p>

<p>Jill Fletcher History Center of San Luis Obispo County PO Box 1391 San Luis Obispo, CA 93406</p>	<p>California Department of Transportation Division of Environmental Analysis Attn: Peter Bond P.O. Box 942874, M.S. 27 Sacramento, CA 94274-0001</p>	<p>Milene Radford Pioneer Museum PO Box 461 Paso Robles, CA 93447</p>
<p>Paso Robles Historical Society PO Box 2875 Paso Robles, CA 93446</p>	<p>Father Raymond J. Tintle Mission San Miguel 775 Mission Street San Miguel, CA 93451</p>	<p>Col. Barbara A. Nuismer Camp Roberts Hwy 1, Bldg 109 Camp Roberts, CA 93451-5000</p>
<p>Department of the Army U.S. Army Engineer District, San Francisco 1455 Market St., 16th Floor San Francisco, CA 94103-1398</p>	<p>National Oceanic and Atmospheric Administration Southwest Region 501 West Ocean Boulevard, Suite 4200 Long Beach, CA 90802-4213</p>	<p>Various Residences Residences immediately adjacent to project. Names intentionally left out for the individual's privacy.</p>

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Appendix A California Environmental Quality Act Checklist

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

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

I. AESTHETICS: Would the project:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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

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

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 United States Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

V. CULTURAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

VII. GREENHOUSE GAS EMISSIONS: Would the project:

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

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

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

IX. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Result in inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

X. LAND USE AND PLANNING: Would the project:

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

XI. MINERAL RESOURCES: Would the project:

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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:

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:

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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

XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. TRANSPORTATION/TRAFFIC: Would the project:

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

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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Appendix B Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
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March 16, 2012

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: mario_solis@dot.ca.gov.

A handwritten signature in blue ink, appearing to read "Malcolm Dougherty".

MALCOLM DOUGHERTY
Acting Director

"Caltrans improves mobility across California"

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Appendix C Minimization and/or Mitigation Summary

Below are summaries of the avoidance, minimization and/or mitigation measures that would be used in the project. For a detailed description of the following measures, please refer to the appropriate topic section in Chapter 2.

Utilities/Emergency Services

Utility companies would notify affected residents in advance.

Visual / Aesthetic

- With input from local community, aesthetic architectural treatment will be applied to visible retaining walls, surface areas, and Mission Street, bridge rails.
- Native trees planted in the vicinity of structures.
- Erosion control seeding.

Hydrology and Floodplain

- Rock slope protection at culvert outlets
- Embankment rebuilding

Water Quality and Storm Water Runoff

Permanent and temporary storm water treatment best management practices

Natural Communities

- Cut/fills for outer-shoulder minimized to the maximum extent practicable.
- Large black cottonwood tree to the west of the highway bridges would be avoided.
- Native oak trees delineated on project plans and field environmentally-sensitive-area fencing.

Riparian

- Mitigation: Native trees and would be replaced at a minimum 3:1 ratio with a one-year plant establishment period.
- All work would be confined to Caltrans right-of-way and construction easements.
- Environmentally-sensitive-area fencing would be marked on plans and installed

around trees and riparian vegetation prior to work.

- All clearing would be done outside the nesting season (February 15–September 1).

Wetlands and Other Waters

- Temporary impacts to other waters of the United States would be re-graded, as needed, to a pre-existing state.
- Application of Caltrans' National Pollution Discharge Elimination System statewide storm water permit.
- Caltrans would hydroseed channel banks.
- In-channel work at San Marcos creek limited to May 1–October 31.
- Environmentally-sensitive-area fencing would be installed 12 feet away from the edge of the cut/fill limits at San Marcos Creek.
- Implementation of best management practices.
- Equipment staging areas and storage/stockpile areas would be in uplands.
- Environmentally sensitive area fencing placed at post mile 69.1.

Animal Species

San Joaquin whipsnake

The project plans would delineate environmentally sensitive areas that limit access to the minimum required for construction within waters of the United States

American badger

No work would occur within 100 feet of the badger and/or its den until the den has been found vacant for three consecutive nights.

Pallid Bat

Tree Removal from September to February.

Minimize sandblasting

- *Mitigation*

Construct small grooves or ridges into each corner underneath the bridges.

Migratory Bird

- Tree removal would be done September 1 to February 15 (non-breeding season for migratory birds).
- Work would be done on structures with swallow nests outside the swallow nesting season (March to August), if practicable.
- If construction activities occur on these structures during the swallow nesting season, a qualified biologist would need to inspect the structure.

Threatened and Endangered Species

Steelhead trout

- All work activities within or adjacent to creeks would be restricted to the dry season (May 1 to October 31).
- Only authorized personnel must participate in activities associated with the capture, handling, and relocation of steelhead trout.
- During preconstruction, a qualified biologist would conduct training/educational meetings to inform construction personnel about steelhead trout.
- Removal of native vegetation would be restricted. Environmentally-sensitive-area fencing would minimize access to steelhead trout habitat. Habitat would be re-vegetated with native hydroseed or live plants.
- Altered streambeds must be graded or treated to pre-construction conditions after construction work is completed each season.
- Best management practices would be required to prevent hazardous chemicals and excavated sediments spilling into the watercourse, adjacent waters of the United States, wetlands, or riparian habitats.
- Silt fences and straw wattles would be used for erosion control.

Kit fox

- If kit fox were found, all project activities would cease until authorization from California Department of Fish and Wildlife.
- Project-related vehicles restricted to a 20-mph speed limit in all project areas, excluding county roads and Highway 101.
- Prior to any ground disturbance, Caltrans will conduct an all contractors employee education program pertaining to kit fox.

- A litter control program will be initiated. No pets or firearms will be allowed on-site.
- Excavations deeper than 2 feet will be covered at the end of each work day, or have escape ramps. Each excavation will be inspected thoroughly before being filled.
- All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site would be thoroughly inspected for kit foxes before use.
- The resident engineer or their designee will be responsible for implementing these conservation measures.
- Restoration and vegetation work will use California native plant materials. Use of fiber rolls to prevent soil erosion. Application of Caltrans' best management practices.
- Preconstruction surveys conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance. The survey will identify and map any potential kit fox dens.
- Written results of the preconstruction survey will be submitted to the Service within 5 days after survey completion and prior to the start of ground disturbance.

Vernal pool fairy shrimp

Environmentally-sensitive-area fencing would be installed around pools. Fencing would be marked on project plans.

Invasive Species

- Only certified noxious-weed free erosion control materials would be used.
- Imported fill material must be weed-free.

Construction Impacts

Traffic and Transportation

- A traffic management plan will be implemented.
- Advance Public outreach to local community and advance notification in the form of signs would be provided to notify community of on-ramp closure and detour route.

Air Quality

- The Caltrans Standard Specification, Section 14-9.01 Air Pollution Control” and Section 14-9.02 “Dust Control” would be used.

Noise

- When applicable, the contractor would use newer equipment and ensure proper maintenance.
- Use construction methods or equipment that provide the lowest level of noise and ground vibration.
- Turn off idling equipment when not in use.
- Temporary noise barriers should be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities.
- If applicable, implement a construction noise and/or vibration monitoring program.
- Limit construction activities to daytime hours unless absolutely necessary.
- Keep noise levels relatively uniform and avoid impulsive noises.
- Maintain good public relations.

Vibration

- Crack and seat operations would take place no closer than 550 feet from the Rio Caledonia Adobe, San Miguel Mission, and historic buildings. For other historic-period structures, crack and seat operations would not occur closer than 195 feet. Modern structures 104 feet or closer would be monitored for vibration.
- Inform the public
- Contractor will perform before and after structural evaluations of property
- Implementation of a location-specific Vibration Reduction Plan
 - Notify residents within 300 feet
 - arrange motel rooms when vibrations approach 0.20 inches/second at residence.
 - Monitor and record peak particle velocities near sensitive receptors
 - Use rubber tired vehicles near sensitive areas.

- Assure night joints and bridge conforms are as smooth as possible
- Perform objectionable vibrations during the day
- Restrict pavement breaking to daylight hours.
- Phase demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.

Water Quality and Storm Water Runoff

- Streambed work would be limited to October 15 through April 15.
- Prior to work in or near San Marcos Creek, coffer dams, culverts, and/or other temporary water diversion features may be used. Diverted or impounded water holding sediment would not be discharged into the stream.
- Land disturbing activities and the installation of erosion and sediment-control practices must be coordinated to reduce on-site erosion and off-site sedimentation.
- The construction and disturbance would be limited to as small an area as feasible.
- Loose bulk materials may be applied to the soil surface as a temporary cover to increase infiltration, reduce runoff and erosion, and protect bare soils from the effects of rainfall.
- Stabilizing material, such as water, must be applied to the soil surface to prevent the movement of dust at the project site due to traffic, wind, and grading activities.
- All areas must be restored to pre-construction contours and re-vegetated with native species. Hydroseeding would be used as a temporary measure, if feasible.
- Berms provided along the tops of slopes would prevent water from running uncontrolled down the slopes.
- Water collected in these berms would be taken down the slopes in an erosion-proof drainage system. Sediment that is collected within these berms would be allowed to "settle out" and would be removed from the site.
- Energy dissipaters and erosion control pads would be provided at the bottom of slope drains. Stream-bank stabilization measures should also be used.

- All construction related materials would be hauled off-site after completion of construction.
- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a preconstruction state.
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution.
- All vehicle and equipment maintenance procedures would be done off-site. In the event of an emergency, maintenance would occur away from the stream channel.
- All concrete curing activities would be conducted to minimize spray drift and prevent curing compounds from entering the waterway directly or indirectly.
- All construction materials, vehicles, stockpiles, and staging areas would be outside the stream channel, as feasible. All stockpiles would be covered, as feasible. As stated above, the main constituents of concern in storm water are highway pollutants and sediments/erosion. With use of best management practices, there will be no adverse impacts to water quality from these pollutants.

Hazardous Waste

- During the Design Phase of the project, testing would be conducted for hazardous materials. If hazardous materials are present in concentrations that exceeds regulatory limits, Caltrans' standard special provisions would be included in the construction contract to properly handle and dispose of these materials in accordance with all applicable laws and regulations.

Emergency Services

- A minimum of one lane on Highway 101 would remain open during construction.
- Emergency access for police and fire protection would be maintained
- All emergency services, especially ambulance services and Twin City Hospitable will be notified at a minimum of 2 weeks prior to the Mission Street southbound ramp closure.
- Signs for ramp closures installed at five working days prior to closure.

- A Transportation Management Plan would be implanted.

Temporary Construction Easement

- Caltrans would apply for a temporary construction easement permit from the Union Pacific Railroad and abide by their policies and regulations during construction.

Climate Change under the California Environmental Quality Act

- Landscaping would reduce surface warming, and through photosynthesis, decrease CO₂ emissions.
- The project would incorporate the use of energy efficient lighting.
- Air Pollution Control District rules, ordinances, and regulations in regard to air quality restrictions would be applied.

Appendix D Crack and Seat Avoidance Map

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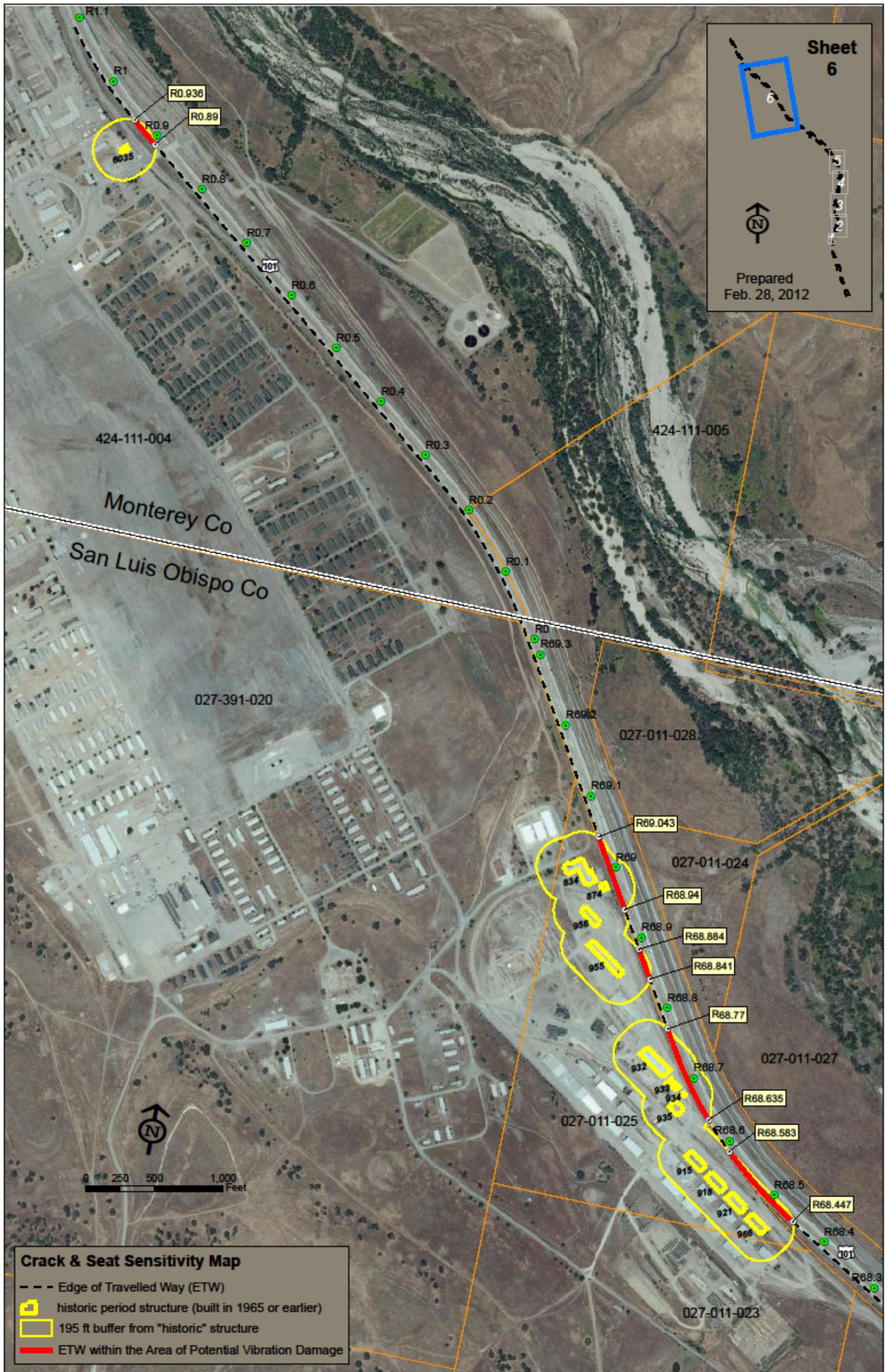


Figure D-1 Crack and Seat Avoidance Map

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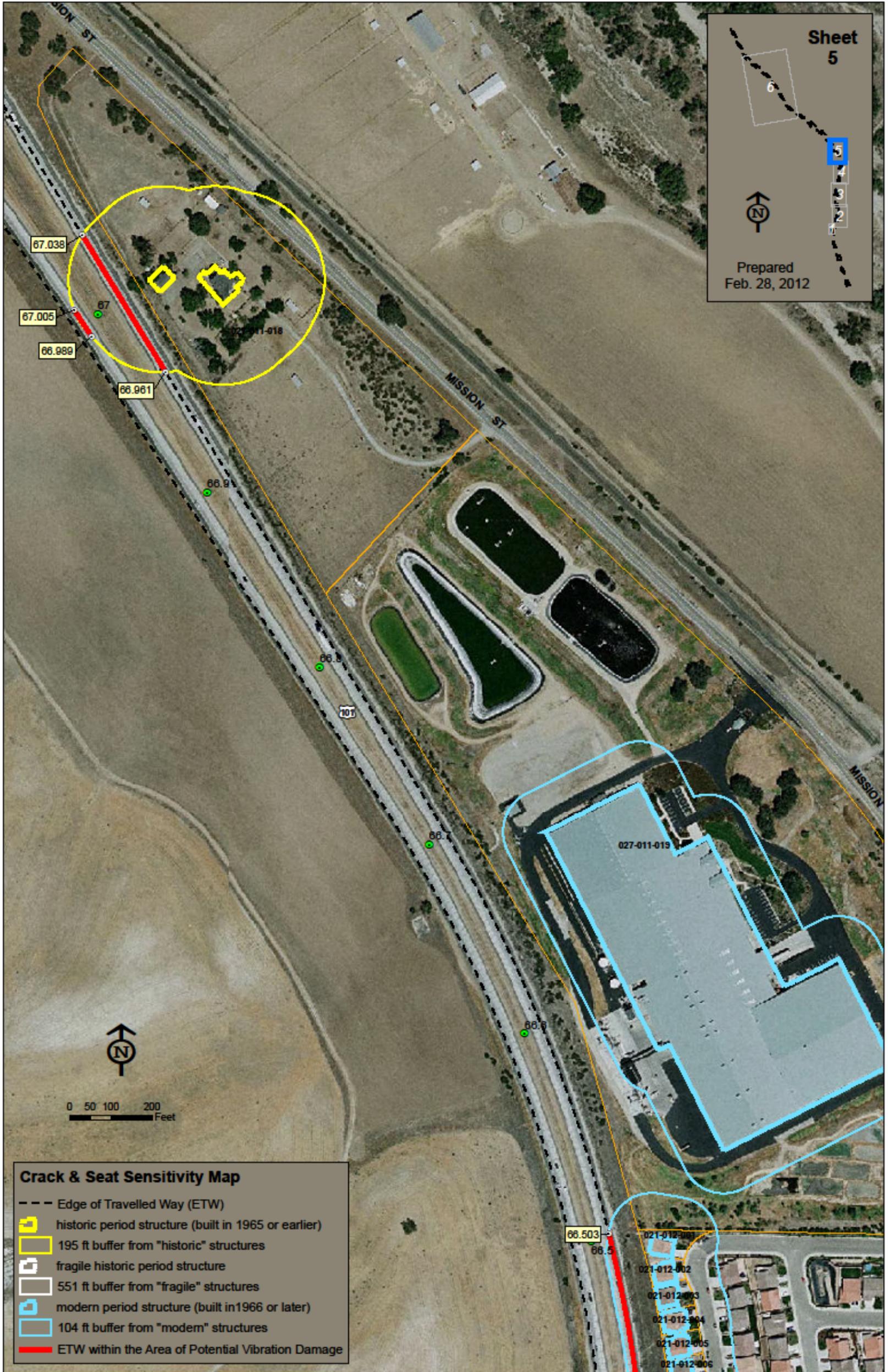


Figure D-2 Crack and Seat Avoidance Map

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Figure D-3 Crack and Seat Avoidance Map

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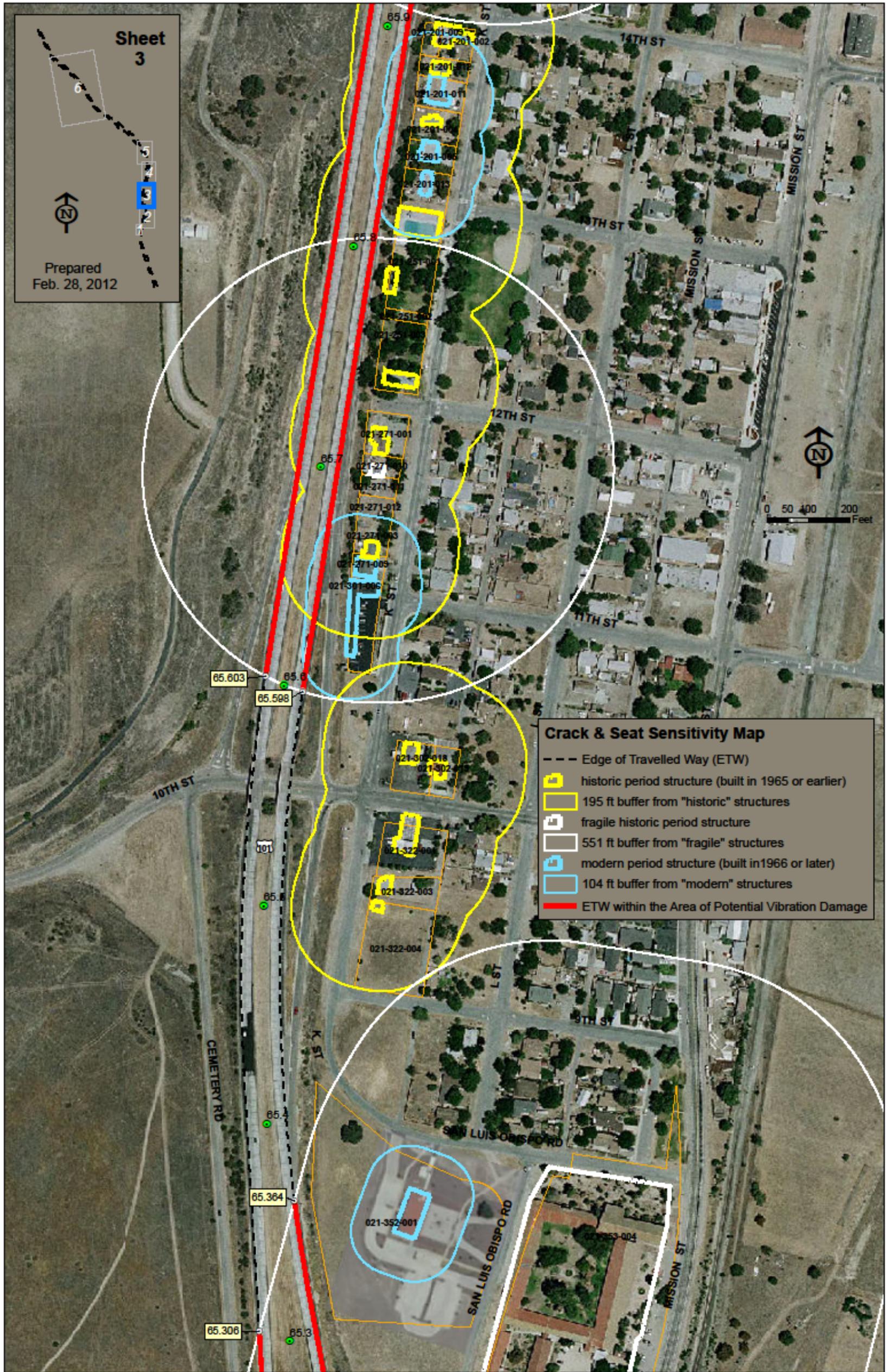


Figure D-4 Crack and Seat Avoidance Map

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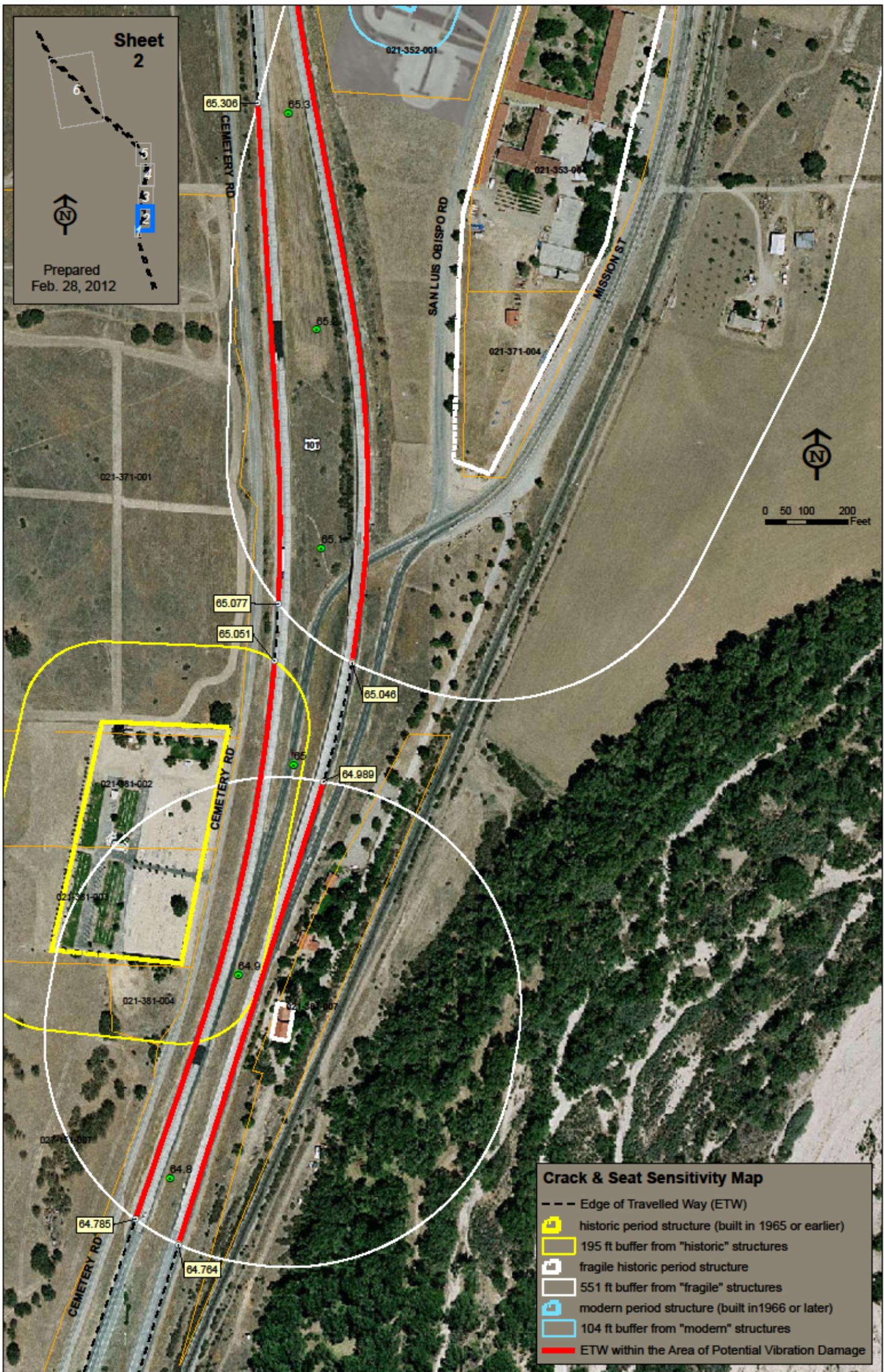


Figure D-5 Crack and Seat Avoidance Map

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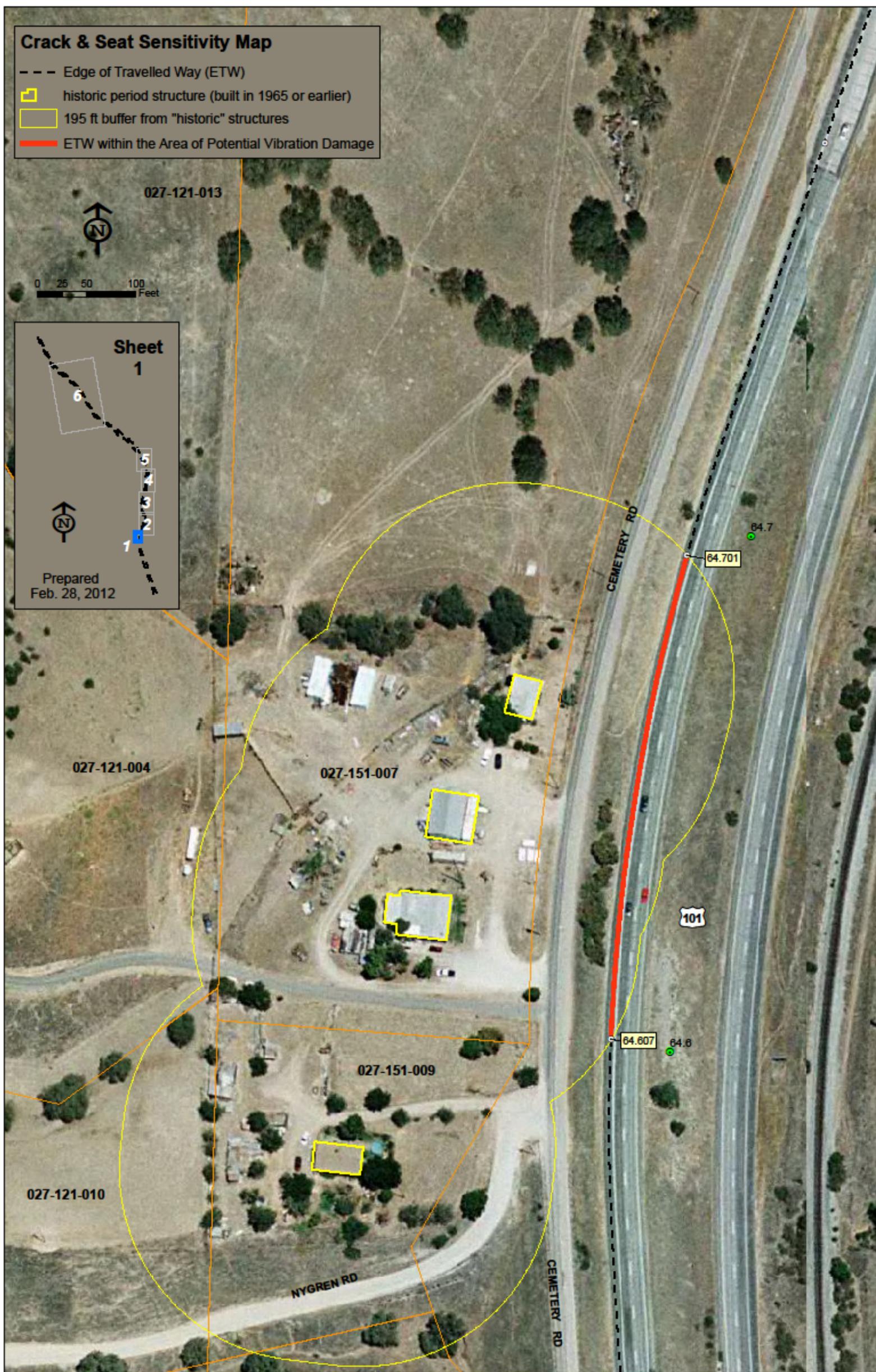


Figure D-6 Crack and Seat Avoidance Map

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Appendix E Project Design Plans

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INDEX OF PLANS

**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

**PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY**

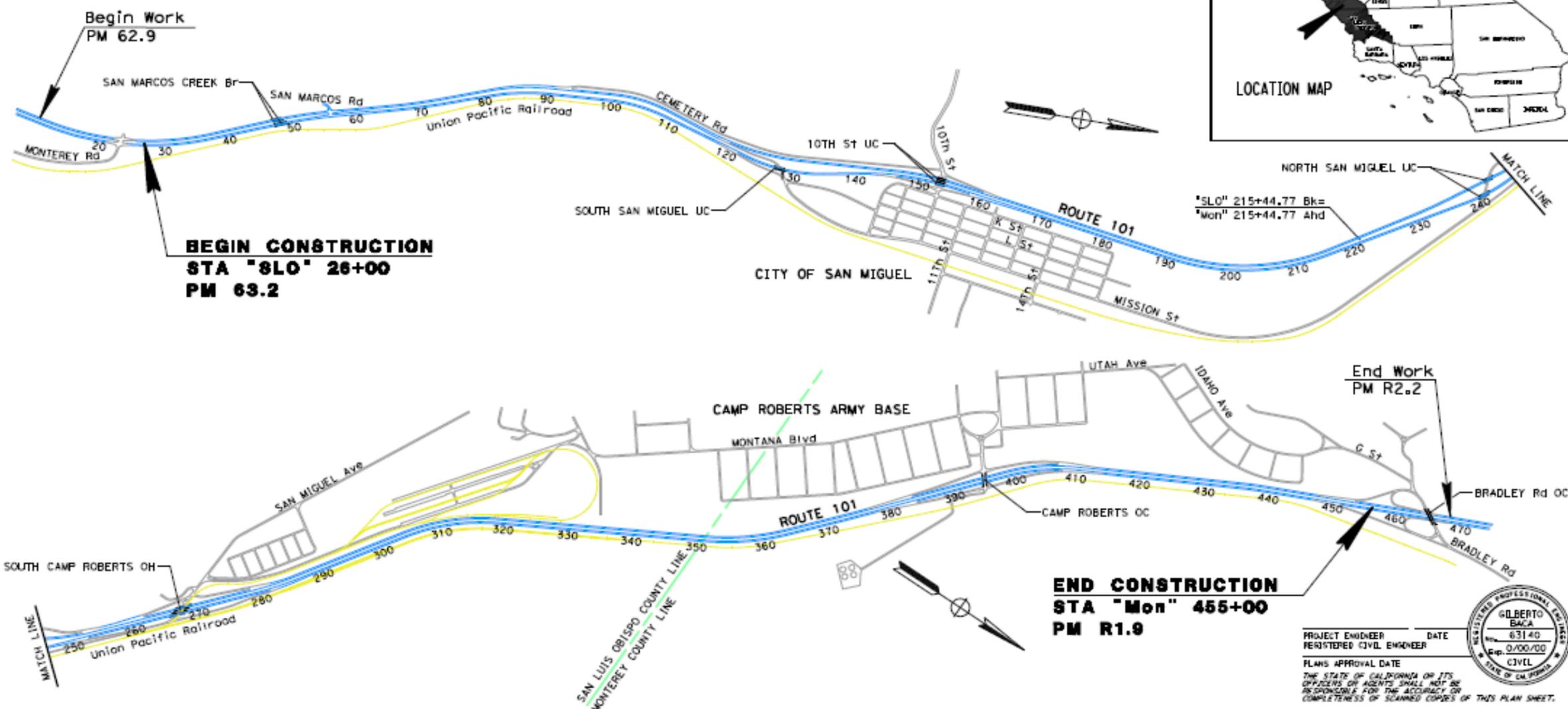
**IN SAN LUIS OBISPO AND MONTEREY COUNTIES
NEAR PASO ROBLES FROM SAN MARCOS CREEK BRIDGE
TO 0.2 MILE SOUTH OF BRADLEY ROAD OVERCROSSING**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO, Mon	101	63.2/R69.3, R0.0/R1.9		



LOCATION MAP



PROJECT MANAGER
AMY DONATELLO

DESIGN ENGINEER
ROBERTO BANDA



PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	05-090404
PROJECT ID	0500020020

DATE PLOTTED => 04/11/11
TIME PLOTTED => 11:41 AM

Figure E-1 Title Sheet

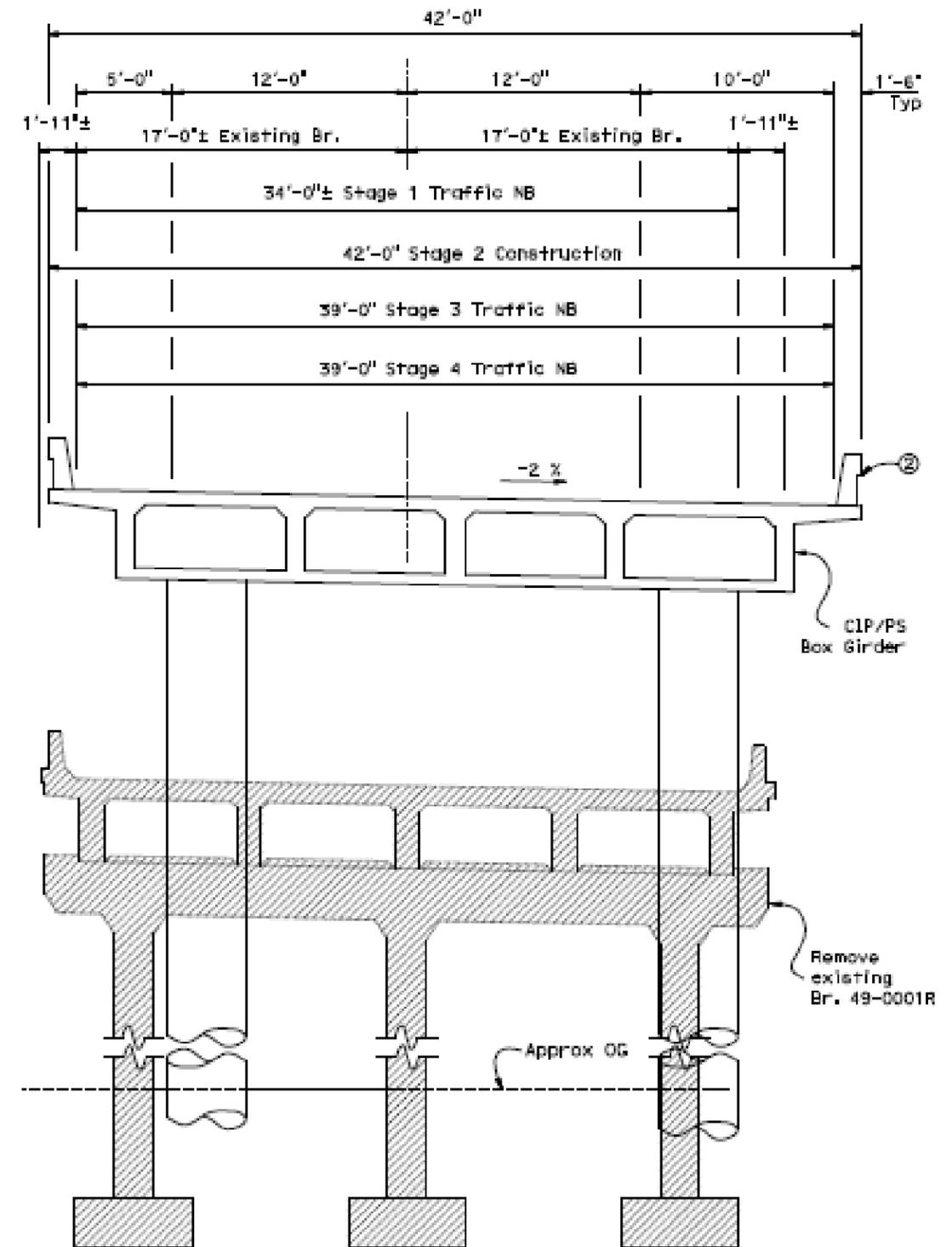
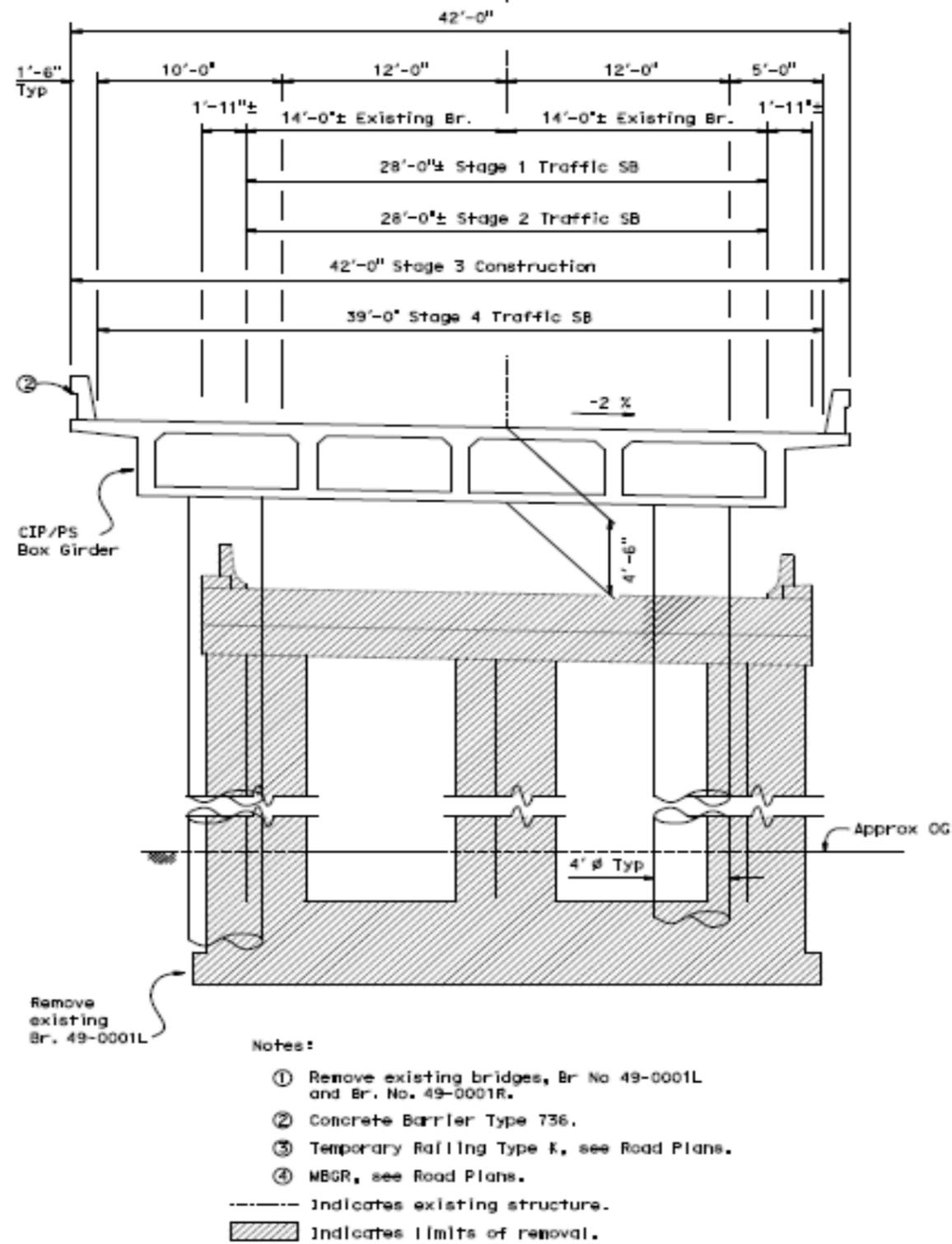
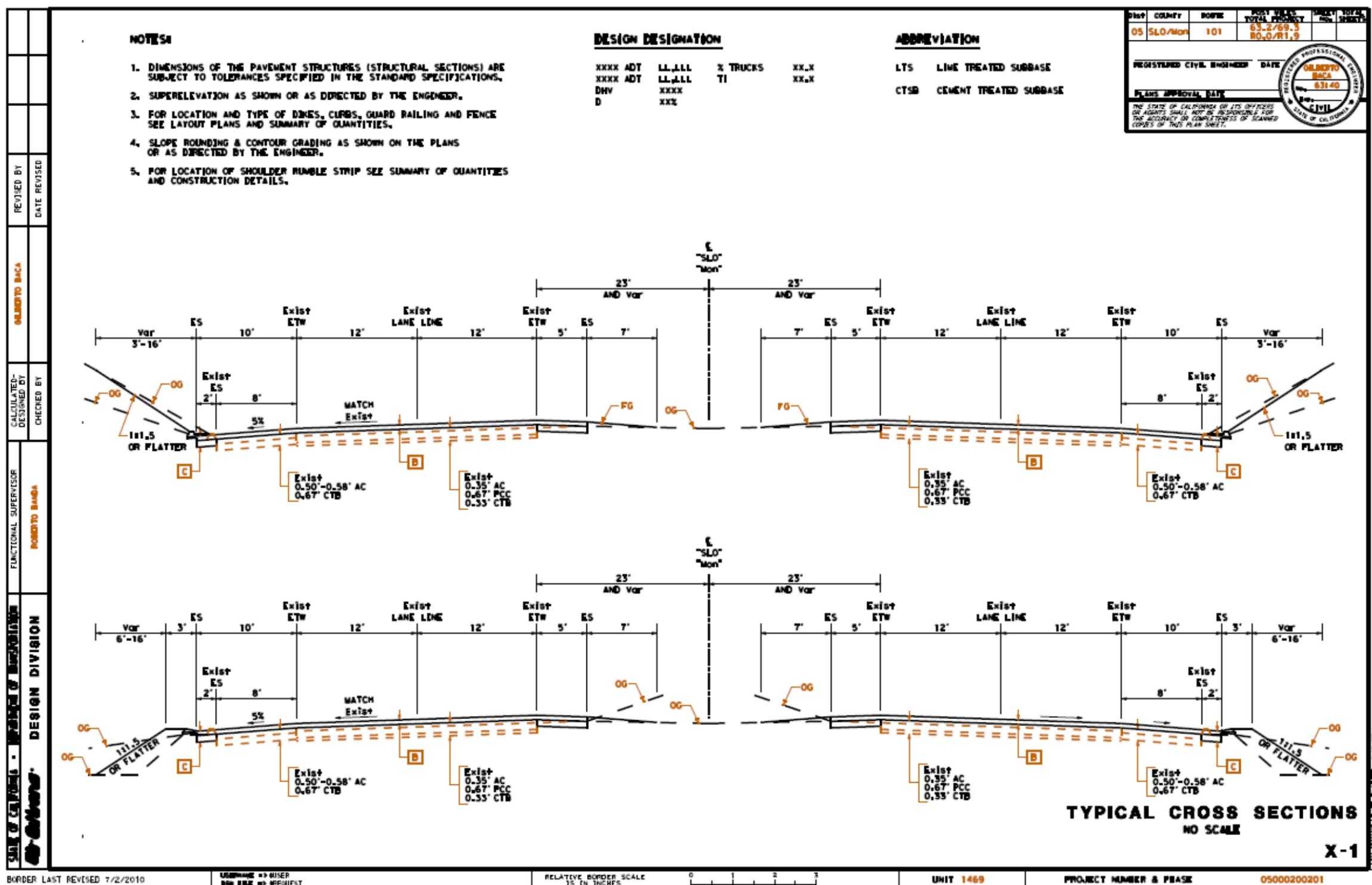


Figure E-2 Bridge Cross Section



BORDER LAST REVISED 7/2/2010

USERNAME => USER
 BSN PRK => REQUEST

RELATIVE BORDER SCALE
 1/8" IN INCHES

UNIT 1469

PROJECT NUMBER & PHASE
 05000200201

Figure E-3 Typical Cross Sections

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

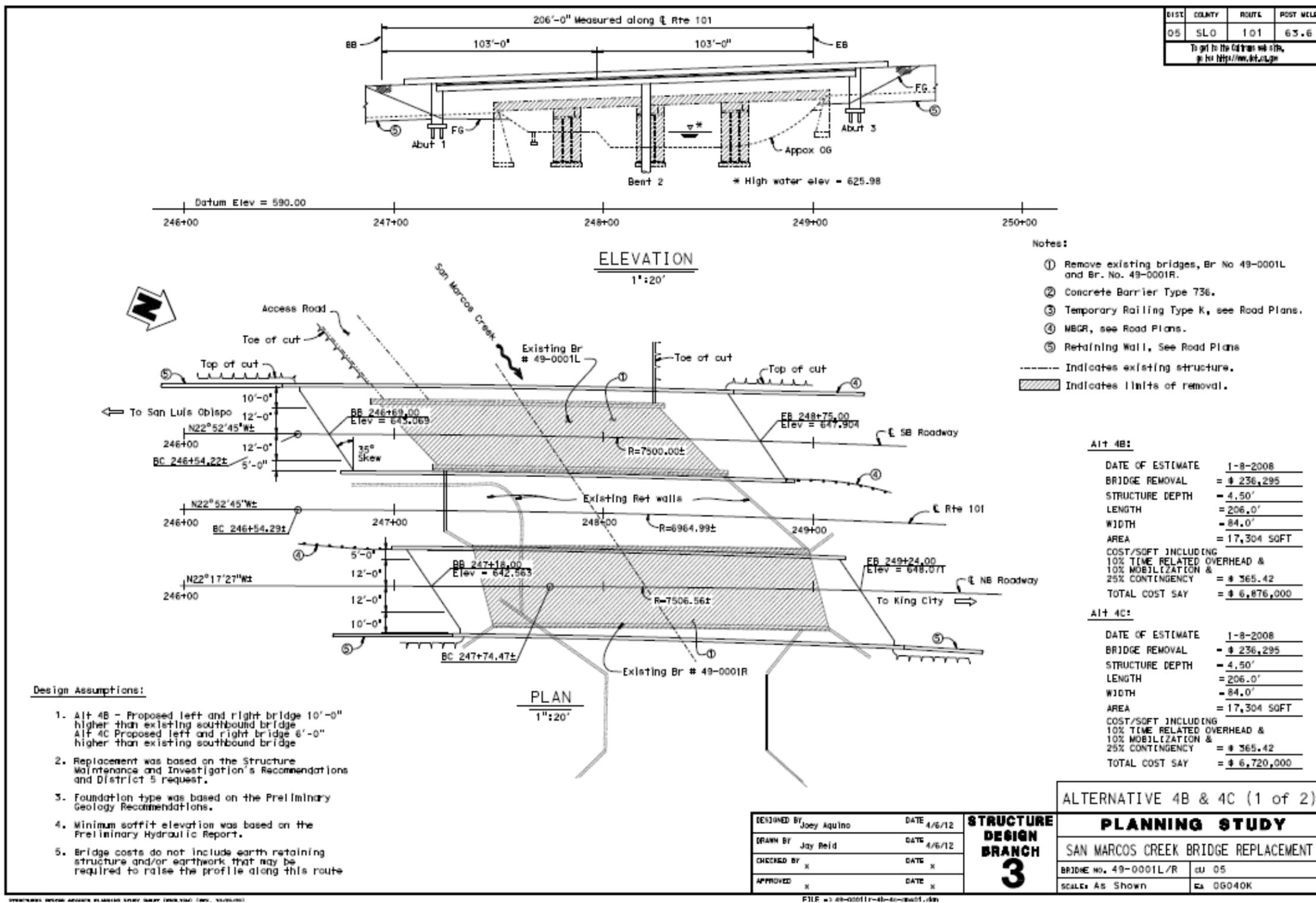


Figure E-4 Bridge Plan

List of Technical Studies that are Bound Separately

- Air Quality Analysis Memorandum (October 2012)
- Noise Study (April 2013)
- Water Quality Assessment Report (October 2012)
- Preliminary Drainage Investigation & Estimate Memo (October 2011)
- Natural Environment Study (October 2012)
- Historical Property Survey Report (March 2012)
 - Historic Resource Evaluation Report
 - Archaeological Survey Report (not available for public viewing)
 - Cultural Resources Memorandum (September 2012)
- Hazardous Waste Reports: Initial Site Assessment (September 2012)
- Scenic Resource Evaluation/Visual Assessment (April 2013)
- Paleontology Review Memorandum (February 2013)
- Vibration Report (February 2013)
- District Preliminary Geotechnical Report (November 2011)
- Location Hydraulic Study (June 2012)

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