State Route 247 Pavement Rehabilitation and Shoulder Widening Project

SAN BERNARDINO COUNTY, CALIFORNIA
DISTRICT 8 – SBD – 247 (PM 0.0/23.0)
EA 08-1J2700/PN 0818000014

Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

May 2022

General Information about This Document

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study with Mitigated Negative Declaration/ Environmental Assessment for the proposed project located in San Bernardino County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA). The Department is also the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. The Initial Study/Draft Environmental Assessment was circulated to the public for 30 days between April 6, 2022 and May 6, 2022. Comments received during this period are included in Chapter 4. Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated. Additional copies of this document and the related technical studies are available for review at California Department of Transportation, District 8, 464 West Fourth Street, 8th Floor, San Bernardino, CA 92401-1400. This document is also available via e-mail at: sr247-improvements@dot.ca.gov. Please include "State Route 247 Pavement Rehabilitation and Shoulder Widening Project" in the subject line.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Shawn Oriaz, Environmental Planning, 464 West Fourth Street, 6th Floor, MS-827, San Bernardino, CA 92401-1400; (909) 388-7034 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

08-SBD-247-PM 0.0/23.0
EA 08-1J2700/PN 0818000014

This Project is to extend the life of the existing pavement and improve ride quality along State Route 247 from State Route 62 to 0.4 miles north of Gin Road in San Bernardino County (Postmile 0.0 to Postmile 23.0).

INITIAL STUDY with Mitigated Negative Declaration/ Environmental Assessment

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

THE STATE OF CALIFORNIA
Department of Transportation

.

Cooperating Agencies:
Bureau of Land Management

Responsible Agencies:
California Transportation Commission
Colorado River Regional Water Quality Control Board

5/23/2022
Date

Kurt Heidelberg
Kurt Heidelberg
Deputy District Director
District 8, Division of Environmental Planning
California Department of Transportation
CEQA/NEPA Lead Agency

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FOR

State Route 247 Pavement Rehabilitation and Shoulder Widening Project

The California Department of Transportation (Caltrans) has determined that the Build Alternative will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) and the associated technical studies, listed in Appendix I of the attached EA, which have been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA (and other documents as appropriate).

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Kurt Heidelberg

Kurt Heidelberg
Deputy District Director
District 8, Division of Environmental Planning
California Department of Transportation

5/23/2022

Date

MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (the Department) proposes to extend the life of the existing pavement and improve ride quality along State Route 247 from State Route 62 to 0.4 miles north of Gin Road in San Bernardino County. The scope of work consists of cold plane and overlay from post mile (PM) 0.0 to PM 23.0, shoulder widening to current standards from PM 20.3 to PM 23.0, culvert and drainage repairs and improvements, regrading of the roadway between PM 2.9 and PM 3.0, constructing rock slope protection (RSP) at PM 0.3, and installation of bicycle lane markings and signs from PM 1.6 to PM 23.0.

Determination

The Department has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on:

- Land Use
- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Growth
- Farmlands/Timberlands
- Community Impacts
- Environmental Justice
- Utilities/Emergency Services
- Traffic & Transportation/Pedestrian & Bicycle
- Visual/Aesthetics
- Paleontological Resources
- Air Quality
- Noise
- National Marine Fisheries Service Resources
- Section 4(f) Resources
- Energy
- Wildfire

In addition, the proposed project would have less than significant effects to:

- Relocations and Real Property Acquisition
- Cultural Resources
- Hydrology & Floodplain
- Water Quality And Storm Water Runoff
- Geology/Soils/Seismic/Topography
- Natural Communities
- Plant Species
- Animal Species
- Invasive Species

With the following mitigation measures incorporated, the proposed project would have less than significant effects to: Hazardous Waste/Materials, Wetlands and other Waters, and Threatened & Endangered Species:

HAZ-1: An ADL survey is recommended along the shoulders of SR-247 adjacent to the project area in areas that might be disturbed during culvert and roadway widening construction activities.

HAZ-2: A Lead Based Paint (LBP) survey is recommended prior to demolition or disturbance of suspect LBP.

HAZ-3: During subsurface work, samples of suspect ACM (e.g., underground utilities, pavements with reinforcing fabric, weep hole liners, etc.) if found, should be collected for laboratory analysis of asbestos prior to any renovation or demolition, in order to determine the need for compliance with EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

HAZ-4: A Phase II Environmental Site Assessment will be required for acquisition of the new properties to identify hazardous and potential hazardous waste contamination within and adjacent to the project location.

BIO-General-1 - Equipment Staging, Storing, and Borrow Sites: All staging, storing, and borrow sites require the approval of the Contractor-supplied biologist.

Bio-General-4 - Preconstruction Surveys: Preconstruction pallid San Diego pocket mouse and Mohave ground squirrel surveys must be conducted by a Contractor Supplied Biologist 7 days prior to project activities within the shoulder widening PIA (PM 20.3 to PM 23.0). If a pallid San Diego pocket mouse or Mohave ground squirrel is located, the Resident Engineer and Caltrans biologist must be contacted and additional measures (i.e. protocol surveys) and/or agency coordination may be required.

Bio-General-6 - Species Avoidance: If during project activities a western Joshua tree (*Yucca brevifolia*) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities.

Bio-General-7 - Worker Environmental Awareness Program (WEAP): A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.

BIO-General-16 - Invasive Weed Control: To address impacts to the shoulder widening PIA (PM 20.3 to PM 23.0) and drainage improvement PIA (PM 0.3, PM 3.0, and PM 3.59), the Contractor Supplied biologist must identify the following CAL-IPC noxious weed species, plus any others incidentally observed -- Limited species: *Schismus* spp., puncture vine (*Tribulus terrestris*), and *Eucalyptus* spp. CAL-IPC Moderate rated species: Bermuda grass (*Cynodon dactylon*). CAL-IPC High rated species: tamarisk (*Tamarix ramosissima*). Treatment and disposal methods must be approved by the Caltrans biologist prior to vegetation removal.

Bio-Plant-1 - Rare Plant Surveys, Flagging and Fencing: Within 30 days prior to construction and within the rare plant bloom season of March-June, a preconstruction survey must be conducted by a Contractor Supplied Biologist for special-status plant species within a 100-foot buffer for construction staging areas outside of previously-paved or developed areas within the BSA. Western Joshua tree, ivory-spined agave, San Bernardino milk-vetch, Lane Mountain milk-vetch, triple-ribbed milk-vetch, Fremont barberry, alkali mariposa lily, white-bracted spineflower, desert cymopterus, purple-nerve cymopterus, Mojave tarplant, Mojave monkeyflower, Parish's daisy, flat-seeded spurge, little San Bernardino Mountains linanthus, Mojave menodora, Robison's monardella, short-joint beavertail, Beaver Dam breadroot, white-margined beardtongue, Death Valley sandpaper-plant, and Latimer's woodland-gilia, plus any other rare plants, must be flagged for visual identification to construction personnel for work avoidance. Rare plants detected that feature multiple plants in a single location must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.

Bio-Arthropod-1 - Rare Insect Host Plant Preconstruction Clearance Survey, Flagging, and Fencing: No more than 30 days prior to project activities, a Contractor Supplied biologist must perform a preconstruction survey for rare insect host plants within the Project shoulder widening impact area (PM 20.3 to PM 23). Should any rare insect host plants be found, the Resident Engineer and Caltrans biologist must be contacted, and host plants must be flagged by the Contractor Supplied biologist for visual identification to construction personnel for work avoidance. Should multiple plants in a single location be found, the groupings must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.

Bio-Reptile-1 - Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the

equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.

Bio-Reptile-2 - Pre-Project Surveys: To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.

Bio-Reptile-5 - Trash/Predation: Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.

Bio-Reptile-8 - Rock Slope Protection: To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be partially filled with concrete grout or sand.

Bio-DT-1 - Agency Notification & Reporting Requirements: Any worker who observes desert tortoises within or near the job site found alive, injured, or dead during the implementation of the project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.

Bio-DT-2 - Desert Tortoise Translocation: If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.

Kurt Heidelberg

Kurt Heidelberg
Deputy District Director
District 8, Division of Environmental Planning
California Department of Transportation

5/23/2022
Date

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Chapter 1 – Proposed Project

Introduction

1.1 NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years, which was granted an extension on December 8, 2021 until April 29, 2022. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The California Department of Transportation (Department, Caltrans), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). The Department is also the lead agency under the California Environmental Quality Act (CEQA).

State Route 247 (SR-247) is a two-lane undivided conventional highway beginning at its junction with State Route 62 (SR-62) in the Town of Yucca Valley and terminating at I-15 in the City of Barstow. The total route length is 78.1 miles and entirely within San Bernardino County. Shoulders have the standard 8-foot width, except between post mile (PM) 20.3 to PM 23.0 where the shoulder width varies from 2 feet to less than 1 foot. Shoulder and centerline rumble strips are present.

SR-247 connects several High Desert cities and communities, providing access to rural residential communities as well as several military bases including the Marine Corps Air Ground Combat Center Twentynine Palms, the Marine Corps Logistics Base Barstow and the National Training Center Fort Irwin, via I-15, I-40 and SR-62. Within the project limits, the highway traverses flat and rolling desert terrain and passes through the incorporated Town of Yucca Valley and the San Bernardino County communities of Flamingo Heights, Johnson Valley and Landers.

The Department proposes to extend the life of the existing pavement and improve ride quality along SR-247 from SR-62 to 0.4 miles north of Gin Road in San Bernardino County. The scope of work consists of cold plane and overlay from post mile (PM) 0.0 to PM 23.0, shoulder widening to current standards from PM 20.3 to PM 23.0, culvert and drainage repairs and improvements at PM 3.0 and PM 3.59, regrading of the roadway between PM 2.9 and PM 3.0, constructing rock slope protection (RSP) at PM 0.3, and installation of bicycle lane markings and signs from PM 1.6 to PM 23.0. The total length of the project is 23 miles. A regional vicinity map and project location maps are provided in **Figure 1.1** and **Figure 1.2**, respectively.

This project is included in the Final 2021 Federal Transportation Improvement Program (FTIP) and is proposed for funding from the HA22 program (2020 SHOPP – State Highway Operation and Protection Program; SHP03 - Roadway Rehabilitation). It is included in the list of grouped projects for pavement resurfacing and/or rehabilitation under the auspices of the San Bernardino County Transportation Authority (SBCTA).

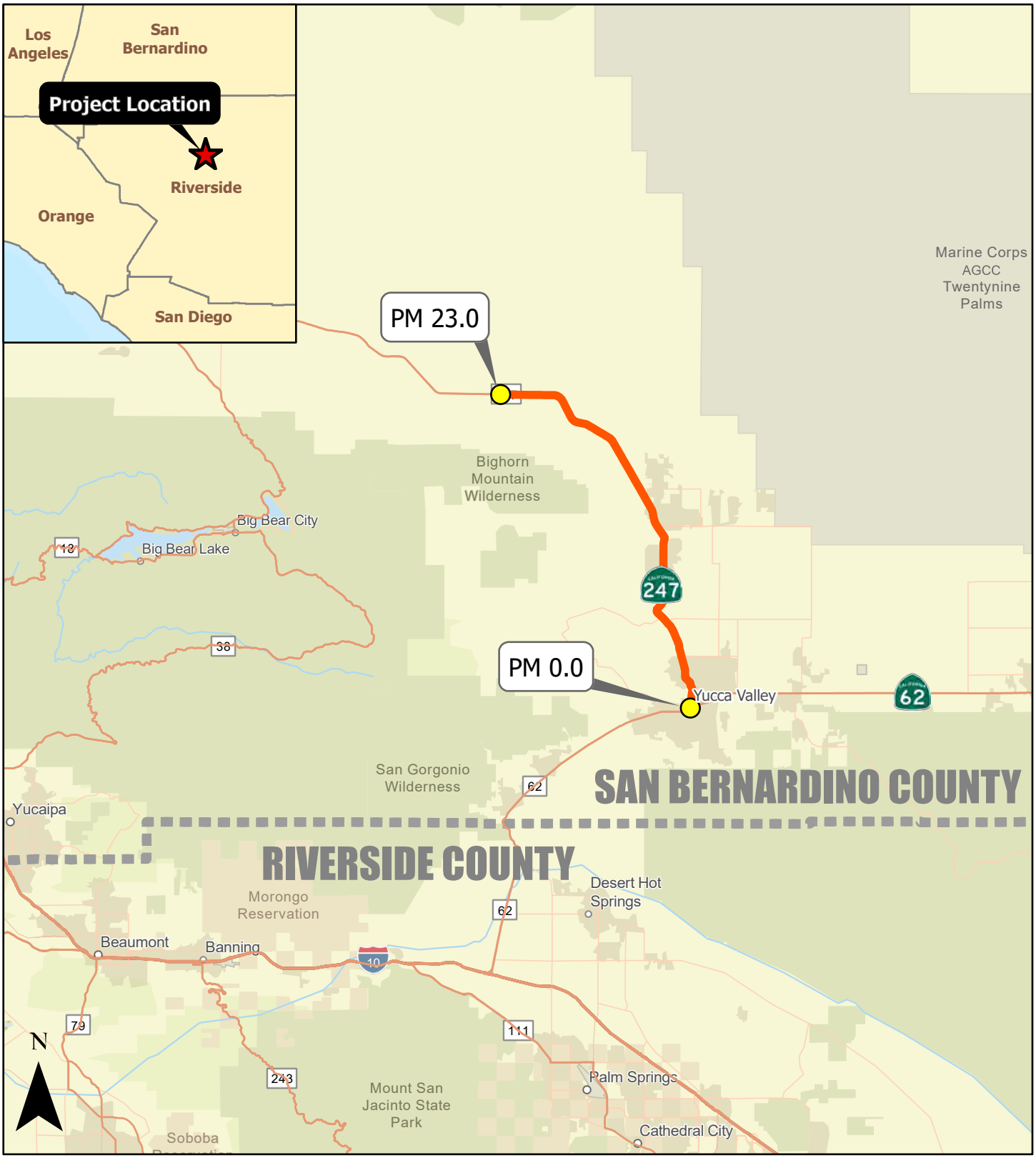
1.2 Purpose and Need

1.2.1 Purpose:

The purpose of the project is to extend the pavement life and improve the ride quality of the facility. It is also proposed to implement preservation treatments to existing asphalt concrete (AC) pavement where needed.

1.2.2 Need:

The 2016 Pavement Condition Report (PCR) indicates that the pavement within the project limits exhibits minor distress with poor ride quality. If left at its current condition will continue to deteriorate and will require a major roadway rehabilitation.



Legend

Postmile

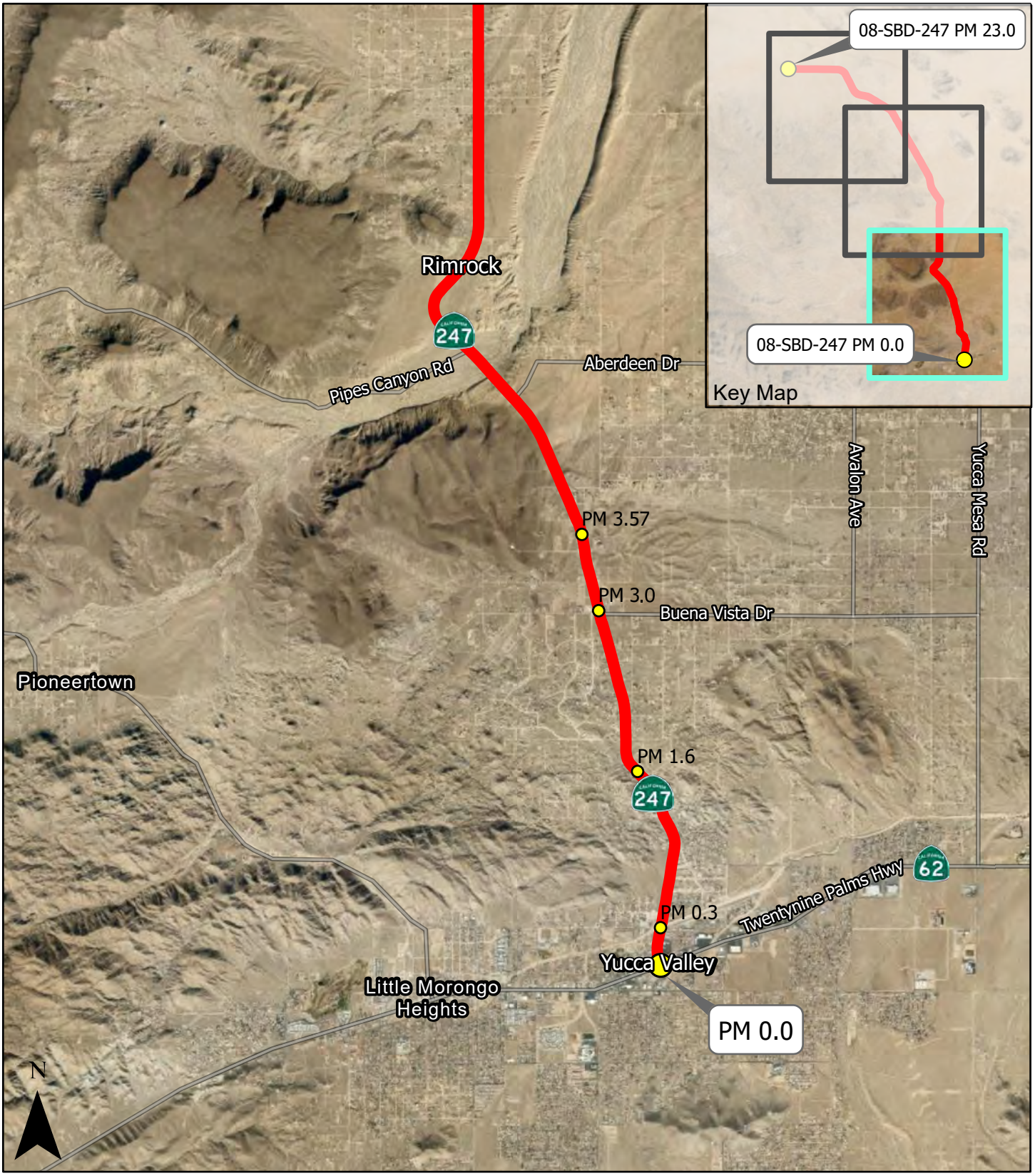
Highway

Project Area

CA County Boundary

0 4 8 16 Miles

Figure 1.1
Regional Vicinity Map
SBD-247 Pavement Rehabilitation Project



Legend

Begin/End Postmile Key Postmile Project Area

0 0.5 1 2 Miles

Figure 1.2A
Project Location Map - Segment 1
SBD-247 Pavement Rehabilitation Project

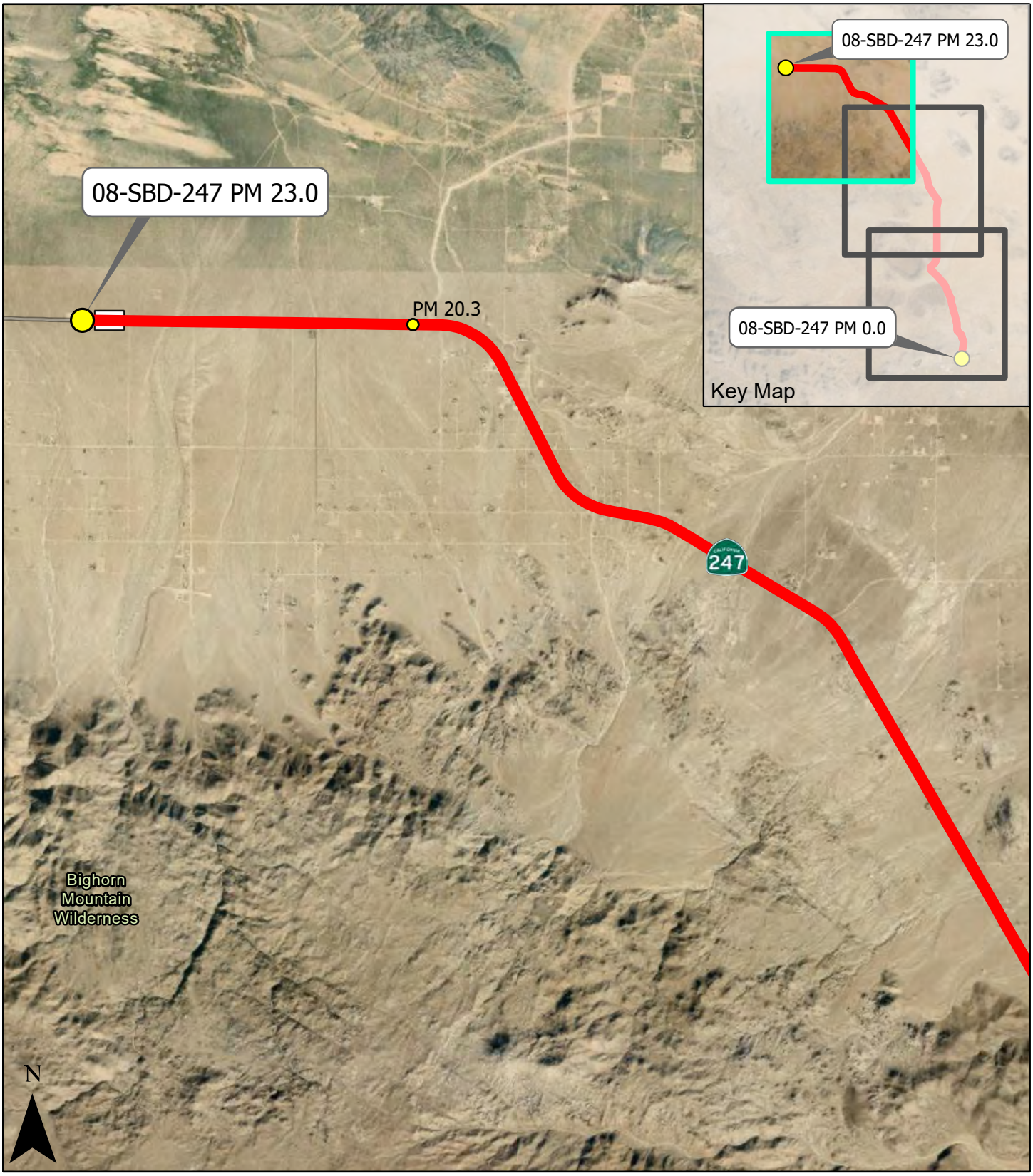
Legend

Begin/End Postmile

Project Area

0 0.5 1 2 Miles

Figure 1.2B
Project Location Map - Segment 2
SBD-247 Pavement Rehabilitation Project



Legend

Begin/End Postmile Key Postmile Project Area

0 0.5 1 2 Miles

Figure 1.2C
Project Location Map - Segment 3
SBD-247 Pavement Rehabilitation Project

1.2.3 Capacity, Transportation Demand, and Safety

The current and expected traffic characteristics on SR-247 are shown on the following tables:

Table 1.1 – SR-247 Mainline Traffic Data

SR 247 Mainline Traffic Data Information (PM 0.0-23.0) Source: Caltrans Census					
	Year 2021	**Year 2026**	**Year 2036**	**Year 2046**	**Year 2066**
Annual Average Daily Traffic (AADT)	11,900	12,700	14,600	16,000	17,800
2-way Peak Hour Volume (PHV)	1,120	1,160	1,230	1,310	1,460
One-way PHV	590	610	650	690	770
Directional Split	53%	53%	53%	53%	53%
Truck % in AADT	10%	10%	10%	10%	10%
Truck % in PHV	5%	5%	5%	5%	5%

Table 1.2 – SR-247 Mainline Traffic Index

SR-247 Mainline Traffic Index (PM0.0-23.0) Construction Completion Acceptance (CCA) year 2026		
Traffic Index Year	**Mainline**	**Shoulder**
10 Year (ESAL)	1,626,085	32,522
10 Year TI	**9.5**	**6.0**
20 Year (ESAL)	3,628,364	72,567
20 Year TI	**10.5**	**6.5**
40 Year (ESAL)	8,097,397	161,948
40 Year TI	**11.5**	**7.5**

Caltrans Traffic Accident Surveillance & Analysis System (TASAS) Table B indicates the following summary of collision data during the most current three-year period from May 01, 2018 to April 30, 2021 for the locations shown below.

Table 1.3 – Summary of Collision Data: SR-247 Mainline

Actual Rates and Average Rates (Number of Accidents/Million Vehicle Miles)						
Location Mainline	Actual Accident Rates			Average Rates		
	Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total
PM 0.0 to 23.0	0.018	.16	.42	0.023	.34	.76

Type of Collisions								
Head-On	Sideswipe	Rear-End	Broadside	Hit-Object	Overturn	Auto-Ped	Other	Not Stated
8.6%	6.5%	24.7%	21.5%	26.9%	7.5%	1.1%	3.2%	0.0%

Primary Collision Factors										
HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
8.6%	4.3%	16.1%	21.5%	24.7%	21.5%	0.0%	3.2%	0.0%	0.0%	0.0%

Source: Caltrans, Traffic Accident Surveillance and Analysis System (TASAS). Data retrieved June 9-10, 2021

HBD	= Influence of Alcohol	IT	= Improper Turn	OTD	= Other Than Driver
FTC	= Follow too Close	ESS	= Speeding	UNK	= Unknown
FTY	= Failure to Yield	OV	= Other Violations	FA	= Fell Asleep
NS	= Not Stated	ID	= Improper Driving		

According to the Caltrans Traffic Accident Surveillance and Analysis System (TASAS), Traffic Selective Accident Retrieval (TSAR), and Selective Accident Rate Calculation (Table B), the three-year traffic accident history for this segment of SR- 247 resulted in the actual fatal, fatal plus injury and total rates are lower than the statewide average for similar facilities. For the three-year period, according to TSAR, the major types of collisions are Hit- Object, Rear-End and Broadside.

1.2.4 Roadway Deficiencies

Problem, Deficiencies, Justification

The pavement rehabilitation will extend the service life of existing pavement and improve the ride quality along this segment of Route 247. Construction of the 8.0' standard shoulder (PM 20.3 to 23.0) will enhance safety along the route. Improvements to the drainage system at three locations will extend the life of the facility, enhance safety, and reduce maintenance needs at these locations.

1.2.5 Regional and System Planning

According to the Town of Yucca Valley's General Plan Circulation Element Roadway Classifications, the segment of SR-247 that lies within Town limits (PM 0.0 - 4.8) is classified as a four-lane divided highway. Additionally, a smaller segment of SR-247 within Town limits (PM 0.3 - 0.8) is identified in the Circulation Element for a future Class II bicycle lane.

The proposed project is consistent with statewide, regional, and local planning goals and will be coordinated with governmental, regulatory, and private agencies in the area, if needed, to ensure consistency with specific local goals and objectives.

1.2.6 Modal Interrelationships and System Linkages

SR-247 connects several High Desert cities and communities, providing access to rural residential communities as well as several military bases including the Marine Corps Air Ground Combat Center Twentynine Palms, the Marine Corps Logistics Base Barstow and the National Training Center Fort Irwin, via I-15, I-40 and SR-62. Within the project limits, the highway connects the incorporated Town of Yucca Valley and the San Bernardino County communities of Flamingo Heights, Johnson Valley and Landers with the regional highway network.

1.2.7 Independent Utility and Logical Termini

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

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.

2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).

3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed project in San Bernardino County will extend from the southern terminus of SR-247 (SR-62 in Yucca Valley, PM 0.0) to the point where the 8.0' standard shoulder (PM 23.0) needs to be constructed to the standard configuration. This segment of SR-247 (PM 0.0 to PM 23.0) also requires pavement rehabilitation; PM 23.0 therefore serves as a logical point to terminate the project. The project is not dependent on similar or other improvements along other segments of SR-247 or on any connecting highway or other transportation facility. The project is of sufficient length, with project termini logically placed, to allow environmental issues to be addressed on a broad scope. As such, the proposed project is considered a project with independent utility.

1.3 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are the Build Alternative and the No-Build Alternative.

State Route 247 (SR-247) is a two-lane undivided conventional highway beginning at its junction with SR-62 in the Town of Yucca Valley and terminating at I-15 in the City of Barstow. The total route length is 78.1 miles, entirely within San Bernardino County in Caltrans District 8. Shoulders have the standard 8-foot width, except between post mile (PM) 20.3 to PM 23.0 where the shoulder width varies from 2 feet to less than 1 foot. Shoulder and centerline rumble strips are present.

The purpose of the project is to extend the pavement life and improve the ride quality of the facility. It is also proposed to implement preservation treatments to existing asphalt concrete (AC) pavement where needed. The 2016 Pavement Condition Report (PCR) indicates that the pavement within the project limits exhibits minor distress with poor ride quality. The project Build Alternative therefore consists of minor pavement rehabilitation to extend the life of the existing pavement and improve ride quality. In addition, widening to accommodate 8.0' outside shoulders, drainage improvements, and striping and signing the shoulders as Class II bike lanes are included as described in the following section of this report.

1.4 Project Alternatives

1.4.1 Proposed Build Alternative

Only one build alternative is considered for the project. The project Build Alternative includes pavement rehabilitation (cold plane and overlay) from post mile (PM) 0.0 to PM 23.0, shoulder widening to current standards from PM 20.3 to PM 23.0, culvert and drainage repairs and improvements at PM 3.0 and PM 3.59, regrading of the roadway between PM 2.9 and PM 3.0, constructing rock slope protection (RSP) at PM 0.3, and installation of bicycle lane markings and signs from PM 1.6 to PM 23.0.

The detailed scope of work and proposed improvements for the Build Alternative are described below:

- Cold plane 0.20-foot and overlay with 0.20-foot RHMA-G from Post Mile (PM) 0.0 to PM 23.0. Existing pavement distresses will be repaired (Partial or Full Depth Dig-outs) before overlaying the pavement.
- Shoulder widening to current standards from PM 20.3 to PM 23.0.(this Design safety feature will enhance the operational and maintenance safety of this segment of SR-247.
- Culvert and Drainage repair/improvements at PM 3.0.
- Culvert and Drainage repair/improvements at PM 3.59.
- Regrade the roadway to the between PM 2.9 and PM 3.0.

- Culvert and Drainage repair/improvements at PM 3.0.
- Culvert and Drainage repair/improvements at PM 3.59.
- Regrade the roadway to the between PM 2.9 and PM 3.0.
- Construct Rock Slope Protection (RSP) at both ends of Yucca Creek (flood control channel, FCC) at PM 0.3. Minor grading to direct the flow of runoff into the FCC.
- Install Bicycle Lane Markings and Signs from PM 1.6 to PM 23.0 as part of implementing complete streets.

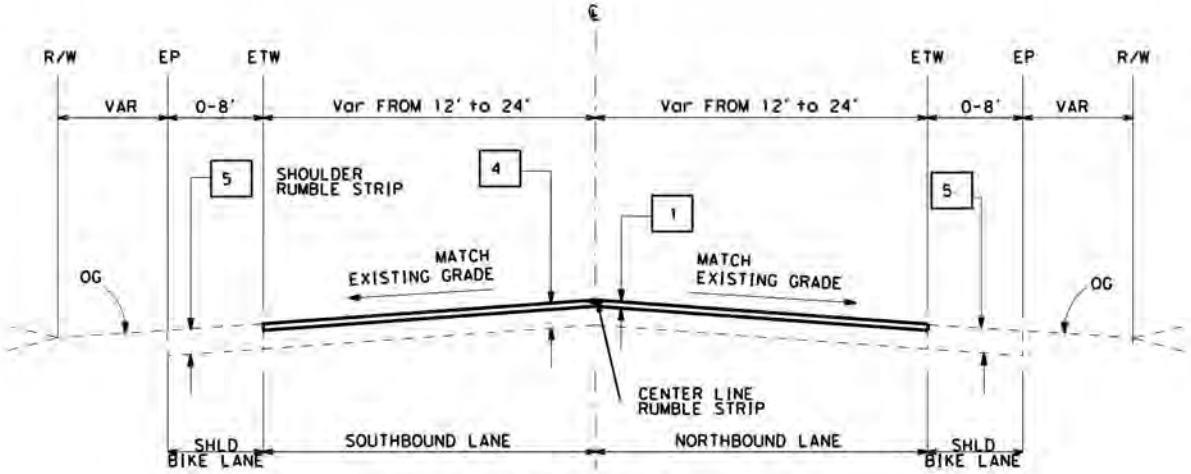
The proposed roadway cross-section at PM 20.3- 23.0 is shown in Figure 1.3. Project layout maps for the segment of shoulder widening are shown in Figure 1.4.

Non-Standard Design Features

There are no non-standard features proposed for this project. Except for widening the shoulder from PM 20.3 to PM 23.0 to current standard, all other existing non-standard features, if any, will remain unchanged.

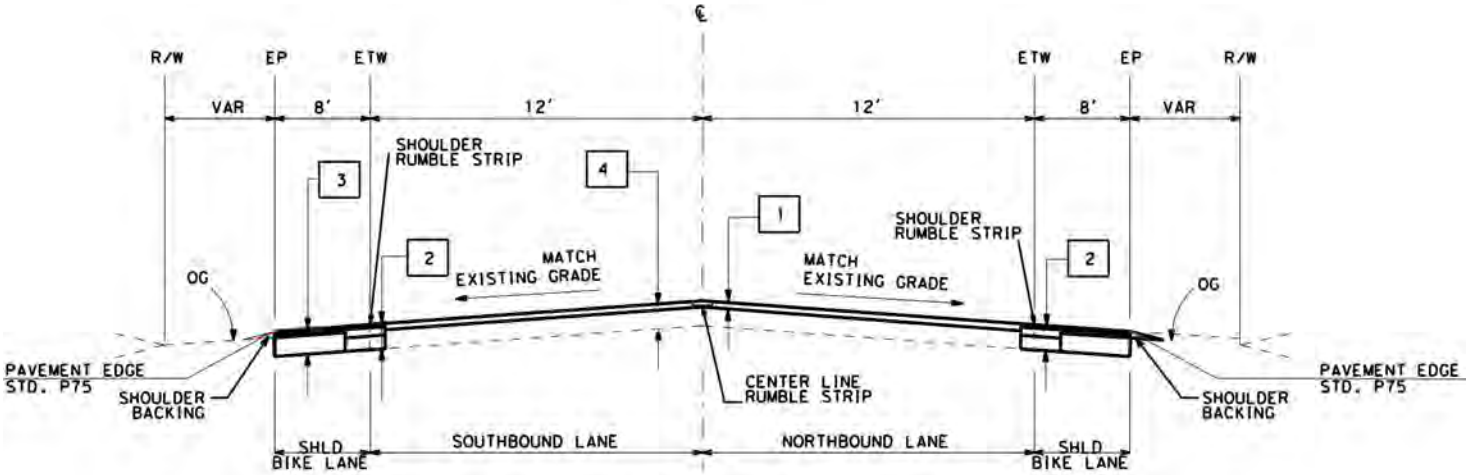
Utility and Other Owner Involvement

Utility conflicts are not anticipated at this time. However, verification of existing utilities will be required during the next phase of the project.



ROUTE 247

PM 0.0 TO PM 20.0

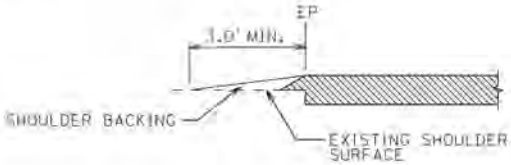


ROUTE 247

PM 20.0 TO PM 23.0

NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.



SHOULDER BACKING DETAIL

SEE STANDARD PLAN P75

STRUCTURAL SECTION NOTES:

1	0.20' COLD PLANE AC PAVEMENT 0.20' RHMA (TYPE G)
2	0.20' RHMA-G 0.50' HMA-A 0.90' CLASS 2 AB
3	0.20' RHMA-G 0.20' HMA-A 1.20' CLASS 2 AB
4	EXISTING MAINLINE PAVEMENT 0.1'-0.2' RHMA-G 0.45'-0.55' HMA-A 0.00'-0.65' AB
5	EXISTING SHOULDER PAVEMENT 0.10'-0.2' RHMA-G 0.35'-0.60 HMA-A 0.35'-0.45' AB

Figure 1.3
Proposed Roadway Cross Section
SBD-247 Pavement Rehabilitation Project

Legend

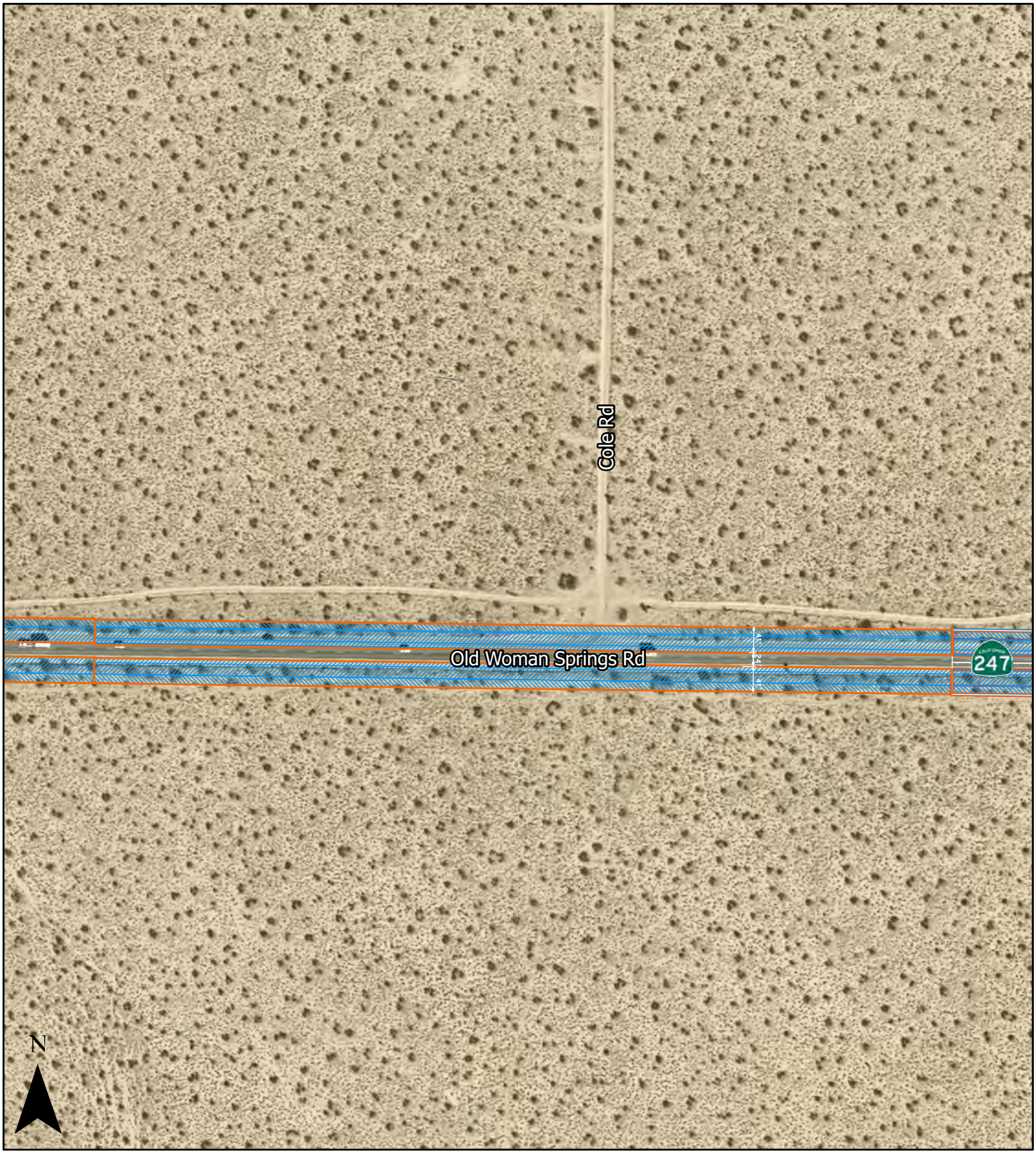
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4A
Project Layout Map (PM 20.3 - PM23.0) - Segment 1
SBD-247 Pavement Rehabilitation Project



Legend

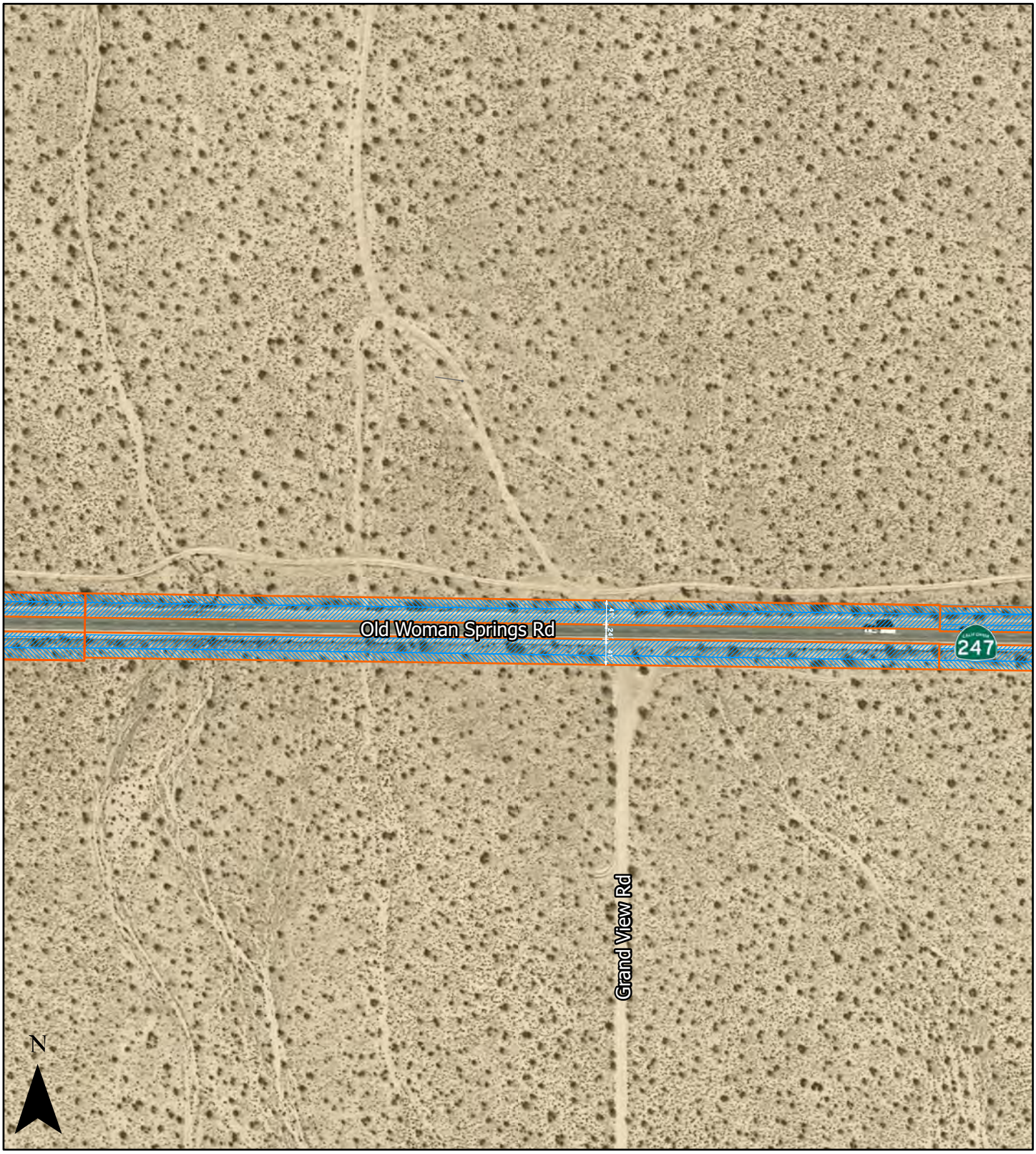
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4B
Project Layout Map (PM 20.3 - PM23.0) - Segment 2
SBD-247 Pavement Rehabilitation Project



Legend

Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4C
Project Layout Map (PM 20.3 - PM23.0) - Segment 3
SBD-247 Pavement Rehabilitation Project

Legend

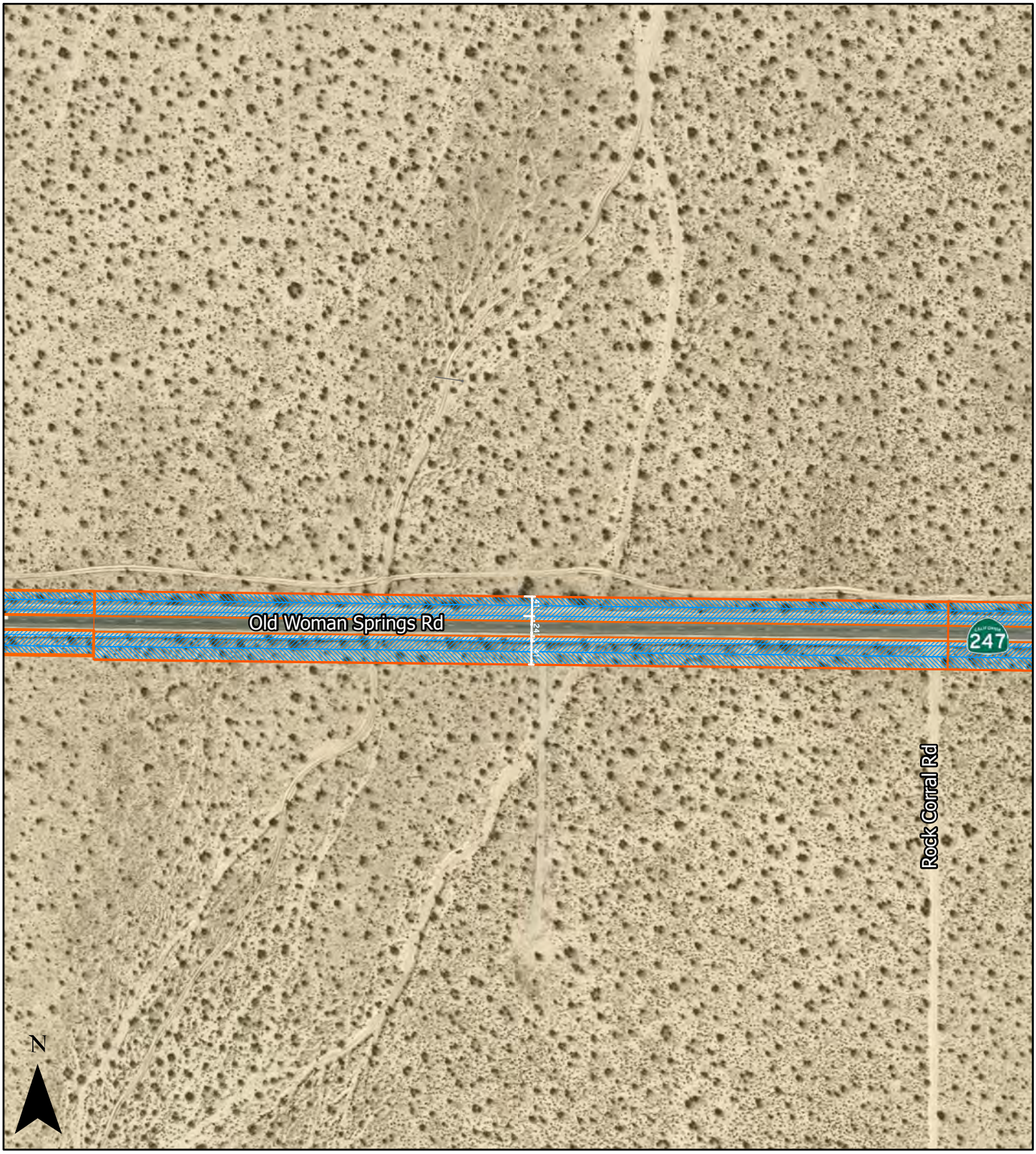
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4D
Project Layout Map (PM 20.3 - PM23.0) - Segment 4
SBD-247 Pavement Rehabilitation Project



Legend

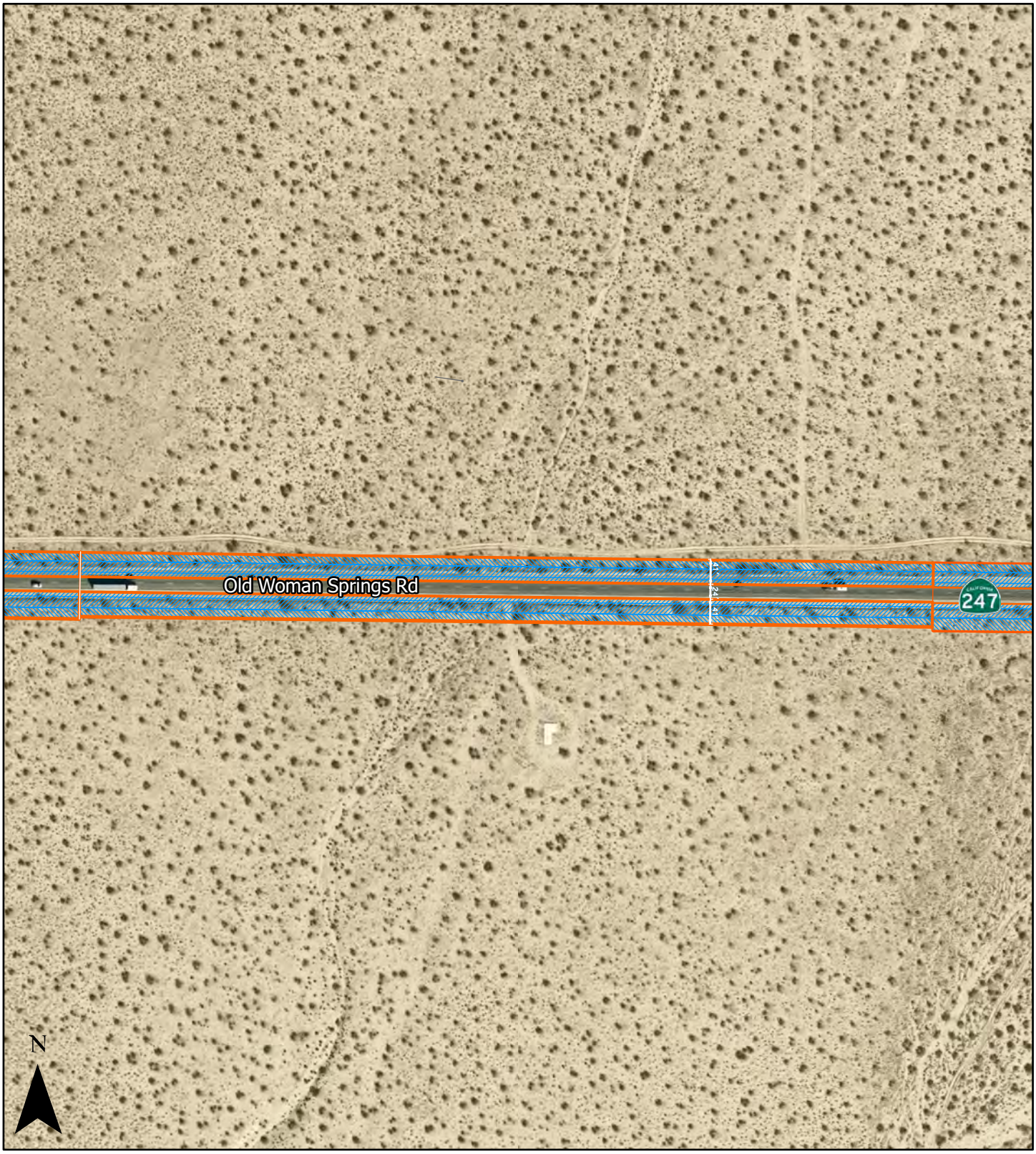
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4E
Project Layout Map (PM 20.3 - PM23.0) - Segment 5
SBD-247 Pavement Rehabilitation Project



Legend

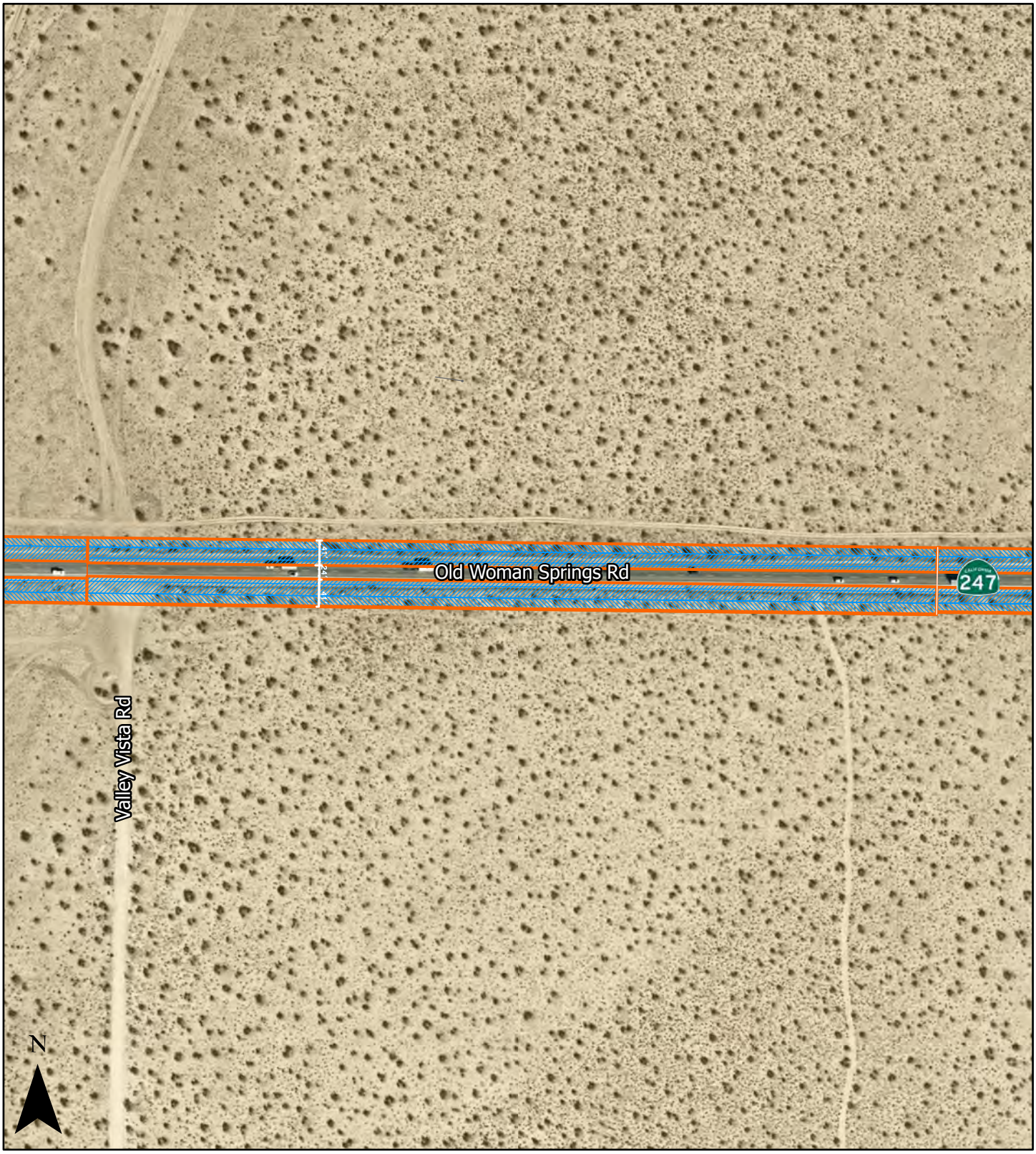
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4F
Project Layout Map (PM 20.3 - PM23.0) - Segment 6
SBD-247 Pavement Rehabilitation Project



Legend

Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4G
Project Layout Map (PM 20.3 - PM23.0) - Segment 7
SBD-247 Pavement Rehabilitation Project

Legend

Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4H
Project Layout Map (PM 20.3 - PM23.0) - Segment 8
SBD-247 Pavement Rehabilitation Project

Legend

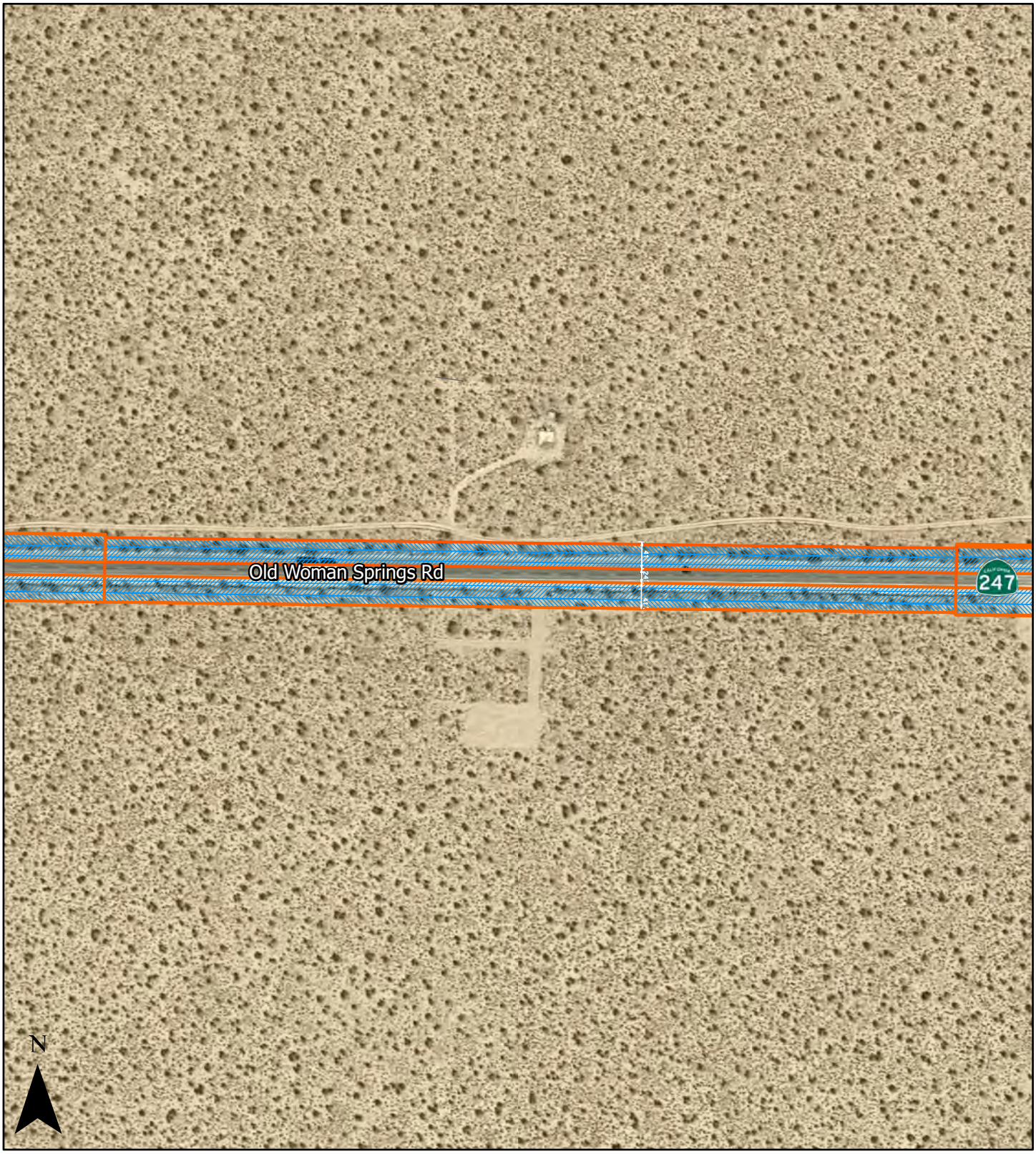
Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4I
Project Layout Map (PM 20.3 - PM23.0) - Segment 9
SBD-247 Pavement Rehabilitation Project



Legend

Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4J
Project Layout Map (PM 20.3 - PM23.0) - Segment 10
SBD-247 Pavement Rehabilitation Project

Legend

Proposed ROW

Permanent Impact Area

Permanent Impact Area

0 105 210 420 Feet

Figure 1.4K
Project Layout Map (PM 20.3 - PM23.0) - Segment 11
SBD-247 Pavement Rehabilitation Project

Railroad Involvement

No Railroad involvements are anticipated for the project.

Cost Estimates

The current total capital outlay cost is $26,109,000 for both Construction Capital and Right of Way Capital.

Right of Way

The scope of the project includes shoulder widening to current Caltrans standard of 8.0' feet from PM 20.3 to PM 23.0. The majority of the highway within this segment of the project falls within prescriptive rights. Additionally, this section of highway traverses 11 government parcels under Bureau of Land Management jurisdiction (see Federal Lands Map, **Figure 1.5**). The construction of standard shoulders and graded slopes will result in the widening of the existing roadway and creation of new right-of-way limits. In total, acquisition of some 52 parcel slivers will be necessary. No displacement of any person or business will result from the right-of-way acquisition.

Erosion Control

The project will use native erosion control to stabilize the soil, while maintaining the visual character of the area. There will be no borrow/fill sites or staging areas associated with the project.

Resource Conservation and Recycling

Flexible pavement recycling techniques such as cold-in-place recycling or pulverization may be applied to this project as part of Caltrans resource conservation program.

Service Layer Credits: esri_landscape2 (Source: BLM, DoD, USFS, USFWS, NPS, PADUS 2.1), BLM Navigator

Legend

- Begin/End Postmile
- Key Postmile
- Project Area
- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- OHV Recreation Area

0 1 2 4 Miles

Figure 1.5
Federal Land Map
SBD-247 Pavement Rehabilitation Project

Standardized Measures

Standardized project measures are employed on most, if not all, Caltrans projects and are not developed in response to any specific environmental impacts resulting from a project. The Build alternative includes the following standardized measures as part of the project scope. Standardized measures (such as Best Management Practices [BMPs]) are those measures that are generally applied to most or all Department projects; they allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. More information on each measure can be found in the applicable sections of Chapter 2.

- Standard special provision (SSP) 14-2.03A, dealing with the discovery of unanticipated cultural materials or human remains.
- SSP 14-6.03B, dealing with nesting and migratory birds.
- SSP 14-11.07, dealing with removing yellow traffic stripe and pavement markings with hazardous waste residue.
- SSP 15-1.03B, dealing with residue containing lead from paint and thermoplastic.
- SSP 15-2.02C(2), dealing with removing traffic stripes and pavement marking containing lead.
- SSP 7-1.02K for handling, removing, and disposing of earth material containing lead.
- SSP 36-4 for residue from grinding or cold planning that contains lead from paint and thermoplastic.
- SSP 13-3.01A for construction site BMPs.
- SSP 14-11.14 for wood waste treatment.
- Inspect and clean all construction equipment prior to transporting equipment from one project location to another to avoid the introduction and spread of invasive plant species.
- Prior to construction, a Traffic Management Plan will be developed by Caltrans to minimize potential impacts on emergency services and commuters during construction.
- Construction will be conducted in accordance with Caltrans' provisions in Section 14-8.02,
- "Noise Control," of the 2015 Standard Specifications and Special Provisions.

- The provisions of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the U.S. Department of Transportation (USDOT) (March 2, 1989) will be followed.

1.4.2 No-Build (No-Action) Alternative

Under the No-Build Alternative, no improvement to SR-247 would be constructed. The No Build Alternative would not enhance the pavement condition in the area; it would not provide standard paved shoulders, construct bicycle lane markings and signage, or address the drainage issues. Selecting the No Build alternative would likely result in deteriorating roadway level of service, increasing maintenance costs, and indirect economic impacts to nearby communities.

1.4.3 Comparison of Alternatives

SR-247 is a two-lane conventional highway with existing shoulders varying from one to two feet from PM 20.3 to PM 23.0. The existing shoulder widths do not meet current Caltrans Highway Design Manual standards. The pavement within the project limits along the entire length of the project route, PM 0.0 to PM 23.0, is exhibiting minor distress with poor ride quality. Drainage improvements are necessary to ensure consistent and reliable operation of the roadway and reduce future maintenance needs. The need for this project was identified in the 2016 Pavement Condition Report (PCR). The PCR identified this stretch of SR-247 as a location in need of improvements. The No Build Alternative would not enhance the pavement condition in the area, it would not provide standard paved shoulders, and it would not address the drainage issues. The No Build alternative would likely result in deteriorating ride quality, increasing maintenance costs, and indirect economic impacts through reduced level of service.

Following review and consideration of the benefits and impacts of the Build Alternative vs the No-Build Alternative, and after the public review and comment period, when all comments will be considered, the Department will select a preferred alternative and make the final determination of the project's effect on the environment. Under the California Environmental Quality Act (CEQA), if no unmitigable significant adverse impacts are identified, the Department will prepare a Negative Declaration (ND) or Mitigated ND.

Similarly, if the Department, as assigned by the Federal Highway Administration (FHWA), determines the National Environmental Policy Act (NEPA) action does not significantly impact the environment, the Department will issue a Finding of No Significant Impact (FONSI).

1.5 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

Table 1.4 - Permits, Licenses, Agreements, and Certifications

Agency	PLAC	Status
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation for Threatened and Endangered Species	Programmatic Biological Opinion between Caltrans and the USFWS issued February 17, 2021.
California Department of Fish and Wildlife	1602 Agreement for Streambed Alteration	Application for 1602 permit expected after FED approval.
California Department of Fish and Wildlife	Section 2081(b) Agreement for Threatened and Endangered Species	Application for Section 2081 agreement expected after FED approval.
California Water Resources Board	National Pollutant Discharge Elimination System (NPDES) Permit Statewide Storm Water Permit (Order No. 2012-0111-DWQ-as amended NPDES No. CAS000003) and Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAS000002)	The contractor will apply to the State Water Resources Control Board for coverage under the Construction General Permit prior to the start of construction.
California Regional Water Quality Control Board	Waste Discharge Requirements Permit (WDR)	Application for WDR permit expected after FED approval.
Bureau of Land Management	BLM easement	Issuance of a Decision Letter authorizing Right of Way CACA-045909 Amendment. To be executed following approval of Final Environmental Document.

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

2.1 Topics Considered but Determined not to be Relevant

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

1. **Land Use**: Within the project area SR-247 traverses flat and rolling desert terrain. East of Lucerne Valley and the junction with SR-18, the area traversed by SR-247 is sparsely populated with no roadside services until reaching the Town of Yucca Valley and the junction with SR-62. The project is consistent with regional planning goals and the SBCTA San Bernardino Countywide Transportation Plan, which Identifies SR-247 as one of the grouped projects for shoulder improvements and pavement resurfacing and/or rehabilitation. Minor right of way is anticipated to be partially acquired from 52 parcels 11 BLM parcels with easements), adjacent to the existing right of way. No relocation of residences or businesses would occur, and no land use change would occur because of the project.

2. **Coastal Zone**: The project is within San Bernardino County and is therefore not located within or in the vicinity of the coastal zone. No coastal zone impacts would occur.

3. **Wild and Scenic Rivers**: There are no wild and scenic rivers in or adjacent to the study area according to the Wild and Scenic River System list that is maintained by the National Park Service. Therefore, no impacts to wild and scenic rivers would occur.

4. **Parks and Recreational Facilities**: Johnson Valley OHV Recreation Area is a BLM-administered recreation and conservation area approximately 5 miles from the project site; access from SR-247 is located at Boone Road, approximately PM 20.3. A minor amount of additional right of way would be acquired (easement) from BLM in this area to accommodate the shoulder widening (refer to Table 2-1). However, the right of way acquisition is very minor and would have no impacts to the OHV area.

Community Center Park is located approximately ¼ mile west of the project site, on Cassia Drive, near PM 0.15 in Yucca Valley. The project Traffic Management Plan will ensure that there are no impacts on Community Center Park.

5. **Growth**: The project includes shoulder widening, pavement cold plane and overlay, culvert and drainage repairs and improvements, roadway regrading, rock slope protection, and bicycle lane

markings and signs on an existing roadway. It will not change accessibility, increase capacity, or influence growth. Consequently, no growth impacts or indirect impacts on growth would occur.

6. **Farmlands and Timberlands**: According to the California Department of Conservation's Farmland Mapping and Monitoring Program, there are no farmlands or vacant lands that are mapped as Prime Farmlands, Unique Farmlands, Farmlands of Statewide Importance, or Farmlands of Local Importance within the vicinity of the project. In addition, there are no areas within the study area under Williamson Act contract. Therefore, the project would have no effect on farmlands. There are no timberlands in the project vicinity, therefore there would be no effect on timberlands.

7. **Community Impacts**: The project would widen shoulders, cold plane and overlay existing pavement, repair culverts and drainage, re-grade the existing roadway, construct rock slope protection, mark bicycle lanes, and install signs on an existing roadway. The portion of the project within the Town of Yucca valley has some commercial development at the south end (from the junction with SR-62, approximately PM 0.0, to Aviation Drive, approximately PM 0.30). There is light density rural residential development from Crestview Drive approximately PM 0.45) to Aberdeen Drive, approximately PM 4.85). In the community of Flamingo Heights, there is light density rural residential development from La Brisa Drive (approximately PM 6.50) to Happy Trail (approximately PM 13.75). A Traffic Management Plan (TMP) will be developed to minimize any disruption to the communities in these areas.

The remainder of the project area, from approximately PM 13.75 to PM 23.0 is very lightly populated, with no residential or commercial development of any kind. A minor amount of right of way would be leased from BLM in this area to accommodate the shoulder widening.

As described, the nature of the project would not disrupt or divide an established community, conflict with an applicable land use plan or habitat conservation plan, convert prime agricultural land to nonagricultural use, conflict with existing zoning, require new roadway facilities, result in inadequate emergency services, result in inadequate parking capacity, or cause an increase in traffic. Consequently, with the implementation of the Traffic Management Plan no impacts on communities in the vicinity of the project would occur.

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

9. **Utilities/Emergency Services:** There are no utility cabinets or poles within the project limits that would be affected by the project.

10. **Traffic and Transportation/Pedestrian and Bicycle Facilities**: The project would widen shoulders, cold plane and overlay existing pavement, repair culverts and drainage, re-grade the existing roadway, construct rock slope protection, mark bicycle lanes, and install signs on an existing roadway. No permanent traffic impacts will occur. No effect on existing pedestrian or bicycle facilities will occur. A Traffic Management Plan will be developed to address temporary traffic impacts.

11. **Visual/Aesthetics**: The project would widen shoulders, cold plane and overlay existing pavement, repair culverts and drainage, re-grade the existing roadway, construct rock slope protection, mark bicycle lanes, and install signs on an existing roadway. SR-247 is an eligible scenic highway. No effects related to visual/aesthetic resources are anticipated.

12. **Paleontology**: Based on the work associated with widening shoulders, cold plane and overlay existing pavement, repair culverts and drainage, re-grade the existing roadway, construct rock slope protection, mark bicycle lanes, and install signs on an existing roadway, and the fact that excavation involved with the project would be less than three feet deep, it is expected that the project would have no effects on paleontological resources. Caltrans Environmental Review/Paleontological Branch has indicated that no additional paleontological studies would be required for the project since the proposed depth of excavation is less than three feet (Email Correspondence, October 28, 2021).

13. **Air Quality**: The project location is within the Western Mojave Desert Air Basin (MDAB) in San Bernardino County; this area is in non-attainment for Ozone (O_3 - Classified as Severe -15) and Particulate Matter (PM_{10} - classified as Moderate); The Carbon Monoxide (CO), $PM_{2,5}$ and Nitrogen Dioxide (NO_2) are unclassified/attainments for National Ambient Air Quality Standards (NAAQS). Transportation Air Quality Conformity requirements therefore apply in the MDAB since it is a non-attainment area for NAAQS.

The project is however exempt from Environmental Protect Agency's (EPA's) Transportation Conformity Determination Requirements, even though it is within a non-attainment area for pollutants Ozone and PM10, as it falls under one of the categories of exempt projects: "Pavement resurfacing and /or rehabilitation; Shoulder improvement" Such exempt projects are listed in Caltrans Carbon Monoxide (CO) Protocol Table 1 or Table 2 of 40 Code of Federal Regulations (CFR) §93.126 and titled as "*Projects Exempt from all Emissions Analyses*". The project therefore does not require a project-level Air Quality Study (Caltrans Environmental Engineering Memorandum, April 19, 2018; Caltrans Environmental Engineering Email October 5, 2021).

14. **Noise**: The project does not fall into the category of a “Type I Project” or “Type II Project” under Title 23 Code of Federal regulations (CFR) 772.7. Type I projects include the construction of a highway at a new location, the physical alteration of an existing highway (substantial horizontal or vertical alignment changes), the addition of a through-traffic lane, the addition of an auxiliary lane, the addition or relocation of interchange lanes or ramps, or the addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza. Type II projects are defined as Federal or Federal-aid highway projects for noise abatement on an existing highway.

The project is therefore defined as a “Type III Project” per the Traffic Noise Analysis Protocol. A Type III project is a Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis. This project is a Type III project under 23 CFR 772.7. It is exempt from traffic noise analysis. A noise study and noise abatement measures are therefore not required (Caltrans Emails, July 27, 2018; October 4, 2021).

15. **National Marine Fisheries Service (NMFS)**: This project is located outside of NMFS Jurisdiction, therefore, an NMFS species list is not required and no effects to anadromous fish or their designated critical habitats; marine invertebrates or their designated critical habitats; Pacific pelagic species; or Essential Fish Habitat are anticipated. No effects to NOAA/NMFS species are anticipated.

16. Energy: The project will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources because it will apply fuel efficient measures both for construction equipment and traffic management during delays or detours; it will use energy and water efficient construction methodologies; and it will recommend that material within a local radius of the project area and/or locally available building material be utilized.

17. Wildfire: The project is not located on or near lands classified as very high fire hazard severity zones. Additionally, this project is on an existing alignment; it is therefore unlikely to exacerbate wildfire risks or post-fire flooding/landslides.

18. Section 4(f)/6(f): There are no historic sites, parks and recreational resources, wildlife, or waterfowl refuges, which meet the definition of a Section 4(f) resource, within the project vicinity. Therefore, this project is not subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

2.2 Human Environment

2.2.1 RELOCATIONS AND REAL PROPERTY ACQUISITION

Regulatory Setting

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

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

Affected Environment

SR-247 is currently configured as a two-lane asphalt concrete conventional highway with one lane in each direction within the project limits. The existing lanes are 12 feet wide. Shoulders have the standard 8-foot width, except between post mile (PM) 20.3 to PM 23.0 where the shoulder width varies from 2 feet to less than 1 foot. Shoulder and centerline rumble strips are present. There are no residential, commercial, or other type of structures along SR-247 between PM 20.3 and 23.0.

The highway connects several High Desert cities and communities, providing access to rural residential communities as well as several military bases. Within the project limits, the highway traverses flat and rolling desert terrain and passes through the incorporated town of Yucca Valley and the unincorporated communities of Flamingo Heights, Johnson Valley and Landers. Populated areas consist mainly of light density rural residential areas surrounded by undeveloped desert. Development is more typically urban at the south/east end of the project limits, particularly south of Yucca Creek (PM 0.0 to 0.3).

Environmental Consequences

The project anticipates a minor amount of additional right of way from 52 parcels, including 11 parcels from the BLM see Table 2-1 below). All are partial acquisitions. There are no full parcel acquisitions. The additional right of way will extend approximately 40 feet from both sides of the existing edge of pavement to accommodate the proposed shoulder widening.

Table 2.1 – Proposed Property Acquisitions

Number	APN	Owner	Total Lot SQFT	Required Acquisition SQFT
1	0454-522-21	PRIVATE	108,900	17,532
2	0454-522-31	PRIVATE	108,900	17,532
3	0454-522-24	PRIVATE	217,800	35,043
4	0454-522-23	PRIVATE	108,900	17,532
5	0454-522-25	PRIVATE	217,800	35,044
6	0454-493-26	PRIVATE	108,900	17,522
7	0454-282-42	SEIZED PROPERTY	108,900	17,304
8	0454-282-43	SEIZED PROPERTY	108,900	17,367
9	0454-282-44	PRIVATE	108,900	17,367
10	0454-521-39	PRIVATE	108,900	17,367
11	0454-282-46	PRIVATE	108,900	17,367
12	0454-283-51	PRIVATE	108,900	17,444
13	0454-283-52	PRIVATE	108,900	17,444
14	0454-283-36	PRIVATE	108,900	17,444
15	0454-283-35	PRIVATE	108,900	17,444
16	0454-283-50	PRIVATE	108,900	17,444
17	0454-283-47	PRIVATE	217,800	34,889
18	0454-283-46	PRIVATE	108,900	17,444
19	0454-571-02	PRIVATE	217,800	35,150
20	0454-572-41	PRIVATE	108,900	17,569
21	0454-572-40	PRIVATE	108,900	17,569
22	0454-572-44	PRIVATE	217,800	17,569

Number	APN	Owner	Total Lot SQFT	Required Acquisition SQFT
23	0454-572-45	PRIVATE	217,800	17,569
24	0454-572-43	PRIVATE	76,934	21,928
25	0454-572-42	PRIVATE	76,939	21,928
26	0454-572-38	PRIVATE	76,944	21,928
27	0454-282-45	PRIVATE	108,900	17,367
28	0454-522-22	LAND, GOVERNMENT	109,109	17,532
29	0454-282-39	LAND, GOVERNMENT	108,090	17,304
30	0454-271-01	STATE OF CALIFORNIA	14,096,878	297,537
31	0454-571-07	LAND, GOVERNMENT	4,831,179	35,150
32	Not Available	Not Available	55,173	3,946
33	0454-282-40	LAND, GOVERNMENT	108,151	17,304
34	0454-282-41	LAND, GOVERNMENT	108,212	17,304
35	0454-571-08	STATE OF CALIFORNIA	1,687,950	65,688
36	0454-492-53	PRIVATE	108,900	17,532
37	0454-271-22	STATE OF CALIFORNIA	1,764,759	69,472
38	0454-492-54	PRIVATE	108,900	17,532
39	0454-271-02	STATE OF CALIFORNIA	7,042,167	139,559
40	0454-493-24	PRIVATE	108,900	17,522
41	Not Available	Not Available	159,482	
42	0454-243-03	LAND, GOVERNMENT	220,518	68,389

Number	APN	Owner	Total Lot SQFT	Required Acquisition SQFT
43	0454-493-25	PRIVATE	108,900	17,522
44	0454-493-27	LAND, GOVERNMENT	222,613	35,044
45	0454-492-51	PRIVATE	108,900	17,532
46	0454-572-39	LAND, GOVERNMENT	110,089	13,148
47	0454-651-11	STATE OF CALIFORNIA	7,035,332	18,388
48	0454-243-02	LAND, GOVERNMENT	220,597	37,361
49	0454-271-27	PRIVATE	435,600	37,736

All the land involved is undeveloped and vacant; it does not contain structures. Accordingly, no residents or businesses would need to be relocated because of implementing the Build Alternative. The grant amendment from the Bureau of Land Management will be completed in accordance with applicable regulations, and all requirements pertaining to revising the existing grant on Bureau of Land Management land will be addressed. Acquisitions would be conducted in accordance with applicable regulations, and all requirements pertaining to establishing the easement on Bureau of Land Management land would be completed. Furthermore, as with all Caltrans projects where acquisitions are required, the provisions of the Uniform Act and the 1987 Amendments—as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (March 2, 1989)—will be followed.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures for relocations and real property acquisitions are required that go above and beyond what is already required by the Uniform Act and/or the Department's Relocation Assistance Program.

2.2.2 CULTURAL RESOURCES

Regulatory Setting

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

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

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

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)[1] between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92, addended 2019 (5024 MOU) as applicable.

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

Affected Environment

Information for this section was drawn from the Historic Property Survey Report (HPSR) and the Archaeological Survey Report (ASR) for the SBD-247 Pavement Rehabilitation Project, approved November 2021.

Area of Potential Effect

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Gary Jones, Principal Investigator (PI), Prehistoric

[1] The MOU is located on the SER at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf

Archaeology, and Bacson Quach, Project Manager, in November 2021. The APE maps are presented in **Figure 2.1**.

The APE was delineated to include all direct and indirect impacts both horizontally and vertically in the project limits. Construction activities from Postmiles 0.0 to 20.3 will be on existing pavement only and shoulder widening from Postmile 20.3 to 23.0 will extend beyond existing right of way for temporary construction activities.

Record Search and Field Review

A formal record search was not conducted for the project due to complete record search coverage from previous Caltrans studies (TEA survey and projects 0F660, 0G900, and 1F490 completed in 2009, 2011, 2012, and 2014). In December of 2020, and again in September of 2021, the Caltrans Cultural Resources Data Base (CCRD) was queried by Caltrans PQS Gary Jones, PI-Prehistoric Archaeology; The query included the project site and a quarter-mile radius. The CCRD incorporates information from the California Historical Resources Information System (CHRIS) derived from previous studies as well as the TEA Survey (2011) results and its associated record search.

Caltrans also consulted The National Register of Historic Places (NRHP), National Historic Landmarks (NHL), California Register of Historical Resources (CRHR), California Historic Landmarks (CHL), California Points of Historical Interest, and historic topographic and aerial maps from 1953 to the present for this project. These efforts resulted in the identification of three previous studies that overlap the project area, discussed above, and five cultural resources within a quarter mile of the project APE. However, none of these previously recorded resources are located within the APE.

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

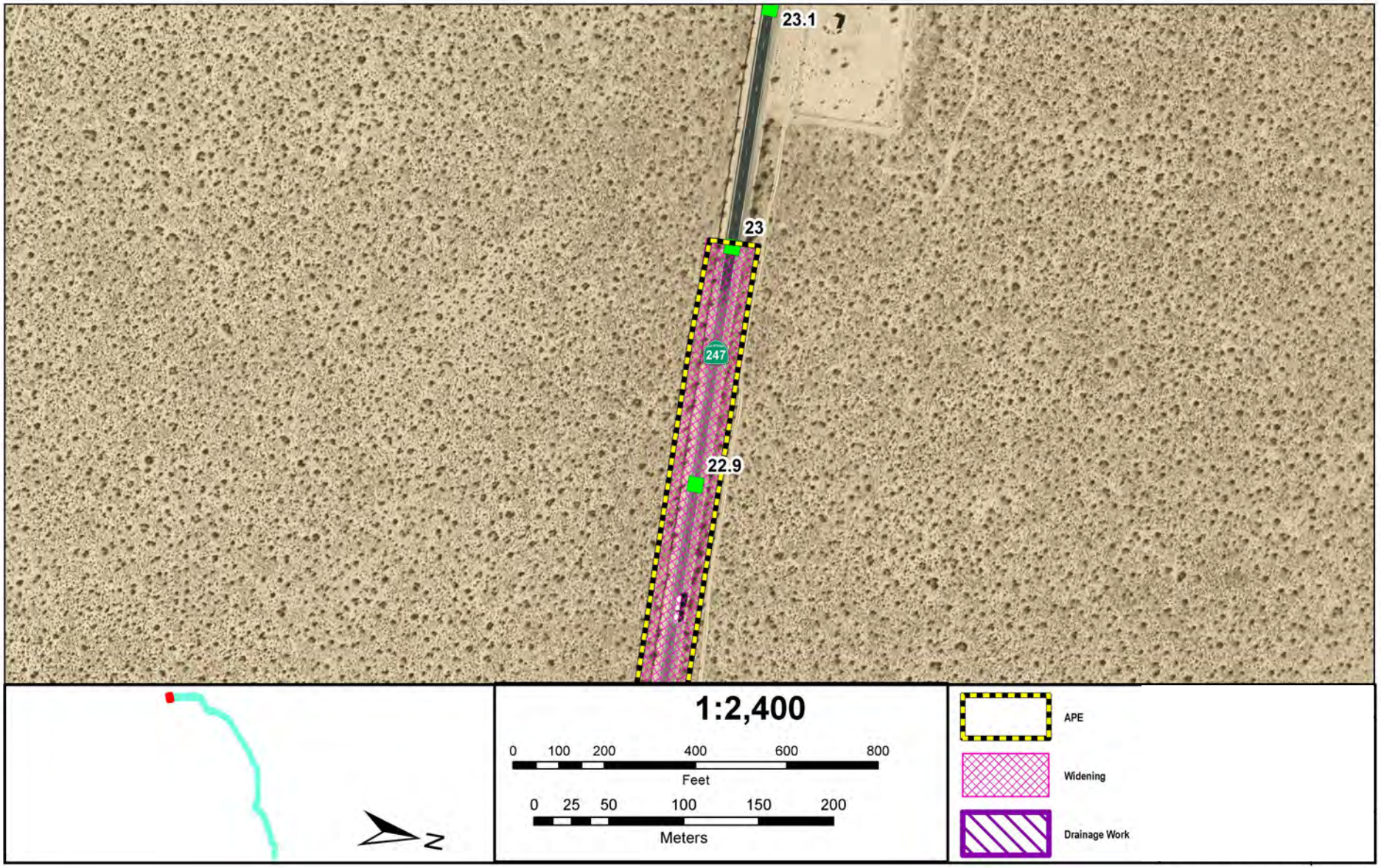


Figure 2.1A
Area of Potential Effect (APE) Map - Segment 1
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

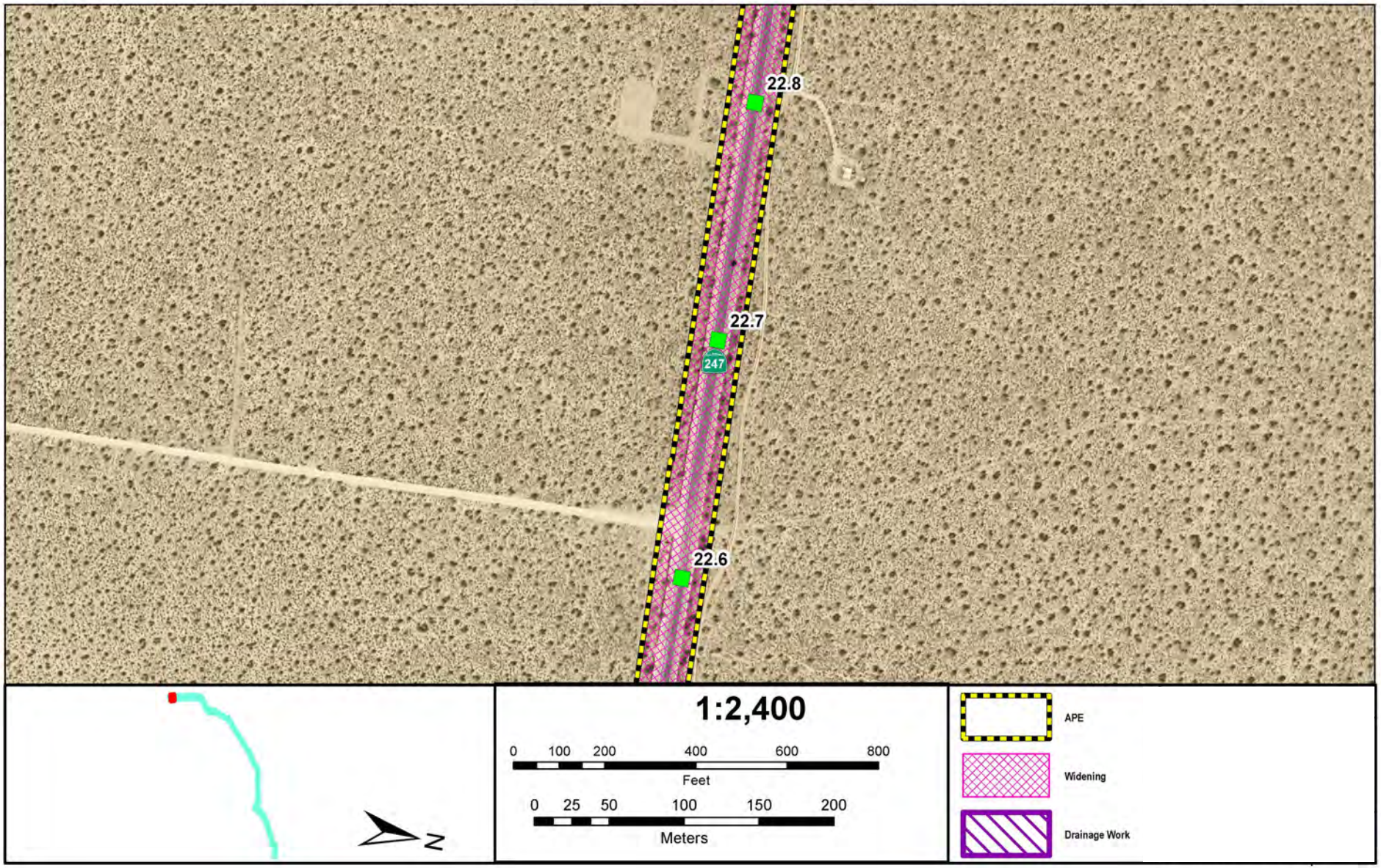


Figure 2.1B
Area of Potential Effect (APE) Map - Segment 2
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

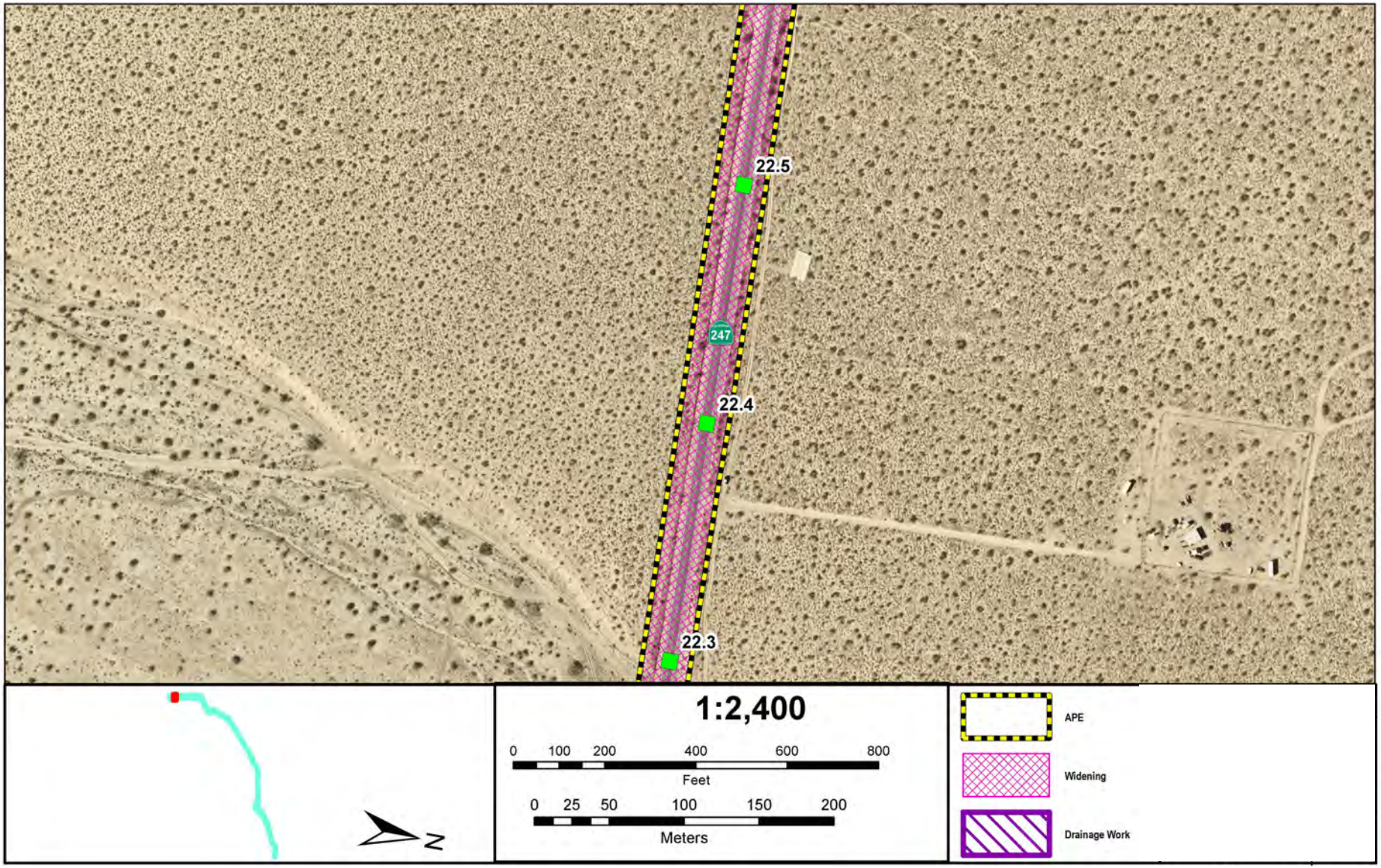


Figure 2.1C
Area of Potential Effect (APE) Map - Segment 3
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

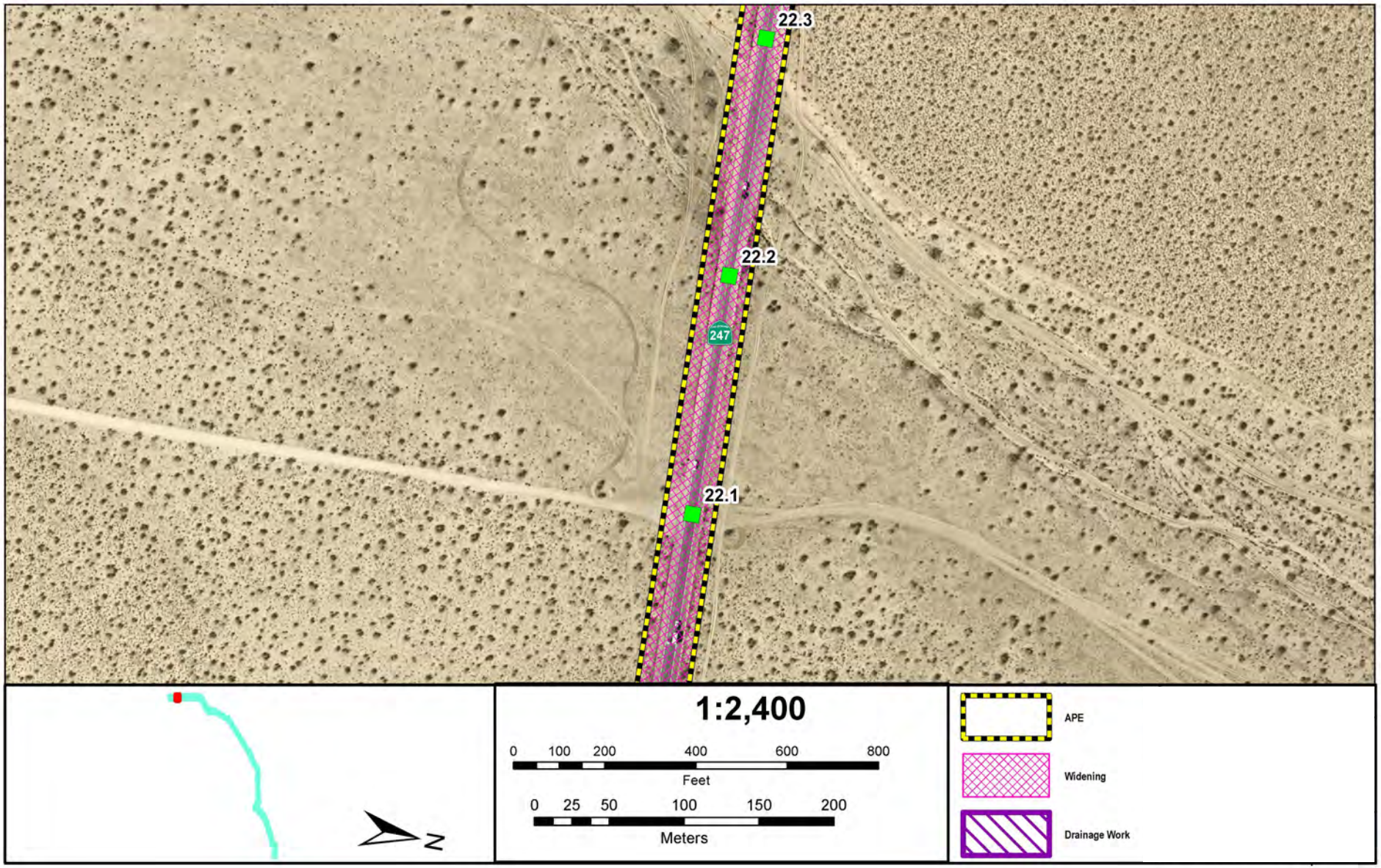


Figure 2.1D
Area of Potential Effect (APE) Map - Segment 4
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

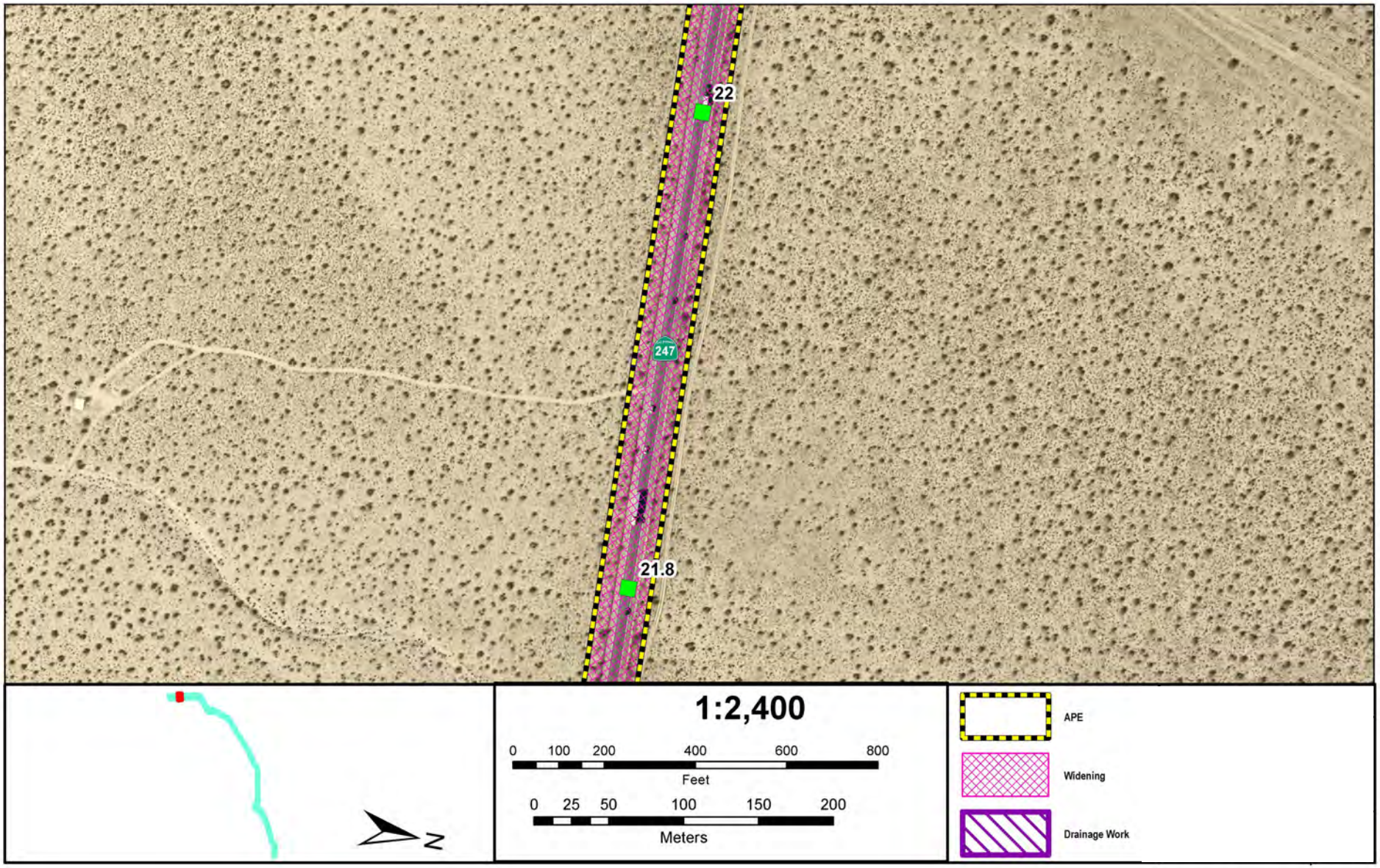


Figure 2.1E
Area of Potential Effect (APE) Map - Segment 5
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

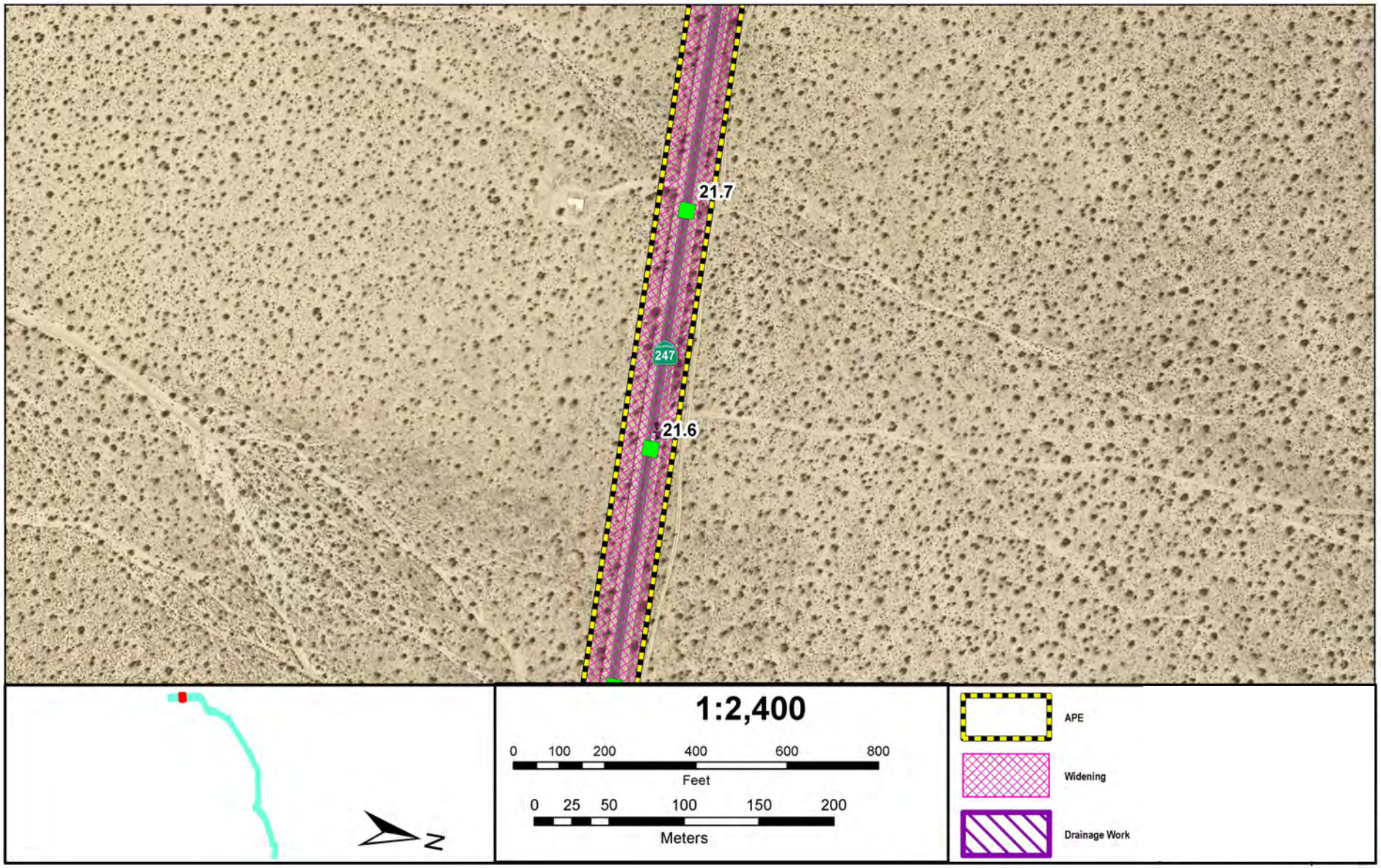


Figure 2.1F
Area of Potential Effect (APE) Map - Segment 6
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

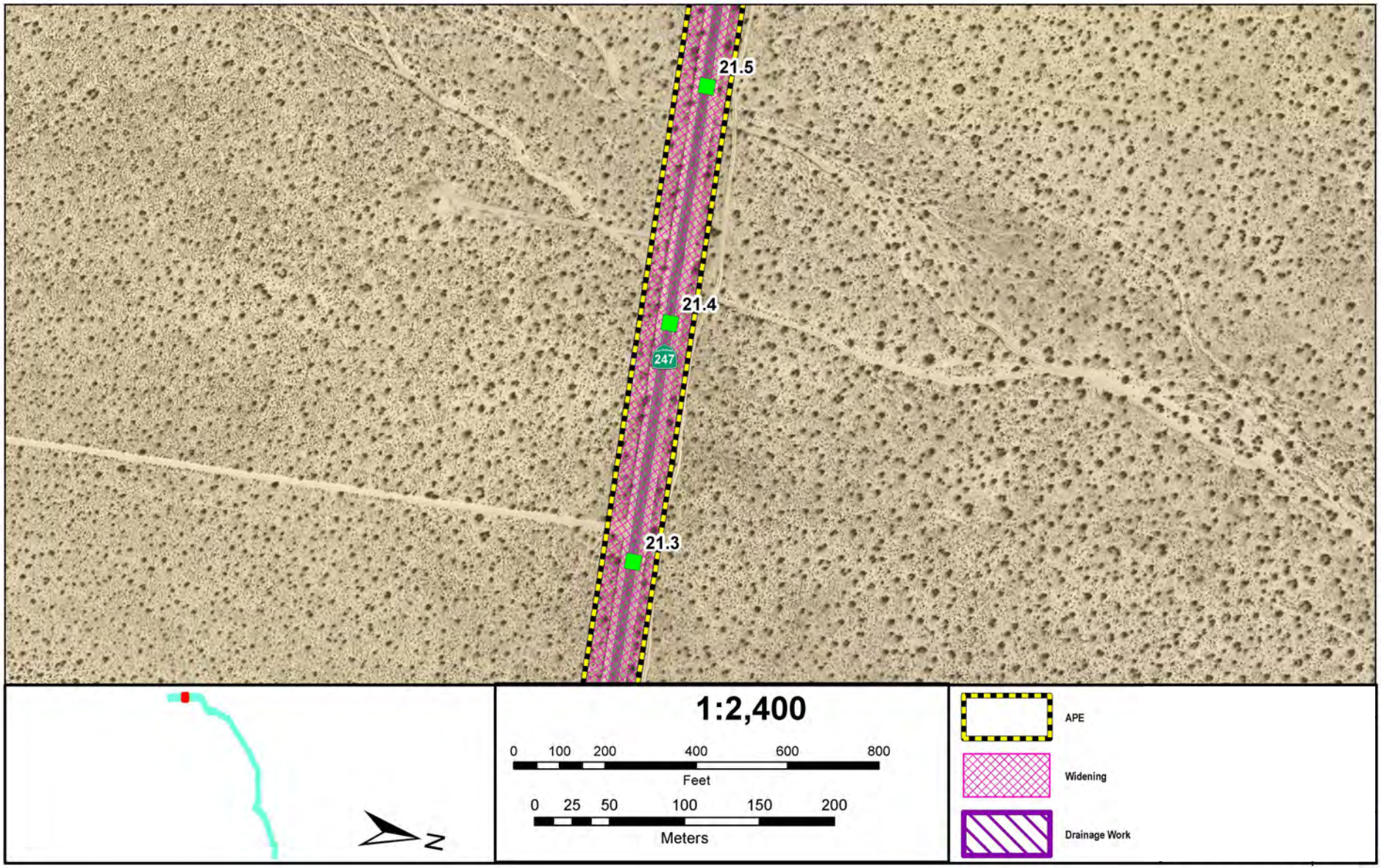


Figure 2.1G
Area of Potential Effect (APE) Map - Segment 7
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

Figure 2.1H
Area of Potential Effect (APE) Map - Segment 8
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

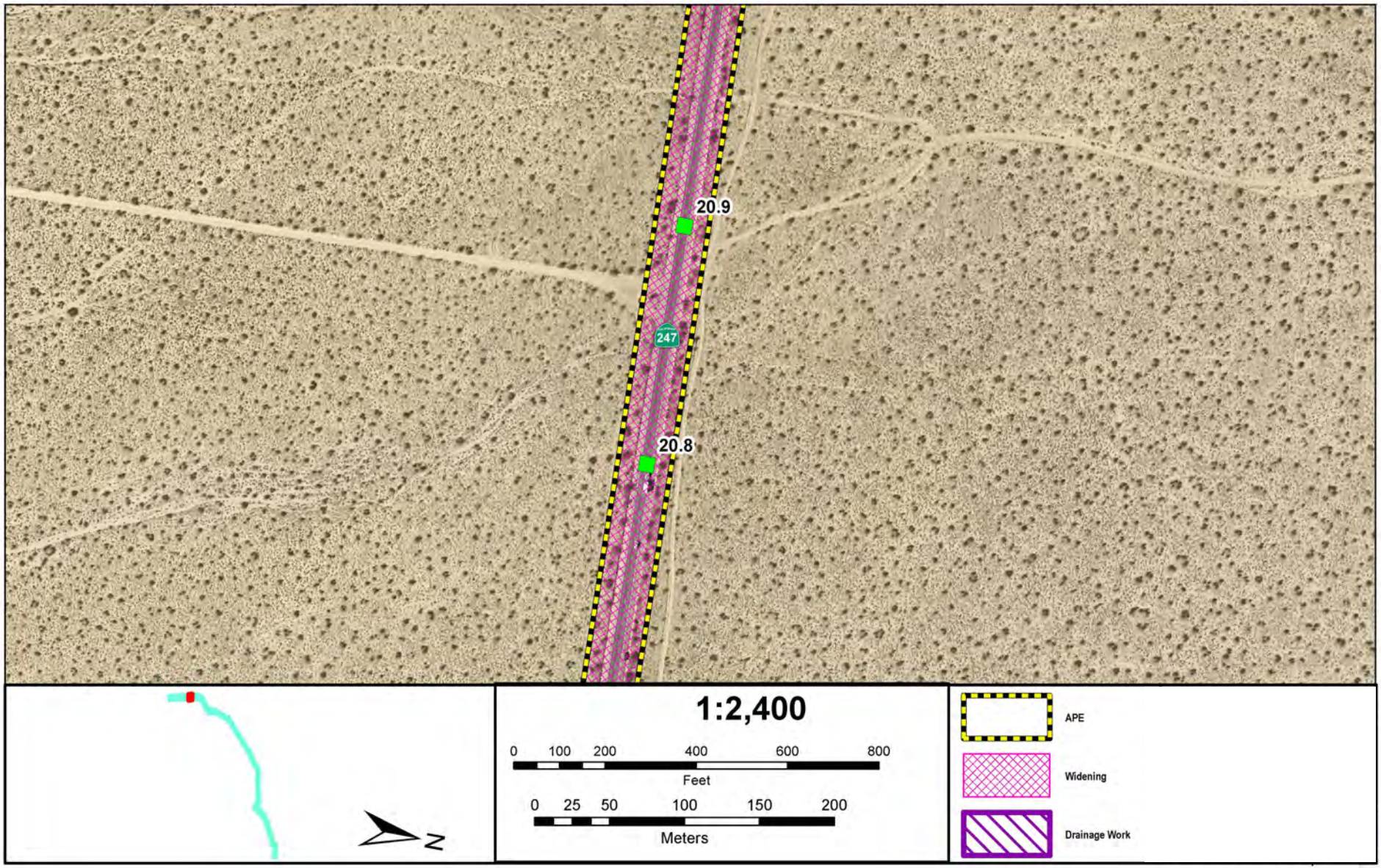


Figure 2.1I
Area of Potential Effect (APE) Map - Segment 9
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

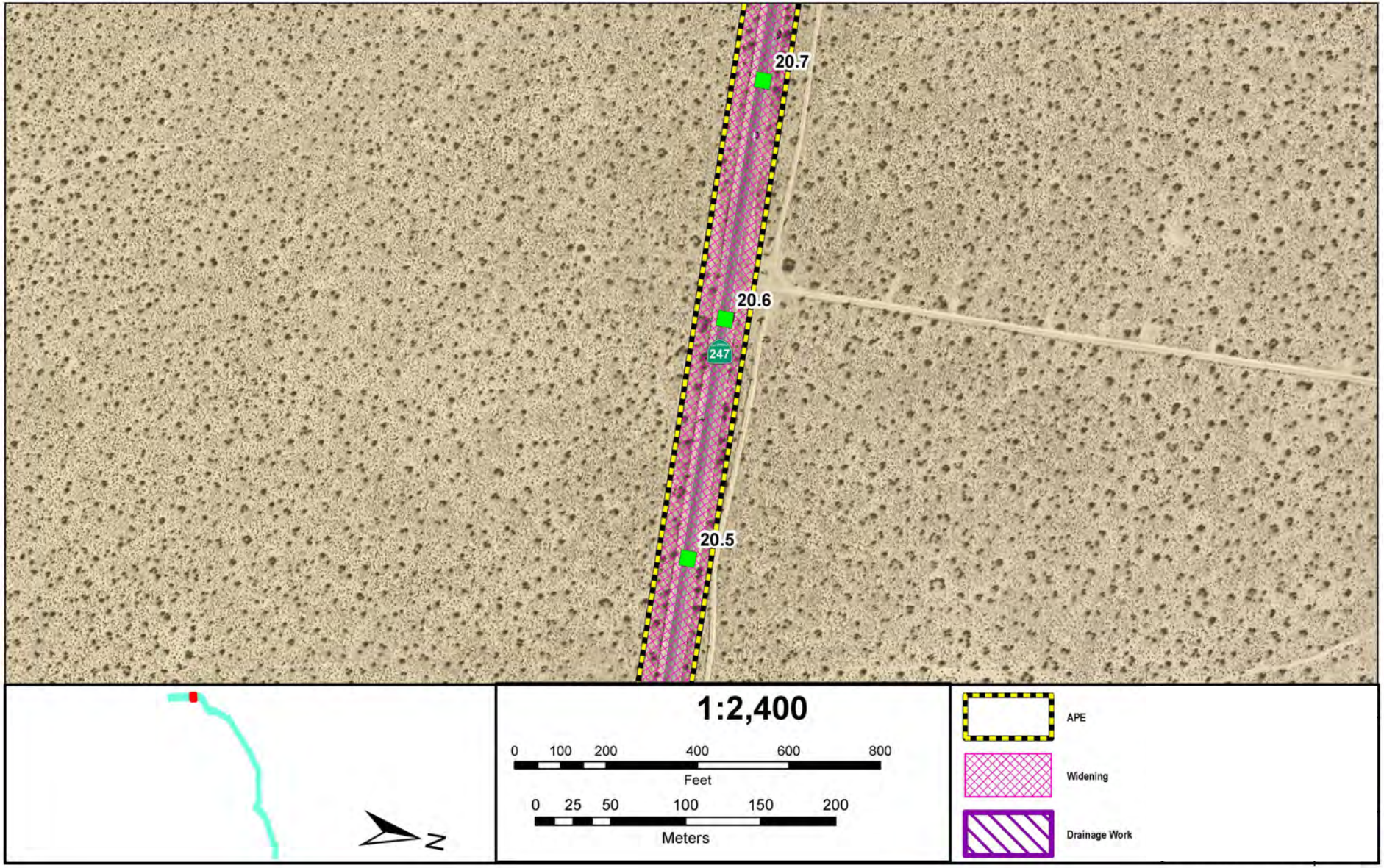


Figure 2.1J
Area of Potential Effect (APE) Map - Segment 10
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

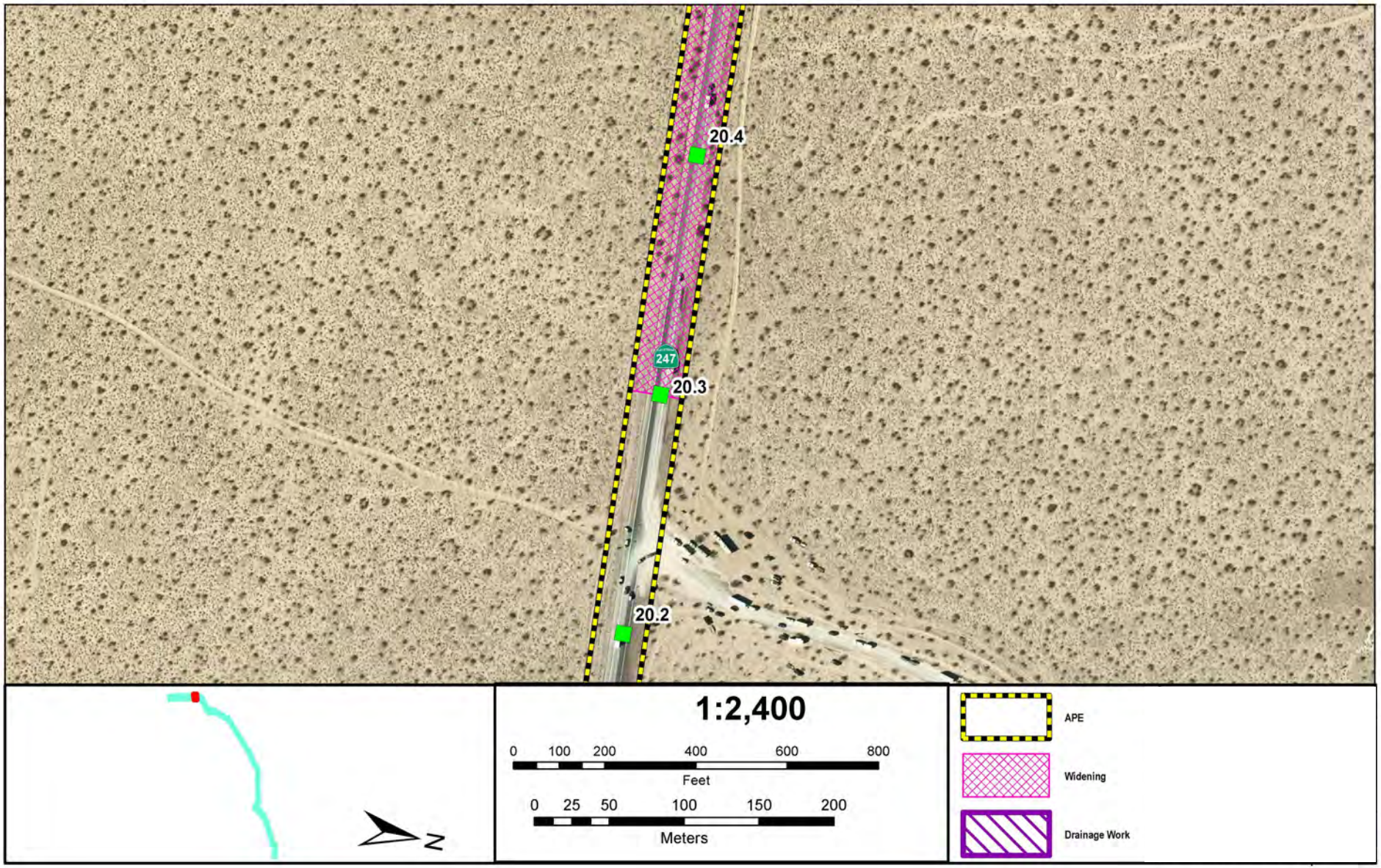


Figure 2.1K
Area of Potential Effect (APE) Map - Segment 11
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

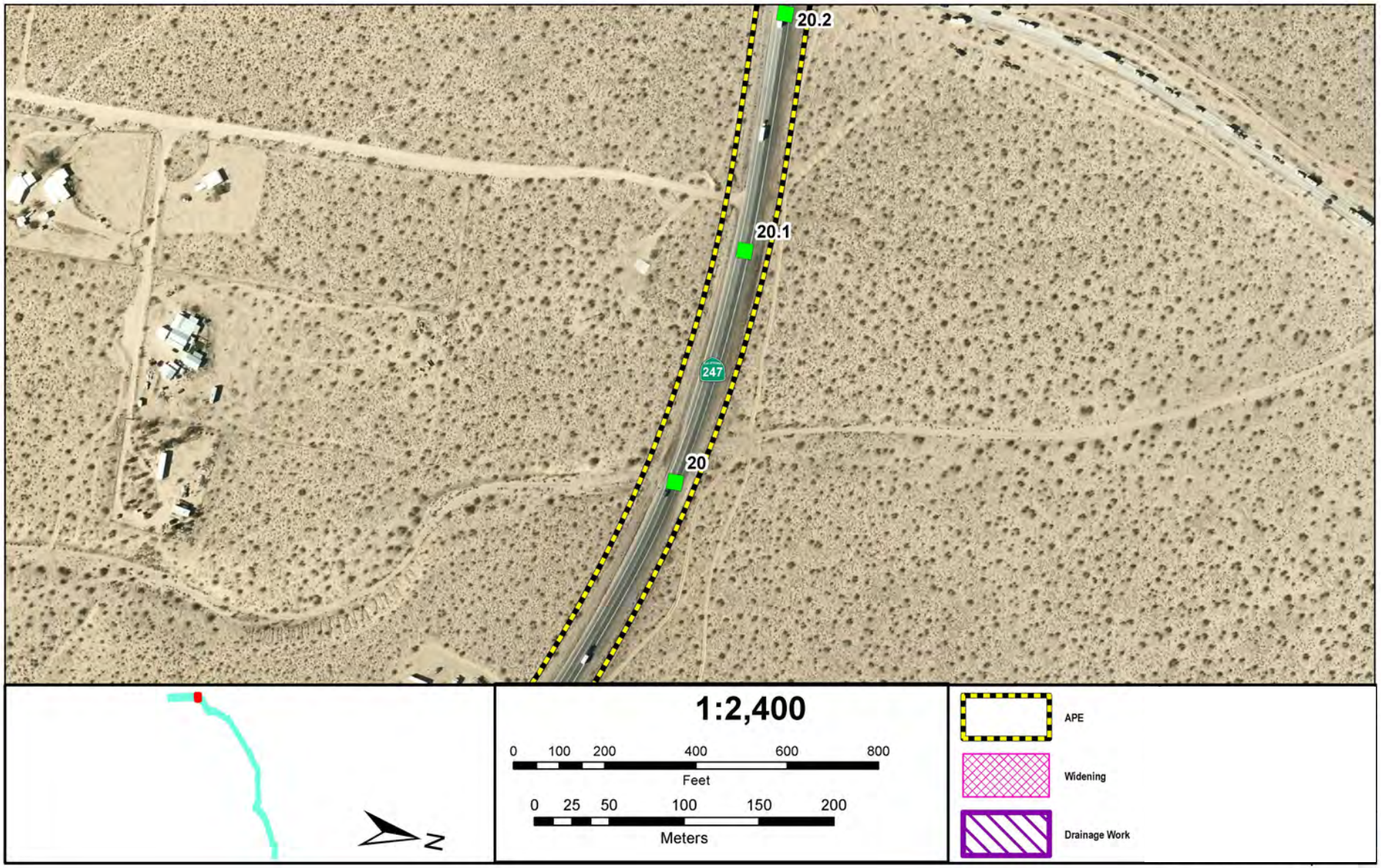


Figure 2.1L
Area of Potential Effect (APE) Map - Segment 12
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

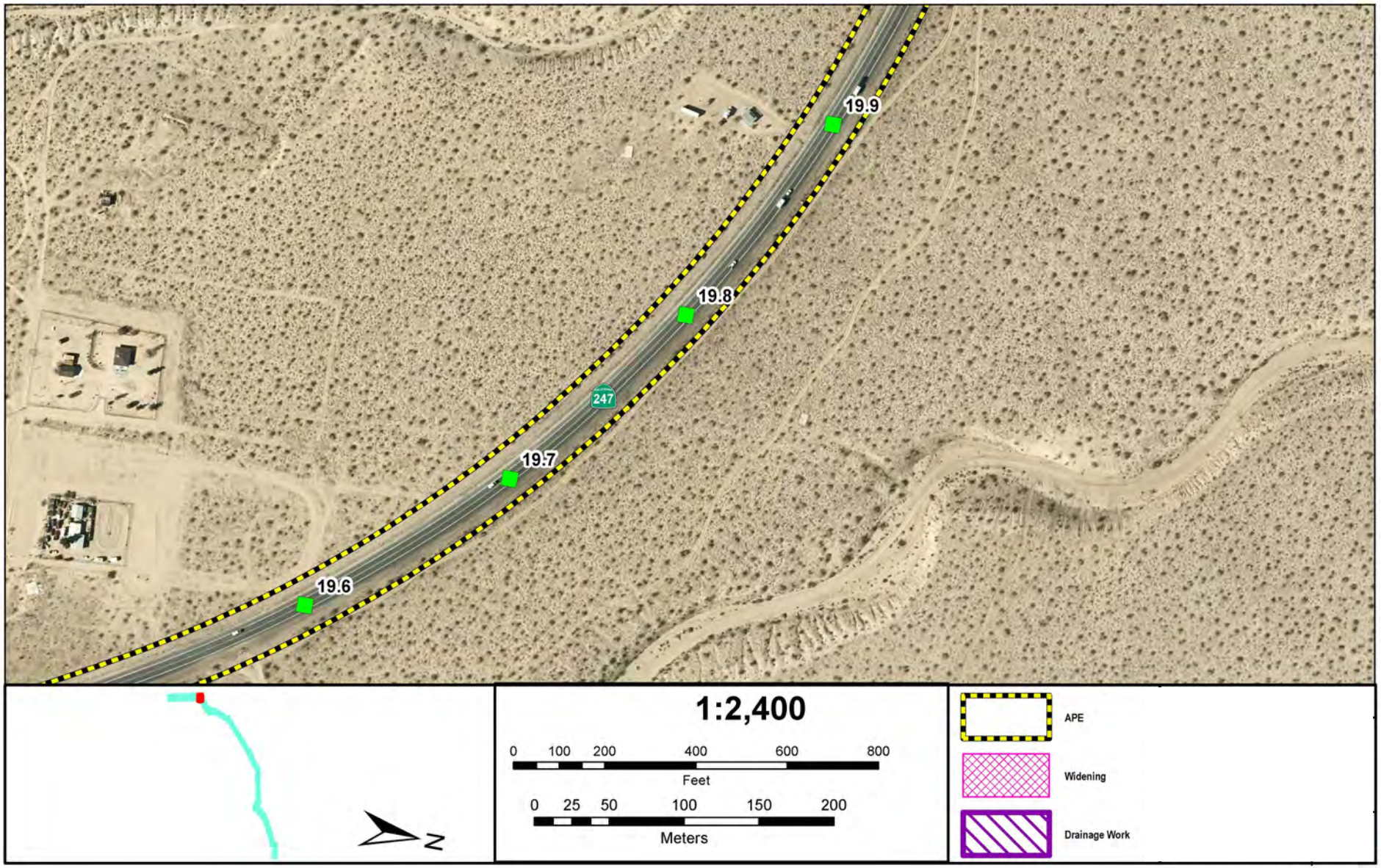


Figure 2.1M
Area of Potential Effect (APE) Map - Segment 13
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

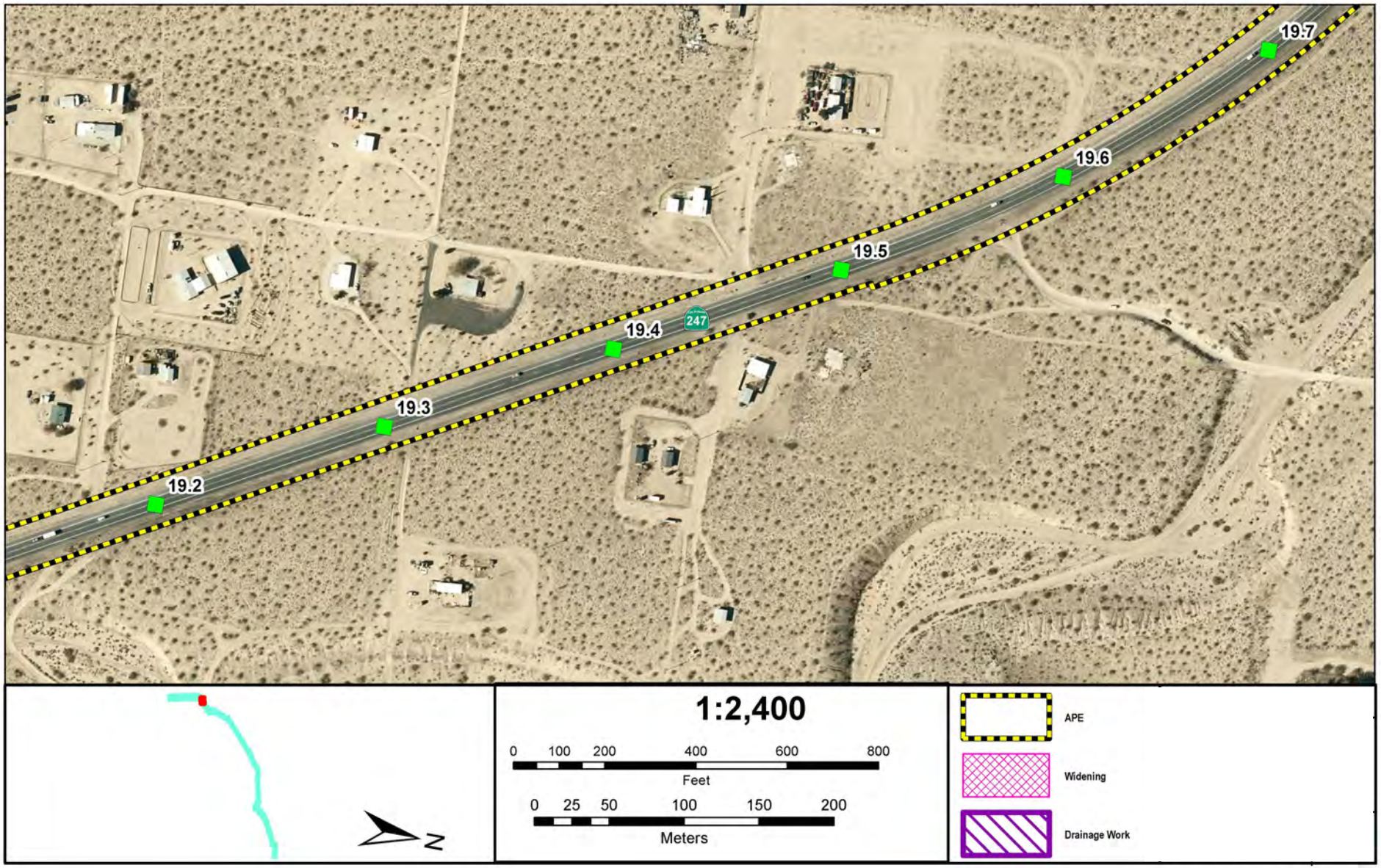


Figure 2.1N
Area of Potential Effect (APE) Map - Segment 14
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

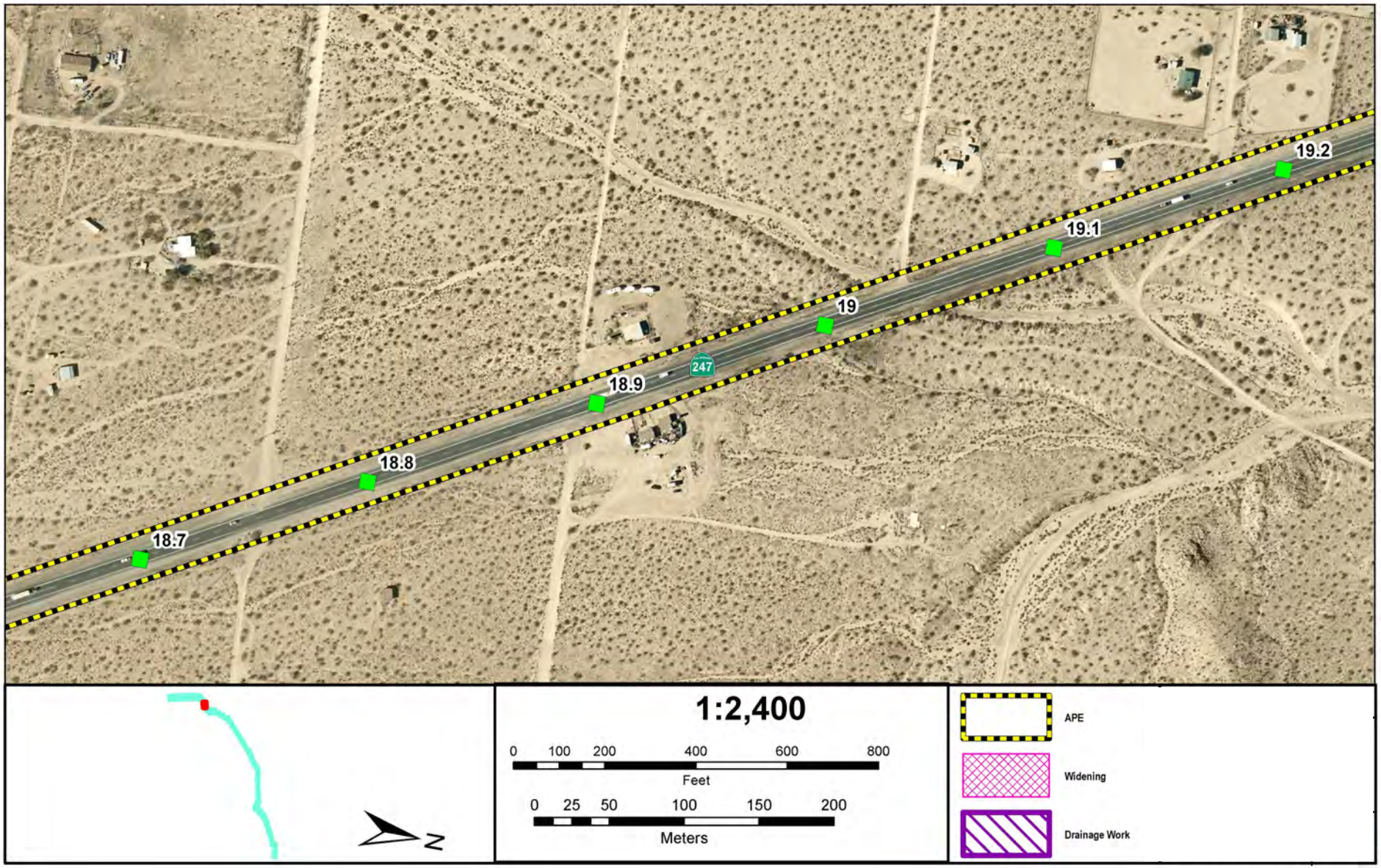


Figure 2.1O
Area of Potential Effect (APE) Map - Segment 15
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

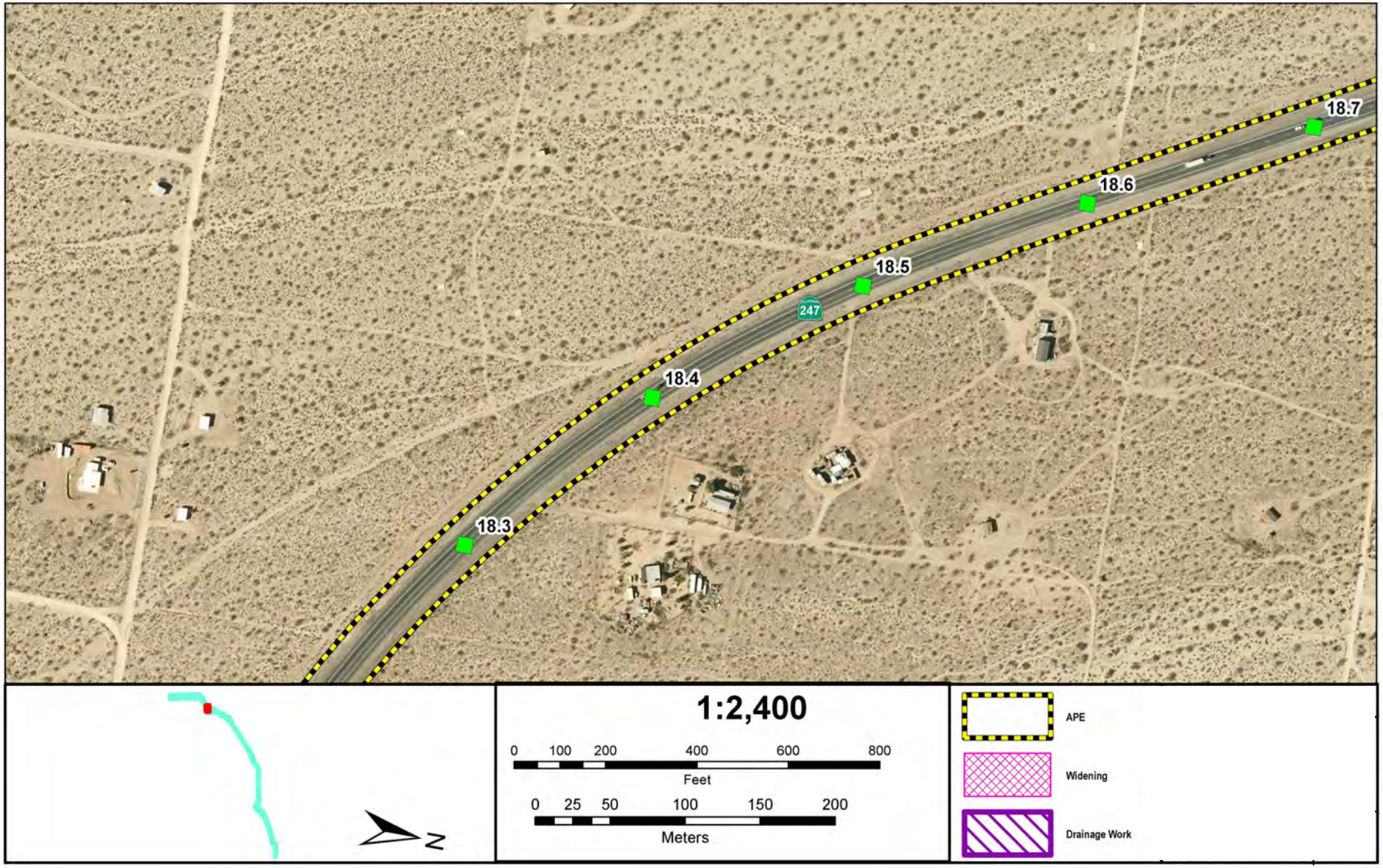


Figure 2.1P
Area of Potential Effect (APE) Map - Segment 16
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

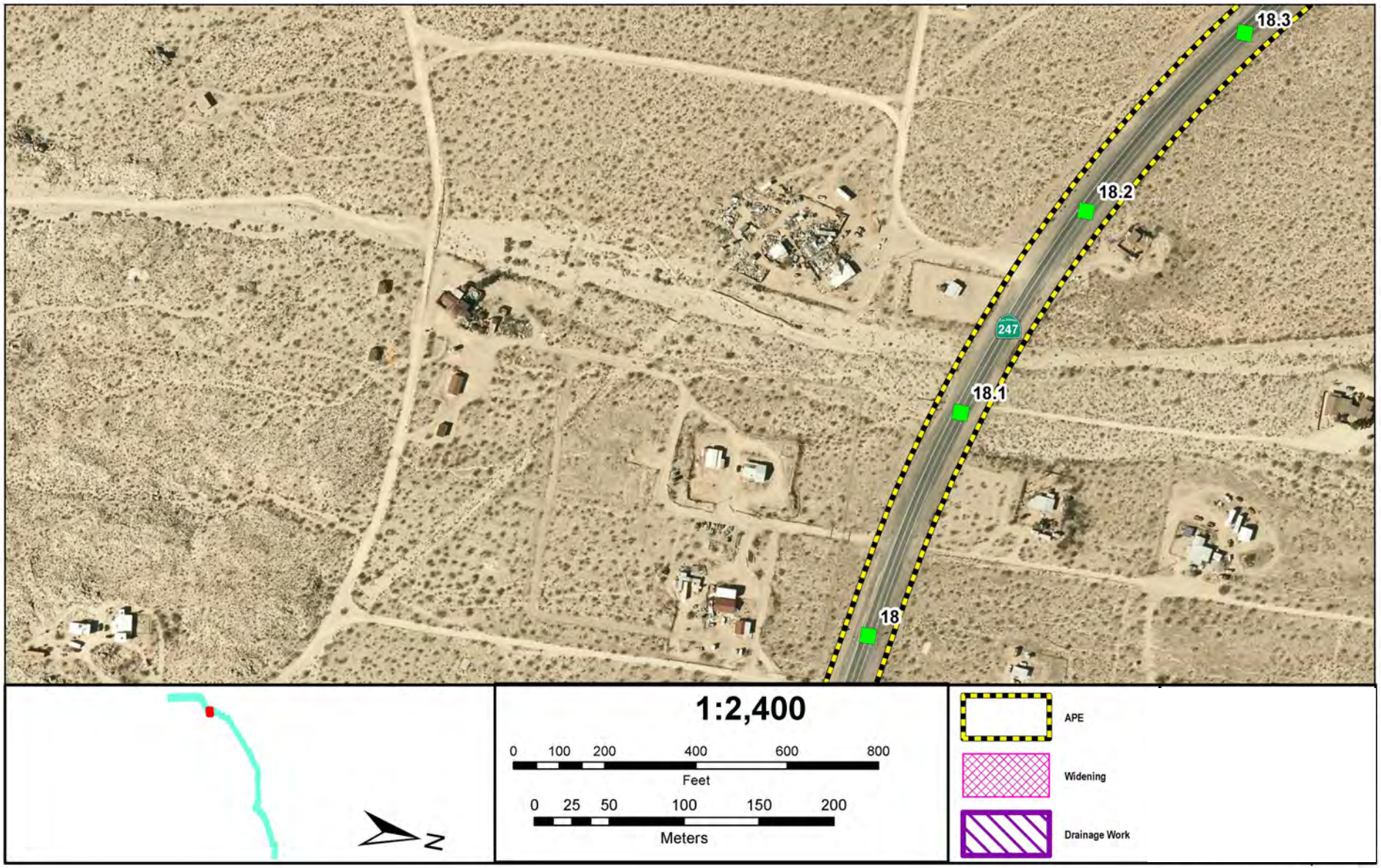


Figure 2.1Q
Area of Potential Effect (APE) Map - Segment 17
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

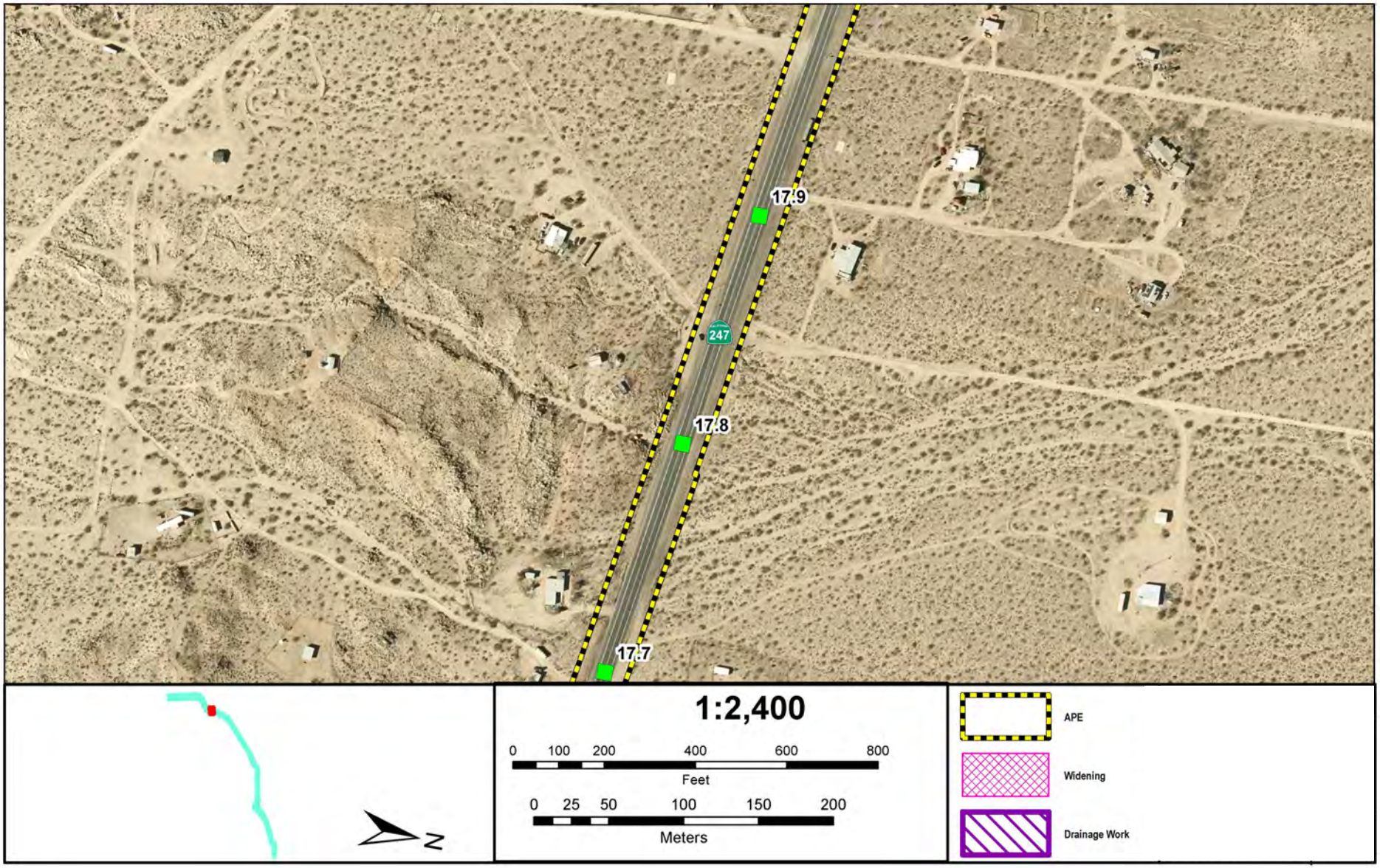


Figure 2.1R
Area of Potential Effect (APE) Map - Segment 18
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

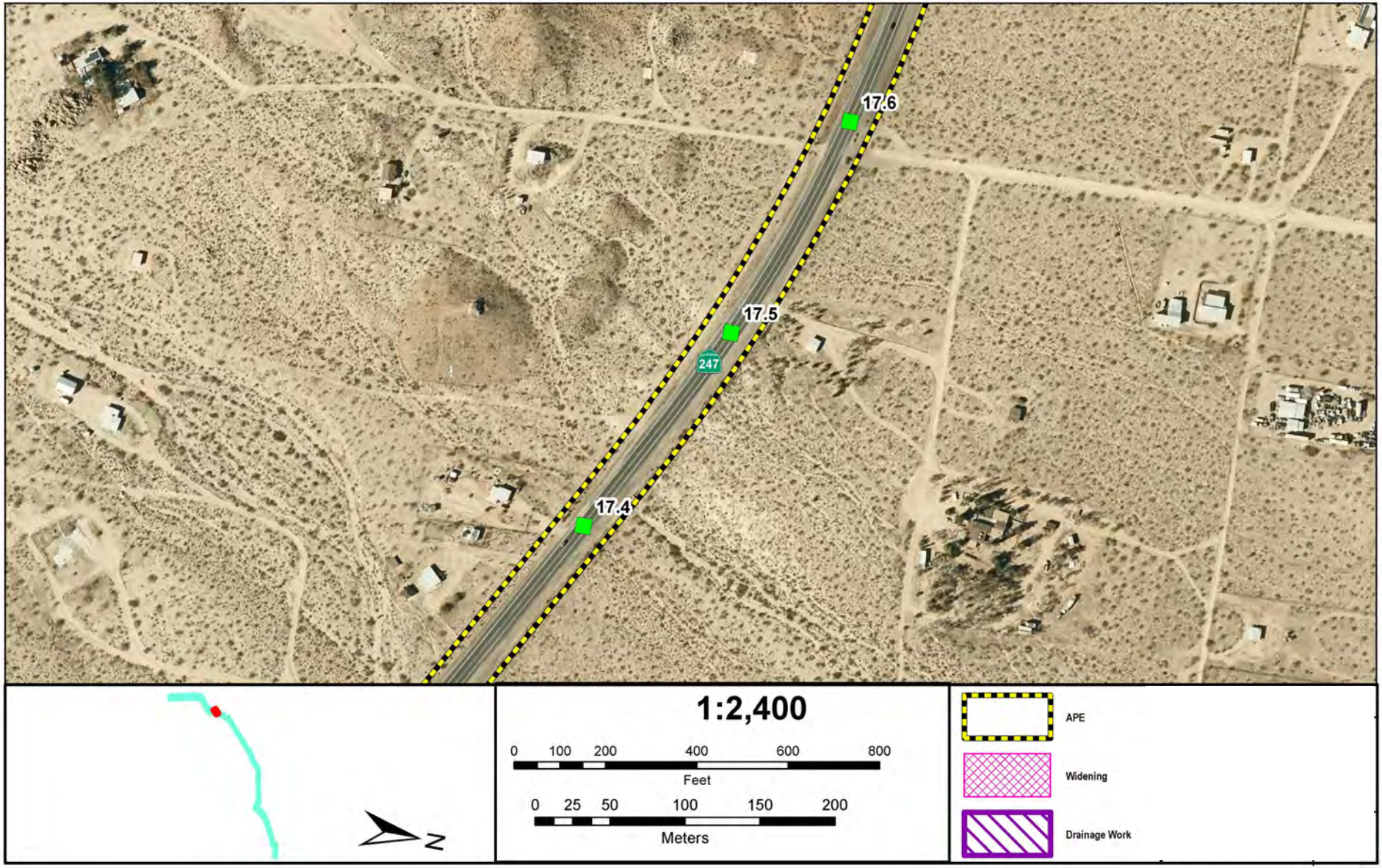


Figure 2.1S
Area of Potential Effect (APE) Map - Segment 19
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

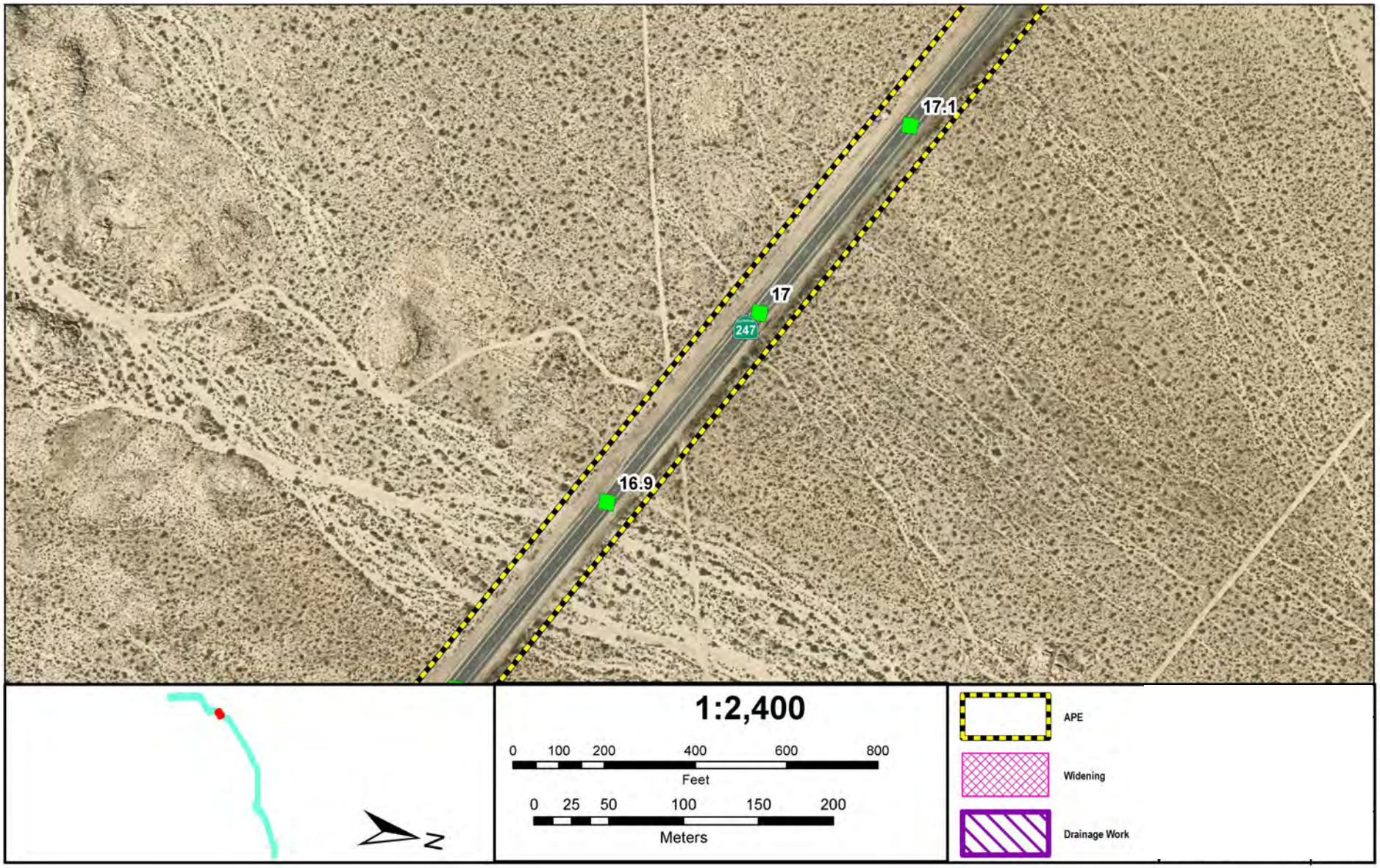


Figure 2.1T
Area of Potential Effect (APE) Map - Segment 20
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

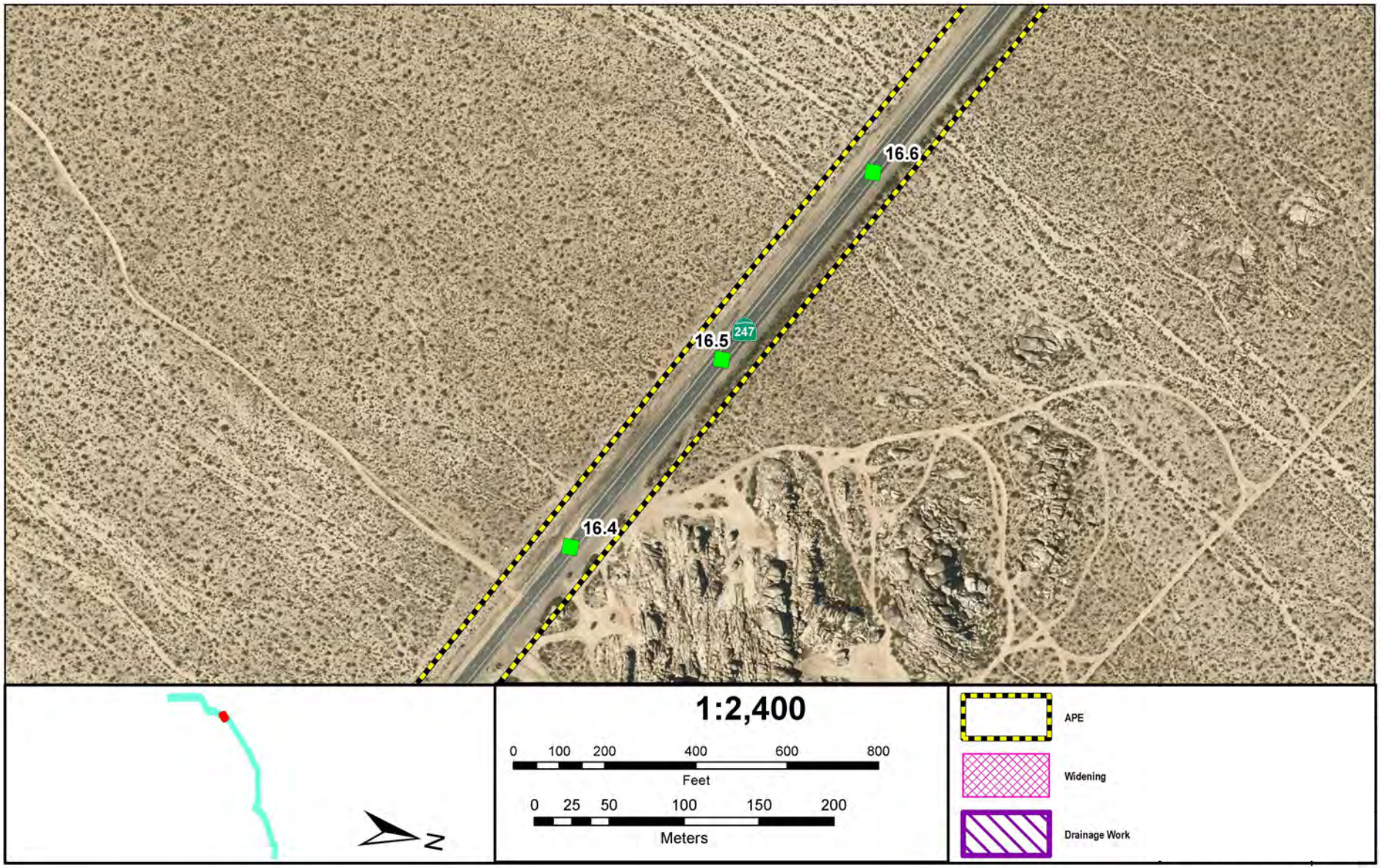


Figure 2.1U
Area of Potential Effect (APE) Map - Segment 21
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

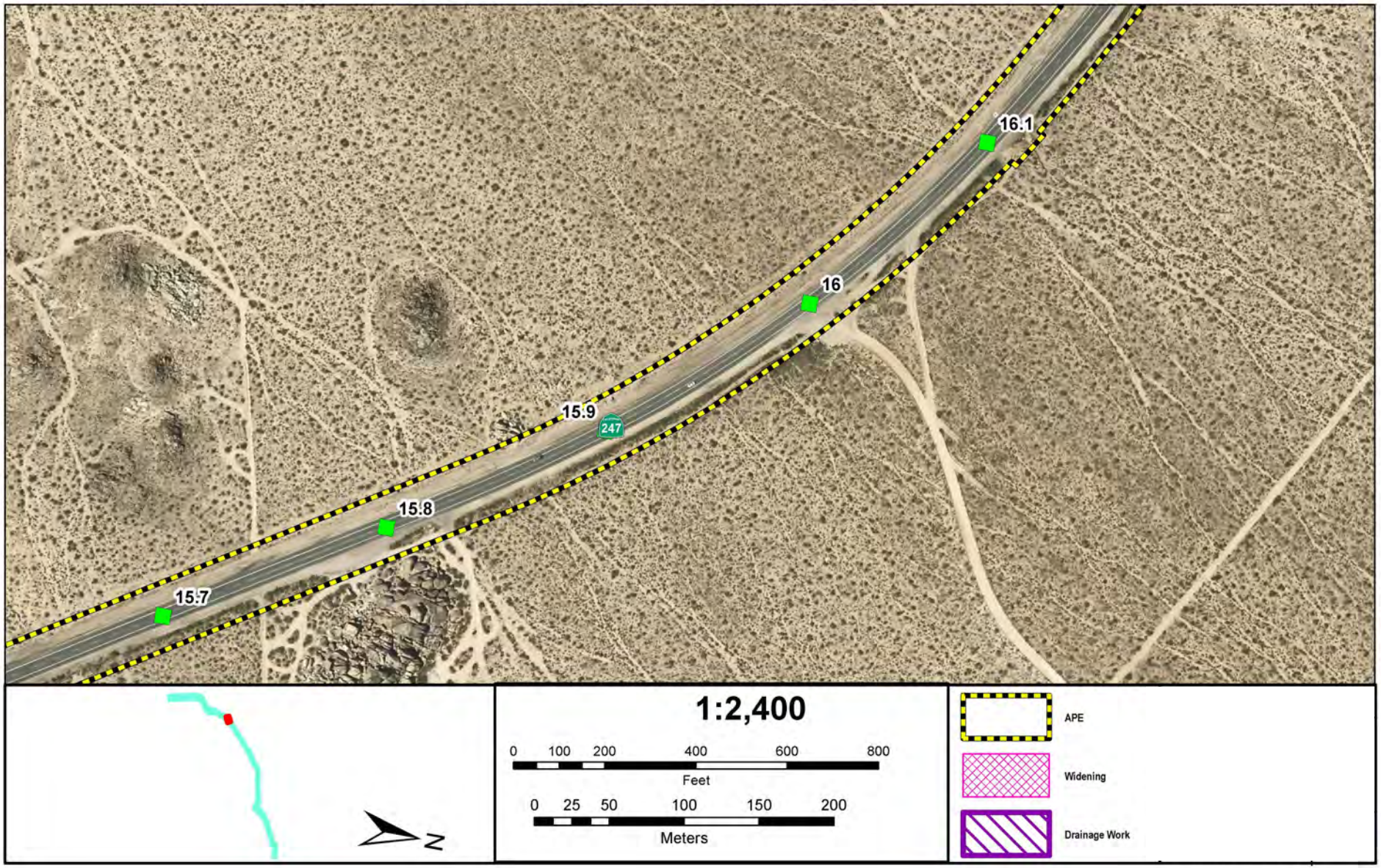


Figure 2.1V
Area of Potential Effect (APE) Map - Segment 22
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

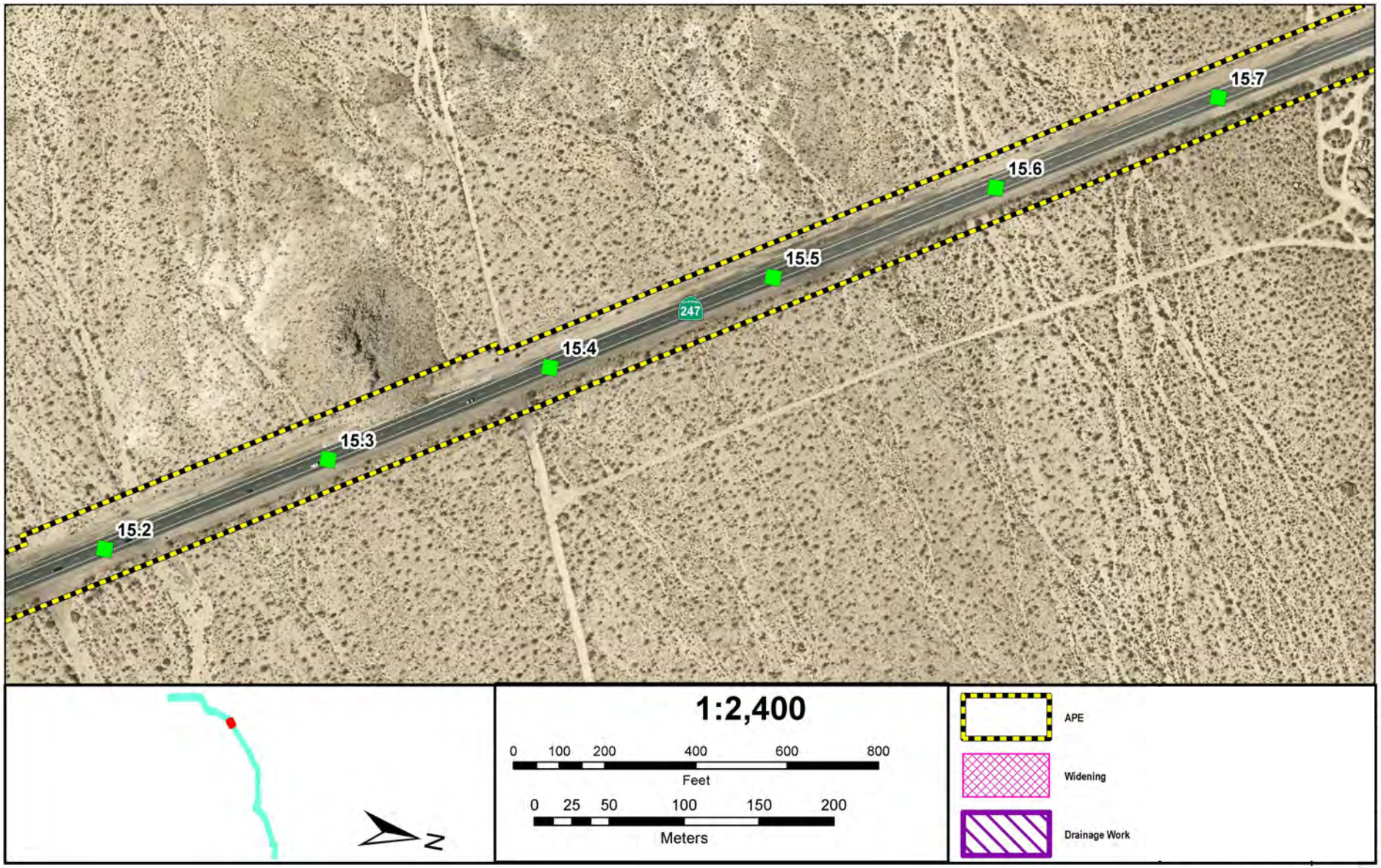


Figure 2.1 W
Area of Potential Effect (APE) Map - Segment 23
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

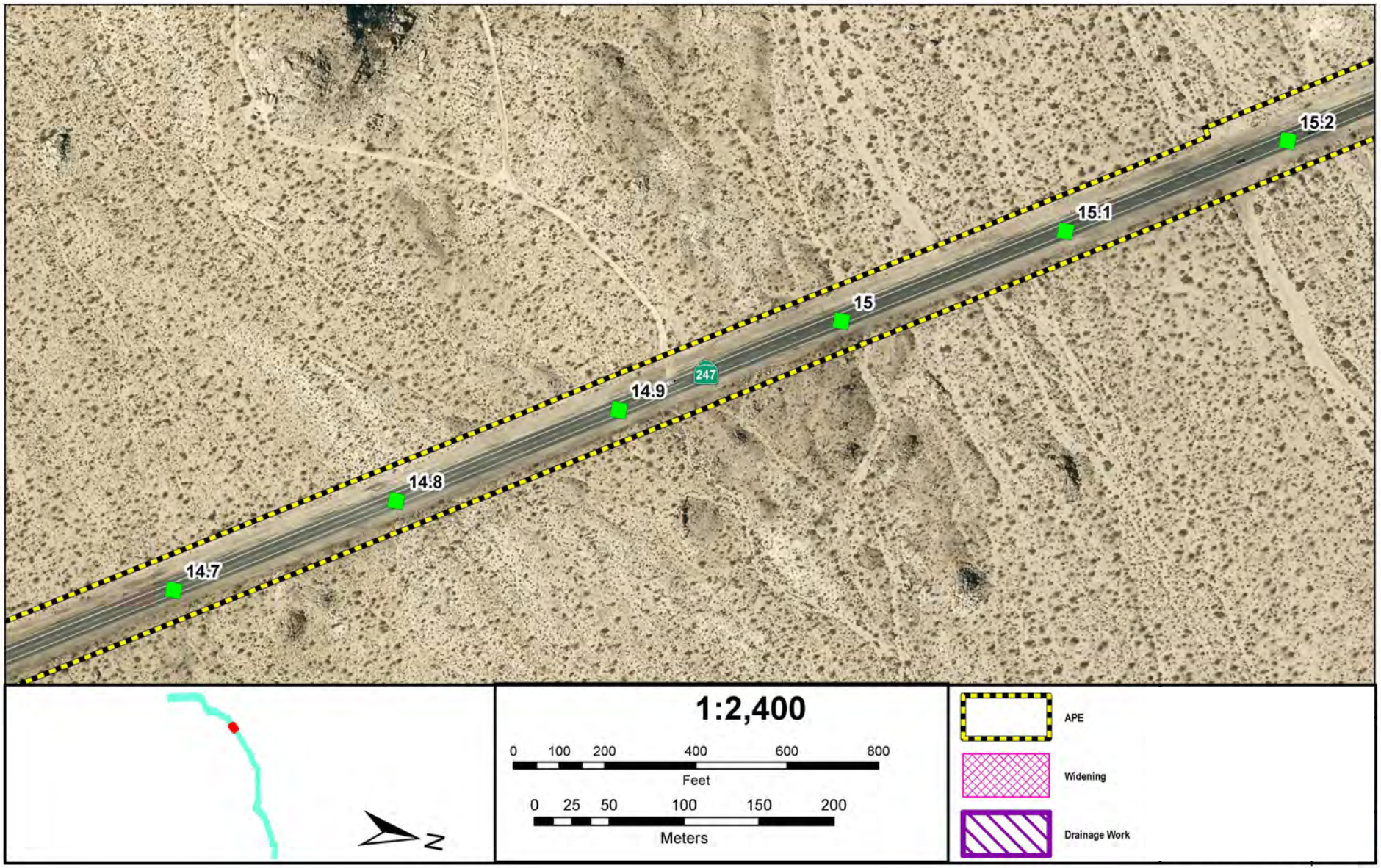


Figure 2.1X
Area of Potential Effect (APE) Map - Segment 24
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

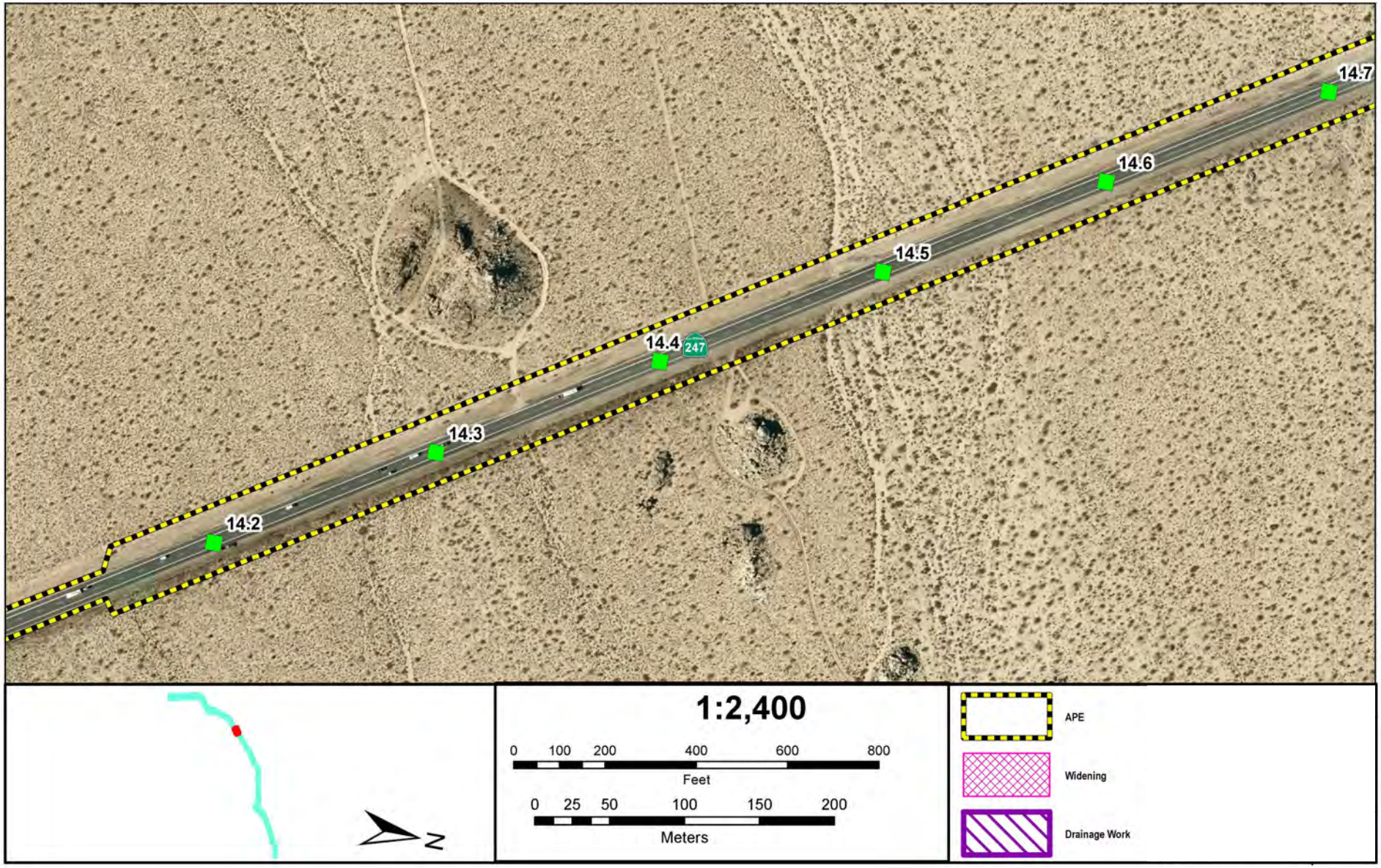


Figure 2.1Y
Area of Potential Effect (APE) Map - Segment 25
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

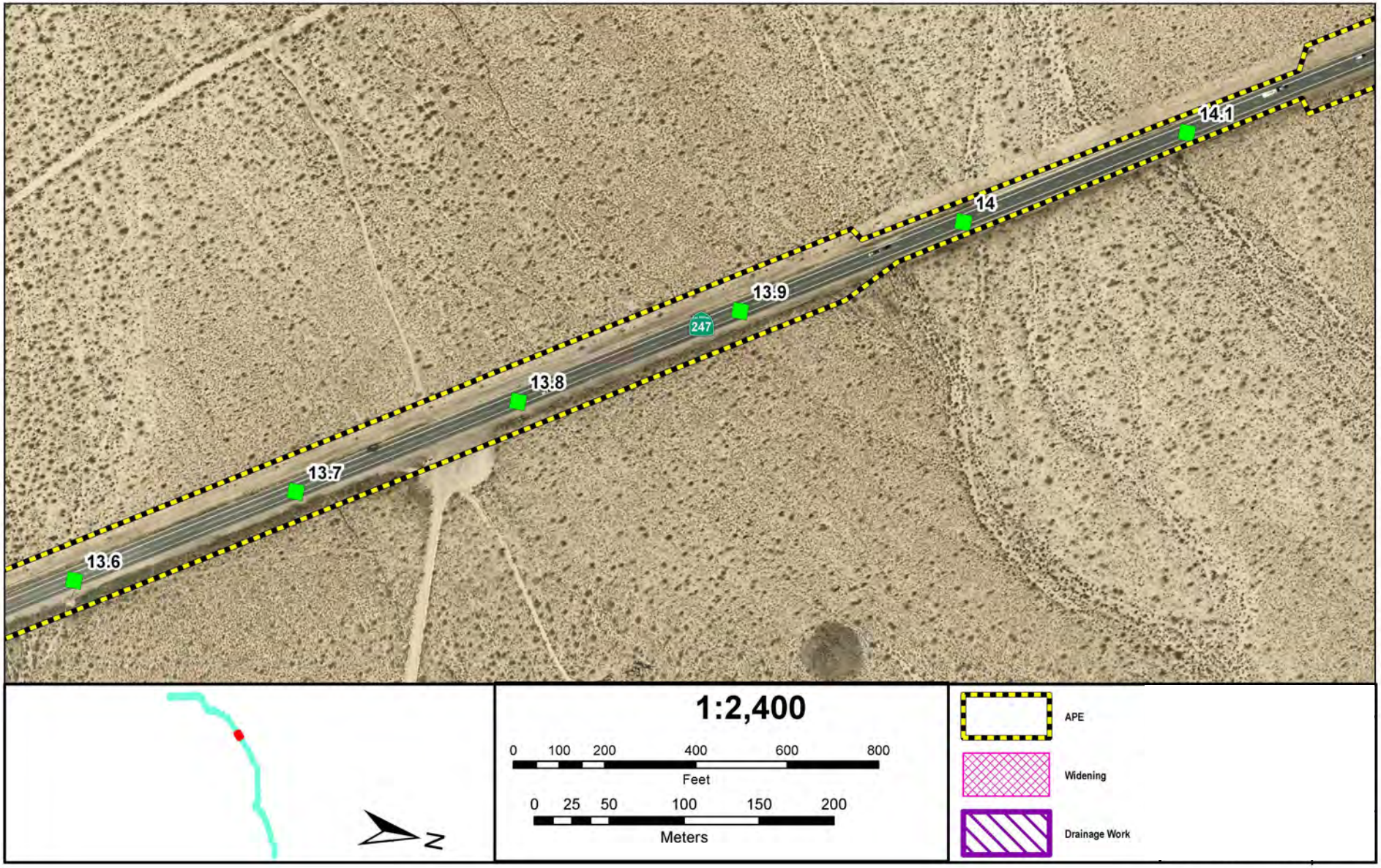


Figure 2.1Z
Area of Potential Effect (APE) Map - Segment 26
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

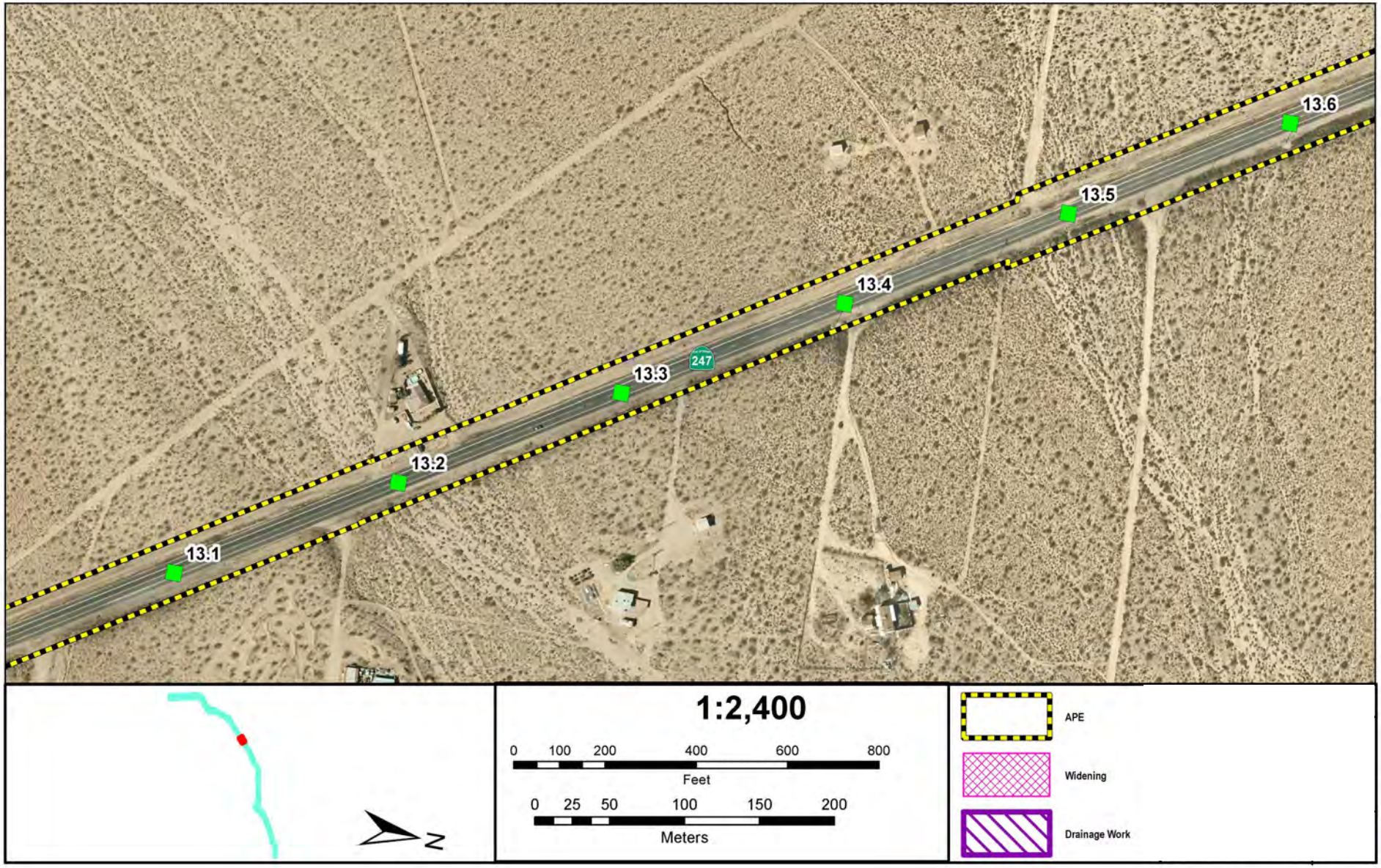


Figure 2.1AA
Area of Potential Effect (APE) Map - Segment 27
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

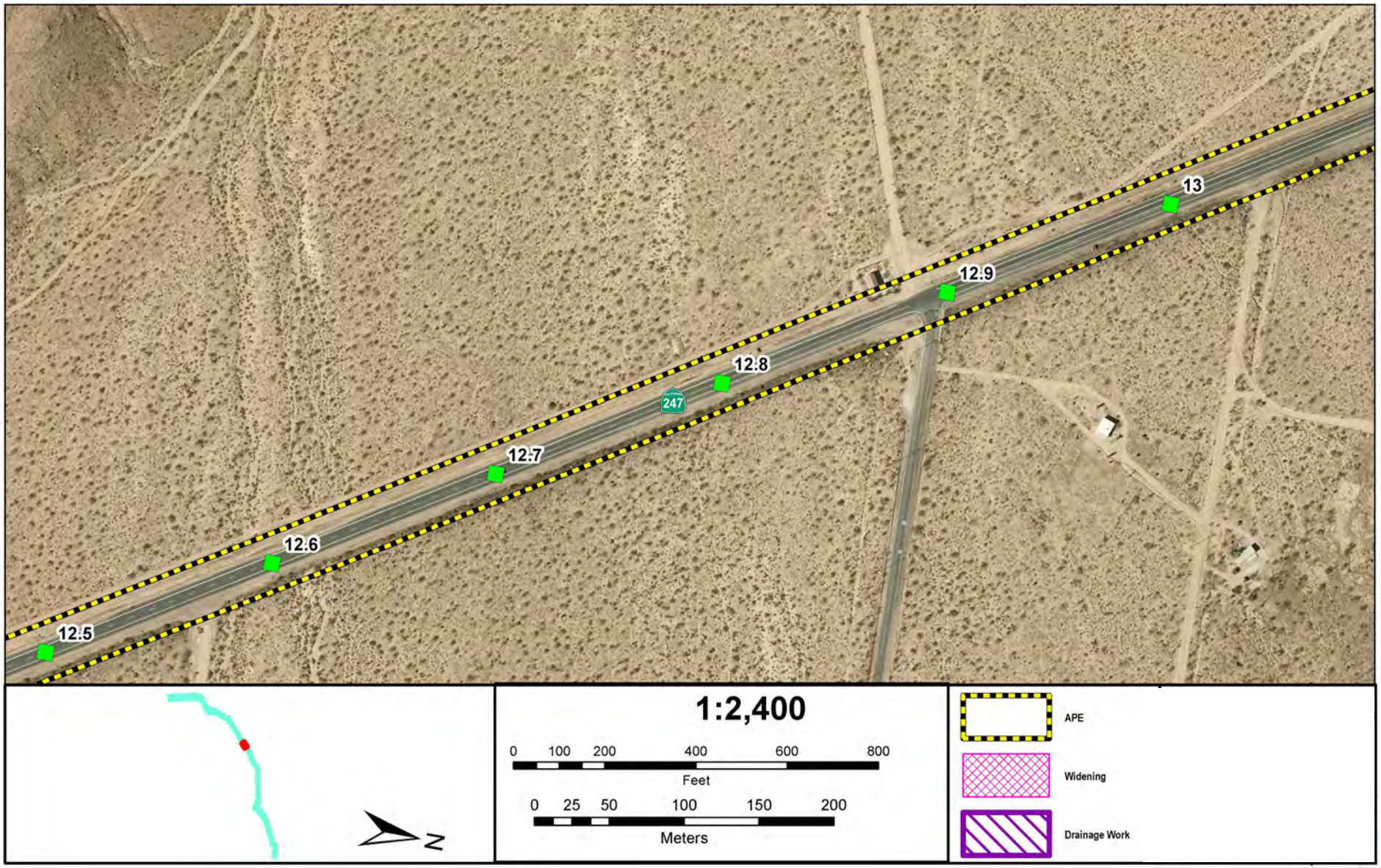


Figure 2.1AB
Area of Potential Effect (APE) Map - Segment 28
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

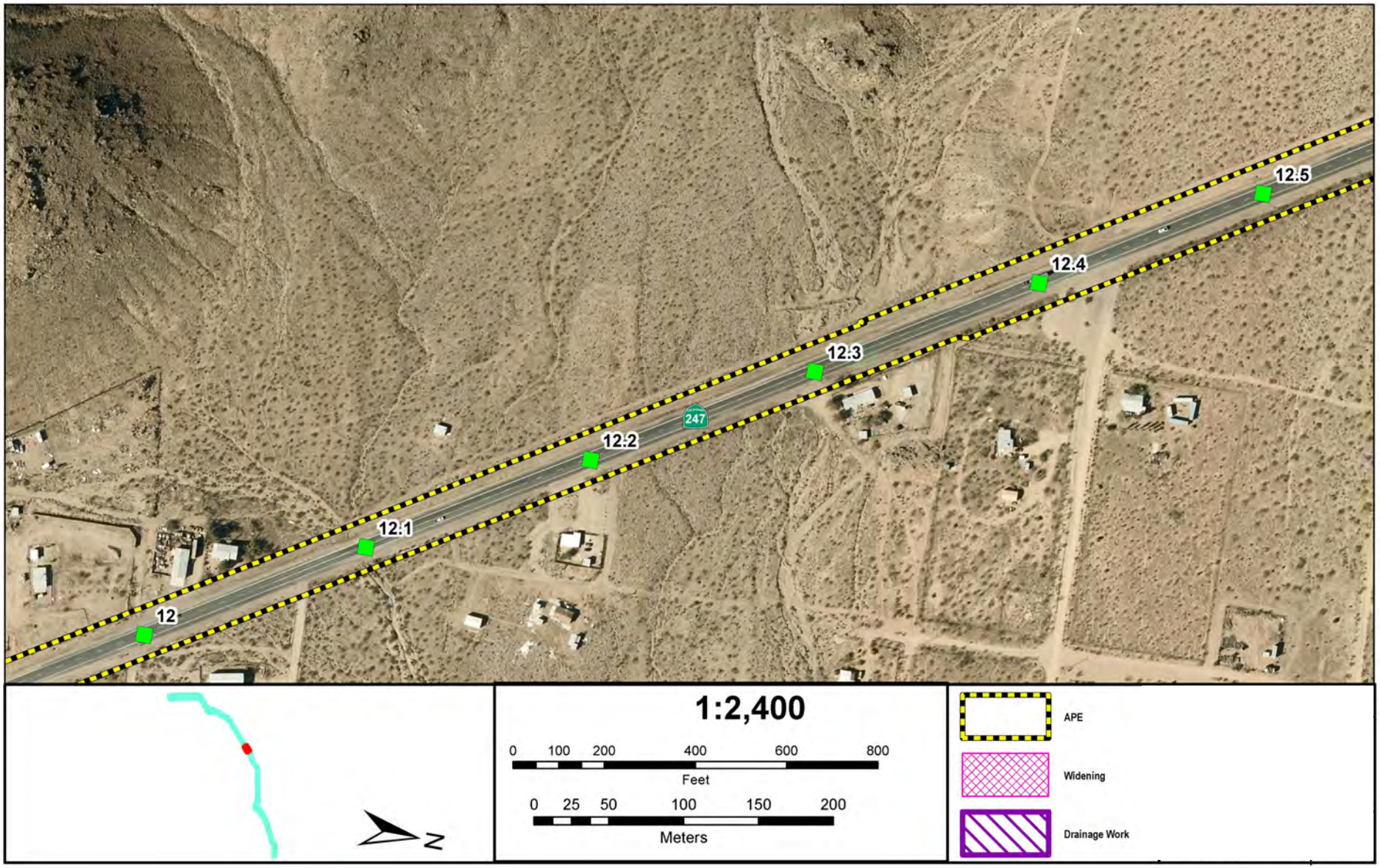


Figure 2.1AC
Area of Potential Effect (APE) Map - Segment 29
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

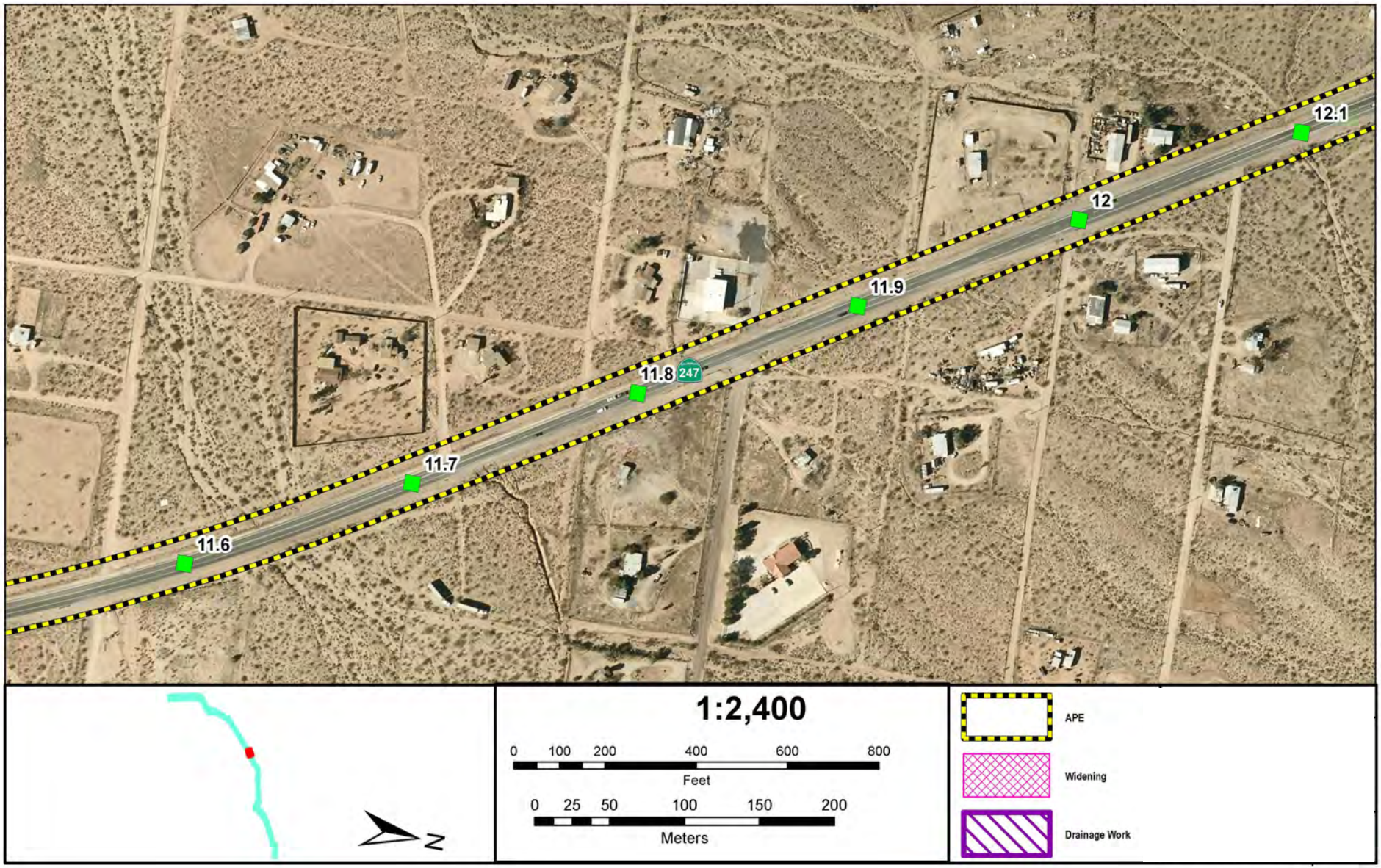


Figure 2.1AD
Area of Potential Effect (APE) Map - Segment 30
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

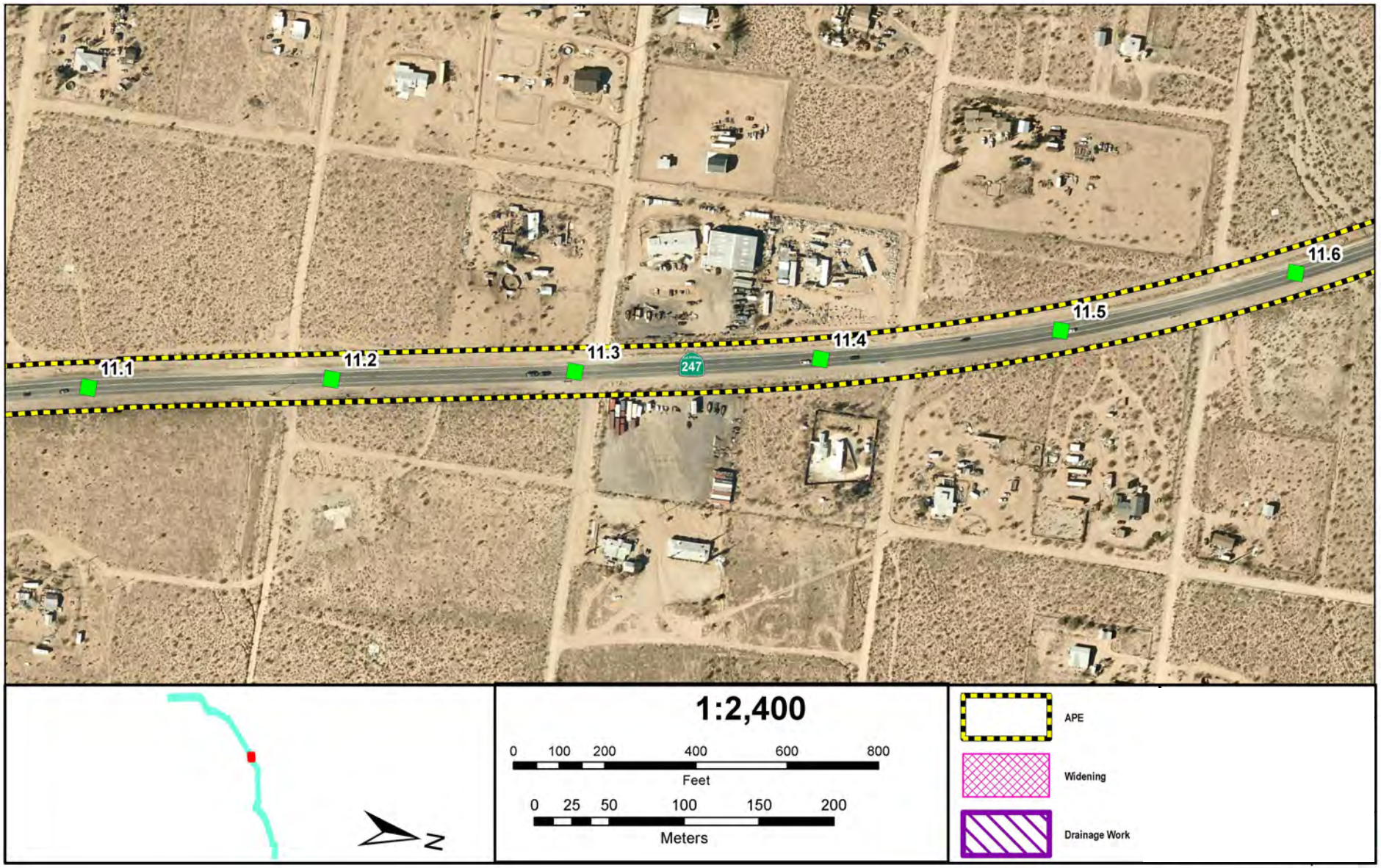


Figure 2.1AE
Area of Potential Effect (APE) Map - Segment 31
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

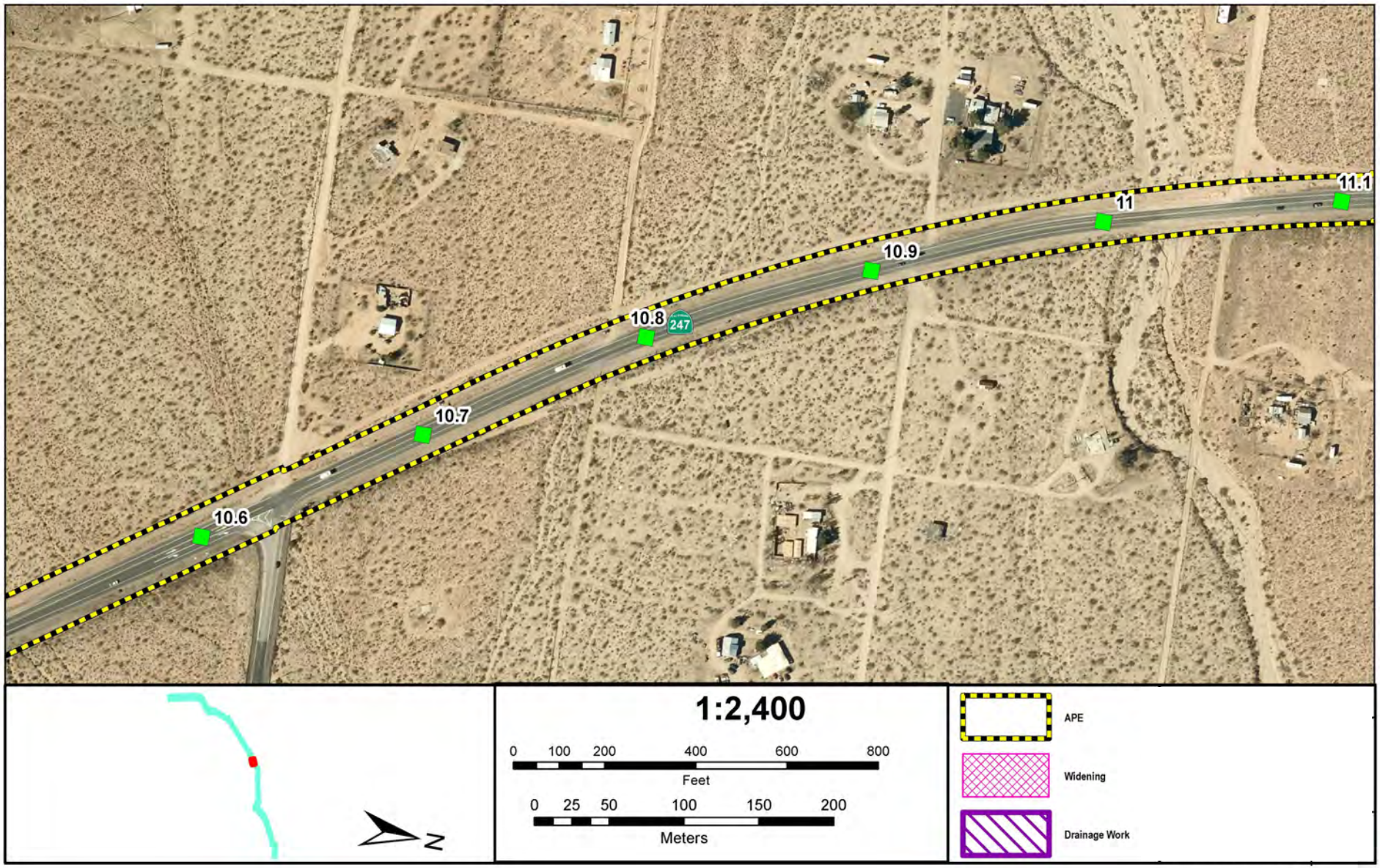


Figure 2.1AF
Area of Potential Effect (APE) Map - Segment 32
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

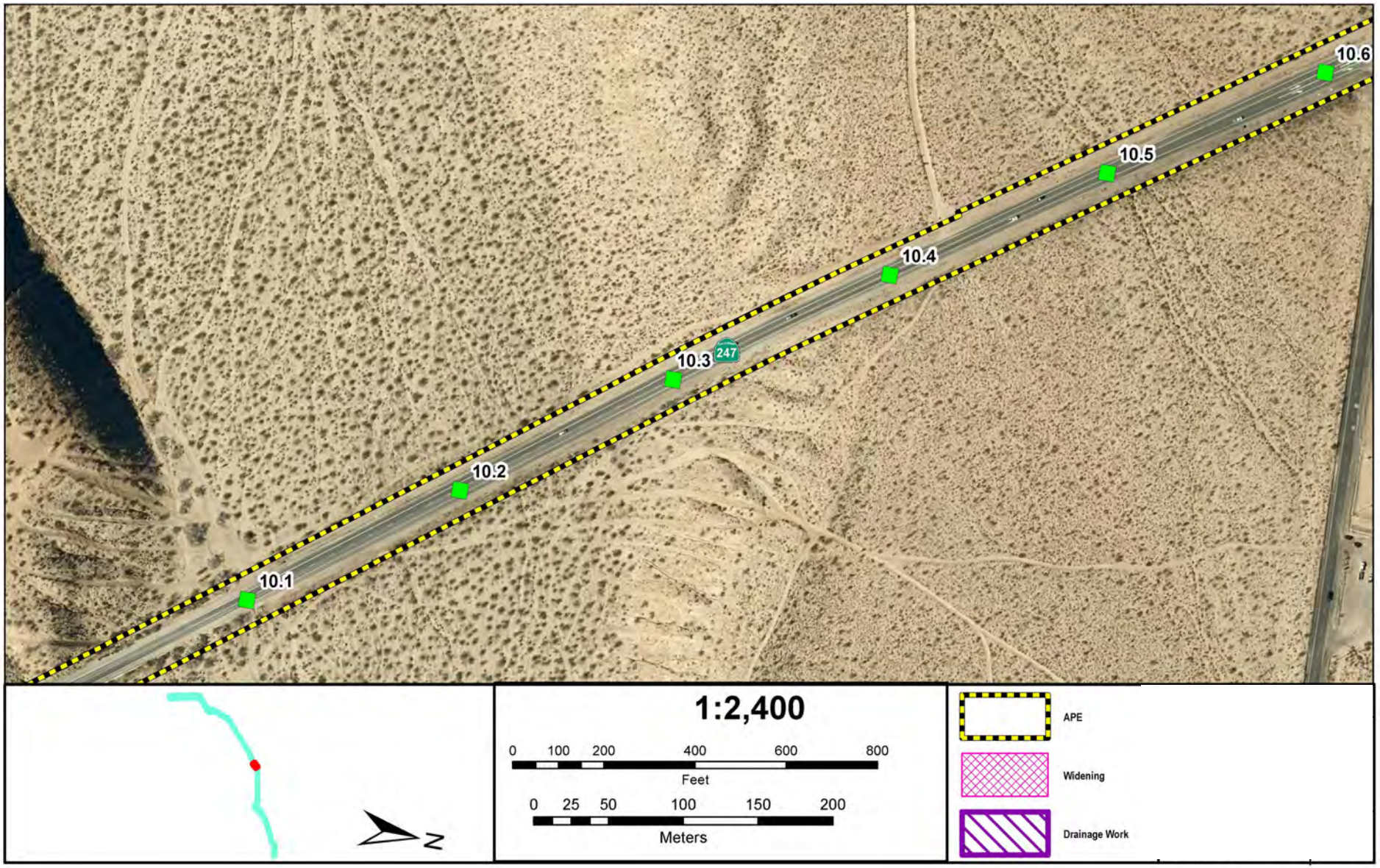


Figure 2.1AG
Area of Potential Effect (APE) Map - Segment 33
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

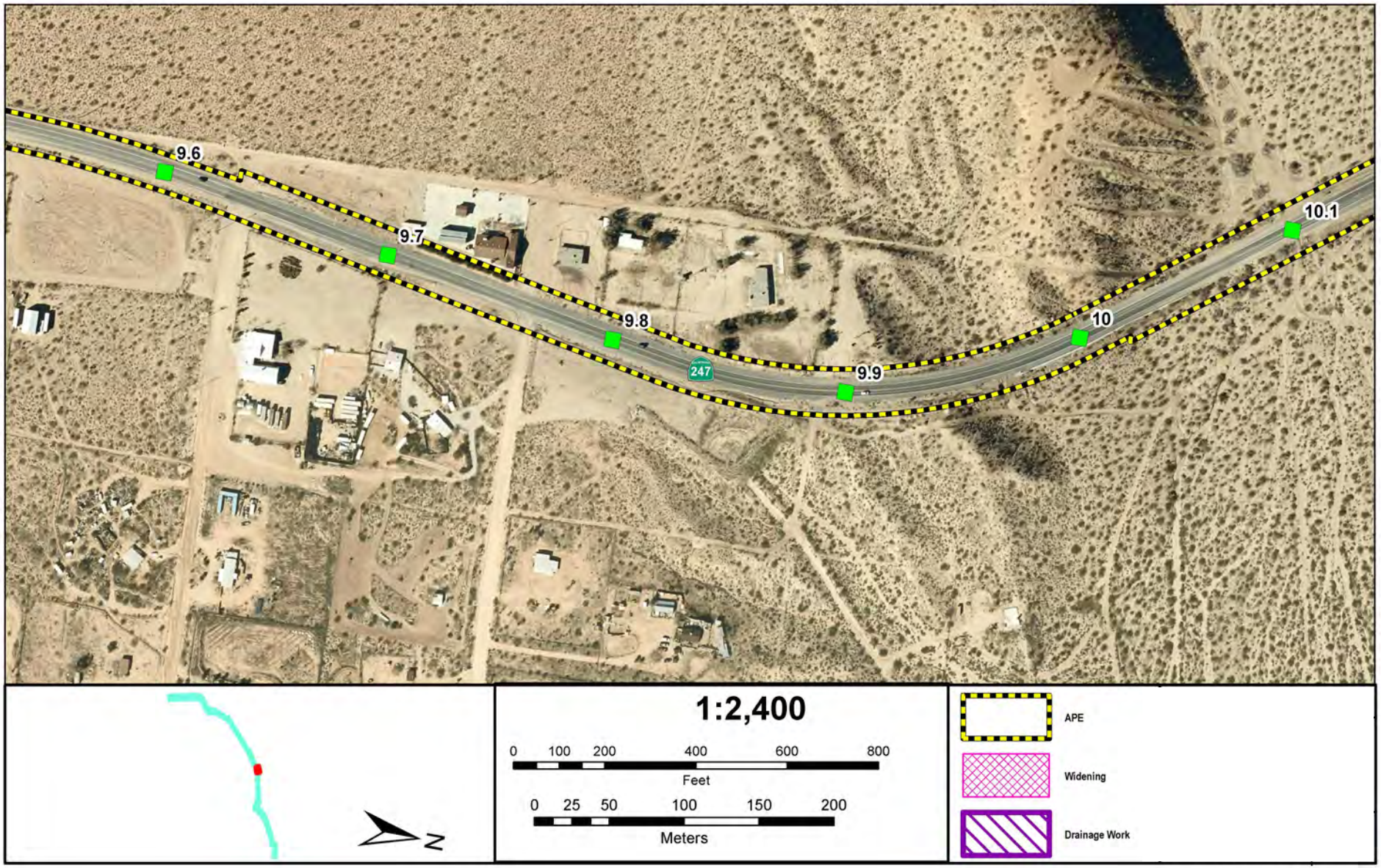


Figure 2.1AH
Area of Potential Effect (APE) Map - Segment 34
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

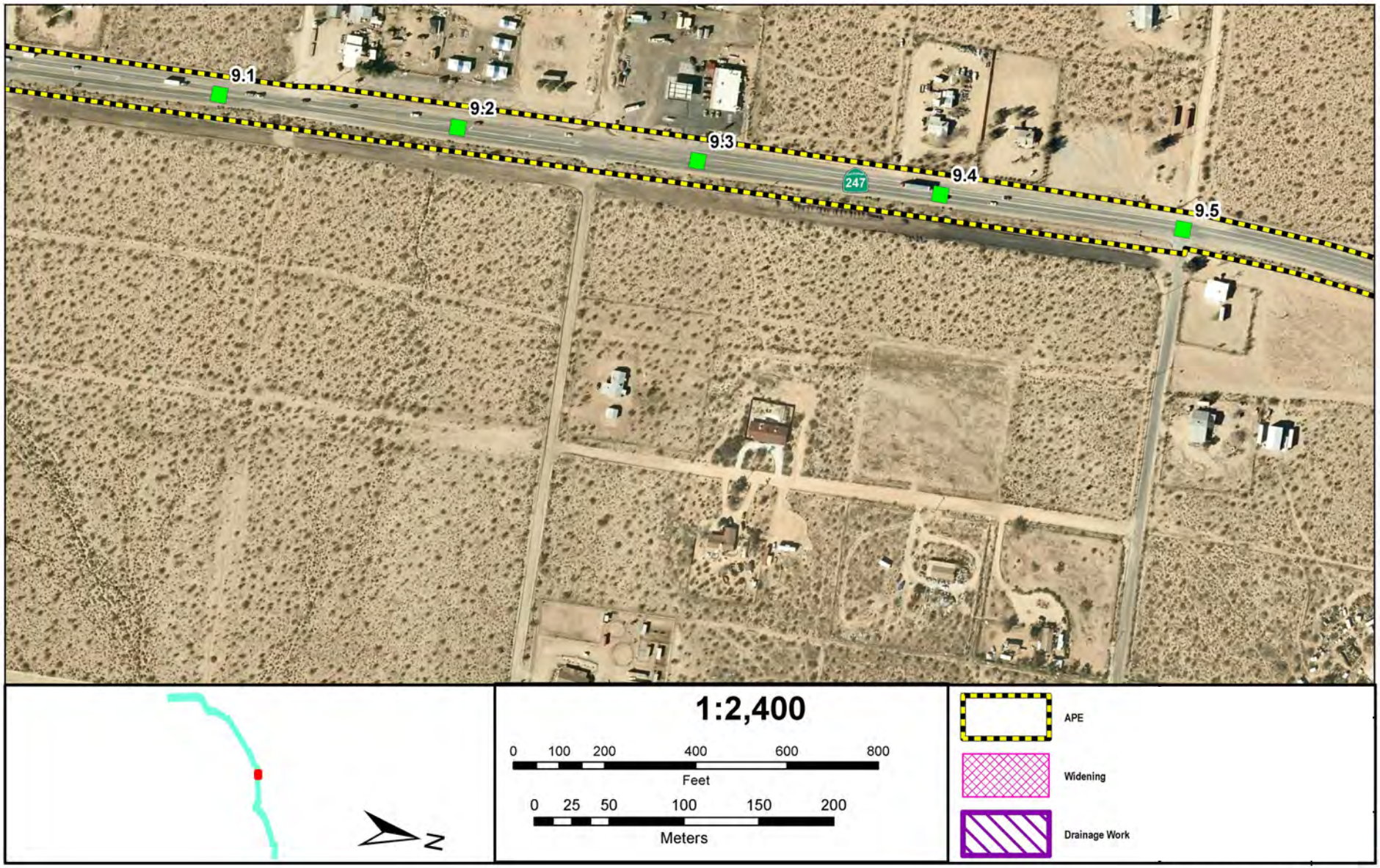


Figure 2.1AI
Area of Potential Effect (APE) Map - Segment 35
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

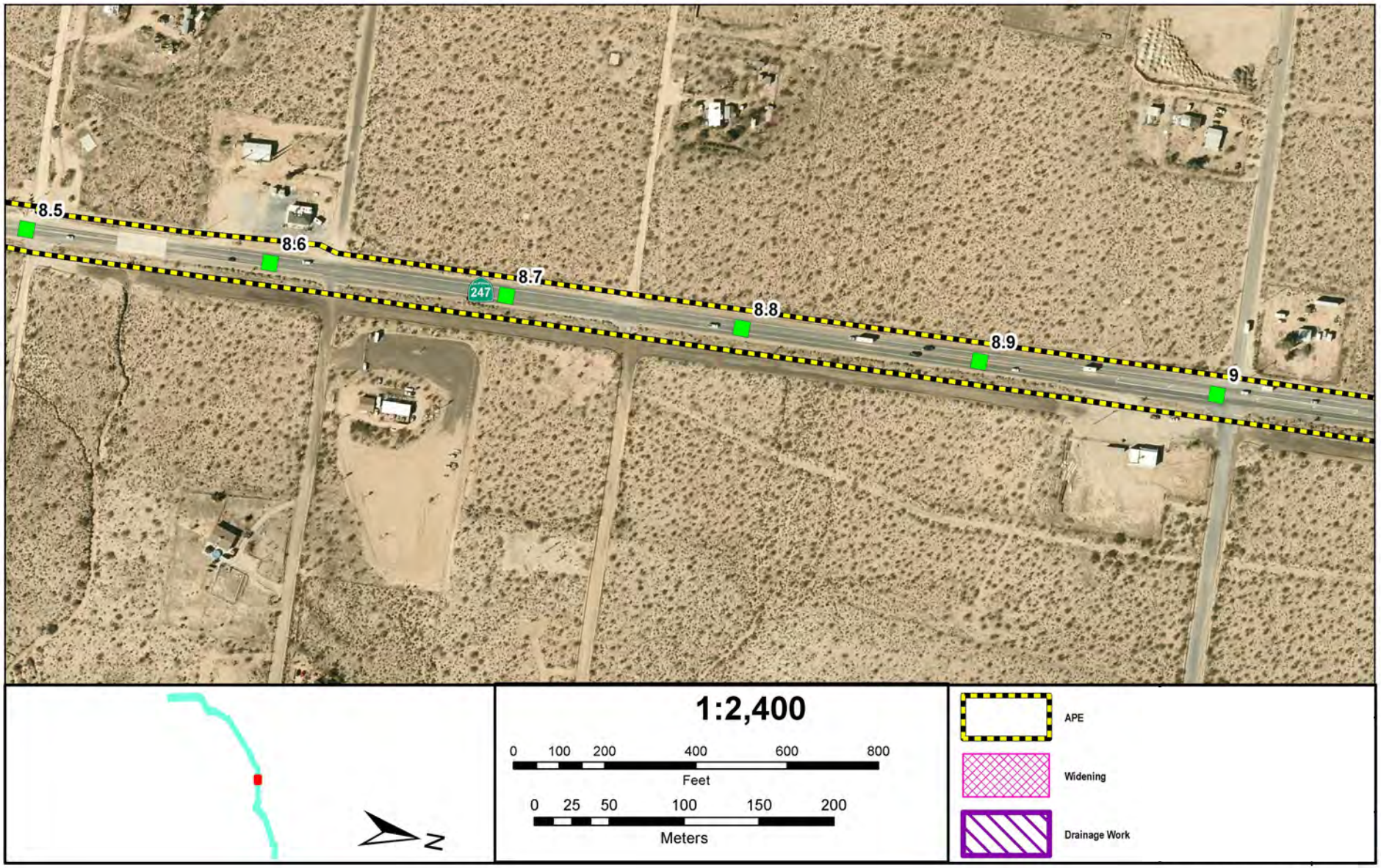


Figure 2.1AJ
Area of Potential Effect (APE) Map - Segment 36
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

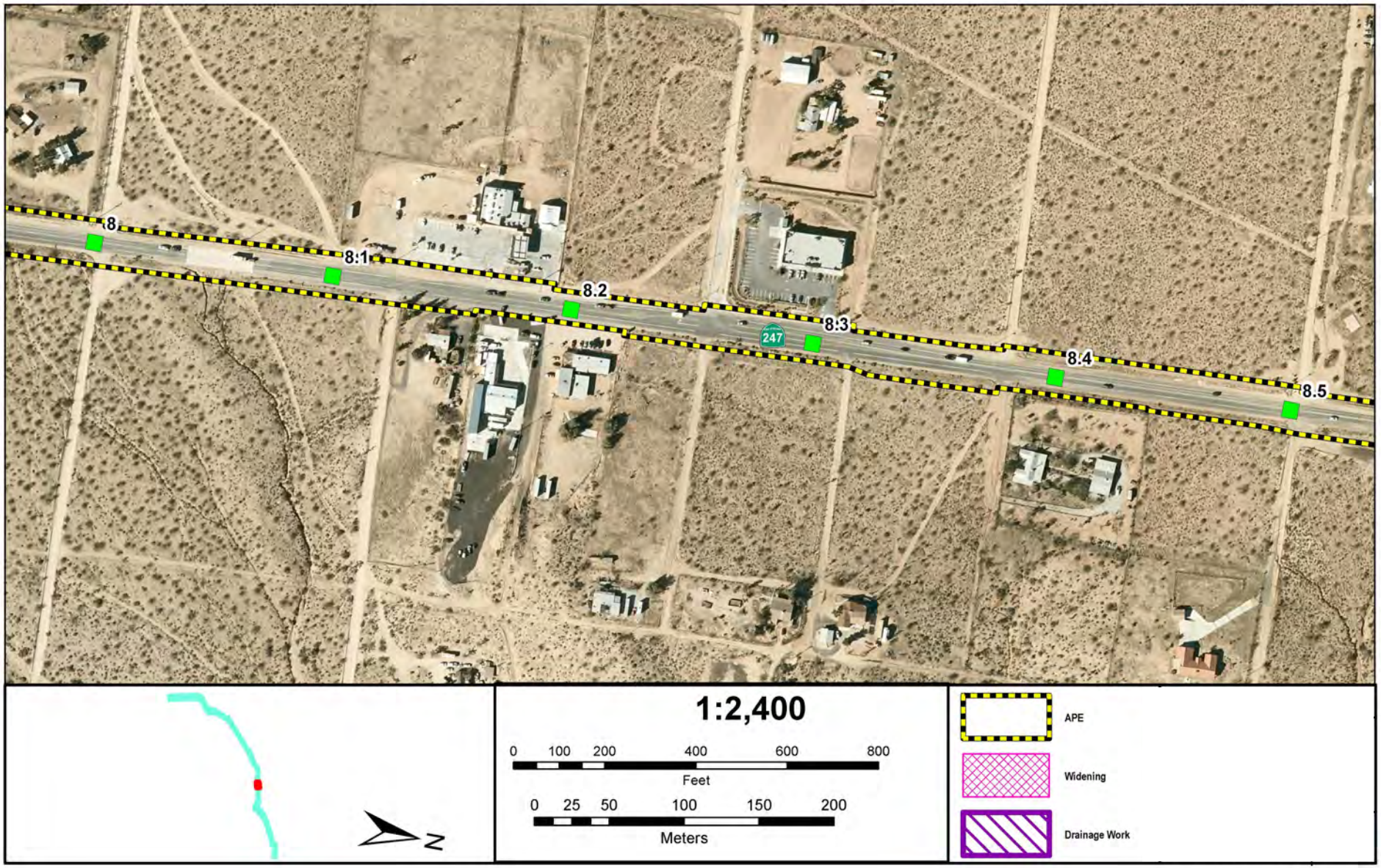


Figure 2.1AK
Area of Potential Effect (APE) Map - Segment 37
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

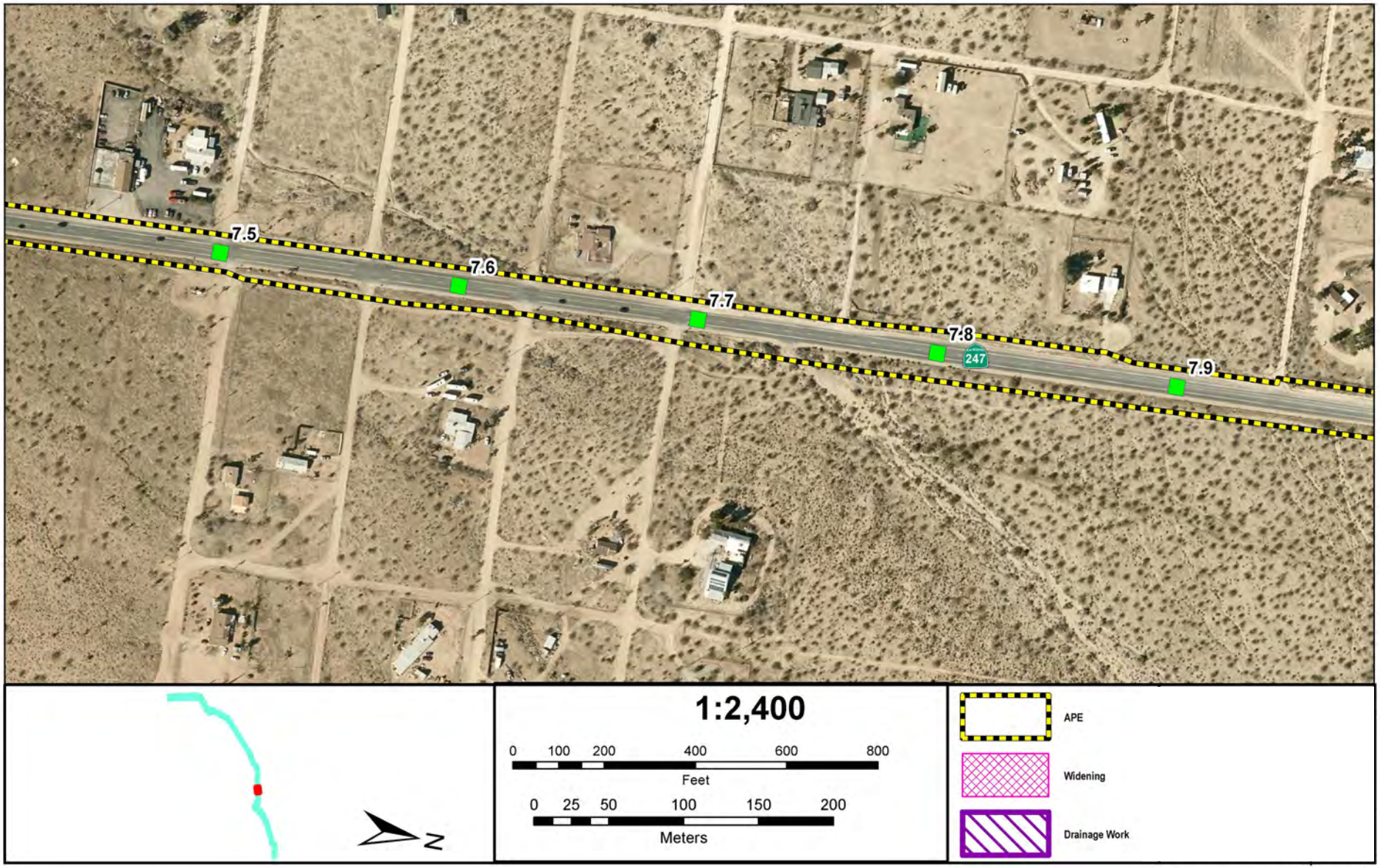


Figure 2.1AL
Area of Potential Effect (APE) Map - Segment 38
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

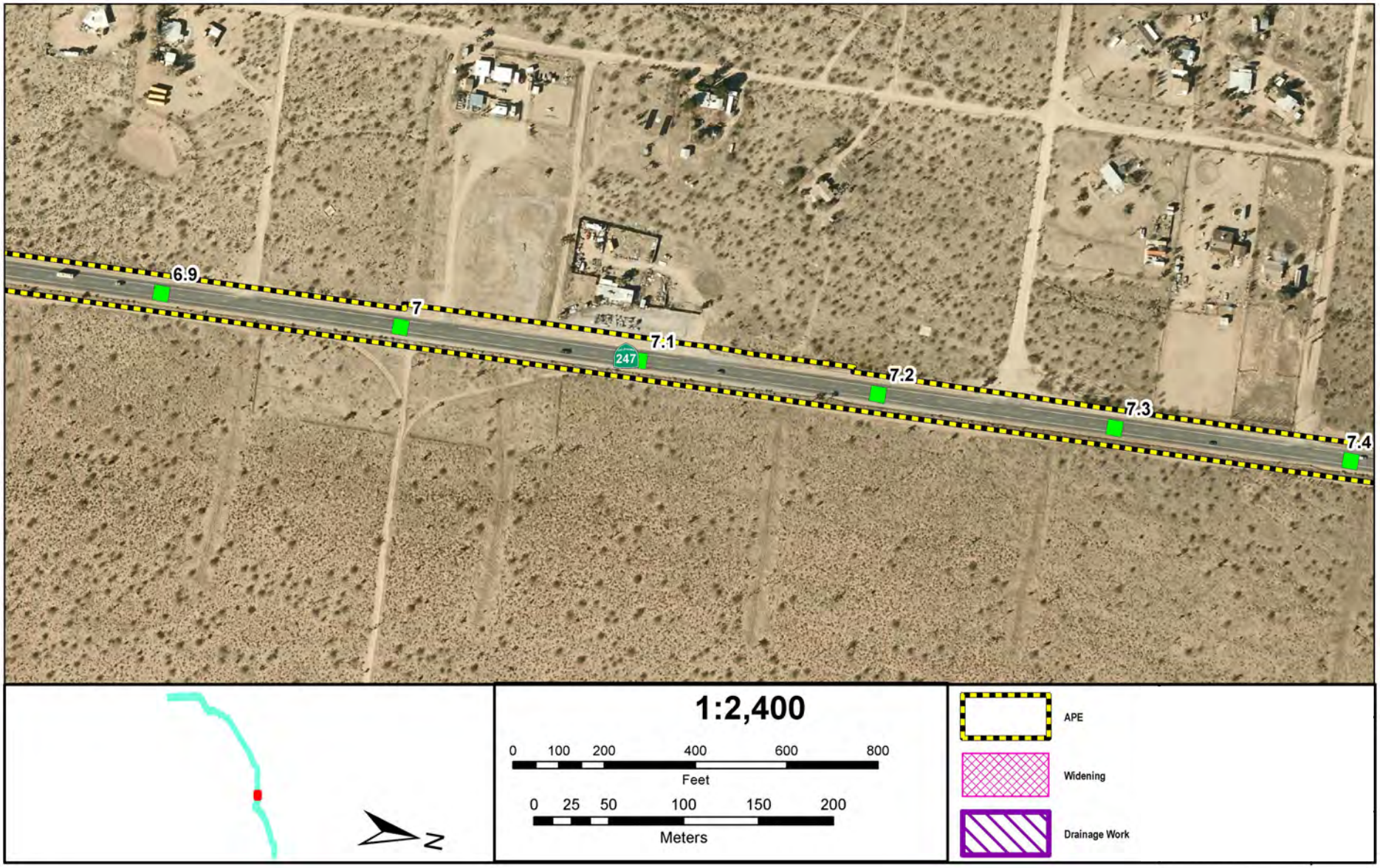


Figure 2.1AM
Area of Potential Effect (APE) Map - Segment 39
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

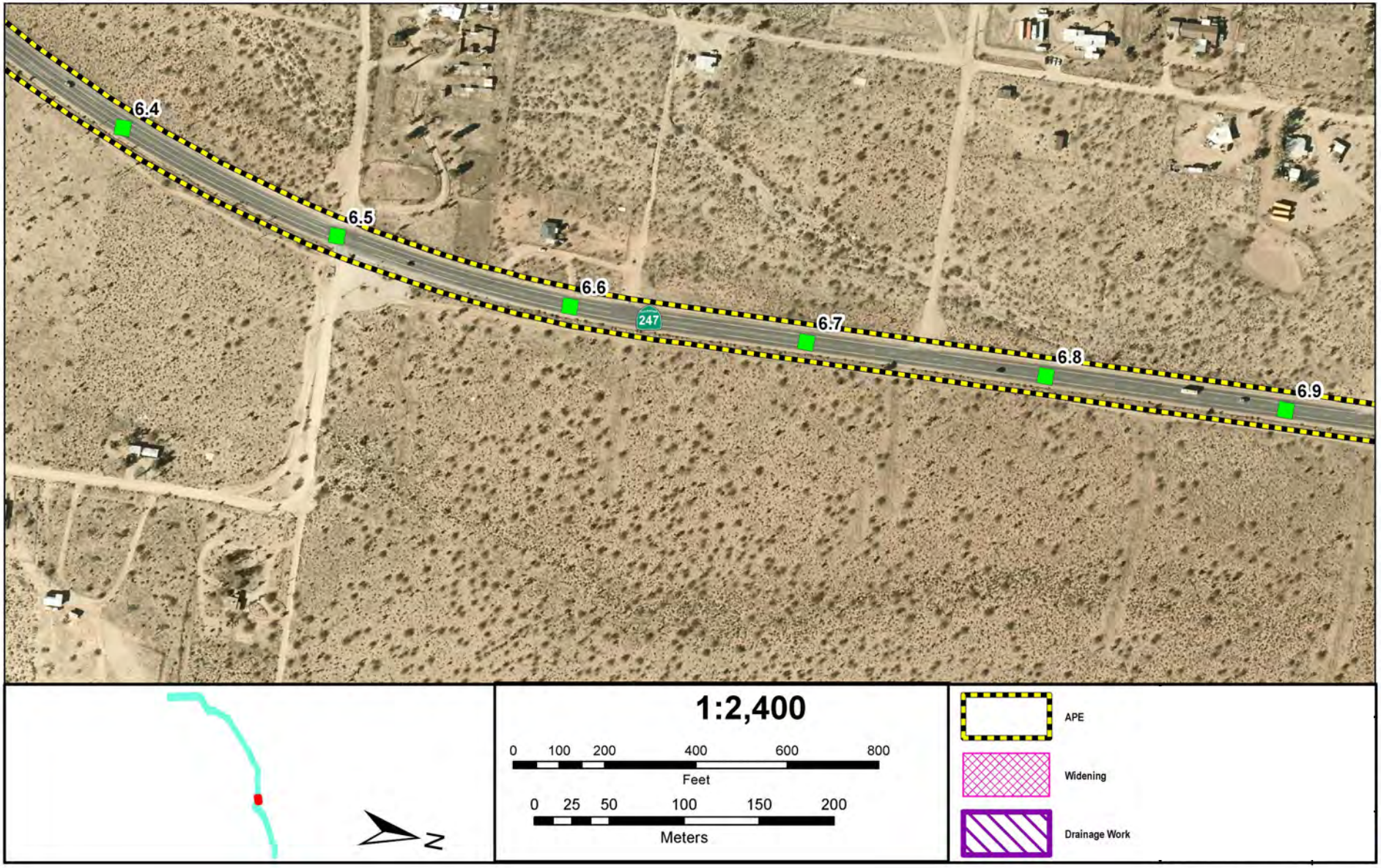


Figure 2.1AN
Area of Potential Effect (APE) Map - Segment 40
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

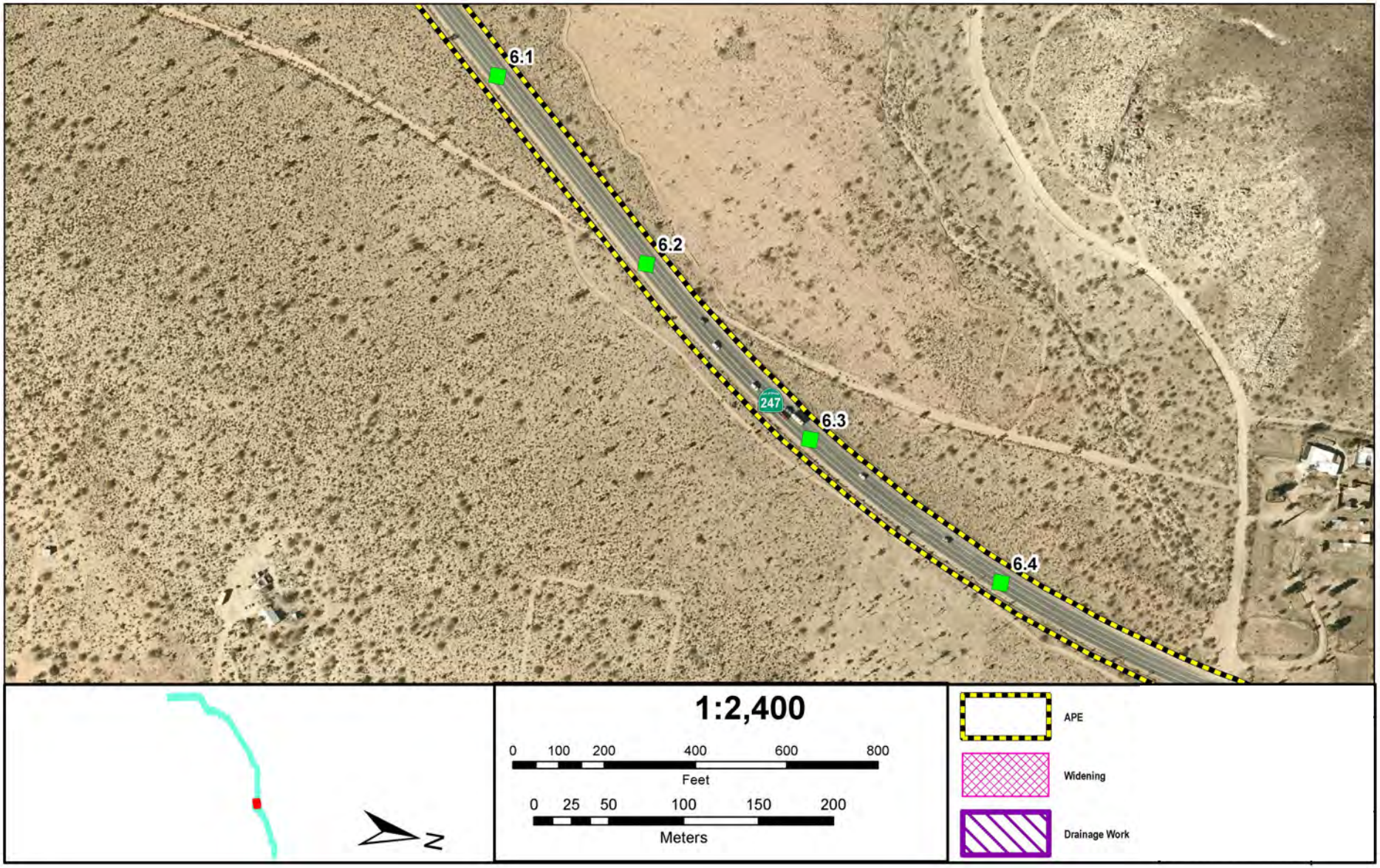


Figure 2.1AO
Area of Potential Effect (APE) Map - Segment 41
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

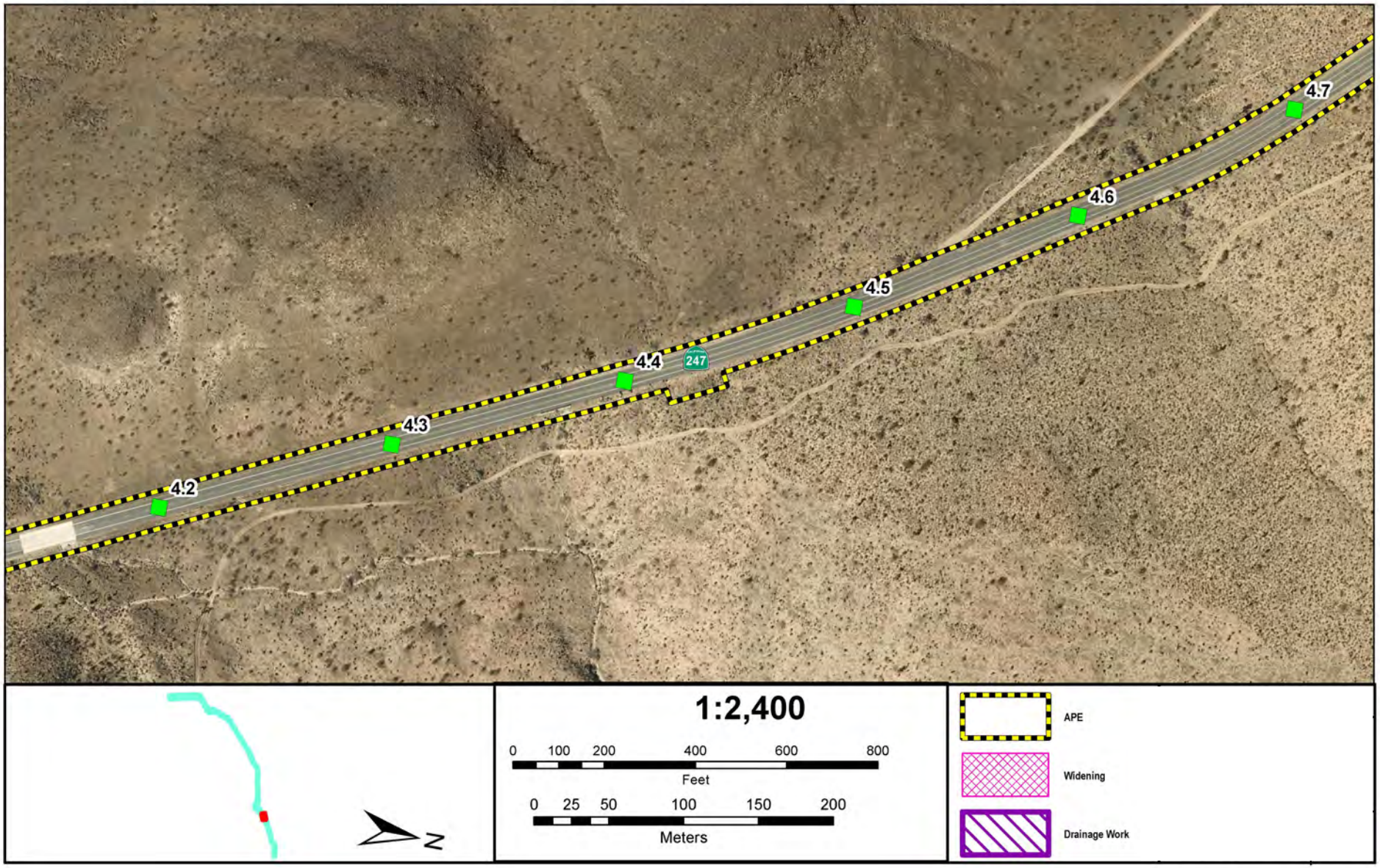


Figure 2.1AP
Area of Potential Effect (APE) Map - Segment 42
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

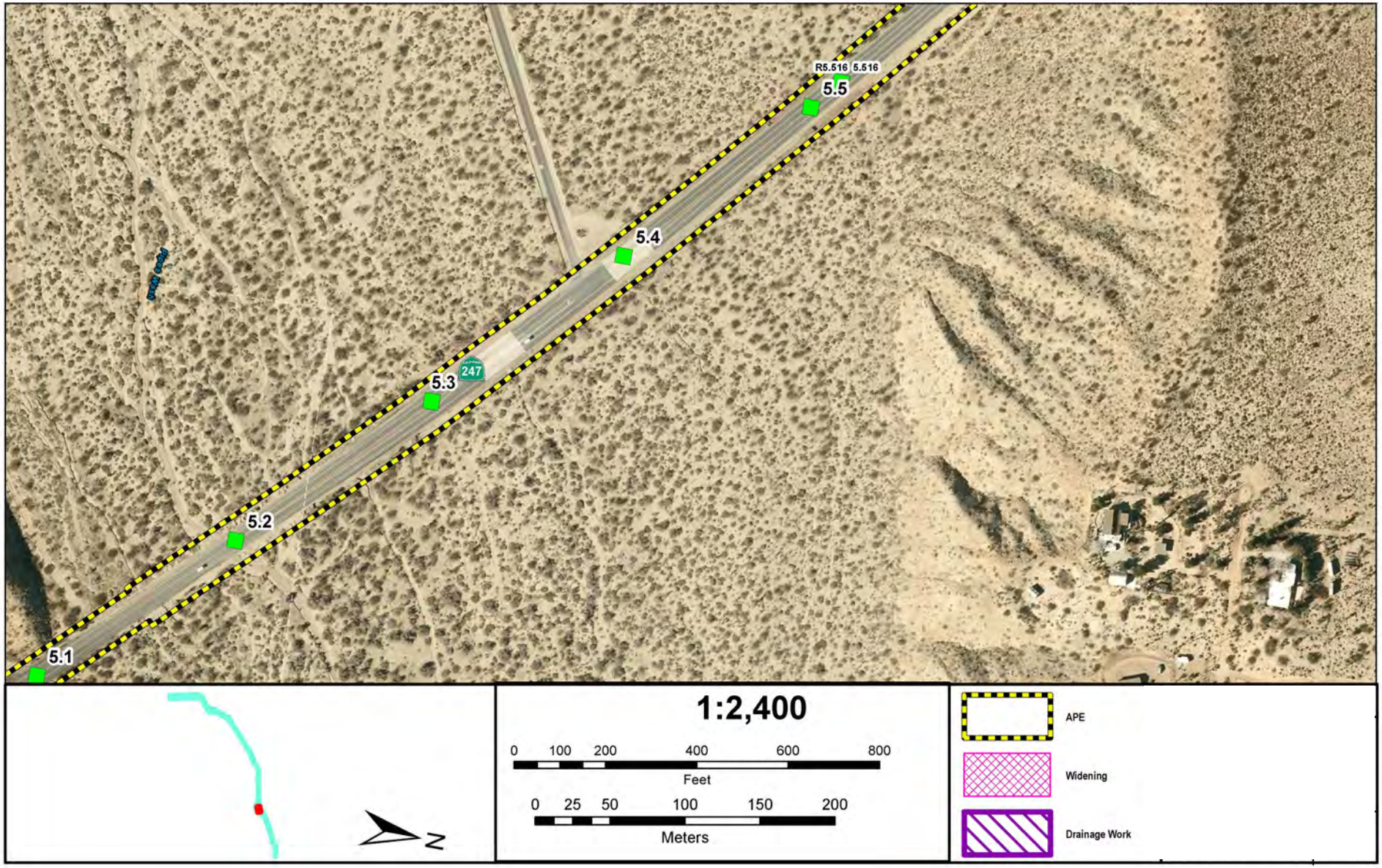


Figure 2.1AQ
Area of Potential Effect (APE) Map - Segment 43
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

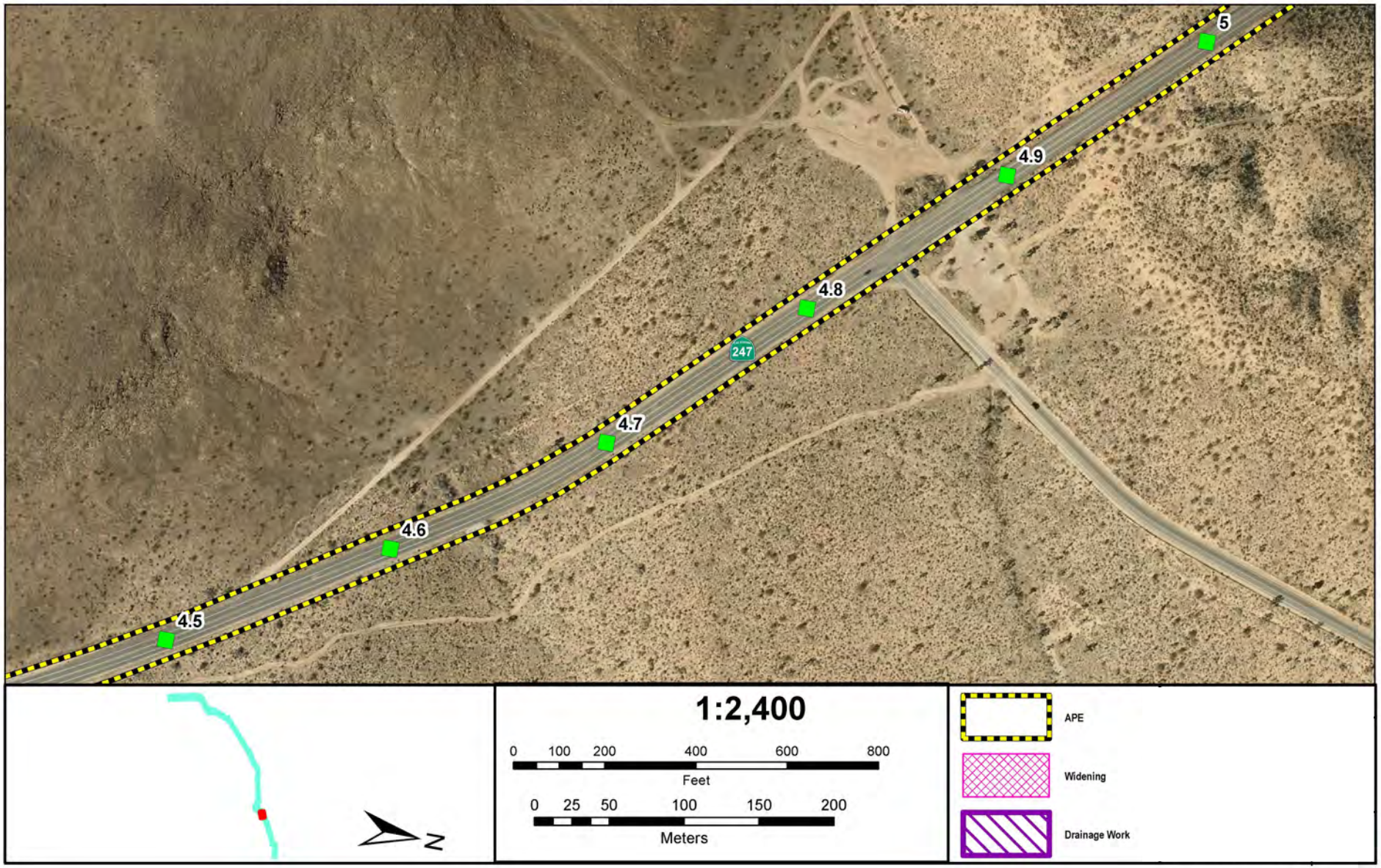


Figure 2.1AR
Area of Potential Effect (APE) Map - Segment 44
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

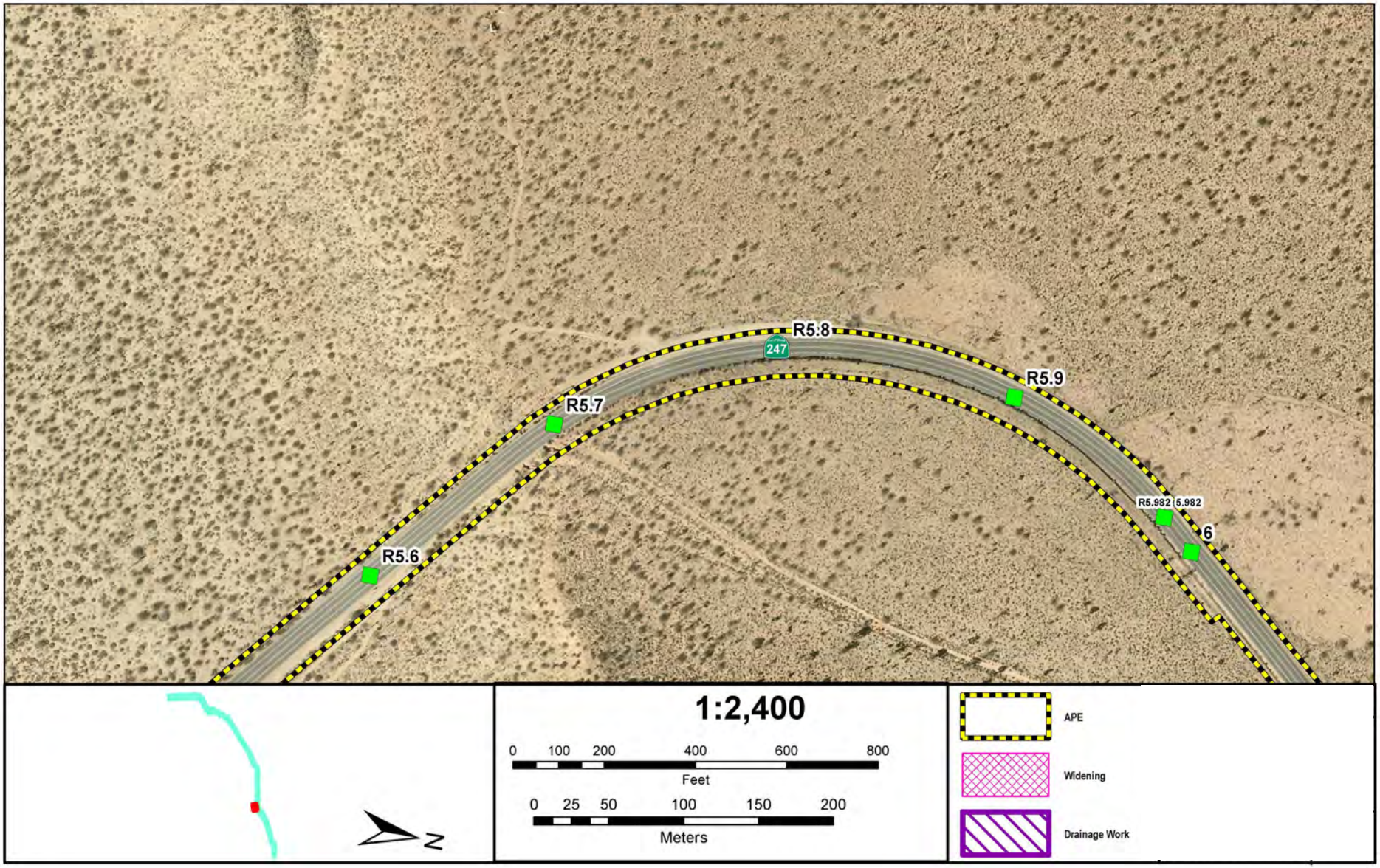


Figure 2.1AS
Area of Potential Effect (APE) Map - Segment 45
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

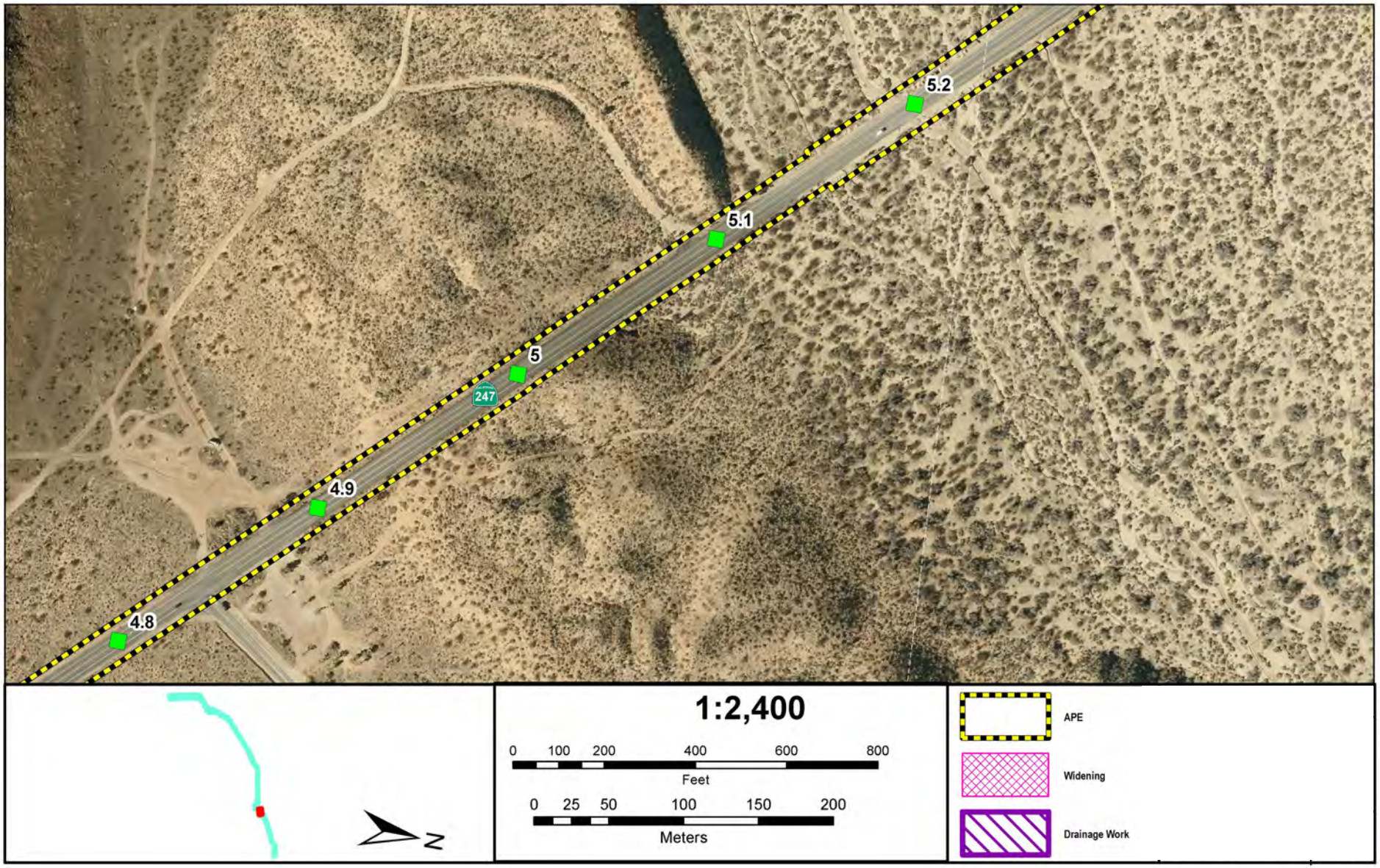


Figure 2.1AT
Area of Potential Effect (APE) Map - Segment 46
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

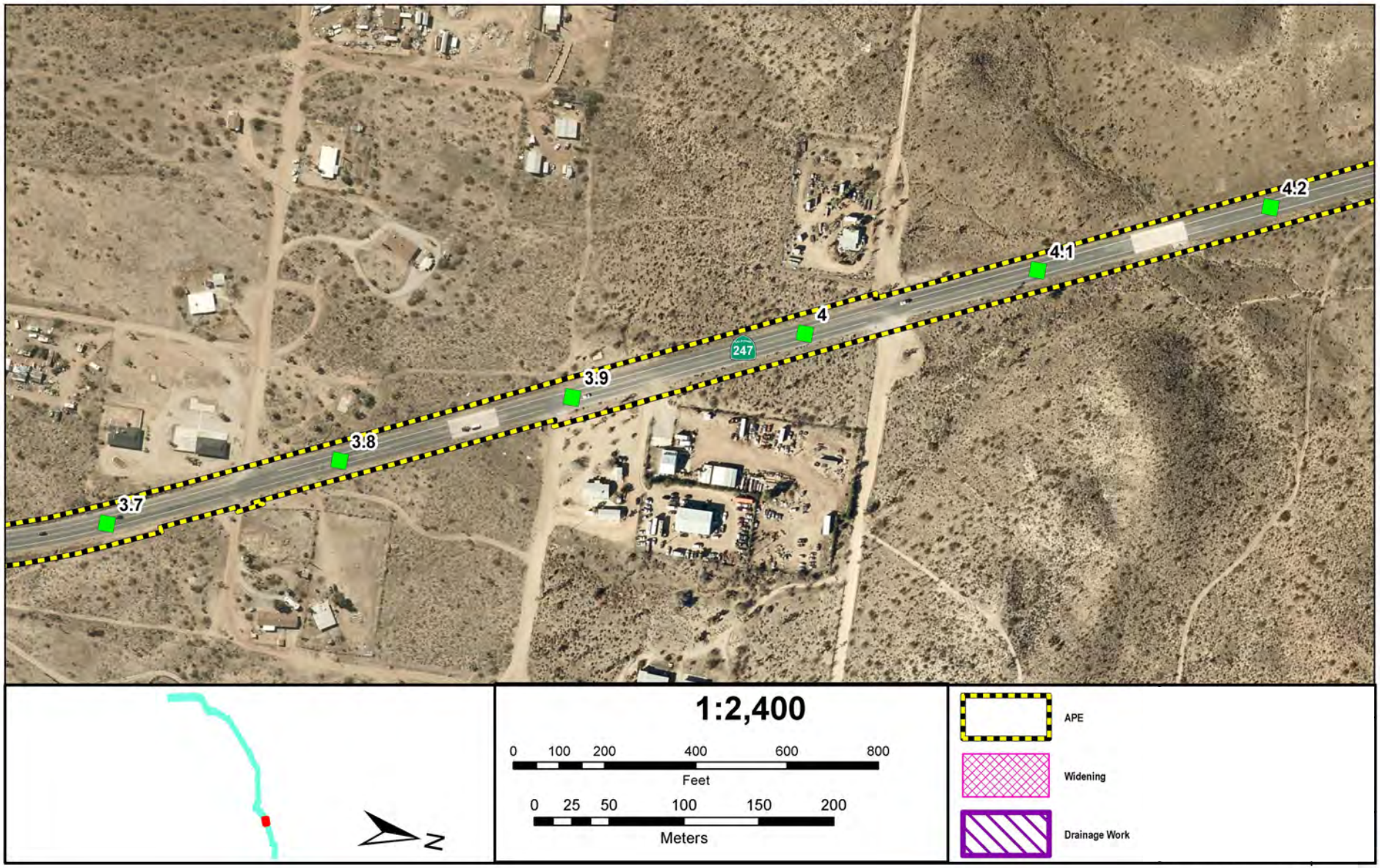


Figure 2.1AU
Area of Potential Effect (APE) Map - Segment 47
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

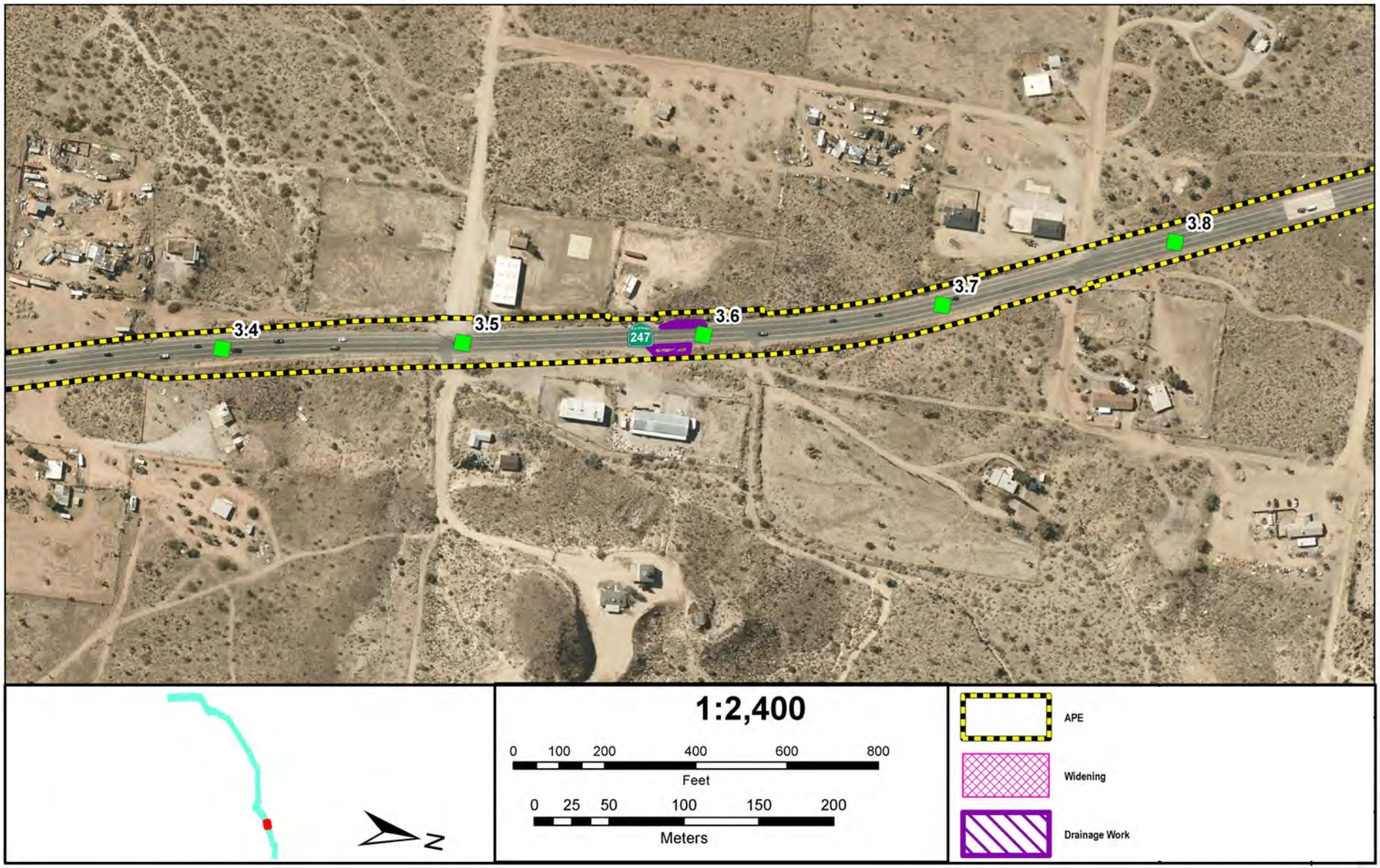


Figure 2.1AV
Area of Potential Effect (APE) Map - Segment 48
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

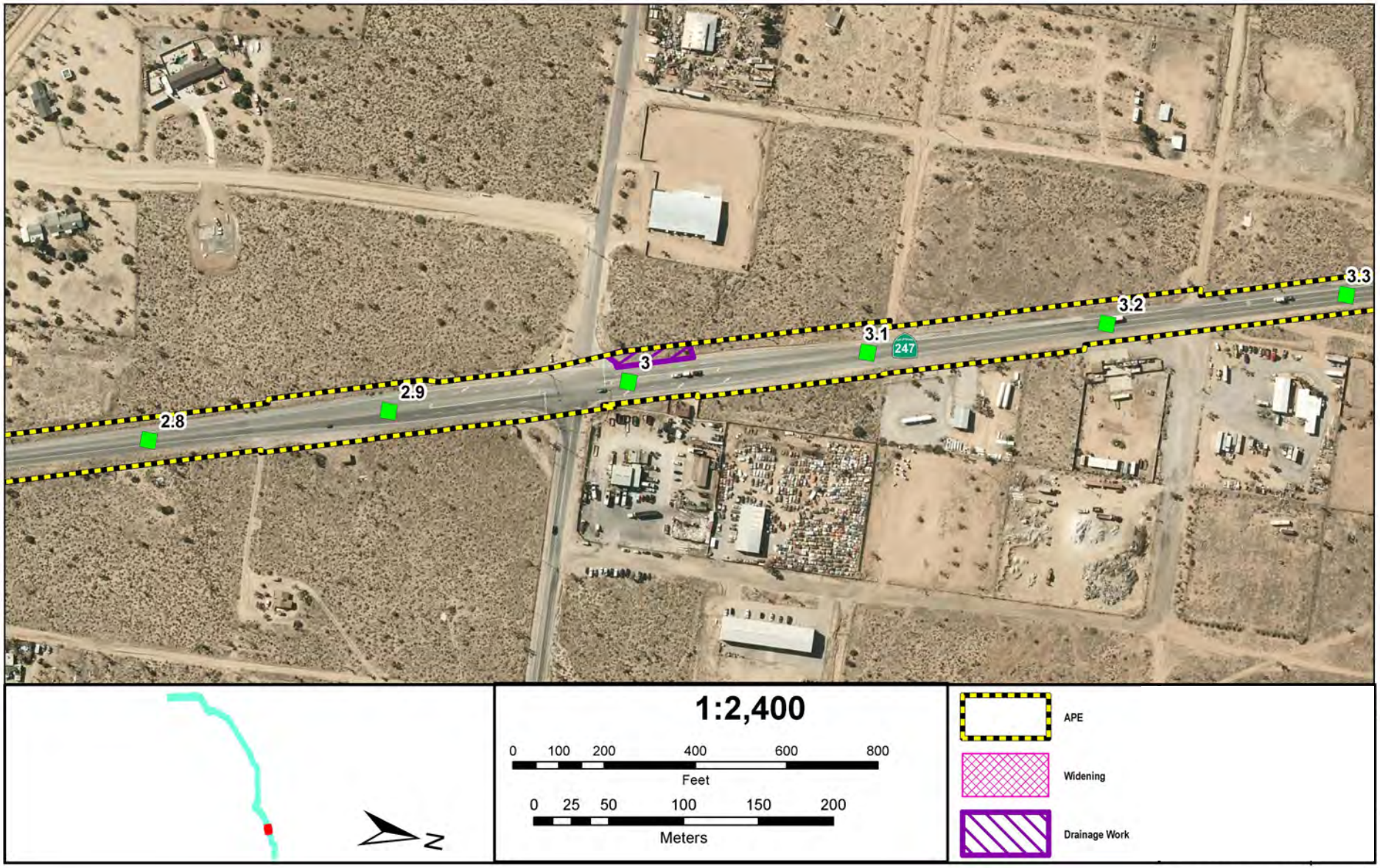


Figure 2.1A W
Area of Potential Effect (APE) Map - Segment 49
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

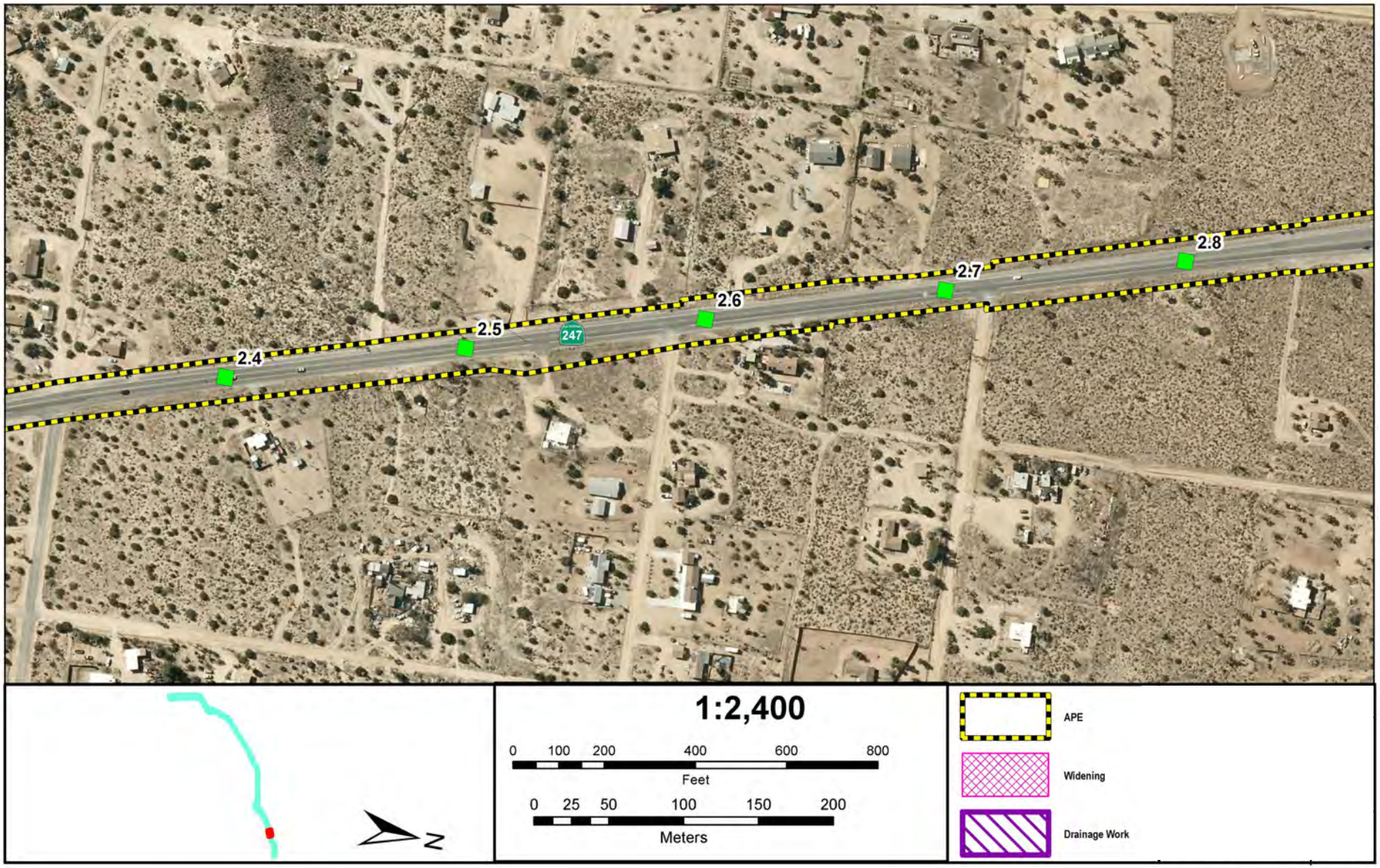


Figure 2.1AX
Area of Potential Effect (APE) Map - Segment 50
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

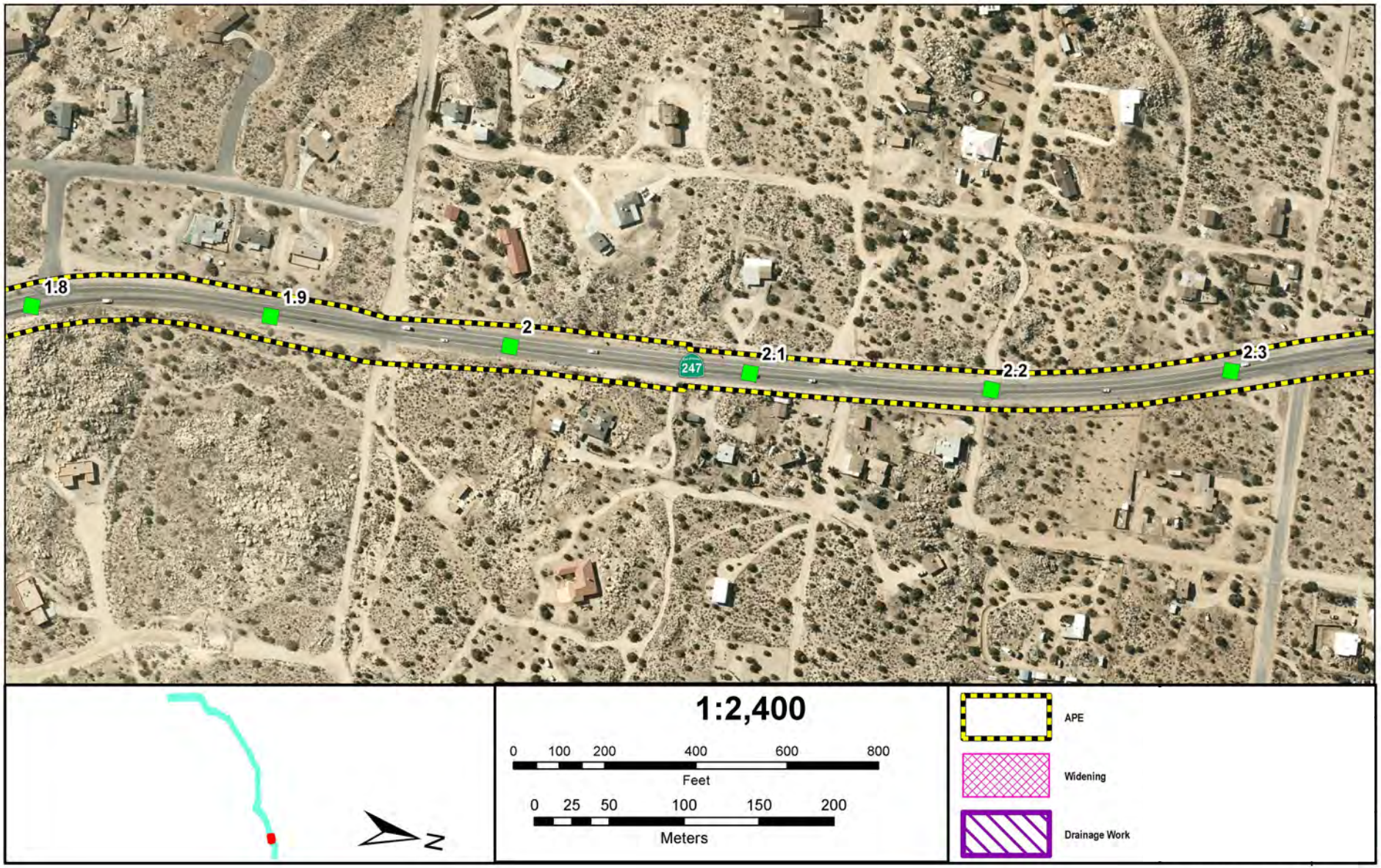


Figure 2.1AY
Area of Potential Effect (APE) Map - Segment 51
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

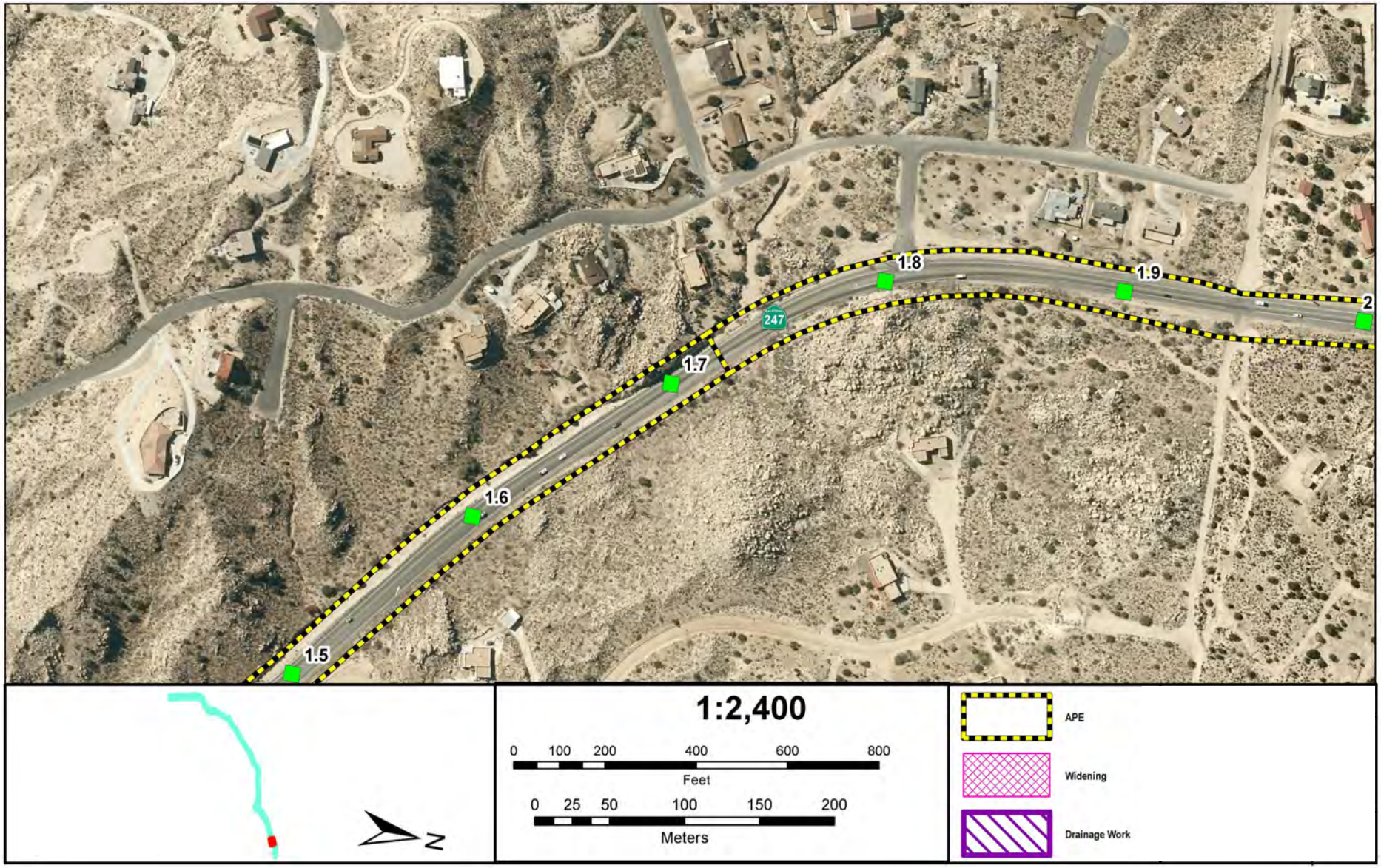


Figure 2.1AZ
Area of Potential Effect (APE) Map - Segment 52
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

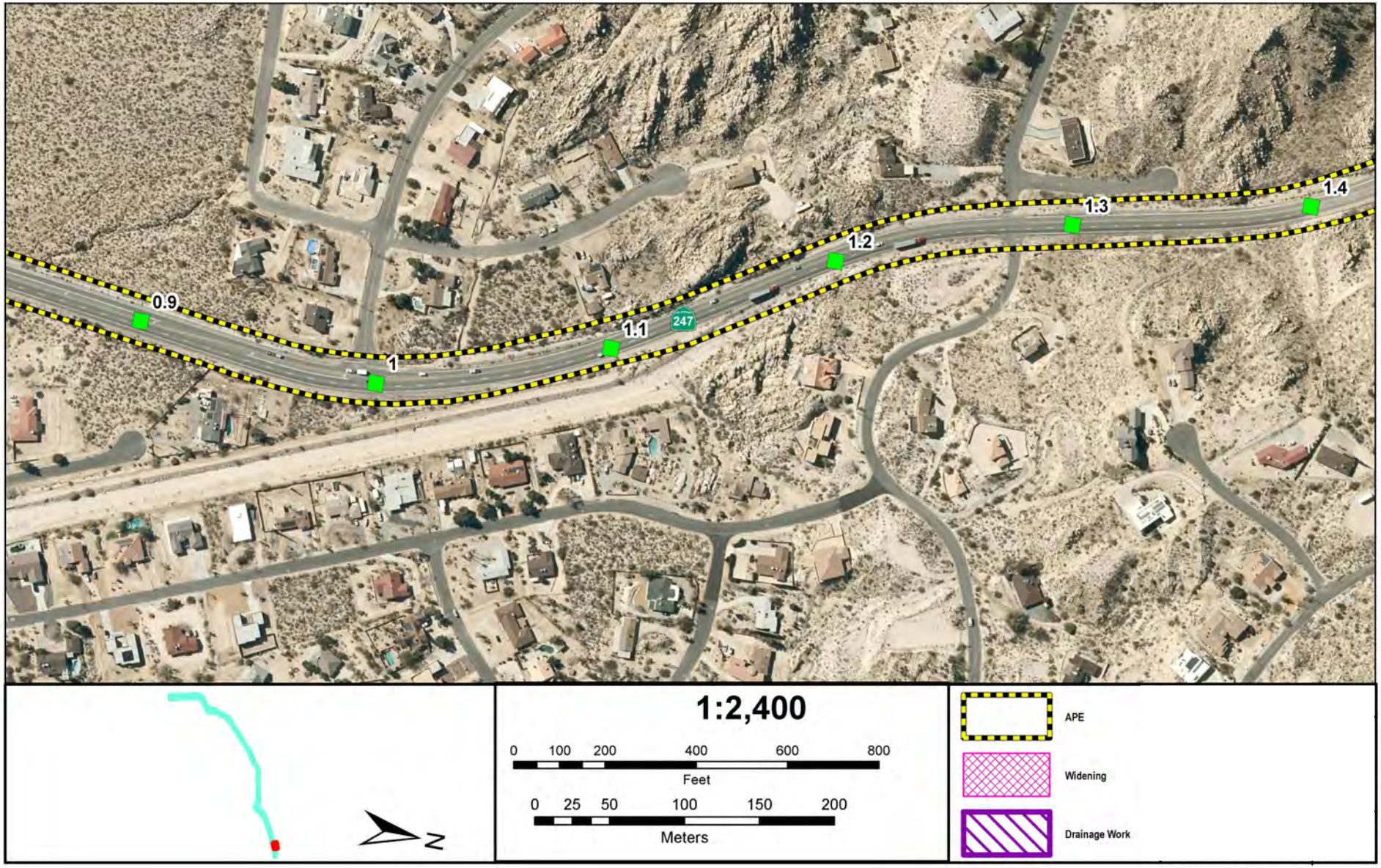


Figure 2.1BA
Area of Potential Effect (APE) Map - Segment 53
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

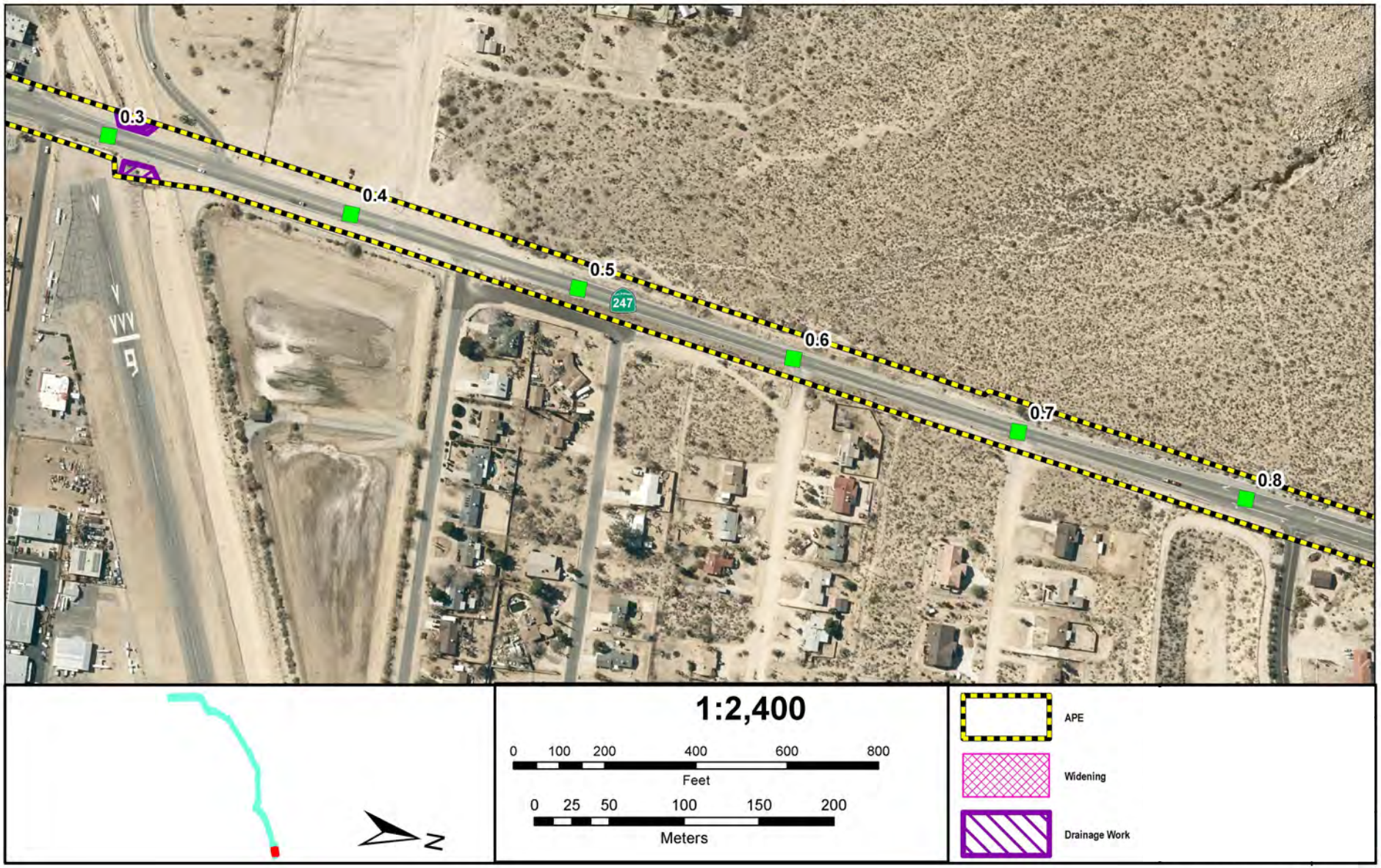


Figure 2.1BB
Area of Potential Effect (APE) Map - Segment 54
SBD-247 Pavement Rehabilitation Project

AREA OF POTENTIAL EFFECTS (APE)
FOR EA : 1J270- SBd 247 PAVMENT AND SHOULDER WIDENING
STATE ROUTE 247 PM 0.0/23.0 IN SAN BERNARDINO COUNTY

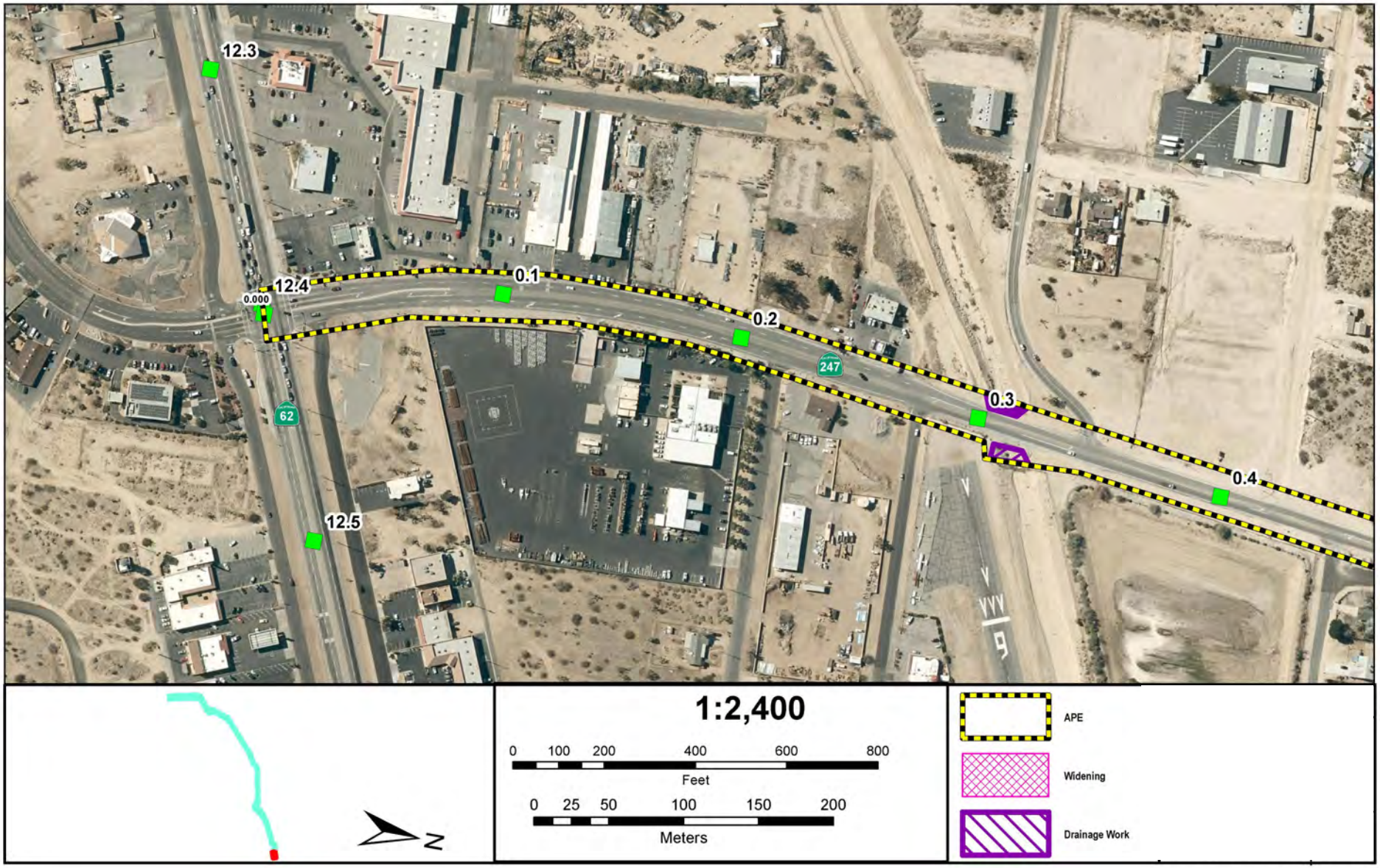


Figure 2.1BC
Area of Potential Effect (APE) Map - Segment 55
SBD-247 Pavement Rehabilitation Project

A field review was conducted by Caltrans Professionally Qualified Staff (PQS); Gary Jones, PI-Prehistoric Archaeology, in November 2021 of the entire APE to confirm the presence or absence of cultural resources, determine the level of disturbances within the APE, and field verify the accuracy of the CCRD, which proved to be valid for this study. The current survey and previous inventory for the TEA Survey (2011) and previous projects covered the entire APE. All efforts culminated in the identification of no historic properties within the Project APE.

Native American Consultation

In addition to the records search and field review, a request to search the Sacred Lands File (SLF) was sent to the Native American Heritage Commission (NAHC) on April 7, 2021. The NAHC responded on April 21, 2021 stating that the SLF search result was Negative for any cultural resources. The NAHC also provided a list of Native American groups recommended for contact regarding resources in the project area.

Letters requesting information about cultural resources or concerns regarding the project were consequently sent to two Native American tribes:

- Twenty-Nine Palms Band of Mission Indians, Anthony Madrigal, THPO. Initial letter sent February 23, 2021. No response was received. A draft copy of the Archaeological Survey Report was sent to the Tribe in November 2021. There has been no response from the Tribe to date.

- San Manuel Band of Mission Indians, Jessica Mauck, Director, CRM. Initial letter sent February 23, 2021. A response was received on March 22, 2021 from Ryan Nordness stating the Tribe wished to consult and requesting copies of draft reports for review. A draft copy of the ASR was sent to the Tribe in November 2021. There has been no further response from the Tribe to date.

Bureau of Land Management

- A copy of district specific cultural resources reports was prepared for the project and sent to the BLM for the portion within their management area. Copies of the cultural resources' reports were sent to the BLM Barstow offices on December 15, 2021. The Barstow office replied via email on December 16, 2021 stating they had no issues with the project and that they agreed with the findings of the report.

Study Findings and Conclusions

Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of No Historic Properties Affected is appropriate for this undertaking because there are no historic properties within the APE. Caltrans PQS has determined there are No Historical Resources present, as outlined in CEQA Guidelines 15064.5(a). No cultural resources are present within the APE.

Environmental Consequences

Build Alternative

The project proposes minor pavement rehabilitation to extend the life of the existing pavement and improve ride quality along SR 247 from SR 62 to 0.4 miles north of Gin Road in San Bernardino County. The scope of work includes milling and overlay from postmile (PM) 0.0 to PM 23.0, constructing shoulder and centerline rumble strips from PM 0.00 to PM 23.0, culvert/drainage improvements in scattered locations, shoulder widening to current standards from postmile 20.3 to 23.0, and installing bike lane markings and signs from PM 0.30 to PM 23.0.

Caltrans PQS has determined there are No Historical Resources present, as outlined in CEQA Guidelines 15064.5(a). No cultural resources are present within the APE. Caltrans, pursuant to Section 106 PA Stipulation IX.A, has therefore determined a Finding of No Historic Properties Affected is appropriate for the Build Alternative because there are no historic properties within the APE.

No-Build Alternative

The No-Build Alternative would not result in temporary or permanent impacts on cultural resources.

Avoidance, Minimization, and/or Mitigation Measures

The following standard avoidance and minimization measures will be implemented to minimize potential cultural resource impacts:

CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage

Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Andrew Walters, Senior Environmental Planner, Cultural Studies [(909) 260-5178] or Gary Jones, District Native American Coordinator [(909) 261-8157] so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.3 Physical Environment

2.3.1 HYDROLOGY AND FLOODPLAIN

Regulatory Setting

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

To comply, the following must be analyzed:

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

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

Affected Environment

Unless otherwise noted, information in this section is summarized from the October 2021 *Location Hydraulic Study*, the October 2021 *Summary Floodplain Encroachment Report*, the April 2022 *Scoping Questionnaire for Water Quality Issues*, and the November 2021 *Initial Site Assessment Checklist*. The project is within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board and is subject to the management direction of the Water Quality Control Plan for the Colorado River Basin region.

The study area for the project encompasses the Upper Johnson Valley Subbasin which underlies the Upper Johnson Valley in the southern Mojave Desert. The subbasin is bounded on the north by the Fry Mountains, on the south by the San Bernardino Mountains, Lucerne Valley to the west, and Landers to the east. The western boundary follows the Johnson Valley fault, and surface drainage

divides to form parts of the southern and eastern boundaries. The Upper Johnson Valley has internal surface drainage that converges to Melville (dry) Lake.

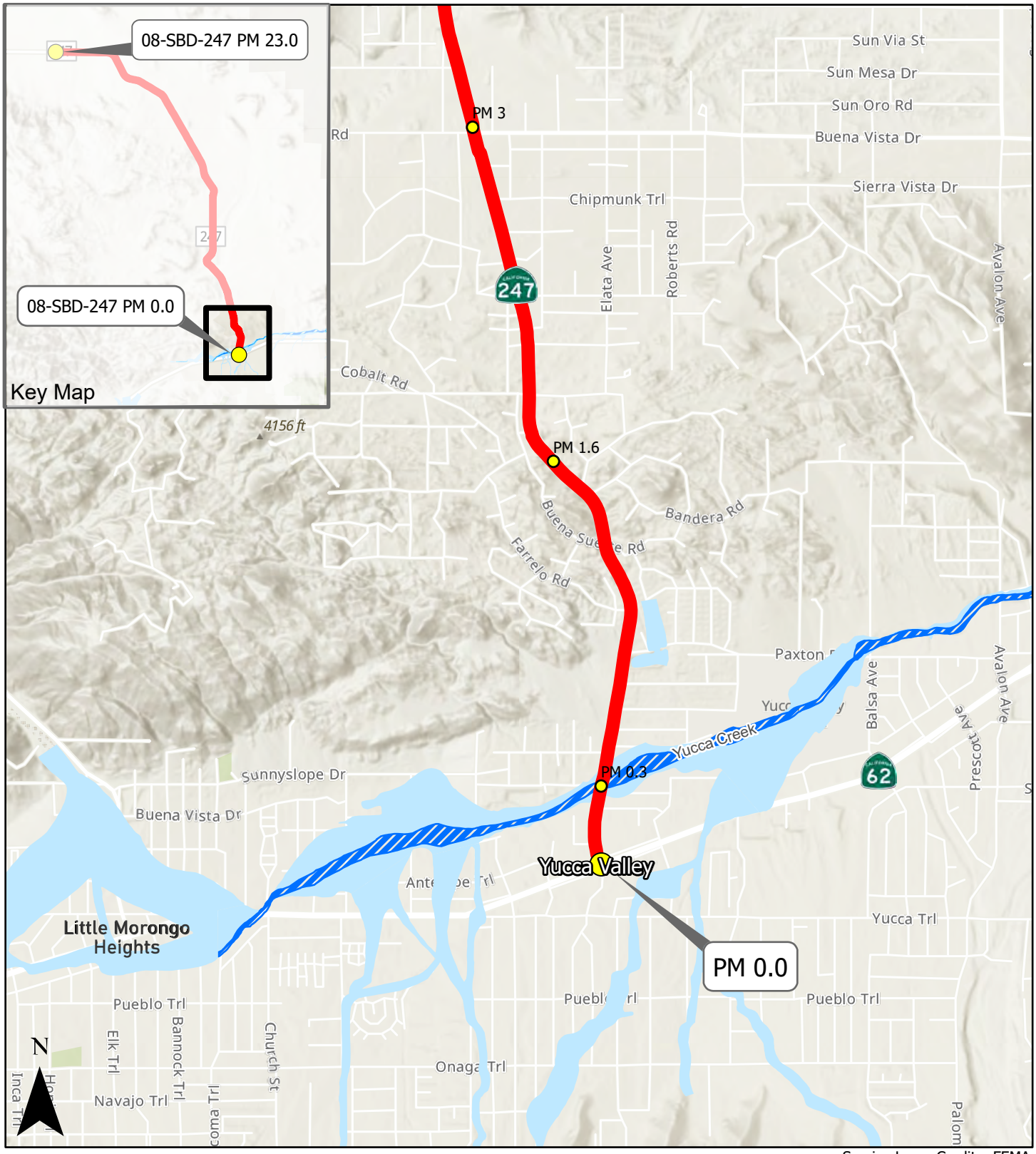
The main water-bearing materials in the subbasin are alluvial deposits consisting of silt, clay, sand, and gravel, along with some fine-grained lakebed deposits. Depth to bedrock is about 200 feet in the deepest part of the valley. The alluvium in the northern part of the subbasin is a thin cover over bedrock.

National Flood Insurance Program (NFIP) maps and studies are available for the project area. The NFIP maps indicate that the only point of interaction of the project with a Federal Emergency Management Agency (FEMA) designated one-percent annual chance (100-year) floodplain is at Yucca Creek, at the existing crossing of SR-247 (PM 0.3). At this point there is a Zone AE (100-year) floodplain designation. A moderate flood hazard (Zone X, between the 100-year and 500-year floodplain) exists for small areas on either side of Yucca Creek. The level of flood risk is considered “Low” in the project area. The base 100-year floodplain is shown on the National Flood Insurance Program (NFIP) map in **Figure 2.2**.

The Summary Floodplain Encroachment Report (SFER) and Location Hydraulic Study (LHS) indicate that there will be no anticipated longitudinal encroachment, significant floodplain encroachment, as defined in 23 Code of Federal Regulations 650.105, or support of incompatible floodplain development by the project. There will be no significant impacts on natural and beneficial floodplain values (Caltrans October 27, 2021, and October 27, 2021, respectively). Refer to Appendix E for copies of the SFER and LHS reports. No additional hydraulic studies or reports will be required.

Average annual precipitation for the area ranges from 4 to 6 inches. Weather data was recorded in the Town of Yucca Valley, at the south end of the project area.

The receiving waters for the project are Yucca Creek near the south end of the project area, and numerous un-named washes along the length of the project. Yucca Creek is not listed as a 303(d) impaired water body. There are no domestic water supply reservoirs or groundwater percolation facilities within the project limits.



Service Layer Credits: FEMA

Legend

- Postmile
- Project Area

Flood Zone

- Zone A, AE, AH, AO (100-year flood)
- Zone AE, floodway (100-year flood)

0 0.25 0.5 1 Miles

Figure 2.2
FEMA Flood Map
SBD-247 Pavement Rehabilitation Project

Environmental Consequences

Build Alternative

Construction activities would temporarily disturb approximately 30 acres of soil surfaces, which would alter site drainage patterns. Grading and excavation activities would also result in the potential fill of natural drainage features. It is expected that some drainage areas would be disturbed during site development, exposing the underlying surfaces to erosion forces. With the implementation of Best Management Practices (BMPs), pervious area soil stability and infiltration properties would be restored in accordance with avoidance and minimization measures identified in Section 2.3.2, Water Quality and Storm Water Runoff. Impacts would be considered minor.

Drainage facilities would be included as part of the roadway improvements under the Build Alternative to maintain drainage functionality. The hydrology analysis presented in the Location Hydraulic Study indicates that anticipated storm flows would be conveyed as sheet flow on the highway in most cases. Portions of the project site include relatively limited flow lines due to the flat terrain. Accordingly, generalized ponding in areas on either side of SR-247 could occur, but there would be no change in flow pattern as the water crosses the highway. Groundwater hydrology is not expected to be affected by the project.

Implementation of the Build Alternative is not expected to bring about a change in the quantity or quality of groundwater, or result in a substantial loss of groundwater recharge capability. The project would add 5.89 acres of additional impervious area; however, this is not expected to have a substantial impact on groundwater recharge.

The Build Alternative would not result in “significant encroachment” into a floodplain as defined by 23 CFR 650.105. It would not result in the interruption or termination of a transportation facility that is needed for emergency vehicles or a community’s only evacuation route. It would also not result in a substantial adverse risk to life or property, nor would it result in impacts on natural and beneficial floodplain values because drainage would be appropriately conveyed as part of the project design. The Build Alternative would result in only minor, indirect impacts related to hydrology or flooding in adjacent areas. There would be no adverse permanent impacts.

No-Build Alternative

Under the No-Build Alternative, there would be no improvements made to SR-247. Consequently, there would be no change in surface and groundwater hydrology and floodplains in the project area.

Avoidance, Minimization, and/or Mitigation Measures

Standard Best Management Practices (BMP’s) will be implemented. No additional avoidance, minimization, or mitigation measures are required.

2.3.2 WATER QUALITY AND STORM WATER RUNOFF

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the Waters of the United States (U.S.) from any point source[2] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

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

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

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

[2] A point source is any discrete conveyance such as a pipe or a man-made ditch.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (Waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[3] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

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

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set

[3] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

criteria necessary to protect those uses. As a result, the water quality standards developed for water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

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

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

  Municipal Separate Storm Sewer Systems (MS4)

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

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

  1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

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

Construction General Permit

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

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH

and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department's SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

Affected Environment

The primary sources used in the preparation of this section are the *Storm Water Data Report* (Caltrans 2022), the December 2021 *Delineation of Jurisdictional Waters* (ECORP 2021), the October 2021 *Location Hydraulic Study*, the October 2021 *Summary Floodplain Encroachment Report*, the April 2022 *Scoping Questionnaire for Water Quality Issues*, and the November 2021 *Initial Site Assessment Checklist*.

The project is within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board and is subject to the management direction of the Water Quality Control Plan for the Colorado River Basin region. The study area for the project occurs in the Upper Johnson Valley Subbasin which underlies the Upper Johnson Valley in the southern Mojave Desert. The subbasin is bounded on the north by the Fry Mountains, on the south by the San Bernardino Mountains, on the west by Lucerne Valley, and on the east by Landers. Surface drainage divides to form parts of the southern and eastern boundaries, and ultimately drains to Melville (dry) Lake.

The project site encompasses an area of paved roadway, adjacent shoulder, and drainages which pass through an area of scattered rural residences and undeveloped desert land, with the exception of the south end of the project area (Post Mile 0.0 – 0.3), which is an urban area in the Town of Yucca Valley. The project site is within the Warren Valley, Copper Mountain Valley, Ames Valley, and Johnson Valley – Soggy Lake Groundwater Basins. The receiving waters for the project are Yucca Creek, located at PM 0.3, and numerous un-named normally dry desert washes. These onsite drainages are ephemeral and generally flow for less than three months per year except in the case of summer storm events. ucca ree is not listed as a 303 d impaired water body.

According to the State Department of Water Resources, Water Data Library Groundwater Data Map GIS application, groundwater depths near the project area were reported as 230, 237, 246, 192, and 174 feet below ground surface (bgs) in Segments 1, 2, 3, 4, and 5, respectively (California DWR, 2012-2021). Groundwater is anticipated to flow in a southwesterly to northeasterly direction, consistent with surface topography (Caltrans 2021).

The project involves work at three (3) drainages: Location 1 at PM 0.3 (Yucca Creek); Location 2 at PM 3.0, and Location 3 at PM 3.59. Groundwater is anticipated to flow in a southwesterly to northeasterly direction, consistent with surface topography (Caltrans 2021). These drainages do not flow into any navigable water bodies via surface or groundwater discharge; they are isolated, ephemeral waterways with little or no recreational/interstate commerce nexus. Please see **Figure 2.3** for maps of the proposed drainage improvement locations.

Basin Boundaries and Hydrology

The project site is within the Upper Johnson Valley Subbasin, which underlies the Upper Johnson Valley in the southern Mojave Desert. The subbasin is bounded on the north by the Fry Mountains, on the south by the San Bernardino Mountains, on the west by the Johnson Valley fault and Lucerne Valley, and on the east by Landers; surface drainage divides form parts of the southern and eastern boundaries. Upper Johnson Valley has internal surface drainage that converges to Melville (dry) Lake. Average annual precipitation ranges from 4 to 6 inches.

The main water-bearing materials in the subbasin are alluvial deposits consisting of silt, clay, sand, and gravel, along with some fine-grained lakebed deposits. Depth to bedrock is unknown but is estimated at 200 feet in the deepest part of the valley. The alluvium in the northern part of the subbasin is a thin cover over bedrock. The subbasin does not contain any domestic water supply reservoirs, groundwater basins, or recharge facilities in the project vicinity. The project area is not located within a High Receiving Water Risk Watershed and does not contain any jurisdictional drainages.

No downstream HSAs (Hydrologic Sub-Areas) are expected to be impacted by the project. The project will not impact a domestic or municipal drinking water resource, water recharge facility, or other "high risk" area. The project's expected impacts for the five hydrologic subareas it passes through are illustrated in Table 2.2, which identifies the various Hydrologic Regions, Hydrologic Areas, Hydrologic Sub Areas, and Hydrologic Units in the project area, and their expected impact(s) from the project.

Table 2.2 Hydrologic Subareas

PM (08-SBD-247)	Hydrologic Region (RWQCB)	Hydrologic Area (HA)	Hydrologic Sub Area (HSA)	HSA	Hydrologic Unit (HU)	Impacts
0.0 – 2.06	Colorado River (Colorado River)	Cooper Mountain	Undefined	708.20	Joshua Tree	None
2.06 – 4.94	Colorado River (Colorado River)	Warren	Undefined	708.10	Joshua Tree	None
4.94 – 15.74	Colorado River (Colorado River)	Undefined	Undefined	705.00	Emerson	None
15.74 – 19.83	Colorado River (Colorado River)	Undefined	Undefined	704.00	Means	None
19.83 – 23.00	Colorado River (Colorado River)	Undefined	Undefined	702.00	Johnson	None

Risk Level is calculated to determine the sediment risk and receiving water risk using the Caltrans Risk Determination Worksheet. Table 2.3 below shows the Combined Risk Level (RL) with the changing Sediment Risk for the three project segments along the project limits on Route 247:

Table 2.3 – Storm Water Risk Level

Project Segment	Post Mile	K Factor	LS Factor	R Factor	Sediment Risk	RW Risk	Combined Risk Level
1	0.0/2.3	0.2	5.95	18.92	Medium	Low	Risk Level 2
2	2.3/20.3	0.2	1.9	16.8	Low	Low	Risk Level 1
3	20.3/23.0	0.2	1.7	12.41	Low	Low	Risk Level 1

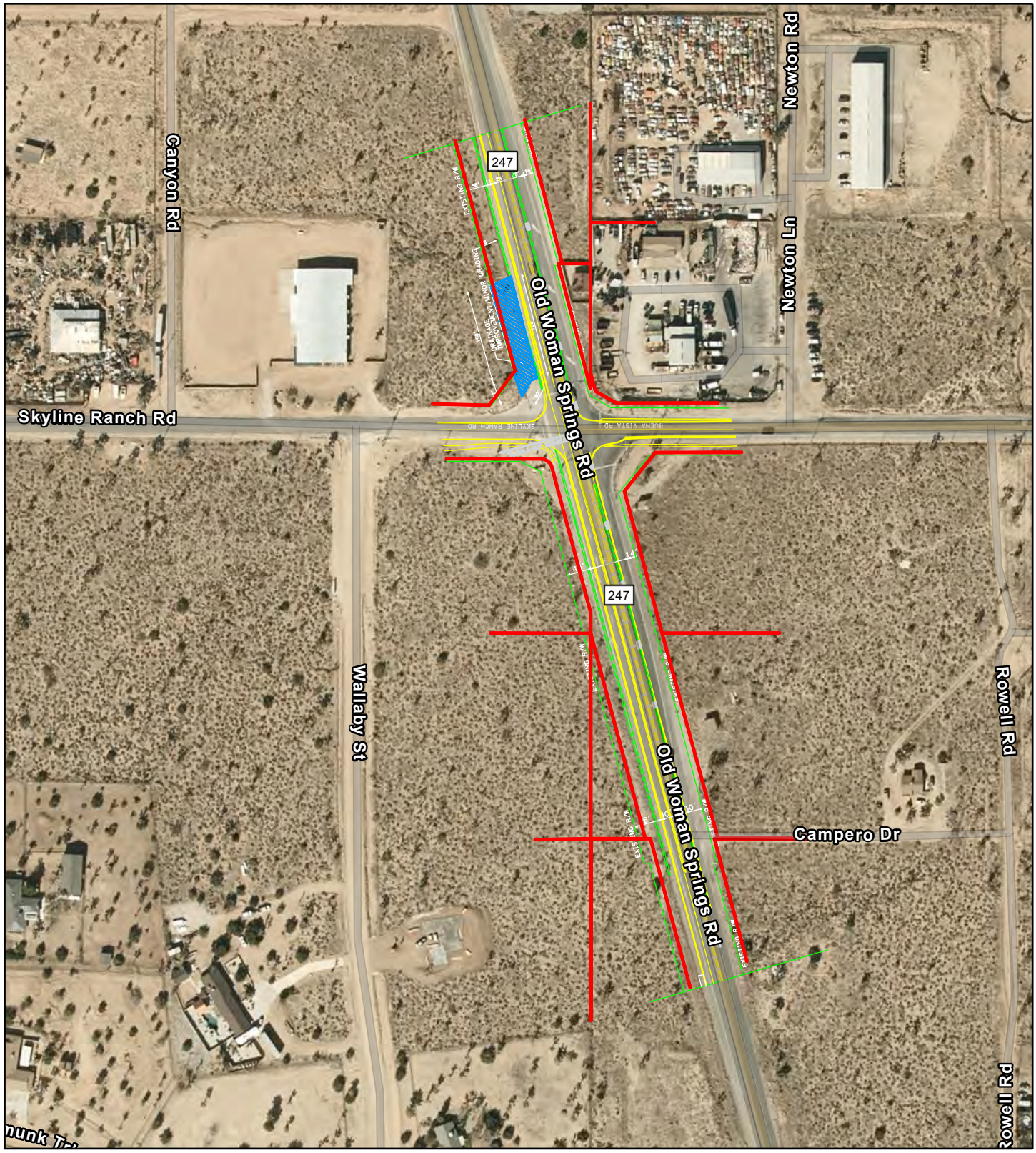
Legend

Proposed Drainage Improvement Area

Proposed ROW

0 100 200 400 Feet

Figure 2.3A
Drainage Improvement, PM 0.3
SBD-247 Pavement Rehabilitation Project



Legend

Permanent Impact Area

Proposed ROW

0 100 200 400 Feet

Figure 2.3B
Drainage Improvement, PM 3.0
SBD-247 Pavement Rehabilitation Project

Legend

Permanent Impact Area

Proposed ROW

0 100 200 400 Feet

Figure 2.3C
Drainage Improvement, PM 3.57
SBD-247 Pavement Rehabilitation Project

There are known or reasonably expected (surface) water quality issues that will arise due to the project associated with the general topography (e.g., large cuts). The shoulder widening in Segment 3 (PM 20.3 to PM 23.0) accounts for most of the Disturbed Soil Area and therefore the combined RL for this project is 1. The proposed shoulder widening will add 5.89 acres of New Impervious Surface (NIS). Since the NIS will exceed 1 acre, treatment BMPs are required. The treatment BMP's will be designed to treat 100% of the Water Quality Volume (WQV) or Water Quality Flow (WQF) from the New Impervious Surface.

A Storm Water Pollution Prevention Plan (SWPPP) will be prepared to address water pollution controls for the specific project conditions during construction. Also, temporary construction BMPs will be used to protect receiving waters. When construction is complete, the Disturbed Soil Area (DSA) will be stabilized to prevent erosion. With the implementation of these BMP's, the discharge of storm water from the proposed facility will not cause or contribute to a violation of water quality standards or water quality objectives (collectively WQS's).

Environmental Consequences

Temporary

During construction activities, excavated soils would be exposed, and there would be an increase in potential for soil erosion compared to existing conditions. In addition, chemicals, liquid products, and petroleum products may be spilled or leaked during construction and have the potential to be transported via storm runoff into receiving waters. Construction activities as part of the project would disturb soil and increase the potential for soil erosion and suspended particles that can be generated from vehicles operating on the roadway. The Pollutants of concern during construction would include sediments, trash, petroleum products, concrete waste, sanitary waste, and other chemicals. These would be of particular concern in disturbed soil areas, defined by Caltrans as consisting of areas of exposed, erodible soil that are within the construction limits and that result from construction related activity. The project has four disturbed soil area (DSA) locations; at PM 0.3 (construct Rock Slope Protection (RSP) at both ends of Yucca Creek, 0.122 acres); at PM 2.9-3.0 (regrade roadway to the east, 0.150 acres); PM 3.59 (repair culvert, 0.046 acres); and PM 20.3-23.0 (construction of 8.0' standard shoulders, 27.07 acres), for a total of 27.39 acres of DSA.

Construction site best management practices used on the project site would include the use of street sweeping, temporary soil binder, temporary cover for materials storage, and equipment parking at staging area and side slopes. Fiber rolls and gravel bag berm will be used for materials storage and on the side edge of the new shoulder during the rainy season during construction. During high wind events, temporary covers will also be used. Construction methods such as water conservation practices, vehicle, and equipment cleaning, fueling, and

maintenance will be followed. The project is not expected to have any adverse impacts on water quality with implementation of measures **WQ-1** through **WQ-4**.

The project would result in the following temporary impacts on Drainages 1, 2, and 3.

Impacts were assessed for all non-permanent impacts within the Caltrans right of way. Permanent impacts were assessed for areas where shoulder widening will occur. Table 2-4 summarizes impacts on jurisdictional waters in the onsite drainages.

Table 2-4. Impacts to Jurisdictional Areas

Drainage ID	Temporary Impacts on Non-wetland WUS (acres)	Permanent Impacts on Non-wetland WUS, (acres)	Temporary Impacts on Non-wetland WSC and CDFW Streambeds (acres)	Permanent Impacts to Non-wetland WSC, and CDFW Streambeds (acres)
1	0.0	0.0	0.011	0.456
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.011	0.456

The project would result in approximately .011 acres of temporary impacts on jurisdictional drainages. The project would therefore be required to obtain a Waste Discharge Requirement (WDR) from the Regional Water Quality Control Board, and a Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish & Wildlife. A CWA 401 permit will not be required. There would be no impacts on Waters of the United States (WUS); a CWA 404 permit will therefore not be required. Standard BMPs and stormwater measures would be implemented. Specifications for these measures will be included in the project bid package. Additional measures may be contained in the final version of the 1602 permit received from the alifornia Department of Fish and Wildlife DFW .

Permanent

There will be approximately .456 acres of permanent impacts to WOS, and 5.89 acres of new impervious surface from PM 20.3 to PM 23.0. The increase in impervious area will increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Increases in impervious areas can also cause a decrease in infiltration, increase the volume of runoff during a storm event, and can lead to changes in receiving waters from erosion and accretion. The increase in volume and velocity of water related to the increase in impervious area would have a very low, nominal impact on the existing drainage system. As planned the project would create 5.89 acres of new impervious surfaces; Treatment BMP's are required and will be designed to treat 100% of the Water Quality Volume (WQV) or Water Quality Flow (WQF) from the New Impervious Surface (NIS) in accordance with the Caltrans MS4 permit and the SWMP.

NO-BUILD ALTERNATIVE

Because no work will be conducted under the No-Build alternative, this alternative will not have any adverse impacts on water quality and storm water runoff.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures are required for hydrology and water quality; however, the following standard avoidance and minimization measures will be included as part of the project:

WQ-1: Prior to the start of construction, a SWPPP for reducing impacts on water quality shall be developed by the contractor and approved by the Department.

WQ-2: The SWPPP Control measures shall address the following categories: soil stabilization practices; sediment control practices; sediment tracking control practices; wind erosion control practices; and non-storm water management and waste management and disposal control practices.

WQ-3: The contractor shall be required to comply with water pollution control provisions and the SWPPP and conform to the requirements of the Department's Standard Specification Section 7-1.01G "Water Pollution," of the Standard Specifications.

WQ-4: If necessary, soil disturbed areas of the project site will be fully protected using soil stabilization and sediment control BMPs at the end of each day, unless fair weather is predicted.

For projects requiring a 404 permit, the District Biologist must document that a sequence of avoidance, minimization, and/or compensation measures have been followed, in that order.

2.3.3 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

Regulatory Setting

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

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department’s Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department’s Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

The primary source used in the preparation of this section is the Delineation of Jurisdictional Waters (Caltrans 2021) and the Initial Site Assessment (ISA) Report (Caltrans 2021) approved for the project.

REGIONAL AND SITE GEOLOGY

The project site is within the Mojave Desert Geomorphic Province, a broad interior region of Southern California consisting of isolated mountain ranges separated by desert plain expanses containing enclosed drainages and playas. The general geology in the project study area is composed of Holocene young alluvium and older alluvium of Pleistocene age. These alluvial deposits consist of silt, clay, sand, and gravel, along with some fine-grained lakebed deposits. Depth to bedrock is unknown, but probably is about 200 feet in the deepest part of the valley. The alluvium in the northern part of the subbasin is a thin cover over a bedrock pediment. Elevations within the study area range from a high of 3,369 feet above mean sea level at the southern end of the study area (Yucca Valley) to a low of 2,789 feet AMSL at the northern end of the study area (Johnson Valley).

The project area is primarily within the ohnson alley, which is bordered by the Fry Mountains to the north, the San Bernardino Mountains to the south, Lucerne Valley to the west, and Landers to the east. Geographically, Johnson Valley is the eastern portion of Lucerne Valley, which opens to

become the Homestead Valley in the southeast where the communities of Flamingo Heights, Landers, and Yucca Valley are located.

Johnson Valley is within an historically active strike-slip fault zone, which is part of a series of subparallel strike-slip faults in the central Mojave Desert. The Johnson Valley fault extends from the eastern flank of the Fry Mountains southeast across Johnson and Homestead valleys. These valleys are bajadas underlain by late Pleistocene and Holocene sandy granitic alluvium. The Southern Johnson Valley section is located near the eastern side of the San Bernardino Mountains and extends to about 0.9 mile north of the Pinto Mountain fault zone. The total fault length is approximately 31.7 miles.

The project location is in a seismically active area. According to the California Department of Conservation Division of Mines and Geology (DMG) Preliminary Fault Activity Map, the nearest recently active faults include those within the North Frontal Thrust Fault Zone, which includes the Johnson Valley Fault, the Homestead Valley Fault, and the Landers Fault. These and other faults in the area can generate significant seismic events (greater than 5.0 magnitude on the Richter scale). The most recent seismic activity on the Johnson Valley Fault and the Homestead Valley Fault occurred in 1979. The Landers Fault experienced a magnitude 7.3 earthquake in 1992. None of the project segments are near an Alquist Priolo Special Studies Zone. Please see the Geologic Hazards map on **Figure 2.4**.

The San Bernardino County Land Use Plan General Plan Geological Hazard Overlay Map does not identify any geologic hazards for the project area (San Bernardino County 1989, 2009). There is no landslide or liquefaction susceptibility within the project limits.

Environmental Consequences

BUILD ALTERNATIVE

Under the Build Alternative, the entire roadway will be cold planed and overlayed, the shoulder will be widened to current standards from PM 20.3 to PM 23.0, culvert and drainage repairs and improvements will be made at several locations, the roadway will be regraded from PM 2.9 to PM 3.0, rock slope protection will be constructed at PM 0.3, and bicycle lane markings and signs will be installed from PM 1.6 to PM 23.0. Implementation of the Build Alternative would not involve any special requirements to protect construction workers in terms of potential geologic hazards or conditions. There are no liquefaction or landslide hazards within or adjacent to the Build Alternative.

Service Layer Credits: CADOC - California Geological Survey, U.S. Geological Survey's (USGS) Earthquake Hazards Program (EHP)

Legend

- Begin/End Postmile
- Key Postmile
- Project_Area
- Alquist Priolo Fault Zone

Quaternary Fault

- Latest Quaternary
- Undifferentiated Quaternary
- Late Quaternary
- Historic

0 1 2 4 Miles

Figure 2.4
Earthquake Fault Zones
SBD-247 Pavement Rehabilitation Project

NO-BUILD ALTERNATIVE

Because no work would be conducted under this alternative, this alternative would not have any adverse impacts on geology, soils, seismicity, or topography.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

2.3.4 HAZARDOUS WASTE/MATERIALS

Regulatory Setting

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

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

Community Environmental Response Facilitation Act (CERFA) of 1992

Clean Water Act

Clean Air Act

Safe Drinking Water Act

Occupational Safety and Health Act (OSHA)

Atomic Energy Act

Toxic Substances Control Act (TSCA)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

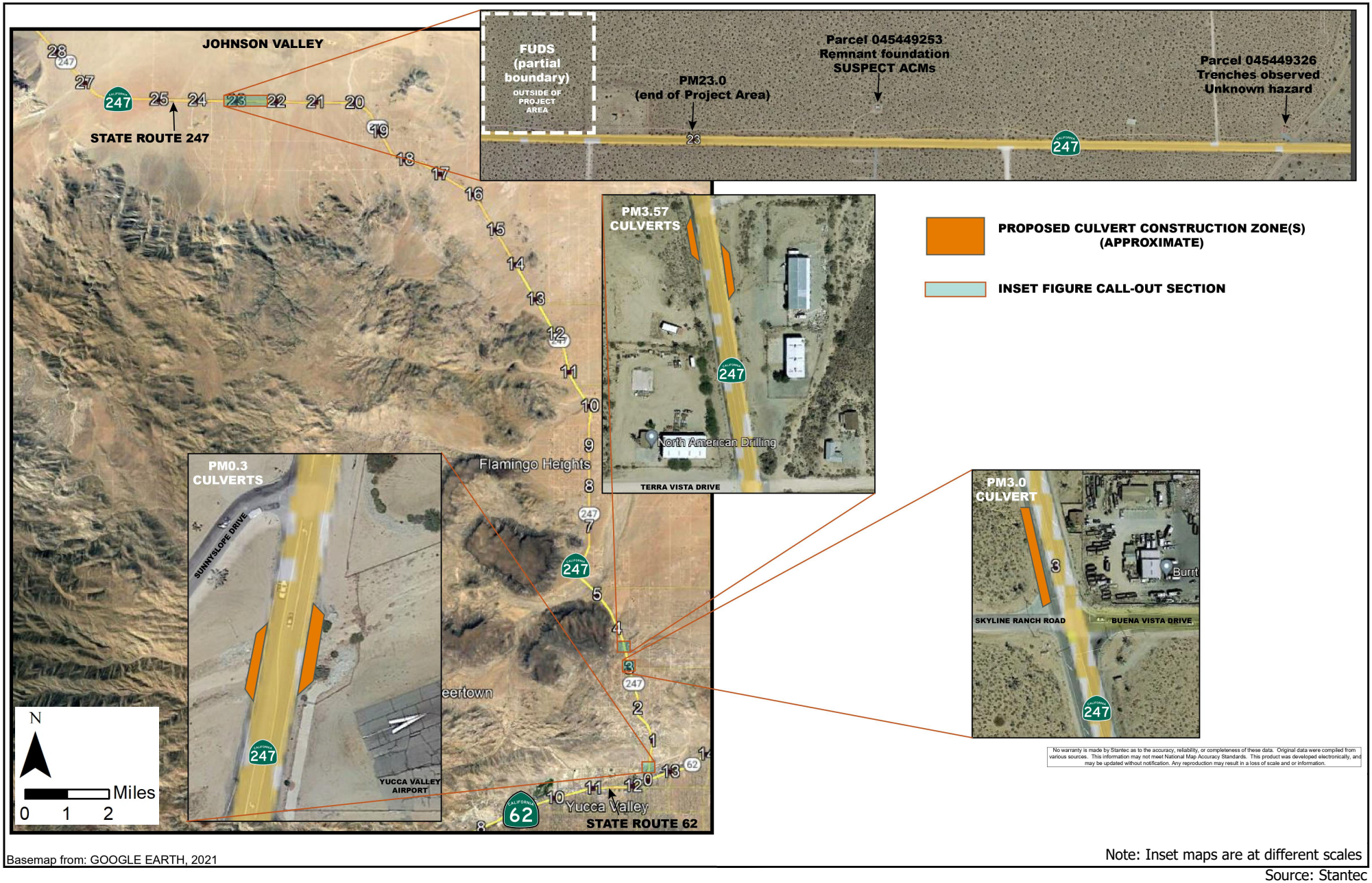
California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction,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

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

Affected Environment

The information in this section was utilized from the Initial Site Assessment (ISA) Checklist (Caltrans, 2021) and the Initial Site Assessment (ISA) (Stantec, 2021) prepared for this project (please refer to Appendix F). The California Department of Toxic Substances Control (DTSC) tracks and identifies sites within known or potential contamination through its EnviroStor database, and the State Water Resources Control Board (SWRCB) tracks and identifies sites that may affect groundwater through its GeoTracker database.

The project is near a Formerly Used Defense Site (FUDS), as designated by the California Department of Toxic Substances Control (DTSC) and U.S. Army Corps of Engineers (USACE) under the Defense Environmental Restoration Program. The site is adjacent to the Project Area near PM 23.0. Investigation of the Formerly Used Defense Site/Unexploded Ordinance Listing (FUDS/UXO) determined that a mapped FUDS boundary for a former military practice bombing range is located approximately 700 feet west of, and outside of, the project area near PM 23.0; during a site reconnaissance conducted on November 17, 2021, components of the former explosives were observed on the ground surface within the FUDS boundary. No other hazardous waste sites were found listed for the project area. Please see **Figure 2.5** for a map of hazardous waste sites in the project area.



Basemap from: GOOGLE EARTH, 2021

Note: Inset maps are at different scales

Source: Stantec

Figure 2.5
Hazardous Waste Map
SBD-247 Pavement Rehabilitation Project

The field inspection also discovered a remnant foundation (parcel 045449253) which contained numerous 9”x9” floor tiles with black mastic. These tiles with mastic typically contain asbestos; many of the tiles were broken and scattered across the ground surrounding the foundation. The foundation is located greater than 200 feet from the SR-247 centerline.

The Project Area is considered to have moderate potential for radon. No structures are proposed for the Project Area, as a result, no further investigation into radon is recommended at this time.

During the field reconnaissance of parcel 045449326 to confirm observations of large containers on the aerial photo, two trenches were instead discovered. These trenches measured approximately L20’ x W4’ x D3’; they contained broken slabs of drywall; the southern end of one trench is located approximately 40 feet from SR-247 edge of pavement; the purpose of the trenches could not be determined.

Research on the history of the SR-247 determined that the route appears to have been used as a roadway from at least 1902, and was paved sometime prior to 1955. Aerially Deposited Lead in and near the surface soils near the roadway is therefore a concern. Additionally, the yellow lane striping present within the cold plane limits of the project may contain lead-based paint.

No underground storage tanks, surface tanks, sumps, ponds, drums, basins, transformers, or landfills were identified during the field inspection. No surface staining, oil sheen, odors, or vegetation damage as a result of contamination were detected. No acoustical plaster or serpentine was observed during the field inspection. However, there were Gas Pipeline markers in the area of PM 0.3.

The Initial Site Assessment revealed one Recognized Environmental Condition (REC) in connection with historical or current practices in the project area: Aerially Deposited Lead (ADL); SR-247 has existed at least since 1902, including the period in which leaded-gasoline was used. As a result, the potential for ADL in or near surface soils is present along the entire proposed improvement area.

Environmental Consequences

BUILD ALTERNATIVE

Implementation of the Build Alternative is not expected to result in the creation of any new health hazards or expose the public to potential new health hazards because the project involves milling and overlaying from postmile (PM) 0.0 to PM 23.0, widening to construct new shoulders between PM 20.3 and PM 23.0 which will create new right-of-way limits, constructing shoulder and centerline rumble strips from PM 0.00 to PM 23.3, culvert and drainage improvements in several locations, and installing bicycle lane markings and Signs from PM 0.30 to PM 23.0.

No storage of toxic materials or chemicals would occur and the project is not anticipated to increase the potential hazardous materials in the project area.

The Initial Site Assessment Checklist completed for this project on November 22, 2021 determined that the project has potential for hazardous waste involvement. A full ISA was therefore conducted due to right of way acquisition and the requirement for temporary construction easements. A detailed Site Investigation is required to determine if any known hazardous waste site is in or near the project area.

The ISA determined that ADL impacted soil resulting from the historical combustion of leaded gasoline may be encountered along roadways that existed prior to the leaded gasoline ban in the mid-1990s. The SR-247 corridor has existed as a transportation corridor pre-dating the leaded gasoline ban. If encountered, soil with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

The ISA also determined that Lead Based Paint (LBP) may be encountered along the roadway and in structures within the project limits. Yellow and black striping exists in the center lanes of SR247, and white lane striping is located on the highway shoulders.

Following construction of the project, operations are not expected to result in the creation of any new health hazards or expose the public to potential new health hazards because no structures or facilities would be constructed. As such, the Build Alternative would not result in adverse effects.

NO-BUILD ALTERNATIVE

Under the No-Build Alternative, the site will not be disturbed and no long-term effects involving hazardous materials will occur.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented:

HAZ-1: An ADL survey is recommended along the shoulders of SR-247 adjacent to the project area in areas that might be disturbed during culvert and roadway widening construction activities.

HAZ-2: A Lead Based Paint (LBP) survey is recommended prior to demolition or disturbance of suspect LBP.

HAZ-3: During subsurface work, samples of suspect Asbestos ontaining Materials A M (e.g. underground utilities, pavements with reinforcing fabric, weep hole liners, etc.) if found, should be collected for laboratory analysis of asbestos prior to any renovation or demolition, in order to determine the need for compliance with EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

HAZ-4: A Phase II Environmental Site Assessment will be required for acquisition of the new properties to identify hazardous and potential hazardous waste contamination within and adjacent to the project location.

2.3.5 Biological Environment

2.3.5.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section (Section 2.3.5.5). Wetlands and other Waters are also discussed below (Section 2.3.5.2).

Regulatory Setting

United States Bureau of Land Management (BLM) - California Desert National Conservation Lands

In 1976, Congress designated a 25-million-acre expanse of resource-rich desert lands in southern California as the California Desert Conservation Area (CDCA) through the Federal Land Policy and Management Act. In 2009, Congress, passed the Omnibus Public Land Management Act, which directed the BLM to include lands managed for conservation purposes within the CDCA as part of the National Conservation Lands. To protect this area's natural resources and facilitate development of its energy resources, the Desert Renewable Energy Conservation Plan (DRECP) was undertaken in 2013. Phase I of the DRECP was completed in September 2016. It designated 4.2 million acres as part of the California Desert National Conservation Lands. Phase II of the DRECP will focus on better aligning local, state, and federal renewable energy development and conservation plans, policies, and goals.

California Fish and Game Code

California Fish and Game Code (CFGC) laws and regulations protect the state's diverse fish, wildlife and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The CFGC also specifies the organization and regulatory powers of the California Fish and Game Commission, as well as the organization and general functions of the California Department of Fish and Wildlife (CDFW).

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2021) that was approved for the project in February 2022.

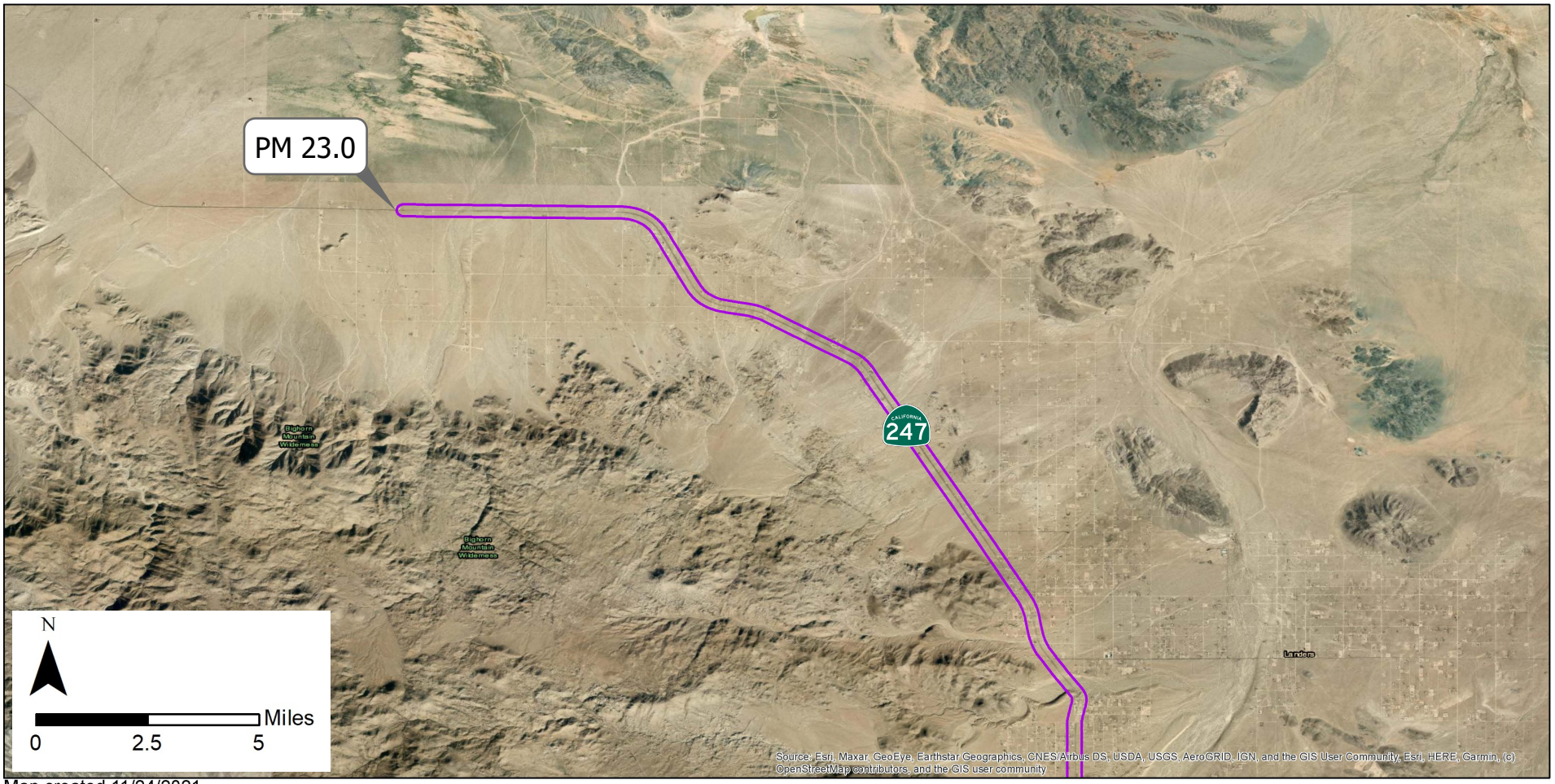
Biological study areas typically take into consideration the potential for both direct impacts (i.e. crushing) and indirect impacts associated with ground disturbance and noise due to Project activities. The Biological Study Area (BSA) for the project therefore consists of the Project Impact Area (PIA) plus an additional 500-foot buffer to assess potential impacts to amphibians, reptiles, raptor and listed avian species, and mammals. A rare plant-specific buffer consists of the PIA and an additional 100-foot buffer, since plants are sessile and are only disturbed by direct impacts. A 100-foot jurisdictional waters BSA was chosen to incorporate waterway extents, confluences, and riparian vegetation directly associated with the potentially jurisdictional waterway. The PIA contains drainage improvements at PM 0.3 and PM 3.59 (rock slope protection, repairs), shoulder widening areas from PM 20.3 to PM 23.0, paved roadway, and disturbed, unpaved shoulder. A map of the Biological Study Area is provided in **Figure 2.6.**

A literature search (IPaC, CNDDB, CNPS, observed species from previous Caltrans projects, and BLM Sensitive Species lists from the Barstow BLM field office) did not identify any natural communities as potentially occurring within the vicinity of the Project. However, Joshua tree woodland (*Yucca brevifolia* Woodland Alliance) was observed throughout the BSA during the October 13, 2021 habitat assessment. This community has a State rank of S3.2, which is considered vulnerable due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Creosote bush scrub (*Larrea tridentata* Shrubland Alliance) has a State rank of S5, which is considered secure — common, widespread, and abundant (Sawyer-Keeler-Wolfe 2009).

Map created 11/24/2021

500-foot BSA

Figure 2.6A
Biological Study Area - Segment 1
SBD-247 Pavement Rehabilitation Project



Map created 11/24/2021

500-foot BSA

Figure 2.6B
Biological Study Area - Segment 2
SBD-247 Pavement Rehabilitation Project

The natural communities described below are classified pursuant to the Holland classification code Preliminary Descriptions of the Terrestrial Natural Communities of California (1986). A Manual of California Vegetation second edition manual equivalent is provided (Sawyer-Keeler-Wolf 2009).

Joshua Tree Woodland (State Rank S3.1)

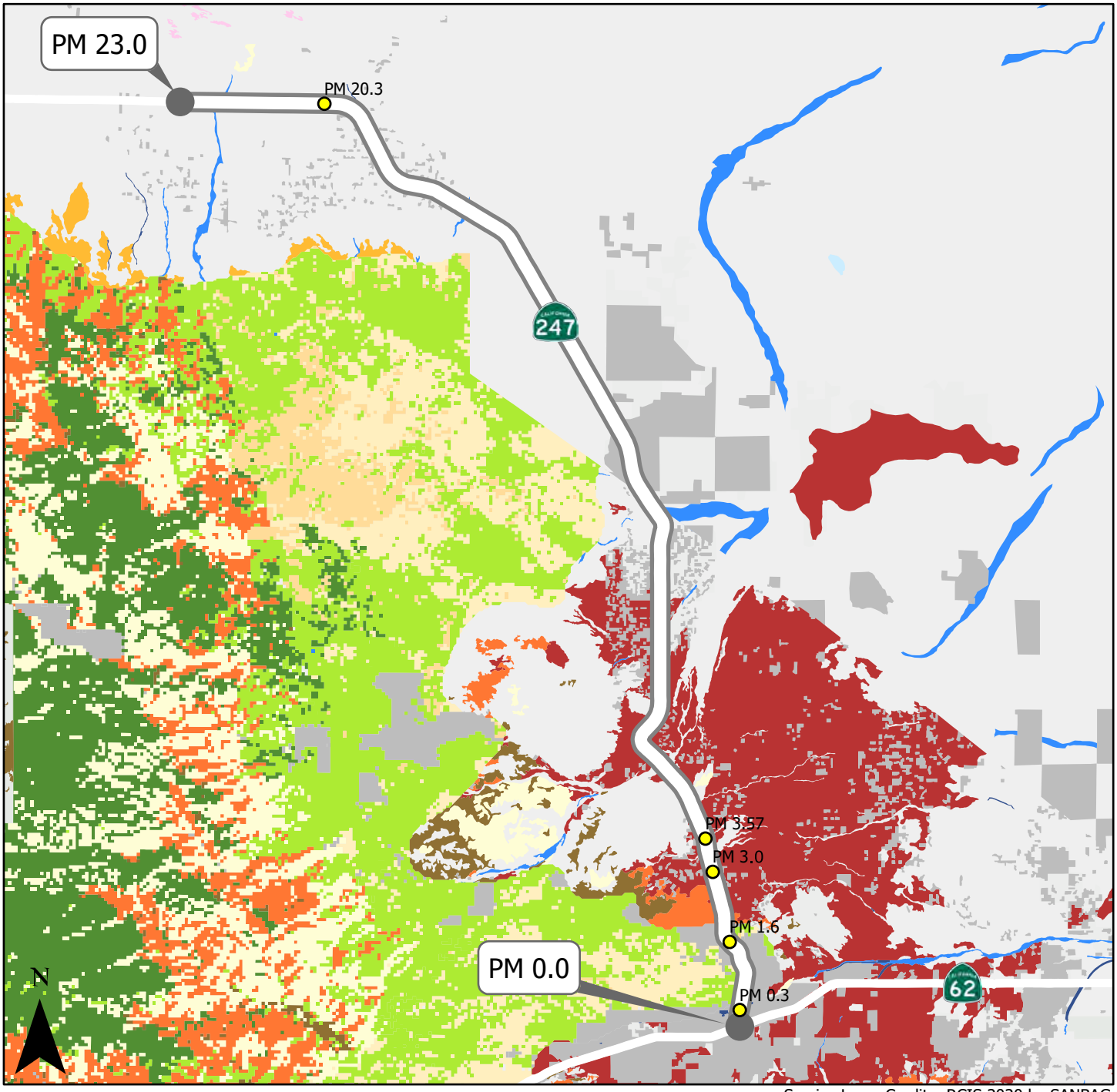
Joshua tree woodland is a Holland classification (73000) that has a Sawyer-Keeler-Wolf equivalent of *Yucca brevifolia* Woodland Alliance (Joshua tree woodland). Other characteristic species include: *Ambrosia dumosa*, *Ambrosia salsola*, *Artemisia tridentata*, *Chrysothamnus viscidiflorus*, *Coleogyne ramosissima*, *Cylindropuntia acanthocarpa*, *Ephedra nevadensis*, *Eriogonum fasciculatum*, *Gutierrezia microcephala*, *Krascheninnikovia lanata*, *Larrea tridentata*, *Lycium andersonii*, *Yucca baccata* and *Yucca schidigera*. Membership rules include: (1) *Yucca brevifolia* evenly distributed at greater than or equal to 1% cover, *Juniperus* and/or *Pinus* spp. Less than 1% absolute cover in the tree canopy.

Creosote Bush Scrub (State Rank S5)

Creosote bush scrub is a Holland classification (33100 and 34100) that has a Sawyer Keeler-Wolf equivalent of *Larrea tridentata* Shrubland Alliance (creosote bush scrub). Other characteristic species include: *Acamptopappus shockleyi*, *Acamptopappus sphaerocephalus*, *Ambrosia dumosa*, *Ambrosia salsola*, *Atriplex confertifolia*, *Atriplex hymenelytra*, *Atriplex polycarpa*, *Brickellia incana*, *Encelia farinosa*, *Ephedra californica*, *Ephedra nevadensis* and *Lycium andersonii*. Emergent trees may be present at low cover, including *Prosopis glandulosa* or *Yucca brevifolia*. Membership rules include: (1) *Ambrosia dumosa* or *Encelia farinosa* are absent or less than 1% cover, if present. No shrub with cover greater than *Larrea tridentata* with the following exceptions: *Acamptopappus sphaerocephalus, Bebbia juncea, Ericameria teretifolia,* or *Krameria* spp. *Ephedra nevadensis* or *Cylindropuntia acanthocarpa* may have higher cover, but no more than twice the cover of *L. tridentata*; or (2) *Larrea tridentata* exceeds other shrubs in cover, and if *Ambrosia dumosa* or *Encelia farinosa* are present, their cover is less than 3 times cover of *L. tridentata,* or if *Ambrosia dumosa* is present, then less than twice the cover of *L. tridentata*.

No sensitive natural communities were listed in the alifornia Natural Diversity Data ase NDD . However, Joshua tree woodland and creosote bush scrub were observed within the Project BSA and vicinity during the October 13, 2021 habitat assessment.

A map of project area vegetation communities is provided in **Figure 2.7**.



Service Layer Credits: RCIS 2020 by SANBAG

Legend

- Postmile
- Key Postmile
- Project Area

Vegetation Community

- Barren
- Chaparral
- Coastal Scrub
- Desert Dunes
- Developed and Disturbed Areas
- Forest and Woodlands
- Great Basin Scrub
- Joshua Tree Woodland
- Juniper Woodlands
- Non-Native Grassland
- Playa
- Riparian and Desert Wash
- Riversidean Alluvial Fan Sage Scrub
- Sonoran and Mojavean Desert Scrub
- Wetlands and Waters

0 1 2 4 Miles

Figure 2.7
Vegetation Community Map
SBD-247 Pavement Rehabilitation Project

Environmental Consequences

Build Alternative

No impacts to special-status habitats or natural communities are anticipated. Western Joshua tree overstory will be avoided by project shoulder widening activities near PM 20.3 to PM 23.0. Due to the western Joshua tree State candidate listing under the California Endangered Species Act (CESA), all Joshua trees are required to have a no-work buffer of a minimum of 40 feet from the tree centerline. Creosote bush scrub is considered secure and a non-special-status natural community. Few, if any, shrubs will be affected by Project road widening activities. *Larrea tridentata* is not a special-status species but is considered a designated U.S. Fish and Wildlife Service (USFWS) physical and biological feature for the federally-listed as *threatened* or State-listed as *threatened* desert tortoise. Further discussion on desert tortoise is provided in Section 2.3.5.5, Threatened and Endangered Species.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to Natural Communities.

Avoidance, Minimization, and/or Mitigation Measures

Bio-General-6 - Species Avoidance: If during project activities a western Joshua tree (*Yucca brevifolia*) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities.

2.3.5.2 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 (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral

limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (Waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

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

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.3.2, Water Quality And Storm Water Runoff, for more details.

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2022) that was approved for the project in February, 2022.

Over 100 ephemeral washes are located within the project boundaries. Drainages in the north and northwestern portion of the project flow to three separate dry lakes: Melville Dry Lake, Means Dry Lake, and Emerson Dry Lake, which are located north and northeast of the BSA. The U.S. Army Corps of Engineers considers ephemeral drainages jurisdictional under Section 404 of the Clean Water Act when a significant nexus to a traditional navigable waterway, interstate waterway, or territorial sea is determined to be present. Isolated, dry lakes are typically considered non-jurisdictional under the 2001 Solid Waste Agency of Northern Cook County (SWANCC) ruling. Jurisdictional resources were evaluated under Section 1600 et seq., specifically Section 1602, of the California Fish and Game Code (CFGC), the Porter Cologne Water Quality Control Act, and the Clean Water Act with respect to the U.S. Army Corps of Engineers and the Regional Water Quality Control Board.

A jurisdictional delineation survey for three drainage features was conducted on December 7, 2021. Feature 1 is located from PM 0.3 to PM 0.4; Feature 2 is located from PM 3.0 to PM 3.1; and Feature 3 is located from PM 3.5 to PM 3.6. The two northernmost work areas, Feature 2 and Feature 3, lacked any identifiable aquatic features and are, therefore, non-jurisdictional; no further coordination with resource agencies is anticipated for Feature 2 and Feature 3.

Feature 1 (Yucca Creek) includes a natural-bottomed intermittent channel. Three 4-foot corrugated metal drainage pipes convey flow roughly west to east underneath SR-247. The channel is lined with large boulder rip rap around the drainage pipes, after which the drainage naturalizes and the banks consist of earthen berms. The banks nearest SR-247 include scattered, recently trimmed tamarisk trees (*Tamarix ramosissima*), and several broom baccharis (*Baccharis sarothroides*) and Mexican palo verde (*Parkinsonia aculeata*) trees. The channel has an average OHWM width of approximately 30 feet and an average bank-to-bank width of approximately 50 feet. The segment of Yucca Creek that passes under SR-247 appears to have been channelized before 1970.

Environmental Consequences

The survey concluded that there will be 0.063 acres of permanent impacts and .011 acres of temporary impacts to Waters of the State (CFGC and Porter Cologne Water Quality Control Act jurisdictional resources) for Yucca Creek. State-jurisdictional water permits will therefore be required, including a Lake and Streambed Alteration Agreement from CDFW (Section 1602 of the CFGC) and a Waste Discharge Requirement report (WDR) from the RWQCB. A Section 401 CWA permit will not be required. No federally-jurisdictional “waters of the United States” under the 2008 Waters of the United States definition will be permanently or temporarily impacted. Therefore, a notification to USACE (CWA 404 permit) will not be required.

Avoidance, Minimization, and/or Mitigation Measures

BIO-General-1 - Equipment Staging, Storing, and Borrow Sites: All staging, storing, and borrow sites require the approval of the contractor-supplied biologist.

Additional measures to protect State jurisdictional waters resources will be provided in the CDFW Lake and Streambed Alteration Agreement (CFGC Section 1602) permit.

2.3.5.3 PLANT SPECIES

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and

habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section [2.3.5.5] in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2021) that was approved for the project in February, 2022.

Plants are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on-site. Special-status plant species ivory-spined agave, San Bernardino milk-vetch, Lane Mountain milk-vetch, triple-ribbed milk-vetch, Fremont barberry, alkali mariposa lily, white-bracted spineflower, desert cymopterus, purple-nerve cymopterus, Mojave tarplant, Mojave monkeyflower, Parish's daisy, flat-seeded spurge, Little San Bernardino Mountains Linanthus, Mojave menodora, Robison's monardella, short-joint beavertail, Beaver Dam breadroot, white-margined beardtongue, Death Valley sandpaper-plant, and Latimer's woodland-gilia have suitable habitat within the BSA. Special-status plant species with suitable habitat are discussed below.

<u>Discussion of Special-Status Plant Species</u>

The BSA contains suitable habitat for the following rare plant species and their habitat requirements:

Ivory-spined Agave

Ivory-spined agave (*Agave utahensis* var. *eborispina*) is a BLM Sensitive species and has a CRPR of 1B.3. It is found within limestone substrates and rocky slopes in Mojavean desert scrub at 1,030-1,310 meters (~3,379-4,298 feet) in elevation (CNDDB 2021). Its bloom period is May to July (Baldwin et al. 2012).

San Bernardino Milk-vetch

San Bernardino milk-vetch (*Astragalus bernardinus)* is a BLM Sensitive species and has a CRPR of 1B.2. This species inhabits Joshua tree woodland and pinyon and juniper woodland in granitic or carbonate substrates at 290-2,290 meters (~951-7,513 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

Lane Mountain Milk-vetch

Lane Mountain milk-vetch (*Astragalus jaegerianus*) is a federally-listed as endangered and BLM Sensitive species with a CRPR of 1B.1. This species inhabits Joshua tree woodland and Mojavean desert scrub habitats. It is found within dry, stony hillsides and desert mesas, in granite sand and gravel. It is commonly within Joshua trees, usually under shrubs at 975-1250 meters (~3,199-4,101 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

Triple-Ribbed Milk-vetch

Triple-ribbed milk-vetch (*Astragalus tricarinatus)* is a federally-listed as *endangered* species with a CRPR of 1B.2. This species inhabits Joshua tree woodland and Sonoran desert scrub on hot, rocky slopes in canyons and along edges of boulder-strewn desert washes with *Larrea* and *Encelia* at 455-1,585 meters (~1,493-5,200 feet) in elevation (CNDDB 2021). Its bloom period is February to May (Baldwin et al. 2012).

Fremont Barberry

Fremont barberry (*Berberis fremontii*) has a CRPR of 2B.3. This species is found in pinyon and juniper woodlands as well as Joshua tree woodlands in rocky, sometimes granitic habitats at 1,140-1,770 meters (~1,140-5,807 feet) in elevation (CNDDB 2021). Its bloom period is March to May (Baldwin et al. 2012).

Alkali Mariposa Lily

Alkali mariposa lily (*Calochortus striatus*) is a BLM Sensitive species with a CRPR of 1B.2. This species occurs in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps, wetlands, alkaline meadows, and ephemeral washes at 70-1,600 meters (~230-5,249 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

White-bracted Spineflower

White-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*) is a BLM Sensitive species with a CRPR of 1B.2. This species is found in sandy or gravelly places within coastal scrub (alluvial fans), Mojavean desert scrub, and pinyon and juniper woodlands at 365-1,830 meters (~1,198-6,004 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

Desert Cymopterus

Desert cymopterus (*Cymopterus deserticola*) is a BLM Sensitive species with a CRPR of 1B.2. This species inhabits Joshua tree woodland and Mojavean desert scrub habitats on fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand at 625-1220 meters (~2,051-4,003 feet) in elevation (CNDDB 2021). Its bloom period is April (Baldwin et al. 2012).

Purple-nerve Cymopterus

Purple-nerve cymopterus (*Cymopterus multinervatus*) has a CRPR of 2B.2. This species is found in Mojavean desert scrub or pinyon and juniper woodland in sandy or gravelly places at 765-2,195 meters (~2,510-7,201 feet) in elevation (CNDDB 2021). Its bloom period is March to April (Baldwin et al. 2012).

Mojave Tarplant

Mojave tarplant (*Deinandra mohavensis*) is a BLM Sensitive and State-listed as *endangered* species with a CRPR of 1B.3. This species occurs in riparian scrub; coastal scrub; and chaparral habitats; can occur within ephemeral grassy areas or low sand bars in a riverbed at 640-1,645 meters (~3,000-5,397 feet) In elevation (CNDDB 2021). Its bloom period is May to January (Baldwin et al. 2012).

Mojave Monkeyflower

Mojave monkeyflower (*Diplacus mohavensis*) is a BLM Sensitive species with a CRPR of 1B.2. This species occurs in desert wash, Joshua tree woodland, and Mojavean desert scrub in dry, sandy, or rocky washes along the Mojave River at 660-1,270 meters (~2,165-4,167 feet) in elevation (CNDDB 2021). Its bloom period is April to May (Baldwin et al. 2012).

Parish's Daisy

Parish's daisy (*Erigeron parishii*) is a federally-listed as threatened and BLM Sensitive species with a CRPR of 1B.1. This species inhabits limestone, Mojavean desert scrub, and pinyon and juniper woodlands, often on carbonate or limestone mountain slopes associated with drainages; can be sometimes found on granite at 1,050-2,245 meters (~3,445-7,365 feet) in elevation (CNDDB 2021). Its bloom period is May to June (Baldwin et al. 2012).

Flat-seeded Spurge

Flat-seeded spurge (*Euphorbia platysperma*) is a BLM Sensitive species with a CRPR of 1B.2. This species inhabits Mojavean desert scrub and desert dunes in sandy places or shifting dunes. It is possibly a waif (occurs sparingly) in California. This species is more common in Arizona and Mexico at 60-960 meters (~197-3,150 feet) in elevation (CNDDB 2021). Its bloom period is May (Baldwin et al. 2012).

Little San Bernardino Mountains Linanthus

Little San Bernardino Mountains linanthus (*Linanthus maculatus* ssp. *maculatus*) is a BLM Sensitive species with a CRPR of 1B.2. It is found in sandy places, usually in light-colored quartz sand, within

desert dunes, desert washes, Sonoran desert scrub, Mojavean desert scrub, and Joshua tree woodland habitats. This species is often in a wash or bajada at 135-1,220 meters (~443-4,003 feet) in elevation (CNDDB 2021). Its bloom period is March to May (Baldwin et al. 2012).

Mojave Menodora

Mojave menodora (*Menodora spinescens* var. *mohavensis*) is a BLM Sensitive species with a CRPR of 1B.2. It inhabits Mojavean desert scrub on rocky hillsides, canyons, and Andesite gravel at 700-1,405 meters (~2,297-4,610 feet) in elevation (CNDDB 2021). Its bloom period is April to May (Baldwin et al. 2012).

Robison's Monardella

Robison's monardella (*Monardella robisonii*) is a BLM Sensitive species with a CRPR of 1B.3. This species is found in pinyon and juniper woodland on rocky desert slopes, often among granitic boulders, at 610-1,615 meters (~2,001-5,299 feet) in elevation (CNDDB 2021). Its bloom period is June to September (Baldwin et al. 2012).

Short-joint Beavertail

Short-joint beavertail (*Opuntia basilaris* var. *brachyclada*) is a BLM Sensitive species with a CRPR of 1B.2. This species is found on sandy soil or coarse, granitic loam within chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland at 425-2,015 meters (~1,394-6,611 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

Beaver Dam Breadroot

Beaver Dam breadroot (*Pediomelum castoreum*) is a BLM Sensitive species with a CRPR of 1B.2. This species is found in sandy soils, washes, and roadcuts within desert washes, Joshua tree woodland, and Mojavean desert scrub at 605-1,485 meters (~1,985-4,872 feet) in elevation (CNDDB 2021). Its bloom period is April to May (Baldwin et al. 2012).

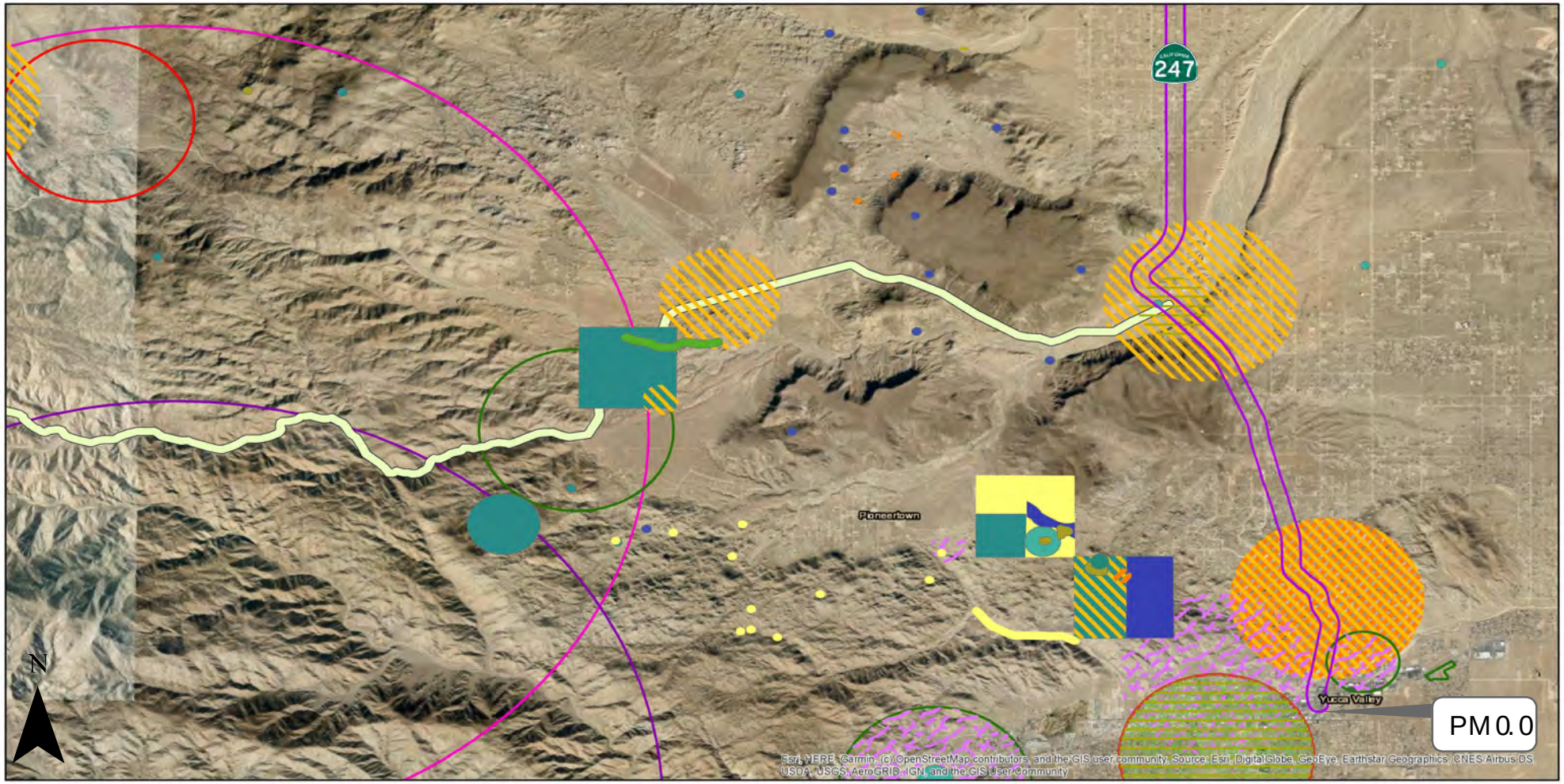
White-margined Beardtongue

White-margined beardtongue (*Penstemon albomarginatus*) is a BLM Sensitive plant with a CRPR of 1B.1. This species inhabits desert dunes, desert washes, and Mojavean desert scrub in deep stabilized desert sand in washes and along roadsides at 540-1,070 meters (~1,772-3,511 feet) in elevation (CNDDB 2021). Its bloom period is March to May (Baldwin et al. 2012).

Death Valley Sandpaper-plant

Death Valley sandpaper-plant (*Petalonyx thurberi* subsp. *Gilmanii*) is a BLM Sensitive species with a CRPR of 1B.3. This species inhabits desert dunes, desert wash, and Mojavean desert scrub on dry washes and slopes at 45-1,525 meters (~147-5,003 feet) in elevation (CNDDB 2021). Its bloom period is May to June and September to November (Baldwin et al. 2012).

A map of State special-status plant and animal species distribution is provided in Figure 2.8.



- 500-foot Buffer
- American badger
- California cuckoo bee
- Fremont barberry
- Latimer's woodland-gilia
- Le Conte's thrasher
- Little San Bernardino Mtns. linanthus
- Palmer's mariposa-lily
- Parish's daisy
- Pioneertown linanthus
- Robison's monardella
- San Bernardino milk-vetch
- Shockley's rockcress
- coast horned lizard
- desert tortoise
- pallid San Diego pocket mouse
- pinyon rockcress
- southern jewelflower
- western yellow bat

0 1.5 3 Miles

Scale 1:74000

Figure 2.8A
CNDDB Map - Segment 1
SBD-247 Pavement Rehabilitation Project

500-foot Buffer
Bendire's thrasher
Latimer's woodland-gilia
Le Conte's thrasher
Little San Bernardino Mtns. linanthus
Parish's daisy
San Bernardino milk-vetch
desert tortoise
pinyon rockcress
purple-nerve cymopterus

0 1.5 3 Miles

Scale 1:77000

Figure 2.8B
CNDDB Map - Segment 2
SBD-247 Pavement Rehabilitation Project

Latimer's Woodland-gilia

Latimer's woodland-gilia (*Saltugilia latimeri*) is a BLM Sensitive species that has a CRPR of 1B.2. This species inhabits chaparral, Mojavean desert scrub, and pinyon and juniper woodland habits. It is found in rocky or sandy substrate, sometimes in washes and limestone, at 120-2,200 meters (~394-7,218 feet) in elevation (CNDDB 2021). Its bloom period is March to June (Baldwin et al. 2012).

Survey Results

During the October 13, 2021 habitat assessment, it was observed that Joshua tree woodland alliance (*Yucca brevifolia* Woodland Alliance) and creosote bush (*Larrea tridentata*) scrub, per Second Manual of California vegetation standards (Sawyer-Keeler-Wolfe 2009), co-dominate the landscape in the BSA. Other understory and roadside species, both native and non-native, included herb stratum species such as California croton (*Croton californicus*), fanleaf crinklemat (*Tiquilia plicata*), cinch weed (*Pectis papposa*), annual *Eriogonum* spp. (senesced), black mustard (*Brassica nigra*), spurge species (*Euphorbia* spp.), apricot mallow (*Sphaeralcea ambigua*), Jimsonweed (*Datura wrightii*), white amaranth (*Amaranthus albus*), annual grassland (*Bromus* spp.), and coyote melon (*Cucurbita palmata*). Shrub stratum species included cholla cactus species (*Cylindropuntia* spp., dead), desert marigold (*Baileya multiradiata*), California buckwheat (*Eriogonum fasciculatum*), allscale (*Atriplex polycarpa*), ragweed (*Ambrosia* spp.), silver cholla (*Cylindropuntia echinocarpa*), teddybear cholla (*Cylindropuntia bigelovii*), and fourwing saltbush (*Atriplex canescens* var. *canescens*). Tree stratum species included desert willow (*Chilopsis linearis*), palo verde tree (*Parkinsonia florida*), and ornamental honey mesquite (*Prosopis glandulosa*). Soils were observed to be predominantly of sandy to sandy loam texture.

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tree (*Parkinsonia florida*), and ornamental honey mesquite (*Prosopis glandulosa*). Soils were observed to be predominantly of sandy to sandy loam texture.

California Invasive Plant Council (Cal-IPC) noxious weeds species were observed during the October 13, 2021 habitat assessment. Limited ranking noxious weeds included *Schismus* spp., puncture vine (*Tribulus terrestris*), and *Eucalyptus* spp. Moderate ranking noxious weeds include Bermuda grass (*Cynodon dactylon*). High ranking noxious weeds include tamarisk (*Tamarix ramosissima*).

As stated above, ivory-spined agave, San Bernardino milk-vetch, Lane Mountain milk-vetch, triple-ribbed milk-vetch, Fremont barberry, alkali mariposa lily, white-bracted spineflower, desert cymopterus, purple-nerve cymopterus, Mojave tarplant, Mojave monkeyflower, Parish's daisy, flat-seeded spurge, little San Bernardino Mountains linanthus, Mojave menodora, Robison's monardella, short-joint beavertail, Beaver Dam breadroot, white-margined beardtongue, Death Valley sandpaper-plant, and Latimer's woodland-gilia have suitable habitat in the BSA via rocky slopes, Mojavean desert scrub, Joshua tree woodland, possible remnants of higher elevation natural communities such as pinyon and juniper woodland, rocky hillsides, friable sandy soils, creosote bush scrub, and desert washes. The PIA contains paved roadway, shoulder widening, and drainage improvements. Previous Caltrans project surveys (Caltrans projects EA 0F660; EA 0G900; and EA 1H100) during rare plant season did not observe these species.

Environmental Consequences

Build Alternative

Several species have a low to very low likelihood of occurrence within either the shoulder widening or culvert drainage PIA. Therefore, appropriate avoidance and minimization measures for rare plants are deemed necessary. Avoidance measures for construction staging areas and invasive species control will also be implemented.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to special status plant species.

Avoidance, Minimization, and/or Mitigation Measures

BIO-General-1 - Equipment Staging, Storing, and Borrow Sites: All staging, storing, and borrow sites require the approval of the Contractor-supplied biologist.

BIO-General-16 - Invasive Weed Control. To address impacts to the shoulder widening PIA (PM 20.3 to PM 23.0) and drainage improvement PIA (PM 0.3 and PM 3.59), the Contractor Supplied biologist must identify the following CAL-IPC noxious weed species, plus any others incidentally observed -- Limited species: *Schismus spp.*, puncture vine (*Tribulus terrestris*), and *Eucalyptus spp*. CAL-IPC Moderate rated species: Bermuda grass (*Cynodon dactylon*). CAL-IPC High rated species: tamarisk (*Tamarix ramosissima*). Treatment and disposal methods must be approved by the Caltrans biologist prior to vegetation removal.

Bio-Plant-1 - Rare Plant Surveys, Flagging and Fencing: Within 30 days prior to construction and within the rare plant bloom season of March-June, a preconstruction survey must be conducted by a Contractor Supplied Biologist for special-status plant species within a 100-foot buffer for construction staging areas outside of previously-paved or developed areas within the BSA. ivory-spined agave, San Bernardino milk-vetch, Lane Mountain milk-vetch, triple-ribbed milk-vetch, Fremont barberry, alkali mariposa lily, white-bracted spineflower, desert cymopterus, purple-nerve cymopterus, Mojave tarplant, Mojave monkeyflower, Parish's daisy, flat-seeded spurge, little San Bernardino Mountains linanthus, Mojave menodora, Robison's monardella, short-joint beavertail, Beaver Dam breadroot, white-margined beardtongue, Death Valley sandpaper-plant, and Latimer's woodland-gilia, plus any other rare plants, must be flagged for visual identification to construction personnel for work avoidance. Rare plants detected that feature multiple plants in a single location must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.

2.3.5.4 ANIMAL SPECIES

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species section 2.3.5.5 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

National Environmental Policy Act

Migratory Bird Treaty Act

Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

California Environmental Quality Act

Sections 1600 – 1603 of the California Fish and Game Code

Section 3800 of the California Fish and Game Code

Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2021) that was approved for the project in February, 2022.

Special-Status Invertebrate Species

Crotch Bumble Bee

The Crotch bumble bee (*Bombus crotchii*) is a State-listed as *Candidate endangered*. Food preferences include snapdragon (*Antirrhinum* spp.), *Phacelia* (*Phacelia* spp.), farewell to spring (*Clarkia* spp.), bush poppy (*Dendromecon* spp.), desert poppy (*Eschscholzia* spp.), and buckwheat (*Eriogonum* spp.) (CNDDB 2021).

Monarch Butterfly

The Monarch butterfly (*Danaus plexippus*) is a federally-listed Candidate for federal listing species under FESA. This species typically inhabits closed-cone coniferous forest but can occur near other nectar sources. Roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico (CNDDB 2021).

California Cuckoo Bee

The California cuckoo bee (*Paranomada californica*) has No Formal Status. There is no published information on the life history or behavior of this species. It is a cleptoparasite (nest parasite) of other solitary, ground-nesting bees, as evidenced by the lack of pollen-collecting structures on the female (Shanks 2000). According to Cornell University (2010), cleptoparasitic bees are named "cuckoo bees" because they invade the nests of solitary bees and lay their own eggs, just as cuckoo birds do to other birds. It is known only from two locations in San Bernardino County, near Yucca Valley and 9.5 miles northwest of Pioneertown, on Burns Canyon Road. *Exomalopsis verbesinae* is suspected to be a host species, as *Paranomada californica* were collected flying within the immediate vicinity (Shanks 2000).

Survey Results

Three (3) special-status invertebrates, Crotch bumble bee, Monarch butterfly, and California cuckoo wasp, have suitable habitat in the BSA. Crotch bumble bee may occur on sparse coastal sage scrub natural community species, such as *Eriogonum fasciculatum,* in the BSA. Other food species such as *Phacelia* ssp., *Clarkia* ssp., and *Eschscholzia* ssp. are annuals and may be prevalent in the general vicinity, especially after rain events. One recent CNDDB occurrence (2019) for Crotch bumble bee was reported approximately 4 miles south of the BSA. Monarch butterfly was directly observed during the October 13, 2021 habitat assessment. One Monarch butterfly was observed flying near the middle of the ROW near the Johnson Valley Off-Highway Vehicle Recreation Area, adjacent to Boone Road. The Caltrans Division of Environmental Analysis GIS Model of Milkweed Habitat Suitability, which selects and identifies suitable habitat for narrow-leaved milkweed (*Asclepias fascicularis*) – a preferred food source - was consulted. The closest milkweed suitable habitat is located south of the San Bernardino National Forest (approximately 4 miles from the BSA) and along Route 247, west of the Project BSA (approximately 17 miles). In terms of California cuckoo bee, this species is known to occur in Yucca Valley (DFG n.d.), which occurs in the southern portion of the BSA. Desert washes and storm drains in the BSA are ephemeral. Aquatic habitats are generally absent, but surface water inundation may occur after rain events, which could provide temporary habitat in the culvert drainage PIA. One CNDDB occurrence was reported in 1944 on a snakeweed *(G. microcephala*) bush, which is still a common species in the area. This individual was flying near the ground in the company of a possible host bee (CNDDB 2021). This species is generally elusive and there is very limited data; recent CNDDB occurrences are not expected. The shoulder widening PIA may contain sparse or disturbed shrubs or annual flowering species after rain events, which could be host species for special-status invertebrate species (i.e. *Eriogonum fasciculatum* or milkweed).

Environmental Consequences

Build Alternative

The shoulder widening and culvert drainage PIA may contain very marginal habitat for special-status invertebrate species via shrub cover or surface water inundation after rain events. Although Monarch butterfly was directly observed, the Project Impact Area does not have any modeled milkweed habitat suitability and is not anticipated to impact milkweed species, which are required for breeding. Caltrans anticipates no impacts to special-status invertebrate species with the implementation of appropriate avoidance and minimization measures, which include pre-construction surveys for special-status invertebrate species host plants.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to special status invertebrate species.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans standard BMPs, the BMPs in the anticipated SWPPP, and 2018 Standard Specifications (or latest version) must be implemented to minimize effects during construction.

Bio-Arthropod-1 - Rare Insect Host Plant Preconstruction Clearance Survey, Flagging, and Fencing: No more than 30 days prior to project activities, a contractor supplied biologist must perform a preconstruction survey for rare insect host plants within the project shoulder widening impact area (PM 20.3 to PM 23). Should any rare insect host plants be found, the Resident Engineer and Caltrans biologist must be contacted, and host plants must be flagged by the contractor supplied biologist for visual identification to construction personnel for work avoidance. Should multiple plants in a single location be found, the groupings must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.

Special-Status Boney Fish Species

The BLM Barstow Field Office Sensitive Species list identified three (3) sensitive boney fish species, Amargosa River pupfish (*Cyprinodon nevadensis amargosae*), Amargosa Canyon speckled dace (*Rhinichthys osculus* ssp. 1), and Mohave tui chub (*Siphateles bicolor mohavensis*), all of which are considered absent in the BSA. No further discussion of these species is warranted.

Survey Results

Boney fish species are considered absent in the BSA.

Special-Status Reptile Species

<u>Southern California Legless Lizard</u>

The southern California legless lizard (*Anniella stebbinsi*) is a State-designated Species of Special Concern that inhabits varied habitats, which include coastal sage scrub and chaparral habitat. This species prefers high moisture soils, but it can also occur in sandy or loose loamy soils under sparse vegetation (CNDDB 2021).

Red-Diamond Rattlesnake

The red-diamond rattlesnake (*Crotalus ruber*) is a State-designated Species of Special Concern that inhabits chaparral habitat, grassland, and desert areas, often in rocky and dense vegetation. This species needs rodent burrows, cracks in rocks, or surface cover objects (CNDDB 2021). The red diamond rattlesnake is primarily nocturnal and crepuscular during periods of excessive daytime heat but is active during daytime when temperatures are moderate. This species is terrestrial but may climb shrubs and trees (Caltrans 2018, EA 1J560).

Desert Tortoise

The Mojave population of the desert tortoise (*Gopherus agassizii*) was listed as a federally endangered species by emergency rule on August 4, 1989 and as a threatened species by final rule on April 2, 1990. The Mojave population includes all desert tortoises north and west of the Colorado River in California, southern Nevada, northwestern Arizona, and southwestern Utah. Federally designated critical habitat for the Mojave Desert population was finalized in February 1994, and included portions of the Mojave and Colorado deserts that contain the "primary constituent elements and focuses on areas that are essential to the species' recovery" (U.S. Fish and Wildlife Service, 1994). The term "primary constituent elements" has now been changed to "physical and biological features." Mojave desert tortoises primarily inhabit creosote bush scrub, saltbush scrub, and Joshua tree woodland dominated by creosote bush, white bursage, cactus, saltbush (*Atriplex* spp.) or Joshua tree generally below 1,524 meters (5,000 feet) elevation. Tortoises are most often found near washes and are most active in spring, early summer, and fall, when annual plants are most abundant (Caltrans Project EA 0G900).

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is a State-designated Species of Special Concern that inhabits semi-arid areas with sparse vegetation and open areas, as well as woodland and riparian habitats within firm, sandy, or rocky substrate. Habitat types include: chaparral; coastal scrub; desert wash; riparian scrub; riparian woodland; and valley and foothill grassland habitats. Coast horned lizard is most common in lowlands along sandy washes with scattered, low bushes (CNDDB 2021).

Mojave Fringe-Toed Lizard

Mojave fringe-toed lizard (*Uma scoparia*) is a BLM Sensitive species and a State-designated Species of Special Concern that inhabits desert dunes, desert wash, and Mojavean desert scrub. Found in fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet (CNDDB 2021).

Survey Results

All of the above-mentioned special-status reptile species have suitable habitat in the BSA via sandy or loam soils, creosote bush scrub, sparse shrub species, rodent burrows, desert washes, and desert scrub. Southwestern pond turtle and gila monster are considered absent in the BSA, as aquatic habitats with adequate riparian cover and basking areas are absent, or the species is out of range.

Desert tortoise is assumed to be present via suitable habitat and historical occurrences within the vicinity (1988-2005). Previous Caltrans projects did not observe special-status reptile species during surveys.

Environmental Consequences

Build Alternative

The shoulder widening and culvert drainage PIA contain suitable habitat for all of the above-mentioned reptile species. Caltrans does not anticipate impacts to special-status reptile species with the implementation of avoidance and minimization measures such as pre-construction surveys and requiring contractors to check underneath vehicles. With such avoidance and minimization measures, it is unlikely that individual reptiles will be crushed, buried, or killed by construction equipment and ground disturbing activities as a part of Project activities.

Desert tortoise tends to occur at roadsides, therefore, it is presumed to have a moderate to high probability of occurrence within the Project Impact Area, especially during drainage improvements and shoulder widening. Caltrans has determined that Project impacts “may affect, [and are] likely to adversely affect” desert tortoise. Formal Section 7 consultation will be conducted with the USFWS for impacts to desert tortoise. The “may affect, likely to adversely affect” determination is covered under the Streamlined Biological Opinion from the USFWS, as part of the Programmatic Biological Opinion (PBO) agreement between Caltrans and the USFWS dated February 17, 2021. Please see Appendix G for a copy of the Programmatic Biological Opinion. Since desert tortoise is a State-listed as threatened species, a CDFW 2081(b) Incidental Take Permit will be filed for desert tortoise as well. This will be determined in future pre-application meetings with CDFW.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to special status reptile species.

Avoidance, Minimization, and/or Mitigation Measures

Bio-General-6 - Species Avoidance: If during project activities a western Joshua tree (*Yucca brevifolia*) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities..

Bio-General-7 - Worker Environmental Awareness Program (WEAP): A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.

Bio-Reptile-1 - Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.

Bio-Reptile-2 - Pre-Project Surveys: To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.

Bio-Reptile-5 - Trash/Predation: Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.

Bio-Reptile-8 - Rock Slope Protection: To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be partially filled with concrete grout or sand. .
[Note: 1. Evaluated on a project-by-project basis. Work with the resource agencies and PDT/Structures to determine the required substrate, if necessary.
2. Measure satisfies DT PBO (substrate sand), but substrate required by CDFW 1602 may not agree with Structures.]

Bio-DT-1 - Agency Notification & Reporting Requirements: Any worker who observes desert tortoises within or near the job site found alive, injured, or dead during the implementation of the project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.

Bio-DT-2 - Desert Tortoise Translocation: If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.

Special-Status Avian Species

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a State-listed Species of Special Concern. Burrowing owls are typically found in grasslands, deserts, farmlands, rangelands, and other areas with low vegetation. This species is dependent on old burrows left behind by other species, such as ground squirrel (*Otospermophilus beecheyi*) and kangaroo rats (*Dipodomys* spp.). The burrowing owl breeding season spans February 1-August 31 (The California Burrowing Owl Consortium 1993).

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a State-designated Species of Special Concern that inhabits open country with short vegetation and well-spaced shrubs or low trees, especially those with spines or thorns. This species frequents agricultural fields, pastures, orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead shrikes are often seen along mowed roadsides with access to fence lines and utility poles (Caltrans 2018a, EA 08-1C850). Note that Loggerhead shrike was not listed in the CNDDB literature search, however it was directly observed in prior surveys.

Bendire's Thrasher

Bendire's thrasher (*Toxostoma bendirei*) is a BLM Sensitive and a State-designated Species of Special Concern. This species favors open grassland, shrubland, or woodland with scattered shrubs or trees for breeding, with nests typically located in shrubs, cacti, or trees. It forages primarily on the ground but will also glean vegetation for insects and fruit. The breeding distribution covers the southwest, including southeastern California. Year-round distribution occurs in southern Arizona, southwestern New Mexico, and the northwestern edge of Mexico. After breeding, individuals migrate to the northern portion of the breeding range. Anthropogenic sources of activity, such as agricultural development, threaten Bendire's thrasher through habitat loss (USFWS ECOS 2021).

Le Conte's Thrasher

Le Conte's thrasher (*Toxostoma lecontei*) is a BLM Sensitive and a State-designated Species of Special Concern. This species forages almost entirely on the ground in open soil and desert flats with sparse growth of saltbush. It lives in open habitats or dry flats with only scattered low shrubs. Habitat preference includes areas of sparse saltbush or on creosote bush flat, especially areas with cholla cactus. A permanent territory is established for mate pairs, and they occur there year-round. Nesting may begin as early as January, but it can last until June in some areas. Nests are located within low, dense cholla cactus or saltbush, mesquite, and other low shrubs (Kaufman 1996).

Survey Results

Burrowing owl, loggerhead shrike, Bendire's thrasher, and Le Conte's thrasher have suitable habitat in the BSA via large areas of contiguous open desert space, multiple mammal burrows in the BSA, desert scrub, Joshua tree woodland, thorny shrubs such as cactus, creosote bush, and desert washes. Burrowing owls have an affinity towards nesting near roads and flat areas, especially highways with low to moderate use. Previous protocol surveys for burrowing owl were performed in the Project Area in 2009 (EA 0F660). Since the Project involves a road, contains multiple small mammal burrows, and contains a large amount of contiguous desert habitat, this species has a low to moderate probability of occurring in the shoulder widening PIA. No burrowing owls or active burrows were observed during the October 13, 2021 habitat assessment. Loggerhead shrike was not listed in the CNDDB literature search, but it was directly observed in prior surveys (EA 08-0F660) and is presumed extant. One 1991 historical occurrence for Bendire's thrasher was reported within the 500-foot BSA. One 1991 historical occurrence for Le Conte's thrasher was reported within the 500-foot BSA as well. No other recent CNDDB occurrences were reported for either species. Although 1991 historical occurrences are not recent, since desert habitat tends to be slow-changing, assuming there is no substantial change in land use or other sources of anthropogenic disturbances, historically reported species are presumed extant within the Project vicinity. The PIA contains sparse creosote bush scrub and other desert scrub species, especially within the shoulder widening PIA. Other areas within the PIA, including drainage improvement areas, barren and unpaved shoulders, and paved roadway are anticipated to have no suitable habitat for special-status avian species due to barren soils around culverts, previously-existing barren shoulders, and developed road. Appropriate avoidance and minimization measures will be implemented.

Least Bell's vireo and yellow warbler are special-status species that are considered absent in the BSA. The BSA lacks suitable riparian habitat or riparian forest that is essential for breeding. There are no recent CNDDB historical occurrences for these species. The last historical occurrence for least Bell's vireo was in 1978, near a perennial water source with hydrophytic vegetation. The last historical occurrence for yellow warbler was in 1950, within the Little San Bernardino Mountains, approximately 5 miles south of the BSA. Loggerhead shrike was directly observed in prior surveys.

Environmental Consequences

Build Alternative

The PIA consists of paved roadway or disturbed and barren shoulders, with the exception of shoulder widening areas and two areas of drainage improvements. Impacts to special-status avian species would be through potential nesting sites (i.e. shrubs) within the shoulder widening PIA (PM 20.3 to PM 23.0) or RSP replacement drainage improvements (PM 0.3). Since vegetation clearing is part of shoulder widening and RSP replacement activities, proper avoidance and minimization measures will be implemented to avoid impacts to migratory birds and their potential habitat.

A large portion of the project is on BLM land, and burrowing owl is considered sensitive by the BLM. No burrowing owls were observed, but due to a large amount of contiguous desert habitat and road widening as part of the shoulder widening PIA, avoidance and minimization measures will be implemented for burrowing owl. Staging areas are anticipated to take place within previously-disturbed shoulder areas.

Caltrans does not anticipate impacts to least Bell's vireo and yellow warbler, as these species are considered absent from the BSA. These species are riparian habitat obligate breeders and foragers, and the PIA contains no riparian habitat.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to special status avian species.

Avoidance, Minimization, and/or Mitigation Measures

In order to avoid and minimize potential impacts to nesting bird species and burrowing owl, Caltrans proposes the following measures:

BIO-Avian-1 - Pre-Construction Nesting Bird Survey: If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then pre-construction nesting bird surveys must be conducted up to the limit of the 500-foot BSA no later than 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (100 feet for non-passerine, 300 feet for passerine, and 500 feet for raptors) may be established and monitored by the qualified biologist until the young have fledged.

Bio-Avian-2 - Preconstruction Burrowing Owl Survey: Two burrowing owl preconstruction surveys must be performed within burrowing owl suitable habitat in the BSA: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities.

Special-Status Mammal Species

Pallid San Diego Pocket Mouse

Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) is a State-designated Species of Special Concern that inhabits desert wash, pinyon and juniper woodlands, and Sonoran desert scrub. It is found in desert border areas in eastern San Diego County in desert wash, desert scrub, desert succulent scrub, and pinyon-juniper. This species found in sandy, herbaceous areas, usually in association with rocks or coarse gravel (CNDDB 2021). Its range in portions of Riverside and San Bernardino counties include sea level to 1,350 meters (4,500 feet AMSL) (Santa Rosa Mountains, Riverside county) and 1,800 meters (6,000 ft) (Cactus Flat, north slope San Bernardino Mountains; Zeiner et al. 1988-1990). Miller and Stebbins (1964) reported highest densities in rocky/gravelly areas with a yucca overstory. This species is nocturnal (Zeiner et al. 1988-1990).

Townsend's Big-eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a BLM Sensitive species, USFS Sensitive species, and State-designated Species of Special Concern. It is found throughout California in a wide variety of habitats. This species is most common in mesic sites and roosts in the open, hanging from walls and ceilings. Roosting sites are limiting, and this species is extremely sensitive to human disturbance (CNDDB 2021).

Pallid Bat

Pallid bat (*Antrozous pallidus*) is a BLM Sensitive species and State-designated Species of Special Concern. This species inhabits chaparral; coastal scrub; desert wash; Great Basin grassland; Great Basin scrub; Mojavean desert scrub; riparian woodland; Sonoran desert scrub; upper montane coniferous forest; and valley & foothill grassland habitats. It is most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. This species is very sensitive to disturbance of roosting sites (CNDDB 2021).

Spotted Bat

Spotted bat (*Euderma maculatum*) is a BLM Sensitive species and State-designated Species of Special Concern. This species occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. It feeds over water, along washes, and almost entirely on moths. It needs rock crevices in cliffs or caves for roosting (CNDDB 2021).

Western Yellow Bat

Western yellow bat (*Lasiurus xanthinus*) is a State-designated Species of Special Concern that inhabits valley foothill riparian; desert riparian; desert wash; and palm oasis habitats. It roosts in trees, especially palms, and forages over water among trees (CNDDB 2021). The western yellow bat is uncommon in California but is assumed to occur year-round. Previous studies have suggested that this species is increasing in range and abundance. In California, it is present primarily during migratory season (Harris, upd. Feb 2008).

California Leaf-Nosed Bat

California leaf-nosed bat (*Macrotus californicus*) is a BLM Sensitive species and State-designated Species of Special Concern. This species inhabits desert riparian, desert wash, Sonoran desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. It needs rocky, rugged terrain with mines or caves for roosting (CNDDB 2021).

Mohave Ground Squirrel

Mohave ground squirrel (*Xerospermophilus mohavensis*) is a State-listed as *threatened* species and BLM Sensitive. It is restricted to the Mojave Desert and found in open desert scrub, chenopod scrub, Mojavean desert scrub, alkali scrub, and Joshua tree woodland. This species also feeds in annual grasslands and prefers sandy to gravelly soils, avoids rocky areas. It uses burrows at base of shrubs for cover (CNDDB 2021).

Candidate-Listed Mountain Lion

In 2019, a petition by the Center for Biological Diversity was submitted to request the evolutionarily significant unit (ESU) of mountain lions (*Puma concolor*) in southern and central coastal California be State-listed as *threatened* or *endangered* under the California Endangered Species Act. On April 21, 2020, a Notice of Findings issued by the California Fish and Game Commission provided notice that the Southern California/Central Coast ESU of mountain lions is State-listed as a candidate species, pursuant to Section 2068 of the Fish and Game Code. The 2019 petition states that the International Union for the Conservation of Nature (IUCN) deemed mountain lion populations as generally low and decreasing. However, the number of mountain lions throughout the state is unknown. California population densities are estimated to be 1.1 and 3.6 individuals per square kilometers. The adult sex ratio is estimated to be 2-3:1 and female-biased. On April 21, 2020, mountain lion was officially designated as a Candidate for State-listing under CESA. A final decision on the species status is pending in the future. The Department status review report was due November 3, 2021,

Habitat for mountain lion includes spans of relatively undisturbed brushy, rugged, and rocky habitats within desert scrub, pinyon-juniper woodland, riparian, coniferous forest, and oak woodlands. It utilizes rocky cliffs and ledges. This species requires large habitat blocks for adequate dispersal (RTLMA 2003c).

Survey Results

Pallid San Diego pocket mouse, Mohave ground squirrel, and several bat species such as pallid bat, Townsend's big-eared bat, spotted bat, western mastiff-bat, western yellow bat, and California leaf-nosed bat, have suitable habitat in the BSA via friable or sandy soils, contiguous spanses of desert habitat, desert washes, sparse pinyon and juniper woodlands, desert scrub, rocky outcrops, and ornamental trees such as honey mesquite (*Prosopis glandulosa*).

Small mammal burrows were observed throughout the BSA and Project vicinity during the October 13, 2021 habitat assessment. CNDDB historical occurrences for pallid San Diego pocket mouse were reported from 1950 to 2002. Potential suitable habitat, via sandy soils and camoflauge areas underneath shrubs, are present in the shoulder widening PIA. Mohave ground squirrel is generally very sensitive to disturbance, but a large expanse of open desert habitat, including desert scrub and Joshua tree woodland, is present throughout the BSA, which provides a low level of habitat suitability.

A 1985 CNDDB historial occurrence for western yellow bat was reported approximately 1 mile southwest of the southern portion of the BSA. Due to desert washes occurring throughout the BSA, water observed at the drainage improvement PIA (PM 0.3), and limited data on this species, it is assumed that western yellow bat has suitable habitat within the BSA and may occur. Water was observed during the October 13, 2021 habitat assessment in the culvert drainage PIA (PM 0.3), which serves as an attractant for this species. Avoidance and minimization measures, such as pre-construction surveys for the species, will be implemented.

Desert bighorn sheep, a BLM Sensitive species, is considered absent in the BSA. The BSA is adjacent to BLM land, which contains rocky precipes and high-elevation San Bernardino National Forest. This species is dependent on rocky and cave areas for breeding. Foraging, but not breeding, habitat for male and immature individuals is located in the BSA, as the BSA is near the toe-of-the-slope of the San Bernardino mountains and adjacent to desert open space habitat. According to the USFS, young rams in particular have a propensity to wander great distances to escape cover, particularly during the breeding season (USFS n.d.).

Mountain lion is not tracked by the CNDDB, and data is limited. The BSA is located adjacent to the San Bernardino-Little San Bernardino Connection habitat linkage area within the South Coast Missing Linkages project and contains large blocks of contiguous desert land with adequate connectivity for species dispersal. Although the Project is located near the San Bernardino-Little San Bernardino Connection habitat linkage and contiguous areas surround the Project, due to declining species numbers the likelihood of a mountain lion incidentally entering the Project area is low. As stated by a representative of the U.S. Fish and Wildlife Service in response to a mountain

lion sighting in a community adjacent to the San Bernardino mountains, “it is common for young mountain lions to wander outside what some would consider normal habitat in an attempt to establish their territory (Insider 2019)”. It is, therefore, assumed that mountain lion would utilize the BSA as foraging and explorative habitat rather than breeding habitat. Rocky ledges and caves for breeding and resting are absent in the BSA. Based on lack of breeding habitat, mountain lion is considered absent from the BSA. The PIA contains no suitable habitat.

Environmental Consequences

Build Alternative

Caltrans does not anticipate impacts to special-status mammal species when appropriate avoidance and minimization measures are implemented. The Project scope includes a shoulder widening area near the road, which would encroach onto areas of open desert space and potentially suitable habitat, and the installation of RSP, which could provide suitable habitat for bats within the large, corrugated steel pipe.

Appropriate avoidance and minimization measures will be implemented in order to avoid impacts to bats or burrowing small mammal species. Desert washes, sparse pinyon and juniper woodland species, sandy soils, and Sonoran desert scrub species occur in the BSA, which may provide suitable habitat for pallid San Diego pocket mouse. It is unlikely that Mohave ground squirrel will occur in the PIA, as the shoulder widening PIA is adjacent to a busy road and the remaining portion of the PIA is located within an urbanized area (City of Yucca Valley). Staging will occur on previously-disturbed areas or barren soils within the Caltrans ROW.

Bats generally prefer to roost in urbanized bridges and under-bridge components such as hinges and joint seals, but they can also roost within non-bridge components such as culverts and palm trees. Such features are present in the drainage improvement PIA at PM 0.3. Avoidance and minimization measures will be implemented in order to avoid species impacts.

Caltrans anticipates “no take” of the Candidate for State-listing mountain lion as part of proposed Project activities. The likelihood of a mountain lion incidentally entering the Project area is low. Due to a lack of special-status and limited data, no avoidance and minimization measures for mountain lion are anticipated at this time.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to special status mammal species.

Avoidance, Minimization, and/or Mitigation Measures

Bio-General-4 - Preconstruction Surveys: Preconstruction pallid San Diego pocket mouse and Mohave ground squirrel surveys must be conducted by a Contractor Supplied Biologist 7 days prior to project activities within the shoulder widening PIA (PM 20.3 to PM 23.0). If a pallid San Diego pocket mouse or Mohave ground squirrel is located, the Resident Engineer and Caltrans biologist must be contacted and additional measures (i.e. protocol surveys) and/or agency coordination may be required.

BIO-Bat-2 - Pre-Construction Survey and Monitoring by a Qualified Bat Biologist: Prior to construction start, a Contractor-supplied qualified bat biologist must conduct a survey to determine if bats are roosting in the culvert drainage PIA (at PM 0.3 and PM 3.59). If work must be scheduled during the bat maternity season (Apr 1–Aug 31), then a qualified bat biologist must perform biological monitoring throughout the duration of Project work. The qualified bat biologist must check for disturbance and ensure that measures are being implemented and documented.

BIO-Bat-3 - Bat Project Work Windows: It is recommended that work in the culvert drainage PIA (PM 0.3 and PM 3.59) be scheduled outside of the bat maternity season (Apr 1–Aug 31).

BIO-General-2 - Temporary Artificial Light Restrictions: To address impacts to bat species, artificial light must be directed at the work site to minimize light spillover onto adjacent habitat areas, if project activities occur at night.

2.3.5.5 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 later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or

adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct”.

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”. CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2021) that was approved for the project in February, 2022.

The Project BSA is located near the toe of the slope of the San Bernardino National Forest and Little San Bernardino Mountains. The BSA contains large swaths of desert habitat, which may provide suitable habitat and USFWS-designated physical and biological features for threatened and endangered species such as desert tortoise. Wildlife connectivity within the BSA is generally high. According to the terrestrial connectivity map, the BSA is mostly Rank 4, which represent the best connections between core natural areas.

The Project is not located within any U.S. Fish and Wildlife Service designated critical habitat. The nearest designated critical habitat is located in the San Bernardino National Forest, approximately 10 miles west of the BSA.

A habitat assessment site visit was conducted on October 13, 2021 by Caltrans Associate Environmental Planner/Biologist Gabriella Machal and Caltrans Associate Environmental Planner Ronn Knox. An analysis was performed to assess general habitat conditions. Jurisdictional delineation surveys were performed by a contractor supplied biologist.

A U.S. Fish and Wildlife Service official species list was obtained on September 29, 2021. A California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) list was obtained on September 29, 2021. The species lists identified five federal and three state listed threatened and endangered species in the project area. Threatened and endangered species and candidate species which have appropriate habitat in the project area are described below.

Lane Mountain Milk-vetch

Lane Mountain milk-vetch (*Astragalus jaegerianus*) is a federally-listed as *endangered* and BLM Sensitive species with a CRPR of 1B.1. This species inhabits Joshua tree woodland and Mojavean desert scrub habitats. It is found within dry, stony hillsides and desert mesas, in granite sand and gravel. It is commonly within Joshua trees, usually under shrubs at 975-1250 meters (~3,199-4,101 feet) in elevation (CNDDB 2021). Its bloom period is April to June (Baldwin et al. 2012).

Triple-Ribbed Milk-vetch

Triple-ribbed milk-vetch (*Astragalus tricarinatus)* is a federally-listed as *endangered* species with a CRPR of 1B.2. This species inhabits Joshua tree woodland and Sonoran desert scrub on hot, rocky slopes in canyons and along edges of boulder-strewn desert washes with *Larrea* and *Encelia* at 455-1,585 meters (~1,493-5,200 feet) in elevation (CNDDB 2021). Its bloom period is February to May (Baldwin et al. 2012).

Mojave Tarplant

Mojave tarplant (*Deinandra mohavensis*) is a BLM Sensitive and State-listed as *endangered* species with a CRPR of 1B.3. This species occurs in riparian scrub; coastal scrub; and chaparral habitats; can occur within ephemeral grassy areas or low sand bars in a riverbed at 640-1,645 meters (~3,000-5,397 feet) In elevation (CNDDB 2021). Its bloom period is May to January (Baldwin et al. 2012).

Parish's Daisy

Parish's daisy (*Erigeron parishii*) is a federally-listed as *threatened* and BLM Sensitive species with a CRPR of 1B.1. This species inhabits limestone, Mojavean desert scrub, and pinyon and juniper

woodlands, often on carbonate or limestone mountain slopes associated with drainages; can be sometimes found on granite at 1,050-2,245 meters (~3,445-7,365 feet) in elevation (CNDDB 2021). Its bloom period is May to June (Baldwin et al. 2012).

Crotch Bumble Bee

The Crotch bumble bee (*Bombus crotchii*) is a State-listed as *Candidate endangered*. Food preferences include snapdragon (*Antirrhinum* spp.), *Phacelia* (*Phacelia* spp.), farewell to spring (*Clarkia* spp.), bush poppy (*Dendromecon* spp.), desert poppy (*Eschscholzia* spp.), and buckwheat (*Eriogonum* spp.) (CNDDB 2021).

Monarch Butterfly

The Monarch butterfly (*Danaus plexippus*) is a federally-listed *Candidate* for federal listing species under FESA. This species typically inhabits closed-cone coniferous forest but can occur near other nectar sources. Roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico (CNDDB 2021).

Desert Tortoise

The Mojave population of the desert tortoise (*Gopherus agassizii*) was listed as a federally *endangered* species by emergency rule on August 4, 1989 and as a threatened species by final rule on April 2, 1990. The Mojave population includes all desert tortoises north and west of the Colorado River in California, southern Nevada, northwestern Arizona, and southwestern Utah. Federally designated critical habitat for the Mojave Desert population was finalized in February 1994, and included portions of the Mojave and Colorado deserts that contain the “primary constituent elements and focuses on areas that are essential to the species’ recovery” (U.S. Fish and Wildlife Service, 1994). The term “primary constituent elements” has now been changed to “physical and biological features.” Mojave desert tortoises primarily inhabit creosote bush scrub, saltbush scrub, and Joshua tree woodland dominated by creosote bush, white bursage, cactus, saltbush (*Atriplex* spp.) or Joshua tree generally below 1,524 meters (5,000 feet) elevation. Tortoises are most often found near washes and are most active in spring, early summer, and fall, when annual plants are most abundant (Caltrans Project EA 0G900).

Mohave Ground Squirrel

Mohave ground squirrel (*Xerospermophilus mohavensis*) is a State-listed as *threatened* species and BLM Sensitive. It is restricted to the Mojave Desert and found in open desert scrub, chenopod scrub, Mojavean desert scrub, alkali scrub, and Joshua tree woodland. This species also feeds in annual grasslands and prefers sandy to gravelly soils, avoids rocky areas. It uses burrows at base of shrubs for cover (CNDDB 2021).

Survey Results

Lane Mountain milk-vetch, Triple-ribbed milk-vetch, Mojave tar plant, and Parish's daisy all have suitable habitat in the BSA via rocky slopes, Mojavean desert scrub, Joshua tree woodland, possible remnants of higher elevation natural communities such as pinyon and juniper woodland, rocky hillsides, friable sandy soils, creosote bush scrub, and desert washes. The PIA contains paved roadway, shoulder widening, and drainage improvements. Previous Caltrans project surveys (Caltrans projects EA 0F660; EA 0G900; and EA 1H100) during rare plant season did not observe these species.

Crotch bumble bee and Monarch butterfly have suitable habitat in the BSA. Crotch bumble bee may occur on sparse coastal sage scrub natural community species, such as *Eriogonum fasciculatum*, in the BSA. Other food species such as *Phacelia ssp*., *Clarkia ssp*., and *Eschscholzia ssp*. are annuals and may be prevalent in the general vicinity. One recent CNDDB occurrence (2019) for Crotch bumble bee was reported approximately 4 miles south of the BSA. Monarch butterfly was directly observed during the October 13, 2021 habitat assessment. One Monarch butterfly was observed flying near the middle of the ROW near the Johnson Valley Off-Highway Vehicle Recreation Area, adjacent to Boone Road. The closest milkweed suitable habitat (a preferred Monarch Butterfly food source) is located south of the San Bernardino National Forest (approximately 4 miles from the BSA).

The project area also contains suitable habitat and a USFWS designated physical and biological feature for desert tortoise. Due to the dominant habitat type being creosote bush scrub (a USFWS designated physical and biological feature), the project scope including roadsides, and historical occurrences (1988-2005), this species is assumed to be present within the vicinity of the project. It is presumed to have a moderate to high probability of occurrence within the Project Impact Area, especially during drainage improvements and shoulder widening.

Mohave ground squirrel is generally very sensitive to disturbance, but a large expanse of open desert habitat, including desert scrub and Joshua tree woodland, is present throughout the BSA, which provides a low level of habitat suitability. It is unlikely that Mohave ground squirrel will occur in the PIA, as the shoulder widening is adjacent to a busy road and the remaining portion of the PIA is located within an urbanized area.

Environmental Consequences

Build Alternative

Proposed activities will occur primarily within the SR-247 roadway prism, and shoulder widening areas (PM 20.3 to PM 23.0), Yucca Wash and select drainages for rock slope protection and cleanout maintenance (PM 0.3, PM 3.0, and PM 3.59). The scope of work consists of milling and overlaying from PM 0.0 to PM 23.0; constructing shoulder and centerline rumble strips from PM

0.00 to PM 23.0; shoulder widening to current Caltrans standards from PM 20.3 to PM 23.0; culvert/drainage improvements at PM 0.3, PM 3.0, and PM 3.59; and installing bicycle lane markings and signs from PM 0.30 to PM 23.0.

The project generally poses minimal potential to impact adjacent habitat, however the project scope includes a shoulder widening area near the road, which would encroach onto areas of open desert space and potentially suitable habitat. It also includes the installation of drainage improvements and rock slope protection, which could affect suitable habitat for listed species.

Threatened and Endangered plant species may occur within either the shoulder widening or culvert drainage PIA. Therefore, appropriate avoidance and minimization measures for rare plants are deemed necessary. Avoidance measures for construction staging areas and invasive species control will also be implemented.

The shoulder widening and culvert drainage PIA may contain marginal habitat for Crotch bumble bee and Monarch butterfly via shrub cover or surface water inundation after rain events. Although Monarch butterfly was directly observed, the Project Impact Area does not have any modeled milkweed habitat suitability and is not anticipated to impact milkweed species, which are required for breeding. Caltrans anticipates no impacts to Crotch bumble bee and Monarch butterfly with the implementation of appropriate avoidance and minimization measures, including pre-construction surveys for Crotch bumble bee and Monarch butterfly host plants.

Desert tortoise tends to occur at roadsides, therefore, it is presumed to have a moderate to high probability of occurrence within the Project Impact Area, especially during drainage improvements and shoulder widening. With avoidance and minimization measures, it is unlikely that individual reptiles will be crushed, buried, or killed by construction equipment and ground disturbing activities as a part of project activities. Caltrans has however determined that project impacts “may affect, and are likely to adversely affect” desert tortoise. Formal Section 7 consultation will be conducted with the USFWS for impacts to desert tortoise. The “may affect, likely to adversely affect” detemination is covered under the streamlined biological opinion from the USFWS, as part of the programmatic biological opinion agreement between Caltrans and the USFWS dated February 17, 2021. Since desert tortoise is State-listed as a *threatened* species, a CDFW 2081(b) Incidental Take Permit will be filed for desert tortoise as well. This will be determined in future pre-application meetings with CDFW.

It is unlikely that Mohave ground squirrel will occur in the PIA, as the shoulder widening PIA is adjacent to a busy road and the remaining portion of the PIA is located within an urbanized area (City of Yucca Valley). Staging will occur on previously-disturbed areas or barren soils within the Caltrans ROW. Caltrans therefore does not anticipate impacts to Mohave ground squirrel with appropriate avoidance and minimization measures in place.

The project will therefore have No Effect on all Threatened and Endangered species listed on the USFWS species list for the project area, with the exception of Desert tortoise. It has been determined that the project May Affect, and is Likely to Adversely Affect Desert tortoise. The project will result in No Take of all Threatened and Endangered species listed on the CDFW species lists for the project area, with the exception of Desert tortoise . “Take” is defined under Section 2050-2098 of the California Fish and Game Code, as “hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture or kill’ State-listed threatened or endangered plant and animal species. Table 2.5 below provides a summary of the effect findings for Threatened and Endangered species federally listed as potentially present in the project area.

Table 2.5 - FESA Preliminary Effect Findings

Common Name	Scientific Name	Status	Effect Finding	Effect Finding for Critical Habitat
Plants				
Lane Mountain milk-vetch	*Astragalus jaegerianus*	FE	No Effect	N/A
triple-ribbed milk-vetch	*Astragalus tricarinatus*	FE	No Effect	N/A
Parish’s daisy	*Erigeron parishii*	FT	No Effect	N/A
Cushenbury oxytheca	*Acanthoscyphus parishii var. goodmaniana*	FE	No Effect	N/A
Cushenbury milk-vetch	*Astragalus albens*	FE	No Effect	N/A
Cushenbury buckwheat	*Eriogonum ovalifolium var. vineum*	FE	No Effect	N/A
Ash Meadows gum-plant	*Grindelia fraxinipratensis*	FT	No Effect	N/A
Amargosa niterwort	*Nitrophila mohavensis*	FE	No Effect	N/A
spring-loving centaury	*Zeltnera nemophila*	FT	No Effect	N/A
Invertebrates				
Monarch butterfly	*Danaus plexippus*	FC	No Effect	N/A
Fish				
Mohave tui chub	*Siphateles bicolor mohavensis*	FE	No Effect	N/A
Amphibians and Reptiles				
desert tortoise	*Gopherus agassizii*	FT	May Affect, Likely to Adversely Affect	N/A
Birds				
least Bell’s vireo	*Vireo bellii pusillus*	FE	No Effect	N/A
southwestern willow flycatcher	*Empidonax traillii extimus*	FE	No Effect	N/A
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT	No Effect	N/A
Mammals				
Amargosa vole	*Microtus californicus scirpensis*	FE	No Effect	N/A

*Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT)

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects would occur to threatened and endangered species.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans has determined that project impacts “may affect, [and are] likely to adversely affect” desert tortoise. Formal Section 7 consultation will be conducted with the USFWS for impacts to desert tortoise. The “may affect, likely to adversely affect” determination is covered under the Streamlined Biological Opinion from the USFWS, as part of the Programmatic Biological Opinion agreement between Caltrans and the USFWS dated February 17, 2021 (please see Appendix G). Avoidance and minimization measures including BIO-General-7, BIO-Reptile-1, BIO-Reptile-2, BIO-Reptile-5, BIO-Reptile-8, BIO-DT-1, and BIO-DT-2 described below will be implemented to satisfy the programmatic biological opinion.

The project will have No Effect and No Take on all other Federally and State-listed threatened and endangered species listed above, with the implementation of avoidance and minimization measures BIO-General-1, BIO-General-4, BIO-General-6, BIO-General-16, Bio-Plant-1, and Bio-Arthropod-1, described previously in this document.

Bio-General-7 - Worker Environmental Awareness Program (WEAP): A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.

Bio-Reptile-1 - Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.

Bio-Reptile-2 - Pre-Project Surveys: To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.

Bio-Reptile-5 - Trash/Predation: Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert

tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.

Bio-Reptile-8 - Rock Slope Protection: To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be filled with concrete grout or sand.

Bio-DT-1 - Agency Notification & Reporting Requirements: Any desert tortoises within or near the job site found alive, injured, or dead during the implementation of the Project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.

Bio-DT-2 - Desert Tortoise Translocation: If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.

2.3.5.6 INVASIVE SPECIES

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

Affected Environment

The information in this section summarizes the Natural Environment Study (Minimal Impact) report (Caltrans 2021) that was approved for the project in February, 2022.

California Invasive Plant Council (Cal-IPC) noxious weeds species were observed during the October 13, 2021 habitat assessment. Limited ranking noxious weeds included *Schismus spp.*, puncture vine (*Tribulus terrestris*), and *Eucalyptus spp*. Moderate ranking noxious weeds include

Bermuda grass (*Cynodon dactylon*). High ranking noxious weeds include tamarisk (*Tamarix ramosissima*), black mustard (*Brassica nigra*), and *Bromus spp*.

Environmental Consequences

Build Alternative

The project has the potential to promote the spread of invasive species. Treatment and disposal methods must therefore be approved by the Caltrans biologist prior to vegetation removal. Invasive species will not be used in any landscaping needed for the project.

In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species will be used by the Department for erosion control or landscaping in this project. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Measures that will be used to combat the spread of invasive species are discussed below.

No-Build Alternative

No construction activities would occur under the No-Build Alternative; no effects that would promote the spread of invasive species would occur.

Avoidance, Minimization, and/or Mitigation Measures

BIO-General-16 - Invasive Weed Control: To address impacts to the shoulder widening PIA (PM 20.3 to PM 23.0) and drainage improvement PIA (PM 0.3 and PM 3.59), the Contractor Supplied biologist must identify the following CAL-IPC noxious weed species, plus any others incidentally observed -- Limited species: *Schismus spp*., puncture vine (*Tribulus terrestris*), and *Eucalyptus spp*. CAL-IPC Moderate rated species: Bermuda grass (*Cynodon dactylon*). CAL-IPC High rated species: tamarisk (*Tamarix ramosissima*). Treatment and disposal methods must be approved by the Caltrans biologist prior to vegetation removal.

2.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

Methodology

Caltrans, in conjunction with FHWA and the United States Environmental Protection Agency, developed a guidance document titled Guidance for Preparers of Cumulative Impact Analysis (2005). The following is based on the referenced guidance.

As specified in the guidance, if a proposed project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource and accordingly need not be included in the evaluation of potential cumulative impacts. As discussed at the beginning of Chapter 2 or in the related sections of Chapter 2 of this Environmental Document, the proposed project will not result in direct or indirect impacts on the following resources; therefore, no discussion is provided for these resources in the evaluation of potential cumulative impacts:

- Land Use
- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Growth
- Farmlands and Timberlands
- Community Impacts
- Environmental Justice
- Utilities/Emergency Services
- Traffic and Transportation/Pedestrian and Bicycle Facilities
- Visual/Aesthetics
- Paleontology
- Air Quality
- Noise
- Cultural Resources
- Hydrology & Floodplains
- Water Quality and Storm Water Runoff
- Geology/Soils/Seismic/Topography
- National Marine Fisheries Service (NMFS)
- Natural Communities
- Plant Species
- Animal Species
- Invasive Species
- Section 4(f) Resources

Resources Evaluated for Potential Cumulative Impacts

The following discussion of potential cumulative impacts is presented by environmental resource area:

- Relocations and Real Property Acquisition
- Hazardous Waste/Materials
- Wetlands & Other Waters
- Threatened & Endangered Species

The project listed below is in the unincorporated portion of San Bernardino County, and will occur in the vicinity of the proposed project at approximately the same time. There are no other planned or

reasonably foreseeable project improvements identified within the resource study areas for any of the environmental resources evaluated for potential cumulative impacts.

Caltrans Project EA 08-1L920 Desert Advance Mitigation

This project, located on SR-247 in San Bernardino County, Post Mile 0.0 to PM 23.0, provides advance mitigation for Caltrans projects 1J270, 1J300, 1L530, and 1L800. It is an off-system Advance Mitigation Program (AMP), which uses project scoping documents for establishing mitigation credits. The mitigation strategy addresses 150 acres of desert tortoise suitable habitat, 4 acres of desert waters and 0.2 acres of wetlands. It establishes 42 desert tortoise suitable habitat credits, 27 ephemeral wash credits, and 1 wetland credit. These credits are provided to meet future permitting/regulatory requirements of transportation projects within the mitigation service area defined by the Mojave Desert Ecoregion Section Regional Advance Mitigation Needs Assessment (RAMNA) and the Mojave River Watershed.

Relocations and Real Property Acquisition

The resource study area for cumulative relocations and real property acquisition includes the area within 41 feet from the current Edge of Pavement (EOP) on both sides of the highway along SR-247 from PM 0.0 to PM 23.0. Implementation of the project is expected to require additional ROW from both private and government entities, in the area where shoulder widening to current standards will be implemented (PM 20.3 to PM 23.0).

Project needs will require 49 partial acquisitions, with no full parcel acquisitions. The land to be acquired for the project is currently undeveloped (vacant), without any structural improvements. No residents or businesses need to be relocated.

The Categorical Exemption/Categorical Exclusion for the cumulative project determined that the cumulative project would have no relocations or land use changes. It is off the Caltrans highway network, and therefore there will be no land acquisitions in the vicinity of the proposed project. Therefore, the proposed project, when combined with the cumulative project, would not result in substantial cumulative impacts related to relocations and real property acquisition.

Hazardous Waste/Materials

The resource study area for the cumulative hazardous waste/materials analysis includes the area within 0.5 mile of each side of the proposed project. Implementation of the project is not expected to result in the creation of any new health hazards or expose people to potential new health hazards because the project involves pavement rehabilitation (cold plane and overlay), shoulder widening to current standards, culvert and drainage repairs and improvements, regrading of the roadway,

constructing rock slope protection, and installation of bicycle lane markings and signs. No storage of toxic materials or chemicals would occur, and the project is not anticipated to increase the potential hazardous materials in the project area. The Initial Site Assessment (ISA) Checklist completed for this project determined that the potential for hazardous waste involvement is “High Risk.”

The Categorical Exemption/Categorical Exclusion for the cumulative project determined that the cumulative project would have no impacts on hazards and hazardous materials because there are no construction activities proposed. Therefore, the proposed project, when combined with the cumulative project, would not result in substantial cumulative impacts related to hazards and hazardous materials, with implementation of measures HAZ-1, HAZ-2, and HAZ-3.

Threatened & Endangered Species

The resource study area for the cumulative biological resources impacts analysis encompasses the Biological Study Area (BSA), which consists of the Project Impact Area (PIA) plus an additional 500-foot buffer to assess potential impacts to amphibians, reptiles, raptor and listed avian species, and mammals. A rare plant-specific buffer consists of the PIA and an additional 100-foot buffer. The BSA serves to identify the maximum extent of biological disturbances that could be caused by the project, and takes into consideration the potential for both direct impacts and indirect impacts associated with ground disturbance and noise due to project activities. The BSA is therefore considered appropriate as the resource study area for this cumulative analysis.

The Categorical Exemption/Categorical Exclusion for the cumulative project determined that the cumulative project would have no impacts on Biological Resources because there are no construction activities proposed. There will be No Effect to special status species listed under the Federal Endangered Species Act or U.S. Fish & Wildlife Service Designated Critical Habitat, and “No Take” of State-listed species. There will be No Effect to riparian habitat, sensitive natural communities, wetlands & other waters, or wildlife connectivity. The project does not conflict with local, regional, or state habitat conservation plans. Therefore, the proposed project, when combined with the cumulative project, would not result in substantial cumulative impacts related to biological resources, with implementation of measures **Bio-General-1, Bio-General-4, Bio-General-6, Bio-General-7, Bio-General-16, Bio-Plant-1, Bio-Arthropod-1, Bio-Reptile-1, Bio-Reptile-2, Bio-Reptile-5, Bio-Reptile-8, Bio-DT-1, and Bio-DT-2**.

Wetlands & Other Waters

The resource study area (RSA) for the cumulative Wetlands & Other Waters impacts analysis encompasses the Biological Study Area plus project area jurisdictional drainages that may be

affected by the proposed project, The RSA serves to identify the maximum extent of impacts to jurisdictional waters that could be caused by the project, and takes into consideration the potential for both temporary impacts and permanent impacts.

The Categorical Exemption/Categorical Exclusion for the cumulative project determined that the cumulative project would have no impacts on Wetlands and Other Waters because there are no construction activities proposed. There will be no impacts to Waters of the United States or Waters of the State. There will be No Effect to riparian habitat. The project does not conflict with local, regional, or state habitat conservation plans. Therefore, the proposed project, when combined with the cumulative project, would not result in substantial cumulative impacts related to Wetlands and Other Waters.

Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

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

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.1.1 CEQA ENVIRONMENTAL CHECKLIST

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the

following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

AESTHETICS

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

CEQA Significance Determinations for Aesthetics

a) <u>No Impact</u>

The proposed project would not have a substantial adverse impact on a scenic vista because the project improvements are not above the plane of the existing roadway.

b) <u>No Impact</u>

The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within this State Scenic Highway

c) <u>No Impact</u>

The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

d) <u>No Impact</u>

The proposed project would not include new lighting elements in an area in which there is currently no lighting.

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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

CEQA Significance Determinations for Agriculture and Forest Resources

a) <u>No Impact</u>

The proposed project would convert unique farmland to non-agricultural use because there is no unique farmland in the project vicinity. No mitigation is required.

b, c) <u>No Impact</u>

The project will not conflict with existing zoning for Williamson Act contract lands and forest lands because there are no farmland or forest land parcels within the project limits.

d) <u>No Impact</u>

The project will not result in the loss of forest land or conversion of forest land to non-forest use because there are no forest or timberlands within the project limits.

e) <u>No Impact</u>

The project will not result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use because there are no farmlands or forest lands in the project vicinity.

AIR QUALITY

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

CEQA Significance Determinations for Air Quality

a, b) <u>No Impact</u>

The proposed project would not conflict with or obstruct implementation of the applicable air quality plan or result in a cumulatively considerable net increase of any criteria pollutant because it is exempt from Environmental Protect Agency's (EPA's) Transportation Conformity Determination Requirements, as it falls under one of the categories of exempt projects listed in Caltrans Carbon Monoxide (CO) Protocol Table 1 or Table 2 of 40 Code of Federal Regulations (CFR) §93. No mitigation is required.

c) <u>No Impact</u>

The proposed project would not expose sensitive receptors to substantial pollutant concentrations because there are no sensitive receptors in the project vicinity.

d) <u>Less Than Significant Impact</u>

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The project will comply with construction standards adopted by the South Coast Air Quality Management District (SCAQMD) as well as Caltrans standardized procedures for minimizing air pollutants during construction. No mitigation is required.

BIOLOGICAL RESOURCES

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

CEQA Significance Determinations for Biological Resources

a) <u>Less Than Significant with Mitigation Incorporated</u>

The proposed project would have a substantial adverse effect, either directly or through habitat modifications, on federally- and state-endangered desert tortoise.

The following mitigation measures have been included (see the Threatened and Endangered Species section in Chapter 2 for a detailed discussion). With implementation of the measures below, the impacts to desert tortoise would nevertheless still be significant and would result in a "May Affect, Likely to Adversely Affect" determination under Section 7 of the Federal Endangered Species Act:

Bio-General-6 - Species Avoidance: If during project activities a western Joshua tree (*Yucca brevifolia*) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities..

Bio-General-7 - Worker Environmental Awareness Program (WEAP): A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.

Bio-Reptile-1 - Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.

Bio-Reptile-2 - Pre-Project Surveys: To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.

Bio-Reptile-5 - Trash/Predation: Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.

Bio-Reptile-8 - Rock Slope Protection: To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be filled with concrete grout or sand.

Bio-DT-1 - Agency Notification & Reporting Requirements: Any desert tortoises within or near the job site found alive, injured, or dead during the implementation of the Project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.

Bio-DT-2 - Desert Tortoise Translocation: If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.

b) <u>Less Than Significant with Mitigation Incorporated</u>

The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community or state- or federally-protected wetlands.

Measures to protect State jurisdictional waters resources will be provided in the CDFW Lake and Streambed Alteration Agreement (CFGC Section 1602) permit.

c, d) <u>No Impact</u>

This project will not affect any migratory wildlife corridors or the movement of any native resident or migratory fish or wildlife species. This project will not impede the use of native wildlife nursery sites. The project will not affect any federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc).

e, f) <u>No Impact</u>

This project will not conflict with any local policies or ordinances protecting biological resources, or with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

CULTURAL RESOURCES

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

CEQA Significance Determinations for Cultural Resources

a, b) <u>No Impact</u>

The project will not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5, or cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 because Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined that there are no historic properties within the APE. There are no historical resources present, as outlined in CEQA Guidelines 15064.5(a). No cultural resources are present within the APE. No mitigation is required.

c) <u>Less Than Significant Impact</u>

Caltrans has determined that the project is unlikely to disturb any human remains, including those interred outside of dedicated cemeteries, as no human remain have previously been discovered in the project vicinity during highway excavations. The following standard avoidance and minimization measures will be implemented to minimize potential cultural resource impacts:

CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Andrew Walters, Senior Environmental Planner, Cultural Studies [(909) 260-5178] or Gary Jones, District Native American Coordinator [(909) 261-8157] so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

ENERGY

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

CEQA Significance Determinations for Energy

a) <u>No Impact</u>

The project will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, because it will apply fuel efficient measures both for construction equipment and traffic management during delays or detours; it will use energy and water efficient construction methodologies; and it will recommend that material within a local radius of the project area and/or locally available building material be utilized.

b) <u>No Impact</u>

The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency because it will apply fuel efficient measures both for construction equipment and traffic management during delays or detours; it will use energy and water efficient construction methodologies.

GEOLOGY AND SOILS

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

CEQA Significance Determinations for Geology and Soils

a) <u>Less Than Significant Impact</u>

The project is expected to have a less than significant impact by directly or indirectly causing potential substantial adverse effects due to the rupture of a known earthquake fault or due to strong seismic ground shaking, The San Bernardino County Land Use Plan General Plan Geological Hazard Overlay Map does not identify any geologic hazards for the project area (San Bernardino County 1989, 2009).

b, c, d, e, f) <u>No Impact</u>

The project is expected to have no impact due to seismic-related ground failure, including liquefaction, landslides, substantial soil erosion, loss of topsoil, lateral spreading, subsidence, collapse, expansive soil, or destroy a unique geologic feature because the San Bernardino County Land Use Plan General Plan Geological Hazard Overlay Map does not identify any geologic hazards for the project area (San Bernardino County 1989, 2009). There is no landslide or liquefaction susceptibility within the project limits.

GREENHOUSE GAS EMISSIONS

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

CEQA Significance Determinations for Greenhouse Gas Emissions

a) <u>No Impact</u>

The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Greenhouse Gas (GHG) emission analysis has determined this project to be qualitative and will not require implementation of the FHWA Infrastructure Carbon Estimator tool to calculate GHG emissions. However, strategies to reduce GHG emissions will be considered to comply with the climate change requirements under Executive Order B-30-15. This project will reduce GHG emissions by reducing roadway construction waste, reducing the frequency of maintenance vehicle idle times associated with traffic control to maintain the roadway, applying fuel efficient measures both for construction equipment and traffic management during delays or detours, using energy and water efficient construction methodologies, and recommending that material within a local radius of the project area and/or locally available building material be utilized.

b) <u>No Impact</u>

The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

HAZARDS AND HAZARDOUS MATERIALS

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

CEQA Significance Determinations for Hazards and Hazardous Materials

a) <u>No Impact</u>

The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) <u>Less Than Significant impact</u>

The project is not expected to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) <u>No Impact</u>

The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. There is no school within the project vicinity.

d) <u>Less Than Significant With Mitigation Incorporated</u>

The project is located near a Formerly Used Defense Site/Unexploded Ordinance Listing (FUDS/UXO) site. This site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. Mitigation may be required pending the outcome of the Initial Site Assessment (ISA).

With the following mitigation measures incorporated, the proposed project would have less than significant effects to Hazards and Hazardous Materials:

HAZ-1: A full Initial Site Assessment (ISA) is required due to right of way acquisition and the requirement for temporary construction easements.

HAZ-2: A Preliminary Site Investigation (PSI) is required to determine if any known hazardous waste site is in or near the project area.

HAZ-3: A Phase II Environmental Site Assessment will be required for acquisition of the new properties to identify hazardous and potentially hazardous waste contamination within and adjacent to the project location.

e) <u>No Impact</u>

The project is not located within an airport land use plan or, where such a plan has not been adopted, or within two miles of a public airport or public use airport.

f) <u>Less Than Significant Impact</u>

The project is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, with the implementation of the Traffic Management Plan (TMP

g) <u>No Impact</u>

The project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

HYDROLOGY AND WATER QUALITY

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

CEQA Significance Determinations for Hydrology and Water Quality

a, b) <u>No Impact</u>

The project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Standard Best Management Practices (BMP's) will be implemented. No additional avoidance, minimization, or mitigation measures are required.

The project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge.

c) <u>Less Than Significant Impact</u>

The project will not substantially alter the existing drainage pattern of the site or area. It will add impervious surfaces, but it is not expected to substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

The project will not 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. Drainage facilities would be included as part of the roadway improvements under the Build Alternative to maintain drainage functionality.

d, e) <u>No Impact</u>

The project is not in a flood hazard, tsunami, or seiche zones, and will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

LAND USE AND PLANNING

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

CEQA Significance Determinations for Land Use and Planning

c) <u>No Impact</u>

The project will not physically divide an established community because the roadway configuration will not change, other than the construction of roadway shoulders from PM 20.3 to PM 23.0. The other project roadway and drainage improvements, and bicycle lanes and signage also will not physically divide an established community.

<u>b) No Impact</u>

The project will not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

MINERAL RESOURCES

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

CEQA Significance Determinations for Mineral Resources

a, b) <u>No Impact</u>

There are no known mineral resources in the immediate project vicinity. The project is therefore not expected to 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, or 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.

NOISE

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

CEQA Significance Determinations for Noise

a, b) <u>Less Than Significant Impact</u>

The project is not expected to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance; it is not expected to generate excessive groundborne vibration or groundborne noise levels.

As a “Type III Project” per the Traffic Noise Analysis Protocol under 23 CFR 772.7, the project is exempt from traffic noise analysis.

c) <u>No Impact</u>

The project is not located within the vicinity of a private airstrip or an airport land use plan or within two miles of a public airport or public use airport.

POPULATION AND HOUSING

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

CEQA Significance Determinations for Population and Housing

a) <u>No Impact</u>

The project is not a capacity-increasing project and does not result in any improved access to the project vicinity. It therefore will not induce substantial unplanned population growth in the project area, either directly or indirectly, such as through the extension of roads or other transportation infrastructure.

b) <u>No Impact</u>

The project will not displace any people or structures; Only “sliver take” acquisitions are involved. The project will therefore not require the construction of replacement housing elsewhere.

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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Public Services

a) <u>Less Than Significant Impact</u>

With the implementation of the Traffic Management Plan (TMP), the project Is not expected to 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 in order to maintain acceptable service ratios, response times or other performance objectives for any public service, including fire protection and police protection.

a) <u>No Impact</u>

The project is not expected to result in in any substantial adverse physical impacts to schools, parks, or other public facilities with the implementation of the TMP.

RECREATION

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Recreation

a) <u>No Impact</u>

The project is not expected to 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. The only parks and recreational facilities near the project site are Johnson Valley OHV Recreation Area and Community Center Park. Use of these facilities is not expected to change as a result of the project.

b) <u>No Impact</u>

The project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

TRANSPORTATION

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

CEQA Significance Determinations for Transportation

a, b) <u>No Impact</u>

The project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. It will not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

c) <u>No Impact</u>

The project will not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.

d) <u>Less Than Significant Impact</u>

With the Traffic Management Plan in place the project will not result in inadequate emergency access.

TRIBAL CULTURAL RESOURCES

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

CEQA Significance Determinations for Tribal Cultural Resources

a) <u>No Impact</u>

The project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k),

a request to search the Sacred Lands File (SLF) was sent to the Native American Heritage Commission (NAHC) on April 7, 2021. The NAHC responded on April 21, 2021 stating that the SLF search result was Negative for any cultural resources. The NAHC also provided a list of Native American groups recommended for contact regarding resources in the project area.

Letters requesting information about cultural resources or concerns regarding the project were sent to two Native American tribes:

- Twenty-Nine Palms Band of Mission Indians, Anthony Madrigal, THPO. Initial letter sent February 23, 2021.

- San Manuel Band of Mission Indians, Jessica Mauck, Director, CRM. Initial letter sent February 23, 2021.

b) No Impact

The project would not cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Caltrans, pursuant to Section 106 PA Stipulation IX.A, determined a Finding of No Historic Properties Affected is appropriate for this undertaking because there are no historic properties within the APE. Caltrans PQS has determined there are No Historical Resources present, as outlined in CEQA Guidelines 15064.5(a). No cultural resources are present within the APE. The Sacred Lands File search result was negative for any cultural resources.

UTILITIES AND SERVICE SYSTEMS

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

CEQA Significance Determinations for Utilities and Service Systems

a, b) <u>No Impact</u>

There will be no relocations of utilities or changes to the water supply as a result of this project. The project will not result in any change in land use which would cause an increase in demand for water supplies.

c, d) <u>No Impact</u>

The project will not result in a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; it will not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure.

e) <u>No Impact</u>

The project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

WILDFIRE

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

CEQA Significance Determinations for Wildfire

a) <u>Less Than Significant Impact</u>

With the Traffic Management Plan in place, the project will not substantially impair an adopted emergency response plan or emergency evacuation plan.

b) <u>No Impact</u>

The project will not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.

c) <u>No Impact</u>

The project does not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

d) <u>No Impact</u>

The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Drainage improvements will be accompanied with standard Caltrans BMP's.

MANDATORY FINDINGS OF SIGNIFICANCE

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

CEQA Significance Determinations for Mandatory Findings of Significance

a) <u>Less Than Significant Impact With Mitigation Incorporated</u>

The project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory with mitigation Incorporated.

b) <u>No Impact</u>

The project does not have impacts that are individually limited, but cumulatively considerable.

c) <u>No Impact</u>

The project will not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

3.2 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2 that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO_2.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.2.1 REGULATORY SETTING

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

Federal

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

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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) as amended by the Energy Independence and Security Act (EISA) of 2007; and Corporate Average Fuel Economy (CAFE) Standards. This act established fuel economy standards for on-road motor vehicles sold in the United States. The U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) sets and enforces the CAFE standards based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation's energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014).

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. This rulemaking revised lower emissions standards that had been previously established for model years 2021 through 2026 in the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part Two in June 2020. The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050 (U.S. EPA 2021a).

State

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

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

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

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

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

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

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

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMT CO_2e). [GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent," or CO_2e. The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

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

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

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

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

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

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It

orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.2.2 ENVIRONMENTAL SETTING

The proposed project is in a rural area of San Bernardino County with a lightly developed road network. The project area is mainly undeveloped open space, with some very light density residential areas. SR-247 connects several High Desert communities, providing access to rural residential areas as well as several military bases including the Marine Corps Air Ground Combat Center Twentynine Palms, the Marine Corps Logistics Base Barstow and the National Training Center Fort Irwin, via I-15, I-40 and SR-62. Within the project limits, the highway traverses flat and rolling desert terrain and passes through the incorporated Town of Yucca Valley and the San Bernardino County communities of Flamingo Heights, Johnson Valley and Landers.

East of Lucerne Valley and the junction with SR-18, the area traversed by SR-247 is sparsely populated with no roadside services until reaching the Town of Yucca Valley and the junction with SR-62. The project area passes through both privately owned land and Bureau of Land Management land adjacent to the existing right of way. There are no practical alternate routes in the project vicinity. Traffic counts are low and SR-247 is rarely if ever congested.

This project is a candidate for programming in the 20xx SHOPP under the 201.121 Minor Pavement Rehabilitation Program (formerly CAPM). A RTP/SCS by SCAG guides transportation and housing development in the project area.

GHG Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. The 1990-2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80

percent were CO_2, 10 percent were CH_4, and 7 percent were N_2O; the balance consisted of fluorinated gases. CO_2 emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 3.1, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021b, 2021c).

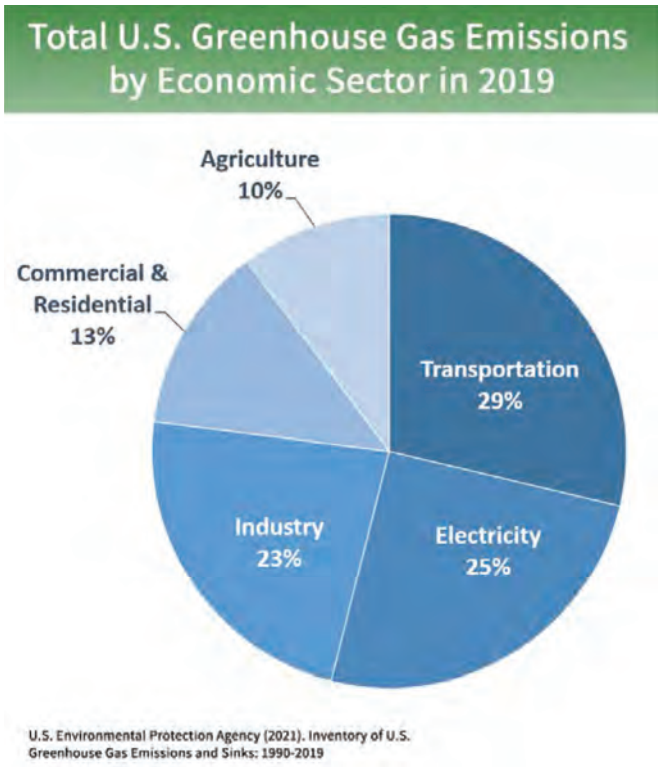

Figure 3.1. - U.S. 2019 Greenhouse Gas Emissions (Source: U.S. EPA 2021d)

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory reported emissions trends from 2000 to 2019. It found total California emissions were 418.2 MMTCO2e in 2019, a reduction of 7.2 MMTCO$_2$e since 2018 and almost 13 MMTCO$_2$e below the statewide 2020 limit of 431 MMTCO$_2$e. The transportation sector (including intrastate aviation and off road sources) was responsible for about 40 percent of direct GHG emissions, a 3.5 MMTCO$_2$e decrease from 2018 (Figure 3.2). Overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (Figure 3.3) (ARB 2020a).

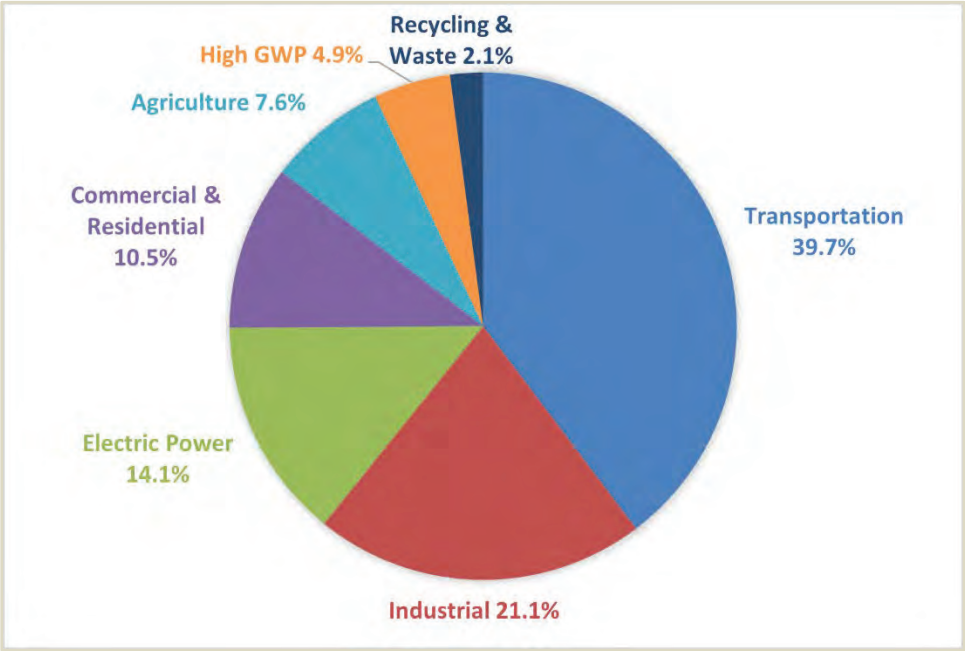

Figure 3.2 – California 2019 Greenhouse Gas Emissions by Economic Sector (Source: ARB 2021a)

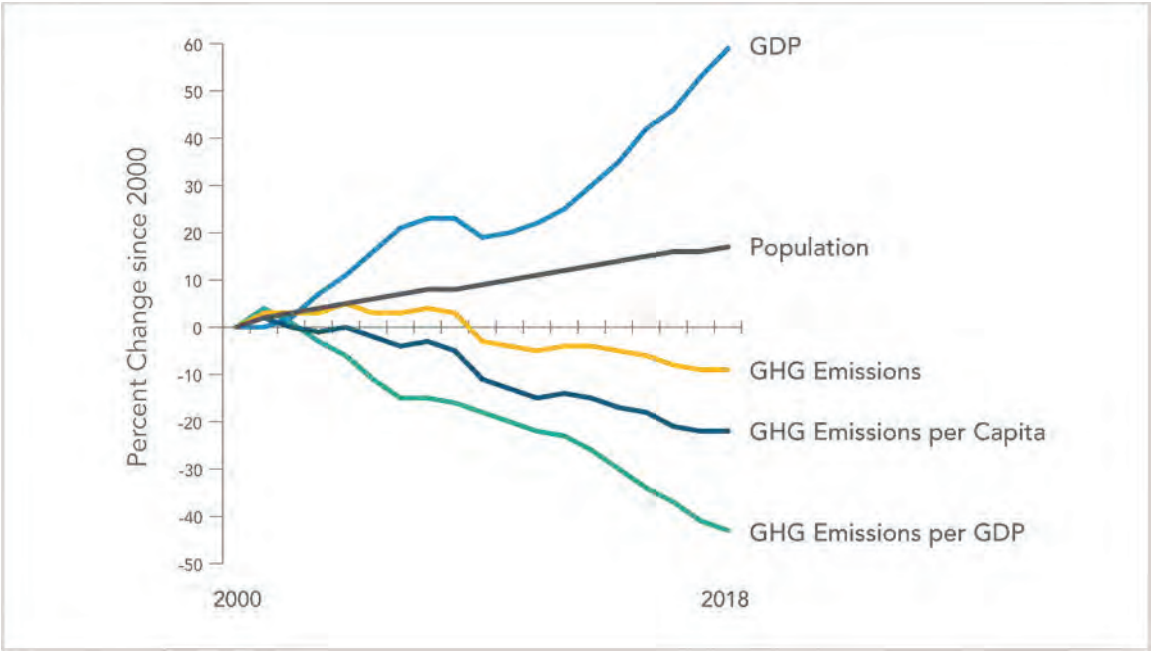

Figure 3.3 - Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2021a)

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

Regional Plans

ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for The Southern California Association of Governments (SCAG). The regional reduction target for SCAG is 19 percent by 2035 (ARB 2021b).

The proposed project is included in Connect SoCal, the RTP/SCS for the SCAG region. The RTP/SCS reflects the region's commitment to improve the region's mobility, sustainability, and economy. The Connect SoCal goals for GHG reduction include the following: improve mobility, accessibility, reliability, and travel safety for people and goods; enhance the preservation security, and resilience of the regional transportation system; increase person and goods movement and travel choices within the transportation system; and reduce greenhouse gas emissions and improve air quality (SCAG 2020). The project has a grouped FTIP ID that is included in the Connect SoCal project list.

The proposed project is within the jurisdiction of the San Bernardino County Transportation Authority (SBCTA) and the San Bernardino Council of Governments (SBCOG). SBCTA participates in developing the SCAG RTP/SCS. It also published a non-motorized transportation plan, the Inland Empire Comprehensive Multimodal Corridor Plan, rail and transit studies, and varied other sustainability studies and planning documents to guide the region's response to statewide initiatives to reduce vehicle travel and GHG emissions (SBCTA 2021). The San Bernardino County Regional Greenhouse Gas Reduction Plan (San Bernardino County 2020) recommends GHG reduction targets and measures for partnering jurisdictions, within San Bernardino County, to address State GHG emissions goals. It recommends GHG reduction targets and measures specific to each partnership jurisdiction. Transportation related measures include encouraging use of mass transit, carpooling, ridesharing, and telecommuting; improving efficiency through signal synchronization;expand bike routes including pedestrian and bicycle friendly streets; and community fleet.

PROJECT ANALYSIS

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO2, CH4, N2O, and HFCs. CO2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH4 and N2O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector.

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

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

Operational Emissions

The purpose of the proposed project is to extend the pavement life and improve the ride quality of the facility. It is also proposed to implement preservation treatments to existing asphalt concrete (AC) pavement where needed. The project Build Alternative includes pavement rehabilitation, shoulder widening to current standards, culvert and drainage repairs and improvements, regrading of the roadway, constructing rock slope protection, and installation of bicycle lane markings and signs. The project will not increase the vehicle capacity of the roadway. Because the project would not increase the number of travel lanes on SR-247, no increase in vehicle miles traveled (VMT) would occur as result of project implementation. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected. In addition, the proposed project would provide bicycle lanes, smoother pavement surfaces, culvert improvements and installation of rock slope protection that when used, could help lessen the production of transportation-induced GHG emissions.

Construction Emissions

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

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

The proposed project would not increase vehicle capacity, therefore a quantitative GHG emissions analysis was performed. The FHWA Infrastructure Carbon Estimator tool was used to calculate GHG emissions. Strategies to reduce GHG emissions will be considered to comply with the climate change requirements under Executive Order B-30-15. This project will reduce GHG emissions by reducing roadway construction waste, reducing the frequency of maintenance vehicle idle times associated with traffic control to maintain the roadway, applying fuel efficient measures both for construction equipment and traffic management during delays or detours, using energy and water efficient construction methodologies, and recommending that material within a local radius of the project area and/or locally available building material be utilized.

GHG emissions related to anticipated construction activities was calculated for the project using the Caltrans Construction Emissions Tool (CAL-CET) to quantify the expected construction-related GHG emissions related to the proposed project. This model estimates the construction greenhouse gas (GHG) from the project by calculating the construction emissions for criteria pollutants, carbon dioxide, and GHG related gases. Construction of the proposed project is expected to last 261 working days and generate 1389.6945 tons of $CO2_e$. Table 3-1 below provides a summary of project emissions from potential pollutants including GHG.

Table 3-1 Summary of Project Construction-Related Emissions

EA 1J270 Summary Project Emissions Output Generated with Caltrans Air Model Cal – CET2018-v1.1 .xlsm												
	Summary of Project Emissions and Fuel Consumption											
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel
Daily Average (lbs/day; gal fuel/day)	5.50	5.11	28.65	35.98	36.36	5.84	8666	0.26	0.44	0.38	0.48	36
Maximum Daily Average (lbs/day; gal fuel/day)	11.15	10.37	75.53	72.70	193.02	19.88	15617	0.51	0.94	0.62	1.46	65
Annual Average (tons/year; gal fuel/year)	0.69	0.64	3.58	4.50	4.55	0.73	1083	0.03	0.05	0.05	0.06	89,932

NOTE: Working day/year assumed = 261; GWP Per IPCC Second Assessment Report) United Nations Framework Convention Climate Change: Methane GWP = 56 (20 Yrs) 21 (100 yrs); CO_2 GWP = 1.0; N_2O (Nitrous Oxide) GWP = 280 (20 Yrs), 310 (100 yrs); Black Carb. GWP = 20-year Global Warming Potential (GWP) of 4,470, and a 100-year GWP of 1,055–2,240. Black Carbon (BC) = 1648; (shortest life – between 3-8 days); Average GWP for CFC = 4027; GWP – HFC = (1210 -12,400) Avg. = 4027; SF_6 (Sulfur Hexafluoride) = 23,500.

Table 3-1 above exhibits quantities of project construction emissions for criteria pollutants as well as carbon dioxide and other greenhouse gases (Methane, Nitrous Oxide, Hydro-flouro-Carbon, Black Carbon). The total anticipated GHG estimated resulting from the proposed project construction is estimated as 10,649 pounds per day as CO_2e ; 1,390 Tons/year CO_2e; and 1,261 Tonnes/year CO_2e (Metric).

A Transportation Management Plan (TMP) would be prepared during the final design phase of the proposed project to minimize traffic delays and idling during construction.

Additional opportunities to reduce GHG emissions through both Caltrans' internal operations and contractor's operations include the following best management practices and innovative methods to reduce or eliminate construction GHG emissions:

- Construction Methods and Specifications
- Encourage Use of Clean Equipment
- Automated Machine Guidance
- Intelligent Compaction
- Field Engineer Tablet
- Precast Concrete Pavement System
- Advanced Paving Materials
- Electricity for Lighting
- Individual Vehicle Efficiency

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

3.2.3 CEQA CONCLUSION

While the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the

emissions of greenhouse gases. With implementation of construction GHG-reduction measures, the impact would be less than significant.

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

3.2.4 GREENHOUSE GAS REDUCTION STRATEGIES

Statewide **E**fforts

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (ARB 2022).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

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

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and

build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released *Natural and Working Lands Climate Smart Strategy Draft* for public comment in October 2021.

Caltrans Activities

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

Climate Action Plan for Transportation Investments

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

Caltrans Strategic Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Departmental and State goals.

Project-**L**evel **GHG R**eduction **S**trategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the proposed project:

- Reducing roadway construction waste;
- Reducing the frequency of maintenance vehicle idle times associated with traffic control;
- Applying fuel efficient measures both for construction equipment and traffic management during delays or detours;
- Using energy and water efficient construction methodologies;
- Recommending that material within a local radius of the project area and/or locally available building material be utilized
- The proposed project would comply with Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reductions, which require contractors to comply with all laws applicable to the project and to certify that they are aware of and will comply with all ARB emission reduction regulations.
- The proposed project would comply with Caltrans Standard Specifications Section 14-9, Air Quality, which requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality.
- The proposed project would comply with all South Coast Air Quality Management District (SCAQMD) rules and regulations that apply in the project area. These rules and regulations require the reduction of vehicle emissions and energy use which may help reduce the project's GHG emissions.
- The proposed project would provide facilities that promote mobility for bicyclist.
- A Transportation Management Plan (TMP) would be prepared during the final design phase of the proposed project to minimize traffic delays and idling during construction.
- The proposed project would recycle construction debris as practicable.

- The proposed project would comply with Caltrans Standard Specifications that require that idling time for lane closures during construction must be limited to ten minutes in each direction.

3.2.5 ADAPTATION

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

Federal Efforts

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

The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways."

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

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

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) is the state's effort to "translate the state of climate science into useful information for action." It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The State's approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience a 2.7 to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages that will impact agricultural production; a 77% increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67% of Southern California beaches and inundation of billions of dollars' worth of residential and commercial buildings due to sea level rise (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018. This EO also gave rise to the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the *California Climate Adaptation Strategy*, incorporating key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate Smart Strategy*, *Wildfire and Forest Resilience Action Plan*, *Water Resilience Portfolio,* and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions,

use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2021).

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

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

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Project Adaptation Analysis

Sea-Level Rise

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

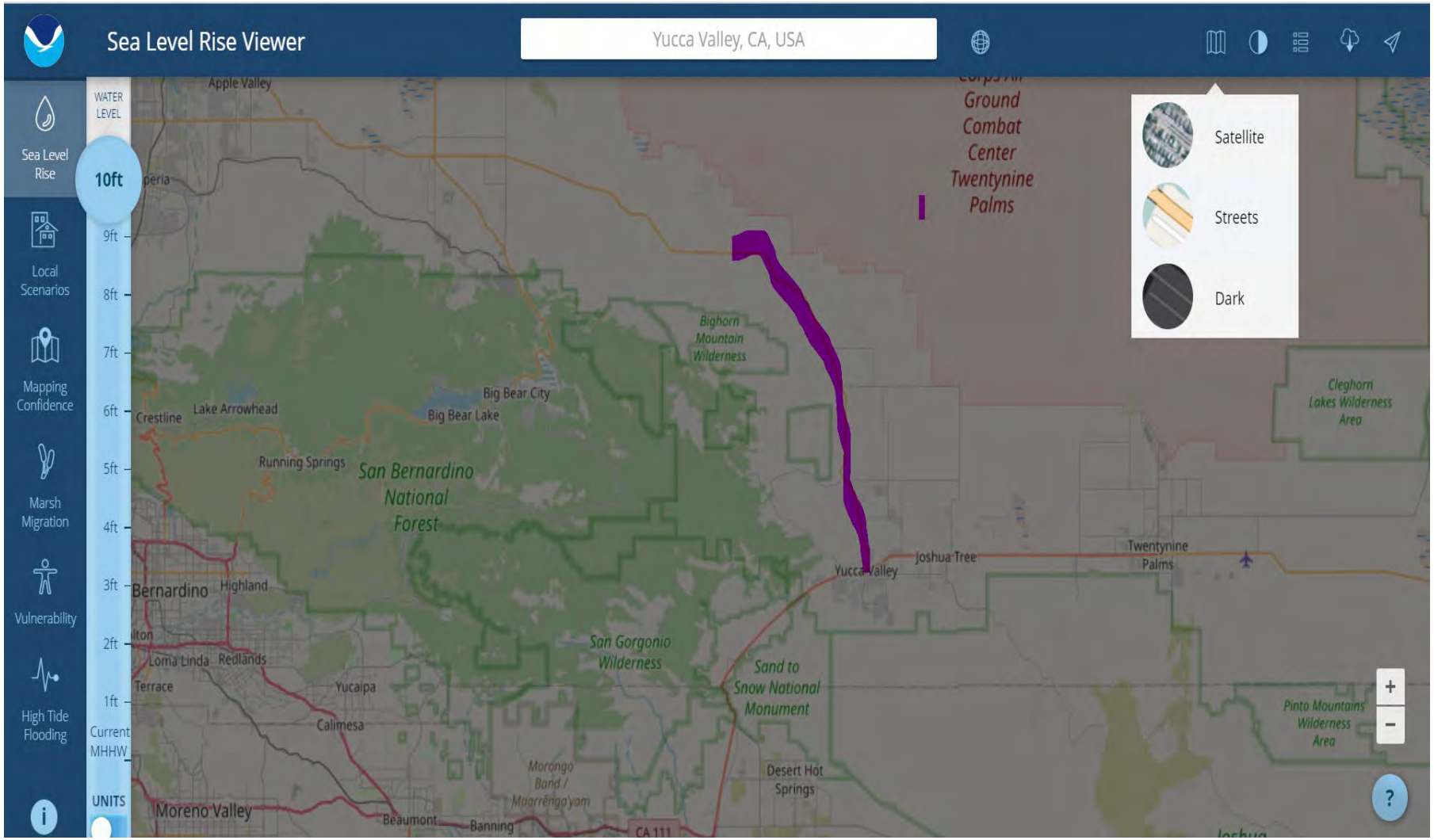

Figure 3.4 - Project Area Sea Level Rise Flood Potential

PRECIPITATION AND FLOODING

Climate change analyses for bridge and culvert projects in floodplains outside the coastal zone should consider the risk of climate change. Historical data is no longer a reliable predictor of future conditions. Changes in precipitation scenarios under future climate conditions include more extreme precipitation events and more precipitation falling as rain than snow, depending on geographic location. These factors and others, such as land use changes that increase impervious surface in the watershed, can affect flood magnitude and frequency (FHWA 2016).

National Flood Insurance Program (NFIP) maps for the project area indicate that the project is within a Federal Emergency Management Agency (FEMA) designated one-percent annual chance (100-year) floodplain at Yucca Creek, at the existing crossing of SR-247 (PM 0.3). At this point there is a Zone AE (100-year) floodplain designation. A moderate flood hazard (Zone X, between the 100-year and 500-year floodplain) exists for small areas on both of Yucca Creek.

Implementation of the Build Alternative will add 5.89 acres of additional impervious area. This increase in impervious area would cause a decrease in infiltration and increase the volume of runoff during a storm event; this can lead to changes in receiving waters from erosion and accretion. It is expected, however, that the increase in volume and velocity of water related to the increase in impervious area would have a very low, nominal impact on the existing drainage system. Additionally, when construction is complete, the Disturbed Soil Area (DSA) will be stabilized to prevent erosion. Caltrans standard BMP's will be designed to handle 100% of the Water Quality Volume (WQV) or Water Quality Flow (WQF) from the new impervious surface (NIS) in accordance with the Caltrans MS4 permit and the SWMP.

WILDFIRE

The project is not in a location vulnerable to wildfire. It is not located on or near lands classified as very high fire hazard severity zones by the California Department of Forestry and Fire's (CAL FIRE) Fire Hazard Severity Zone Mapping tool (CAL FIRE 2022). Additionally, this project is on an existing alignment; it is therefore unlikely to exacerbate wildfire risks or post-fire flooding/landslides.

References

California Air Resources Board (ARB). 2021a. *California Greenhouse Gas Emissions Inventory–2021 Edition*. https://ww2.arb.ca.gov/cc/inventory/data/data.htm. Accessed: October 13, 2021.

California Air Resources Board (ARB). 2021b. *SB 375 Regional Plan Climate Targets*. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: October 13, 2021.

California Air Resources Board (ARB). 2022. *Climate Change*. https://ww2.arb.ca.gov/our-work/topics/climate-change. Accessed: January 12, 2022.

Climate Change Infrastructure Working Group. 2018. *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. September. https://files.resources.ca.gov/climate/climate-safe-infrastructure-working-group/. Accessed: December 13, 2021.

California Department of Forestry and Fire Protection (CAL FIRE) FHSZ Viewer https://egis.fire.ca.gov/FHSZ/. Accessed: 02/28/2022

California Department of Transportation (Caltrans). 2018. *Caltrans Climate Change Vulnerability Assessments. District 8 Technical Report*. December. Prepared by WSP. https://dot.ca.gov/programs/transportation-planning/2019-climate-change-vulnerability-assessments. California Department of Transportation (Caltrans). 2020. *Caltrans Greenhouse Gas Emissions and Mitigation Report*. Final. August. Prepared by ICF, Sacramento, CA. https://dot.ca.gov/programs/public-affairs/mile-marker/summer-2021/ghg. Accessed: December 13, 2021.

California Department of Transportation (Caltrans). 2021a. *California Transportation Plan 2050*. February. https://dot.ca.gov/programs/transportation-planning/state-planning/california-transportation-plan. Accessed: March 3, 2021.

California Department of Transportation (Caltrans). 2021b. *Caltrans 2020-2024 Strategic Plan*. https://dot.ca.gov/-/media/dot-media/programs/risk-strategic-management/documents/sp-2020-16p-web-a11y.pdf. Accessed: May 19, 2021.

California Environmental Protection Agency. 2015. *California Climate Strategy*. https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/Climate-Documents-2015yr-CAStrategy.pdf. Accessed: April 28, 2021.

California Governor's Office of Planning and Research (OPR). 2015. *A Strategy for California @ 50 Million.* November. https://opr.ca.gov/docs/EGPR_Nov_2015.pdf. Accessed: January 12, 2022.

California Natural Resources Agency. 2021. *Draft California Climate Adaptation Strategy*. October 18. https://resources.ca.gov/Initiatives/Building-Climate-Resilience/2021-State-Adaptation-Strategy-Update. Accessed: December 12, 2021.

California State Transportation Agency. 2021. *Climate Action Plan for Transportation Infrastructure (CAPTI)*. https://calsta.ca.gov/subject-areas/climate-action-plan. Accessed: December 13, 2021.

Federal Highway Administration (FHWA). 2019. *Sustainability.* https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019. Accessed: December 13, 2021.

Federal Highway Administration (FHWA). No date. *Sustainable Highways Initiative*. https://www.sustainablehighways.dot.gov/overview.aspx. Accessed: August 21, 2019.

San Bernardino County Regional Greenhouse Gas Reduction Plan. 2021 https://www.gosbcta.com/plan/regional-greenhouse-gas-reduction-plan/. Accessed February 28, 2022

State of California. 2018. *California's Fourth Climate Change Assessment*. http://www.climateassessment.ca.gov/. Accessed: December 12, 2021.

U.S. Department of Transportation (U.S. DOT). 2011. *Policy Statement on Climate Change Adaptation*. June. https://web.archive.org/web/20111017070809/http://www.dot.gov/docs/climatepolicystatement.pdf. Accessed: January 13, 2022.

U.S. Department of Transportation (U.S. DOT). 2014. *Corporate Average Fuel Economy (CAFE) Standards*. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards. Accessed: January 12, 2022.

U.S. Environmental Protection Agency (U.S. EPA). 2021a. Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026. December. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed: January 12, 2022.

U.S. Environmental Protection Agency (U.S. EPA). 2021b. Fast Facts 1990-2019. EPA 430-F-21-011. April. https://www.epa.gov/sites/production/files/2021-04/documents/fastfacts-1990-2019.pdf.pdf. Accessed: April 28, 2021.

U.S. Environmental Protection Agency (U.S. EPA). 2021c. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2019. EPA 430-R-21-005. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019. Accessed: May 5, 2021.

U.S. Environmental Protection Agency (U.S. EPA). 2021d. Sources of Greenhouse Gas Emissions. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed: May 5, 2021.

Chapter 4 – Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency correspondence, consultation with Native American individuals and organizations, public notices, and Project Development Team (PDT) meetings. This chapter summarizes the results of the Department's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Consultation and Coordination with Public Agencies and Native American Tribes

The following provides a summary of key meetings, correspondence, and/or coordination pertinent to the development of the project.

4.1.1 Bureau of Land Management

A copy of district specific Cultural Resources Reports were prepared for the project and sent to the Bureau of Land Management (BLM) for the portion within their management area. Copies of the Cultural Resources Report were sent to the BLM Barstow offices on December 15, 2021. The Barstow office replied via email on December 16, 2021 stating they had no issues with the project and that they agreed with the findings of the report.

The project is within the Land Use Plan Amendment (LUPA) Conservation and Recreation Designations: Areas of Critical Environmental Concern and California Desert National Conservation Lands.

4.1.2 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) was contacted regarding federally listed threatened and endangered species potentially occurring in the vicinity of the project. On September 29, 2021, a USFWS/IPaC species list was requested and received from the USFWS Environmental Conservation Online System.

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4.1.3 California Department of Fish & Wildlife

The California Department of Fish and Wildlife (CDFW) was also contacted regarding State listed threatened and endangered species potentially occurring in the vicinity of the project. On September 29, 2021, a CDFW/CNDDB species list was requested and received from the CDFW/ CNDDB RareFind 5 online system.

4.1.4 Native American Tribes

The Native American Heritage Commission (NAHC) was contacted on April 7, 2021 to request a search of the Sacred Lands File (SLF). The NAHC responded on April 21, 2021 stating that the SLF search result was Negative for any cultural resources. The NAHC also provided a list of Native American groups recommended for contact regarding resources in the project area.

Letters requesting information about cultural resources or concerns regarding the project were consequently sent to two Native American tribes:

- Twenty-Nine Palms Band of Mission Indians, Anthony Madrigal, THPO. Initial letter sent February 23, 2021. No response was received. A draft copy of the Archaeological Survey Report was sent to the Tribe on November 16, 2021. There has been no response from the Tribe to date.

- San Manuel Band of Mission Indians, Jessica Mauck, Director, CRM. Initial letter sent February 23, 2021. A response was received on March 22, 2021 from Ryan Nordness stating the Tribe wished to consult and requesting copies of draft reports for review. A draft copy of the ASR was sent to the Tribe on November 16, 2021. Mr. Nordness responded by email on December 2, 2021 stating that the Tribe agreed with the finding of no historic properties effected.

4.2 Agency Correspondence and Documentation

Agency correspondence and documentation is included on the pages that follow in the order listed below.

4.2.1 Biological Resources

- USFWS IPaC Official Endangered Species Act Species List; September 29, 2021

- California Natural Diversity Data Base (CNDDB) RareFind 5; September 29, 2021

- Request for Programmatic Biological Opinion Amendment Concurrence; April 6, 2022

Applications to the California Department of Fish and Wildlife for a 1602 permit (Agreement for Streambed Alteration), and a Section 2081(b) permit (Agreement for Threatened and Endangered Species) is expected after FED approval.

An application to the California Regional Water Quality Control Board for a Waste Discharge Requirements Permit (WDR) is expected after FED approval.

4.2.2 Cultural Resources

- April 7, 2021: Requests to Native American Heritage Commission to search Sacred Lands File.
- April 21, 2021: Response from Native American Heritage Commission – Search of Sacred Lands File.

4.3 Public Participation

Caltrans provided an opportunity for public review and comment on the Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment between April 6, 2022 and May 6, 2022. The period of public review corresponded with the publication date in the Hi Desert Star newspaper of the initial Notice of Opportunity for a public hearing and with the availability of the IS-MND/EA document via email. A mailout of the Notice of Opportunity was also made to 43 project area property owners, resource agencies, public agencies, and other interested parties on April 5, 2022.

In response to the Notice of Opportunity one person requested the IS-MND/EA document via email on April 6, 2022. It was sent to the requesting party on April 8, 2022. No further requests or comments were received from this person.

On April 26, 2022 a phone call was received from a property owner asking if their parcel would be impacted by the project. It was verified by phone that a partial acquisition of their property may be necessary. On May 4, 2022 the property owner was emailed the right of way pamphlet "Your Property Your Transportation Project" regarding how Caltrans conducts the property acquisition process (included in Appendix A of this document).

A copy of the Notice of Opportunity and the newspaper Proof of Publication are provided at the end of this section.

PUBLIC NOTICE

Notice of Intent to Adopt a Mitigated Negative Declaration
Notice of Availability of an Environmental Assessment
Do you want a public hearing for changes proposed for State Route 247 Pavement Rehabilitation and Shoulder Widening Project

WHAT IS BEING PLANNED?	The California Department of Transportation (Caltrans) proposes to extend the life of the existing pavement and improve ride quality along SR-247 from SR-62 to 0.4 miles north of Gin Road in San Bernardino County. The scope of work consists of cold plane and overlay from post mile (PM) 0.0 to PM 23.0, shoulder widening to current standards from PM 20.3 to PM 23.0, culvert and drainage repairs and improvements at PM 3.0 and PM 3.59, regrading of the roadway between PM 2.9 and PM 3.0, constructing rock slope protection (RSP) at PM 0.3, and installation of bicycle lane markings and signs from PM 1.6 to PM 23.0. Construction of the 8.0' standard shoulder will enhance safety along the route. Improvements to the drainage system at the three locations will extend the life of the facility, enhance safety, and reduce maintenance needs at these locations. The total length of the project is 23 miles.
WHY THIS AD?	Caltrans has studied the effects this project may have on the environment. The studies show the project will not significantly affect the quality of the environment. The report that explains why is called an *Initial Study/Environmental Assessment*. This notice is to tell you of the preparation of the *Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment* and of its availability for you to read and to offer the opportunity for a public hearing.
WHAT IS AVAILABLE?	The approved *Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment*, including associated maps, as well as the technical studies relied upon in conjunction with its preparation, are available upon request to sr247-improvements@dot.ca.gov.
WHERE YOU COME IN	Do you have any comments on the project Mitigated Negative Declaration and the Initial Study/Environmental Assessment? Do you disagree with the findings of our study as set forth in the Proposed Mitigated Negative Declaration? Would you care to make any other comments on the project? Would you like a public hearing? Please submit your comments or request for a public hearing in writing no later than Thursday, May 6, 2022, to: Shawn Oriaz, Senior Environmental Planner California Department of Transportation 464 West Fourth Street, 6th Floor, Mail Station 827 San Bernardino, CA 92401-1400 or via e-mail to: sr247-improvements@dot.ca.gov. Please include "State Route 247 Pavement Rehabilitation and Shoulder Widening Project" in the subject line. The date we will begin accepting comments is April 6, 2022. If there are no major comments, Caltrans will proceed with the project's design.
CONTACT	For more information about this study or any transportation matter, contact the Caltrans District 8 Office of Public Affairs at (909) 383-4631. For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, call or write to Shawn Oriaz, Senior Environmental Planner, 464 W. 4th Street, 6th Floor MS-827, San Bernardino, CA 92401; (909) 501-5743; or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 854-7784 (Spanish and English Speech to Speech), or dial 711.

California Newspaper Service Bureau
Public Notice Advertising Since 1934
Tel 1-800-788-7840 Fax 1-800-474-9444
Local Offices and Representatives in:
Los Angeles, Santa Ana, San Diego, Riverside/San Bernardino,
San Francisco, Oakland, San Jose, Sacramento
Special Services Available in Phoenix

DECLARATION

I am a resident of Los Angeles County, over the age of eighteen years and not a party to or interested in the matter noticed.

The notice, of which the annexed is a printed copy appeared in the:

HI-DESERT STAR

On the following dates:

04/06/2022

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Los Angeles, California, this

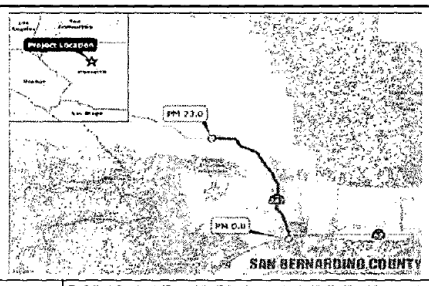
27th day of April 2022

Curtis Small
Signature

3562194
"The only Public Notice which is justifiable from the standpoint of true economy and the public interest, is that which reaches those who are affected by it"

* A 0 0 0 0 0 6 0 0 4 1 9 4 *

PUBLIC NOTICE
NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
NOTICE OF AVAILABILITY OF AN ENVIRONMENTAL ASSESSMENT
DO YOU WANT A PUBLIC HEARING FOR CHANGES PROPOSED FOR
STATE ROUTE 247 PAVEMENT REHABILITATION AND SHOULDER WIDENING PROJECT



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CNSB#3562194

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: September 29, 2021
Consultation Code: 08ECAR00-2021-SLI-1506
Event Code: 08ECAR00-2021-E-03536
Project Name: 1J270 Minor Pavement Rehabilitation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2021-SLI-1506
Event Code: Some(08ECAR00-2021-E-03536)
Project Name: 1J270 Minor Pavement Rehabilitation
Project Type: TRANSPORTATION
Project Description: SBD/247/0.0-23.0
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.2463306,-116.43965713370758,14z

Counties: San Bernardino County, California

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered

Reptiles

NAME	STATUS
Desert Tortoise *Gopherus agassizii* Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Parish's Daisy *Erigeron parishii*	Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.	
Species profile: https://ecos.fws.gov/ecp/species/8446	
Triple-ribbed Milk-vetch *Astragalus tricarinatus*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3370	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Bighorn Canyon (3411635) OR Landers (3411634) OR Yucca Valley North (3411624) OR Yucca Valley South (3411614))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Anniella stebbinsi Southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Astragalus bernardinus San Bernardino milk-vetch	PDFAB0F190	None	None	G3	S3	1B.2
Astragalus tricarinatus triple-ribbed milk-vetch	PDFAB0F920	Endangered	None	G2	S2	1B.2
Berberis fremontii Fremont barberry	PDBER06060	None	None	G5	S3	2B.3
Boechera dispar pinyon rockcress	PDBRA060F0	None	None	G3	S3	2B.3
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Chaetodipus fallax pallidus pallid San Diego pocket mouse	AMAFD05032	None	None	G5T3T4	S3S4	SSC
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Cymopterus multinervatus purple-nerve cymopterus	PDAPI0U0Q0	None	None	G4G5	S2	2B.2
Erigeron parishii Parish's daisy	PDAST3M310	Threatened	None	G2	S2	1B.1
Gopherus agassizii desert tortoise	ARAAF01012	Threatened	Threatened	G3	S2S3	
Lasiurus xanthinus western yellow bat	AMACC05070	None	None	G4G5	S3	SSC
Linanthus bernardinus Pioneertown linanthus	PDPLM09190	None	None	G1	S1	1B.2
Linanthus maculatus ssp. maculatus Little San Bernardino Mtns. linanthus	PDPLM041Y1	None	None	G2T2	S2	1B.2
Monardella robisonii Robison's monardella	PDLAM180K0	None	None	G3	S3	1B.3
Ovis canadensis nelsoni desert bighorn sheep	AMALE04013	None	None	G4T4	S3	FP
Paranomada californica California cuckoo bee	IIHYM82010	None	None	G1	S1	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Saltugilia latimeri Latimer's woodland-gilia	PDPLM0H010	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
Streptanthus campestris southern jewelflower	PDBRA2G0B0	None	None	G3	S3	1B.3
Toxostoma bendirei Bendire's thrasher	ABPBK06050	None	None	G4	S3	SSC
Toxostoma lecontei Le Conte's thrasher	ABPBK06100	None	None	G4	S3	SSC
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 24

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENVIRONMENTAL PLANNING
464 WEST FOURTH STREET
SAN BERNARDINO, CA. 92401-1400
MAIN (909) 383-4561
PHONE (909)-388-7725
FAX (909) 388-7048
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

April 6, 2022

Rollie White, Assistant Field Supervisor
Palm Springs Fish and Wildlife
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

Dear Mr. White,

Subject: Request for Programmatic Biological Opinion (PBO) Amendment Concurrence for Desert Tortoise for EA 1J270

The California Department of Transportation (Caltrans) District 8 The California Department of Transportation (Caltrans) District 8 proposes Minor Pavement Rehabilitation (formerly, Capital Preventive Maintenance [CAPM]) along State Route (SR) 247 in both incorporated and unincorporated San Bernardino County, from SR 62 to 0.4 miles north of Gin Road, in order to extend the life of the existing pavement and improve ride quality. The scope of work consists of milling and overlaying from post mile (PM) 0.0 to PM 23.0. In addition, this project includes implementing complete streets elements from PM 20.3 to PM 23.0. Work will include: (1) cold plane and overlay with 0.20-foot rubberized hot mix asphalt-gap graded (RHMA-G). Existing pavement distresses will be repaired before overlaying the pavement; (2) constructing shoulder and centerline rumble strips from PM 0.00 to PM 23.0; (3) shoulder widening to current Caltrans standards from PM 20.3 to PM 23.0; (4) culvert/drainage improvements in several locations identified on the plans set; and (5) installing Bike Lane Markings and Signs from PM 1.6 to PM 23.0.

The area contains suitable habitat and a USFWS designated physical and biological feature for desert tortoise, creosote bush (*Larrea tridentata*). Wildlife connectivity within the BSA is generally high. According to the terrestrial connectivity map, the BSA is mostly Rank 4, which represent the best connections between core natural areas. Federally-designated critical habitat does not occur within the BSA, thus Project activities will not impact such areas. Caltrans has determined the project will have *no effect* on federally-designated critical habitat. The following table summarizes the acres permanent and temporary impacts to desert tortoise suitable habitat and designated desert tortoise critical habitat.

Impact Type	Temporary (Acres)	Permanent (Acres)
Desert Tortoise Suitable Habitat	10.42	9.24
Desert Tortoise Critical Habitat	0.00	0.0

The project will implement the enclosed avoidance and minimization measures from the March 30, 2022 Natural Environment Study Minimal Impacts (NESMI), which includes species avoidance, a Worker Environmental Awareness Program (WEAP); equipment flagging; pre-construction surveys; trash/predation avoidance; special rock slope protection requirements; agency notification and reporting requirements; and desert tortoise translocation guidelines.

Under Section 7 of the Federal Endangered Species Act, the federally-listed as *threatened* desert tortoise (*Gopherus agassizii*) is assumed present on-site via suitable habitat and historical occurrences within the vicinity (1988-2005). Previous Caltrans projects did not observe special-status reptile species during surveys. It is presumed to have a moderate to high probability of occurrence within the Project Impact Area, especially during drainage improvements and shoulder widening. Caltrans has determined the proposed project "May Affect, Likely to Adversely Affect" desert tortoise and its suitable habitat. Based on the enclosed NESMI and its attachments, Caltrans requests a PBO Concurrence for Desert Tortoise for the proposed Project. A California Department of Fish and Wildlife (CDFW) 2081(b) Incidental Take Permit will be filed for desert tortoise as well.

We hope to receive your comments or concerns on this information by May 6, 2022. If you have any questions, contact the Project's biologist: Gabriella Machal at 909-261-2442 or email at Gabriella.Machal@dot.ca.gov.

Sincerely,

Nancy Frost

Nancy Frost
Senior Environmental Planner (Natural Sciences)
Biological Studies and Surveys Branch
District 8/Riverside and San Bernardino Counties
Enclosure

Bio-General-6	**Species Avoidance**: If during project activities a western Joshua tree (*Yucca brevifolia*) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities .
Bio-General-7	**Worker Environmental Awareness Program (WEAP):** A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.
Bio-Reptile-1	**Equipment Flagging**: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.
Bio-Reptile-2	**Pre-Project Surveys:** To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.
Bio-Reptile-5	**Trash/Predation:** Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.
Bio-Reptile-8	**Rock Slope Protection:** To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be partially filled with concrete grout or sand.

Bio-DT-1	**Agency Notification & Reporting Requirements:** Any worker who observes desert tortoises within or near the job site found alive, injured, or dead during the implementation of the Project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.
Bio-DT-2	**Desert Tortoise Translocation:** If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.

ACTIVITY REQUEST FORM

Report on Proposed Action to be Covered by the
Programmatic Biological Opinion on
California Department of Transportation's Activities in Desert Tortoise Habitat
in Riverside and San Bernardino Counties, California

(FWS-RIV/SBD-20B0255 20F1650)

This consultation consists of the programmatic biological opinion, the California Department of Transportation's (Caltrans) request to use the programmatic biological opinion for the proposed action with project-specific information (Part A), the Fish and Wildlife Service's (Service) response (Part B), and Caltrans's post-project reporting (Part C). Caltrans initiates consultation by filling out Part A of this form and sending it electronically to the Service for concurrence. Caltrans and the Service can add extra pages, if necessary; please note any additional pages by checking the appropriate boxes.

Caltrans will submit an activity form for any proposed action that **may affect the desert tortoise or its critical habitat**. The section of the biological opinion entitled "When is Use of the Activity Form Appropriate?" (page 5) describes that Caltrans would prepare an activity form when it determines that a proposed action may affect the desert tortoise or its critical habitat. In general, a "may affect" determination is appropriate when the activity would occur within the range of the desert tortoise (see Figure 2 in the biological opinion) and would result in the loss or disturbance of more than a negligible amount of suitable habitat within the current range of the desert tortoise (including critical habitat) or when the activity is reasonably certain to result in the capture, injury, or death of desert tortoises. The Service's Division Supervisor will respond within 30 days via electronic mail by signing and returning the second page of the activity form via electronic mail.

PART A: CALTRANS REQUEST TO IMPLEMENT AN ACTIVITY

Title of Activity: 08-SBd-247-PM 0.0/23.0 Pavement Rehabilitation and Widening

Date of request: April 6, 2022

Primary Contact: Gabriella Machal

Phone number/e-mail: 909-261-2442/Gabriella.Machal@dot.ca.gov

TOTAL ACRES of habitat anticipated to be affected:

-Critical habitat: 0.00 acre permanent impact and 0.00 acre temporary impact

-Suitable habitat: 9.24 acres permanent impact and 10.42 acres temporary impact

Description of Proposed Action:

The California Department of Transportation (Caltrans) District 8 proposes Minor Pavement Rehabilitation (formerly, Capital Preventive Maintenance [CAPM]) along State Route (SR) 247 in both incorporated and unincorporated San Bernardino County, from SR 62 to 0.4 miles north of Gin Road, in order to extend the life of the existing pavement and improve ride quality. The scope of work consists of milling and overlaying from post mile (PM) 0.0 to PM 23.0. In addition, this project includes implementing complete streets elements from PM 20.3 to PM 23.0. Work will include: (1) cold plane and overlay with 0.20-foot rubberized hot mix asphalt-gap graded (RHMA-G). Existing pavement distresses will be repaired before overlaying the pavement; (2) constructing shoulder and centerline rumble strips from PM 0.00 to PM 23.0; (3) shoulder widening to current Caltrans standards from PM 20.3 to PM 23.0; (4) culvert/drainage improvements in several locations identified on the plans set; and (5) installing Bike Lane Markings and Signs from PM 1.6 to PM 23.0.

-Attach a description of the proposed action with sufficient detail to describe the aspects of the proposed action that may affect desert tortoises or their critical habitat.

Please see attached Natural Environmental Study (Minimal Impact) for Pavement Rehabilitation and Widening (EA 08-1J270) and Figures (1-2).

The PIA contains drainage improvements at PM 0.3, PM 3.0, and PM 3.59 (rock slope protection, repairs), shoulder widening areas from PM 20.3 to PM 23.0, paved roadway, and disturbed, unpaved shoulder. Some improvements are located within the Caltrans ROW, but some will be acquired by Temporary Construction Easements (TCE's), which are both publicly and privately owned. Avoidance and minimization measures would be required to ensure proposed actions do not disturb adjacent suitable habitat, avoiding the potential for impacts to individual desert tortoises or their respective habitat. The attached NESMI provides the project limits and impacts to desert tortoise suitable habitat as a result of the scope of work. Caltrans has determined the proposed project "May Affect, Likely to Adversely Affect" suitable habitat for desert tortoise.

-Attach a map of the action area. Note if the action area is within designated critical habitat.

Please see attached Natural Environmental Study (Minimal Impact) for Pavement Rehabilitation and Widening (EA 08-1J270) and Figures (1-2). The action area is within suitable habitat.

-Desert tortoise survey summary and results, if any: N/A

-Attach biological report and survey report:

Please see attached Natural Environmental Study (Minimal Impact) for Pavement Rehabilitation and Widening (EA 08-1J270).

Proposed protective measures:
Avoidance and minimization measures used are described in Section 4 *Discussion of Special-Status Reptile Species* of the attached Natural Environmental Study (Minimal Impact) for Pavement Rehabilitation and Widening (EA 08-1J270)

Nancy Frost

Signature: Nancy Frost
Title: Senior Environmental Planner

Date: 4/6/2022

PART B: SERVICE RESPONSE

Service File No. for Proposed Activity:

Conclusion

Is this project appropriate for use under the programmatic biological opinion? YES

Additional protective measures agreed to by Caltrans and Service during consultation:

-Attach additional pages, if necessary.

Signature:
Division Supervisor
Palm Springs Fish and Wildlife
Office Palm Springs, California

PART C: POST-PROJECT REPORTING

Total number of desert tortoises:

-Killed:

-Injured:

-Moved:

Total acreage disturbed:

-Non-critical habitat:

-Critical habitat:

-Other effects not described above:

-Attach monitoring report, if any.

Recommendations to improve protection of desert tortoises during future project activities.
Attach additional pages, if necessary.

From: Jones, Gary A@DOT
To: NAHC@NAHC
Subject: FW: Sacred Lands File Search Request for Caltrans EA 1J270
Date: Wednesday, April 7, 2021 1:24:00 PM
Attachments: 1J270 NAHCMap.pdf
1J270 NAHC Request.docx

Dear NAHC staff,

Please conduct a search of the Sacred Lands File and provide your recommendations for the project described in the attachments.

Please contact me if there are any questions or concerns.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)383-7505

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From: Jones, Gary A@DOT
Sent: Tuesday, February 9, 2021 12:01 PM
To: NAHC@pacbell.net
Subject: Sacred Lands File Search Request for Caltrans EA 1J270

Dear NAHC Staff,

Please conduct a search of the Sacred Lands File and provide your recommendations for the project described in the attachments.

Please contact me if there are any questions or concerns.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)383-7505

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- Franz Boas

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 21, 2021

Gary Jones
Caltrans

Via Email to: gary.jones@dot.ca.gov

Re: SR-247 Shoulder Widening EA 1J270 Project, San Bernardino County

Dear Mr. Jones:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

From: Jones, Gary A@DOT
To: TNPconsultation@29palmsbomi-nsn.gov
Subject: Caltrans Initial Consultation for EA 1J270on SR 247
Date: Tuesday, February 23, 2021 9:06:00 AM
Attachments: EA 1J270 29 Palms Consultation Letter.docx
1J270 NAHCMap.pdf

Dear Mr. Madrigal,

Attached please find an initial consultation letter and the preliminary project area map for a new Caltrans project to rehabilitate the pavement and widen shoulders on SR 247. We requested a search of the Sacred Lands File from the NAHC and that response is pending.

I look forward to working with you on this project.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)383-7505

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From: Jones, Gary A@DOT
To: Jessica Mauck
Subject: Caltrans Initial Consultation for EA 1J270on SR 247
Date: Tuesday, February 23, 2021 9:08:00 AM
Attachments: EA 1J270 San Manuel Consultation Letter.docx
1J270 NAHCMap.pdf

Dear Ms. Mauck,

Attached please find an initial consultation letter and the preliminary project area map for a new Caltrans project to rehabilitate the pavement and widen shoulders on SR 247. We requested a search of the Sacred Lands File from the NAHC and that response is pending.

I look forward to working with you on this project.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)383-7505

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From: Jones, Gary A@DOT
To: TNPconsultation@29palmsbomi-nsn.gov
Subject: RE: Caltrans Initial Consultation for EA 1J270on SR 247
Date: Tuesday, November 16, 2021 12:19:00 PM
Attachments: 1J270 ASR.doc

Dear Mr. Madrigal,

Attached please find the draft Archaeological Survey Report I have prepared for this project. My finding is proposed to be No Historic Properties Affected, because there are no resources within the project's area of direct impacts. The first 20 miles fo the project is on the existing pavement, and the last 3 miles where there is shoulder work proposed, will be fully within the existing, maintained right of way. Please look through the report and let me know if you would like to discuss it further, or if you have any comments you would like added.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)261-8157

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From: Jones, Gary A@DOT
Sent: Tuesday, February 23, 2021 9:07 AM
To: TNPconsultation@29palmsbomi-nsn.gov
Subject: Caltrans Initial Consultation for EA 1J270on SR 247

Dear Mr. Madrigal,

Attached please find an initial consultation letter and the preliminary project area map for a new Caltrans project to rehabilitate the pavement and widen shoulders on SR 247. We requested a search of the Sacred Lands File from the NAHC and that response is pending.

I look forward to working with you on this project.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)383-7505

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From:	Jones, Gary A@DOT
To:	Ryan Nordness
Subject:	RE: FW: Caltrans Initial Consultation for EA 1J270on SR 247
Date:	Tuesday, November 16, 2021 12:16:00 PM
Attachments:	1J270 ASR.doc image003.png

Hi Ryan,

I have attached my draft archaeological survey report for the project on the 247, EA 1J270. My finding is going to be No Historic Properties Affected, because even though the corridor is sensitive, most of the project (the first 20 miles) is really only a pavement rehab and doesn't go off pavement. The last 3 miles where they are working on the shoulder, is fully within the existing right of way, which has been graded and maintained for years. Take a look at the draft and let me know if you would like to talk about this one or if you want anything added.

Respectfully,

Gary Jones, M.A.
Associate Environmental Planner, Archaeologist
District Native American Coordinator
Environmental Support / Cultural Studies
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401
(909)261-8157

Furthermore, the study of the present surroundings is insufficient: the history of the people, the influence of the regions through which it has passed on its migrations, and the people with whom it came into contact, must be considered.
- Franz Boas

From: Ryan Nordness <Ryan.Nordness@sanmanuel-nsn.gov>
Sent: Monday, March 22, 2021 2:14 PM
To: Jones, Gary A@DOT <gary.jones@dot.ca.gov>
Subject: RE: FW: Caltrans Initial Consultation for EA 1J270on SR 247

EXTERNAL EMAIL. Links/attachments may not be safe.

Hello Gary,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced project. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on February 23rd, 2021, pursuant to CEQA (as amended, 2015) and CA PRC 21080.3.1. The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. There are several know cultural

resources along the the proposed project area.

Due to the nature and location of the proposed project, SMBMI respectfully requests the following for review upon availability:

- Cultural report
- Geotechnical report (if required for the project)
- Project plans showing the depth of proposed disturbance

The provision of this information will assist San Manuel Band of Mission Indians in ascertaining how the Tribe will assume consulting party status under CEQA and participate, moving forward, in project review and implementation. Please note that if this information cannot be provided within the Tribe's 30-day response window, the Tribe automatically elects to be a consulting party under CEQA, as stipulated in AB52. If you should have any questions with regard to this matter, please do not hesitate to contact me at your convenience, as I will be your Point of Contact (POC) for SMBMI with respect to this project.

Respectfully,

Ryan Nordness
CULTURAL RESOURCE ANALYST
Email: Ryan.Nordness@sanmanuel-nsn.gov
O: (909) 864-8933 x50-2022
Internal: 50-2022
M: 909-838-4053
26569 Community Center Dr Highland California 92346
SAN MANUEL
BAND OF MISSION INDIANS

Chapter 5 – List of Preparers

This chapter lists the Caltrans staff who were primarily responsible for the preparation and/or review of this document and/or supporting technical studies for this project.

5.1 California Department of Transportation

Kurt Heidelberg, Supervising Environmental Planner

Shawn Oriaz, Senior Environmental Planner

Ronn Knox, Associate Environmental Planner

Nancy Frost, Senior Environmental Planner/Natural Sciences

Gabriella Machal, Associate Environmental Planner/Natural Sciences

Andrew Walters, Branch Chief-Environmental Support/Cultural Studies

Gary Jones, Principal Investigator Prehistoric Archaeology (PQS)

Bahram Karimi, Associate Environmental Planner/Paleontology Coordinator

Paul Phan, Branch Chief, Environmental Engineering

Carola Acurio, Transportation Engineer/Hazardous Waste

Edison Jaffery, Transportation Engineer/Air Quality

Meenu Chandan, Transportation Engineer/Noise

Raftar Sharia, Hydraulics Engineer

Haider Alkhafaji, Storm Water Quality Engineer

Chapter 6 – Distribution List

Bureau of Land Management
Palm Springs-South Coast Field Office
1201 Bird Center Dr.
Palm Springs, CA 92262

Marine Corps Air Ground Combat Center
1551 Fifth Street
Twentynine Palms, CA 92278-0000

Marine Corps Logistics Base Barstow
attn. Public Affairs Office
Box 100130
Barstow, CA 92311-5050

National Training Center Fort Irwin
Fort Irwin, CA 92310

California Highway Patrol
63683 Twentynine Palms Highway
Joshua Tree, CA 92252

San Bernardino County Planning
385 N. Arrowhead Ave
San Bernardino, CA 92415

Town of Yucca Valley
Planning attn: Jeremy Jared
58928 Business Center Drive
Yucca Valley, CA 92284

Flamingo Heights Community Association
55977 Perris St.
Yucca Valley, CA 92284

Johnson Valley Community Center
50567A Quailbush Rd,
Johnson Valley CA 92285

Homestead Valley Community Council
50567B Quailbush Rd,
Johnson Valley CA 92285

Cheryl D. Hanna
14851 Jeffrey Rd., Space 191
Irvine, CA 92618

Ermando De Jesus Menendez
14004 Hillcrest Dr.
Fontana, CA 92337

Melvin E Wade III & Melisa Wade
5752 Chestnut Ave
Long Beach, CA 90805

Jose Luis Cendejas
639 Clela Ave
Los Angeles, CA 90022

David D. Hall
435 Gloucester Dr
Costa Mesa, CA 92627

Joyce J. Striewig & Murray E. Striewig
6571 E Brittain St
Long Beach, CA 90808
Sharon Chan & Sam Pen
117 Logan Pond Way
North Las Vegas, NV 89084

ADY Revocable Trust
540 Pinecrest Dr
Los Altos, CA 94024

Margaret P. James Trust
6427 E Seaside Walk
Long Beach, CA 90803

Bryan D. Barsaga
965 S Helena St
Colton, CA 92324

Property Owner
PO Box 400996
Hesperia, CA 92340

Patricia A. Castro
11587 Hemlock Ave
Hesperia, CA 92345

Jackson Bond Revocable Trust
12765 Tom Montgomery Rd
Northport, AL 35473

Landrush Ventures/Effrey Gray
PO Box 92471
Keaau, HI 96749

Rudy Perez
326 7th St
Huntington Beach, CA 92648

David Doyle
Victor Alvarez
8335 Winnetka Ave # 221
Winnetka, CA, 91306-1630

Kathleen A. Conover
11149 Brockway Ave
El Monte, CA 91731

Lillian Hoeckele
3437 Ardilla Ave
Baldwin Park, CA 91706

Charles & Melvin Long
13100 Theodore St
Moreno Valley, CA 92555

Christopher Douglas Egan
7450 Northrop Dr Apt 20
Riverside, CA 92508

Murdica Family Trust 8/20/11
72250 20TH Ave
Desert Hot Springs, CA 92241

David I. Hsu
23707 Monument Canyon Dr
Diamond Bar, CA 91765

Dale W. Beatie
PO Box 239
Pahoa, HI 96778

Michael F. Sell & Oscar Garcia
5737 Gammel Rd
Twentynine Palms, CA 92277

Laurie J. Iverson & Janet L. Harder
8315 Cherry Ave
Fontana, CA 92335

Romans Family Trust 04/19/08
PO Box 1108
Big Bear Lake, CA 92315

Home Equity Options LLC
10401 Venice Blvd # 283
Los Angeles, CA 90034

Richard G. Buhler
504 S Indian Trl
Anaheim, CA 92807

Ojha Revocable Trust
20 Palos Verdes Ln
Rolling Hills Estates, CA 90274

WPL Holdings LLC
166 W Washington St Ste 730
Chicago, IL 60602

Amalia Davila & Edward Davila
9485 Dempsey Ave
Fontana, CA 92335

Chih-Wei Wan
21163 Reliance Dr
Apple Valley, CA 92308

Vandana Jethi
5208 Farina Ln.
Fremont, CA 94538

Edith W. Lostracco
474 Ninth St
Nanaimo BC CANADA

APPENDICES

Appendix A. Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

August 2020

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

Original signed by
Toks Omishakin
Director

Appendix B. Section 4(f) Discussion

Johnson Valley OHV Recreation Area is a BLM-administered recreation and conservation area approximately 5 miles from the project site; it is located at Boone Road, approximately PM 20.3, 24.3 miles east of the SR- 247/SR-18 Junction. Johnson Valley OHV Recreation Area is considered a Section 4(f) resource. A minor amount of additional right of way would be acquired from BLM to accommodate the shoulder widening. However, the right of way acquisition is very minor and would have no impacts on the OHV area itself.

Community Center Park is a city park located approximately ¼ mile west of the project site on Cassia Drive, near SR-247 PM 0.15 in Yucca Valley. The project Traffic Management Plan will ensure that there are no impacts on Community Center Park.

Although Johnson Valley OHV Recreation Area and Community Center Park are considered Section 4(f) resources, and as public parks are protected by the Park Preservation Act, the project would not permanently alter the use of the OHV recreation area or the park and would not hinder the preservation of either resource. Additionally, any proximity impacts would not result in constructive use. There are no other public parks, recreation areas, or wildlife refuges in the project vicinity.

Environmental Consequences

The Build Alternative right of way easements from PM 20.3 to PM 23.0 would be parcel slivers and would have no impact on the Johnson Valley OHV Recreation Area. The project would not result in a use of this resource. Additionally, the project would have no impact on Community Center Park; there will be no impacts on the park as there are no right of way acquisitions in this project area. The project would not result in a use of this resource.

The project would not permanently alter the use of the recreation area or the park and would not hinder the preservation of either resource. The project would not result in constructive use of either resource, and there would be no proximity impacts on either resource. No public parkland would be acquired for non-park use. There will therefore be no Section 4(f) impacts as a result of the project and no Section 4(f) study is required.

Appendix C. Avoidance, Minimization and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Environmental Commitments Record (ECR)

DIST-CO-RTE: 08-SBD-247 **PM/PM:** 0.0/23.0 **EA/Project ID.:** EA 08-1J2700/PN 0818000014
Project Description: SBD 247 PAVEMENT AND SHOULDER WIDENING
Date (Last modification): 2/1/2022
Environmental Planner: Ronn Knox **Phone No.:** 909-261-5171
Construction Liaison: **Phone No.:**
Resident Engineer: **Phone No.:**

PERMITS

Permit	Agency	Application Submitted	Permit Received	Permit Expiration	Permit Requirement Completed by:	Permit Requirement Completed on:	Comments
BO	USFWS	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
1602	CDFW	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
2081	CDFW	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
WDR	RWQCB	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Enter permit	Enter agency	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Enter permit	Enter agency	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments

ENVIRONMENTAL COMMITMENTS

PA&ED

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Biology			Yes		Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

PS&E/BEFORE RTL

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Biology	Bio-Reptile-2 Pre-Project Surveys: To assess the number of listed reptile species that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the shoulder widening and culvert drainage PIA according to either the current protocol provided by the USFWS or a modified protocol agreed upon by the BLM and CDFW.	NES(MI) Section 4.3.3.3	Yes	Contractor Supplied Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Biology	BIO-Bat-3 Bat Project Work Windows: It is recommended that work in the culvert drainage PIA (PM 0.3, PM 3.0, and PM 3.59) be scheduled outside of the bat maternity season (Apr 1–Aug 31).	NES(MI) Section 4.3.5.3	No	Design, Caltrans Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Hazardous Waste	HAZ-1: An ADL survey is recommended along the shoulders of SR-247 adjacent to the project area in areas that might be disturbed during culvert and roadway widening construction activities.	ISA, Page 9.1	Yes	District Environmental Engineering	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Hazardous Waste	HAZ-2: A Lead Based Paint (LBP) survey is recommended prior to demolition or disturbance of suspect LBP.	ISA, Page 9.1	Yes	District Environmental Engineering	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Hazardous Waste	HAZ-4: A Phase II Environmental Site Assessment will be required for acquisition of the new properties to identify hazardous and potential hazardous waste contamination within and adjacent to the project location.	ISA, Page 9.1	Yes	District Environmental Engineering	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category			Yes		Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

ROW/PURCHASING

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

PRE-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Biology	BIO-General-1 Equipment Staging, Storing, and Borrow Sites: All staging, storing, and borrow sites require the approval of the Contractor-supplied biologist.	NES(MI) Section 4.1.2.3	Yes	Contractor Supplied Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	BIO-General-16 Invasive Weed Control. To address impacts to the shoulder widening PIA (PM 20.3 to PM 23.0) and drainage improvement PIA (PM 0.3, PM 3.0, and PM 3.59), the Contractor Supplied biologist must identify the following CAL-IPC noxious weed species, plus any others incidentally observed -- Limited species: Schismus spp., puncture vine (Tribulus terrestris), and Eucalyptus spp. CAL-IPC Moderate	NES(MI) Section 4.1.2.3	Yes	Contractor Supplied Biologist, Caltrans Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	rated species: Bermuda grass (Cynodon dactylon). CAL-IPC High rated species: tamarisk (Tamarix ramosissima). Treatment and disposal methods must be approved by the Caltrans biologist prior to vegetation removal.									
Biology	Bio-Plant-1 Rare Plant Surveys, Flagging and Fencing: Within 30 days prior to construction and within the rare plant bloom season of March-June, a preconstruction survey must be conducted by a Contractor Supplied Biologist for special-status plant species within a 100-foot buffer for construction staging areas outside of previously-paved or developed areas within the BSA. Western Joshua tree, ivory-spined agave, San Bernardino milk-vetch, Lane Mountain milk-vetch, triple-ribbed milk-vetch, Fremont barberry, alkali mariposa lily, white-bracted spineflower, desert cymopterus, purple-nerve cymopterus, Mojave tarplant, Mojave monkeyflower, Parish's daisy, flat-seeded spurge, little San Bernardino Mountains linanthus, Mojave menodora, Robison's monardella, short-joint beavertail, Beaver Dam breadroot, white-margined beardtongue, Death Valley sandpaper-plant, and Latimer's woodland-gilia, plus any other rare plants, must be flagged for visual identification to construction personnel for work avoidance. Rare plants detected that feature multiple plants in a single location must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.	NES(MI) Section 4.1.2.3	Yes	Resident Engineer, Contractor Supplied Biologist	RE to notify Biologist 30 days prior to start of construction.	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-Arthropod-1 Rare Insect Host Plant Preconstruction Clearance Survey, Flagging, and Fencing: No more than 30 days prior to project activities, a Contractor Supplied biologist must perform a preconstruction survey for rare insect host plants within the Project shoulder widening impact area (PM 20.3 to PM 23). Should any rare insect host plants be found, the Resident Engineer and Caltrans biologist must be contacted, and host plants must be flagged by the Contractor Supplied biologist for visual identification to construction personnel for work avoidance. Should multiple plants in a single location be found, the groupings must be fenced with Environmentally Sensitive Area (ESA) temporary fencing.	NES(MI) Section 4.3.1.3	Yes	Contractor Supplied Biologist, Resident Engineer, Caltrans Biologist	RE to notify Biologist 30 days prior to start of construction.	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-General-7 Worker Environmental Awareness Program (WEAP): A Contractor Supplied biologist must present a biological resource information program/WEAP for desert tortoise, BLM Sensitive species, and special-status invertebrates, plant, reptiles, birds, mammals, and bats, prior to project activities to all personnel that will be present within the project limits for longer than 30 minutes at any given time.	NES(MI) Section 4.3.3.3	Yes	Contractor Supplied Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-Reptile-5 Trash/Predation: Caltrans must implement measures to reduce the attractiveness of job sites to southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and other subsidized predators by controlling trash and educating workers.	NES(MI) Section 4.3.3.3	Yes	Contractor, Contractor Supplied Biologist, Resident Engineer	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	BIO-Avian-1 Pre-Construction Nesting Bird Survey: If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then pre-construction nesting bird surveys must be conducted up to the limit of the 500-foot BSA within 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is	NES(MI) Section 4.3.4.3	Yes	Resident Engineer, Caltrans Biologist	RE to notify Biologist 14 days prior to start of construction.					

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	located, a no-construction buffer (100 feet for non-passerine, 300 feet for passerine, and 500 feet for raptors) shall be established and monitored by the qualified biologist until the young have fledged.									
Biology	Bio-Avian-2 Preconstruction Burrowing Owl Survey: Two burrowing owl preconstruction surveys must be performed within burrowing owl suitable habitat in the BSA: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities.	NES(MI) Section 4.3.4.3	Yes	Contractor Supplied Biologist	RE to notify Biologist 30 days prior to start of construction and 7 days prior to start of construction, respectively.					
Biology	Bio-General-4 Preconstruction Surveys: Preconstruction pallid San Diego pocket mouse and Mohave ground squirrel surveys must be conducted by a Contractor Supplied Biologist 7 days prior to project activities within the shoulder widening PIA (PM 20.3 to PM 23.0). If a pallid San Diego pocket mouse or Mohave ground squirrel is located, the Resident Engineer and Caltrans biologist must be contacted and additional measures (i.e. protocol surveys) and/or agency coordination may be required.	NES(MI) Section 4.3.5.3	Yes	Contractor Supplied Biologist, Resident Engineer, Caltrans Biologist	RE to notify Biologist 14 days prior to start of construction.					
Biology	BIO-Bat-2 Pre-Construction Survey and Monitoring by a Qualified Bat Biologist: Prior to construction start, a Contractor-supplied qualified bat biologist must conduct a survey to determine if bats are roosting in the culvert drainage PIA (PM 0.3, PM 3.0, and PM 3.59). If work must be scheduled during the bat maternity season (Apr 1–Aug 31), then a qualified bat biologist must perform biological monitoring throughout the duration of Project work. The qualified bat biologist must check for disturbance and ensure that measures are being implemented and documented.	NES(MI) Section 4.3.5.3	Yes	Contractor Supplied Biologist, Caltrans Biologist	RE to notify Biologist 14 days prior to start of construction.					
Biology	BIO-General-2 Temporary Artificial Light Restrictions: To address impacts to bat species, artificial light must be directed at the work site to minimize light spillover onto adjacent habitat areas, if project activities occur at night.	NES(MI) Section 4.3.5.3	Yes	Contractor, Resident Engineer						
Climate Change	CC - 1 A Transportation Management Plan (TMP) would be prepared to minimize traffic delays and idling during construction.	IS								
Climate Change	CC-2 reduce GHG emissions by reducing roadway construction waste, reducing the frequency of maintenance vehicle idle times associated with traffic control to maintain the roadway, applying fuel efficient measures both for construction equipment and traffic management during delays or detours, using energy and water efficient construction methodologies, and recommending that material within a local radius of the project area and/or locally available building material be utilized.	IS								

CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Biology	Bio-General-6 Species Avoidance: If during project activities a western Joshua tree (Yucca brevifolia) is discovered within the project site, all construction activities must stop within 40 feet from the tree centerline and the Caltrans biologist and Resident Engineer must be notified. Coordination with CDFW and San Bernardino County may be required prior to restarting activities. If during project activities a desert tortoise is discovered within the project site, all construction activities must stop within 100 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with the USFWS, BLM, and CDFW may be required prior to restarting activities.	NES(MI) Section 4.1.2.3	Yes	Contractor, Resident Engineer, District Biological Stewardship & Monitoring	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-Reptile-1 Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for special-status reptile species - southern California legless lizard, red-diamond rattlesnake, desert tortoise, coast horned lizard, and Mojave fringe-toed lizard - before operating equipment at any time.	NES(MI) 4.3.3.3	Yes	Contractor, Resident Engineer	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-Reptile-8 Rock Slope Protection: To prevent trapping of desert tortoise, interstitial spaces within rock slope protection must be partially filled with concrete grout or sand.	NES(MI) Section 4.3.3.3	No	Contractor, Resident Engineer	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-DT-1 Agency Notification & Reporting Requirements: Any worker who observes desert tortoises within or near the job site found alive, injured, or dead during the implementation of the Project must provide immediate notification to the Resident Engineer and Caltrans biologist. Caltrans biologist must then notify USFWS and CDFW. Veterinary treatment and/or final deposition must follow USFWS and CDFW approval.	NES(MI) Section 4.3.3.3	Yes	Contractor, Resident Engineer, Caltrans Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Biology	Bio-DT-2 Desert Tortoise Translocation: If determined necessary for this project, desert tortoise translocation must follow the current FWS Biological Opinion guidelines, BLM guidance, and CDFW 2081 permit measures, as applicable.	NES(MI) Section 4.3.3.3	No	Resident Engineer, Contractor Supplied Biologist, Caltrans Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Cultural Resources	CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	District Cultural Resources	Yes	Contractor, Resident Engineer, District Senior Environmental Planner, Cultural Studies or District Native American Coordinator	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Cultural Resources	CR-2: If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Andrew Walters, Senior Environmental Planner, Cultural Studies [(909) 260-5178] or Gary Jones, District Native	District Cultural Resources	Yes	Contractor, Resident Engineer, District Senior Environmental Planner, Cultural Studies or District Native American Coordinator						

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	American Coordinator [(909) 261-8157] so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.									
Hazardous Waste	HAZ-3: During subsurface work, samples of suspect ACM (e.g., underground utilities, pavements with reinforcing fabric, weep hole liners, etc.) if found, should be collected for laboratory analysis of asbestos prior to any renovation or demolition, in order to determine the need for compliance with EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.	ISA, Page 9.1	Yes	Contractor, Resident Engineer, District Environmental Engineering						

POST-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response
Select a category	Enter task and brief description	Enter source	Select a response	Enter name	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Select a response

Appendix D. List of Technical Studies

- Archaeological Survey Report; November 2021
- Delineation of Jurisdictional Waters; December 2021
- Historic Property Survey Report; November 2021
- Initial Site Assessment; December 2021
- Initial Site Assessment Checklist; November 2021
- Location Hydraulic Study; October 2021
- Natural Environment Study (Minimal Impacts); February 2022
- Right of Way Data Sheet; July 2021
- Scoping Questionnaire for Water Quality Issues; April 2022
- Storm Water Data Report; January 2022
- Summary Floodplain Encroachment Report; October 2021

Appendix E. Hydrology and Floodplain Reports

LOCATION HYDRAULIC STUDY FORM *

Dist. 08 Co. SBd Rte. 247 P.M 0.0/23.0
EA 08-1J270 Bridge No. N/A

Floodplain Description:

The only point of interaction of project with a floodplain, is at Yucca Creek at the existing crossing (PM 0.3). At this point there is a Zone AE, as well as Zone X for small areas on either side of the watercourse

1. Description of Proposal (include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts)

The project consists of repaving through the length of the project with 2.7 miles of shoulder widening at the end. There is some grading outside of the south bound SR 247 (PM 3.0), culvert extension (PM 3.57) and rock slope protection replacement in the watercourse (PM 0.3).

2. ADT: Current_____ Projected_____

3. Hydraulic Data: Base Flood Q_{100}= 6625 CFS
WSE_{100}= 3232 The flood of record, if greater than Q_{100}: N/A
Q= N/A CFS WSE= N/A
Overtopping flood Q= 495 CFS WSE= 3221.0

Are NFIP maps and studies available? YES X NO_____

4. Is the highway location alternative within a regulatory floodway?
YES_____ NO X

5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.

Potential Q_{100} backwater damages:

A. Residences? NO X YES_____
B. Other Bldgs? NO X YES_____
C. Crops? NO X YES_____
D. Natural and beneficial
FLOODPLAIN VALUES? NO X YES_____

6. Type of Traffic:

A. Emergency supply or evacuation route? NO_____ YES X
B. Emergency vehicle access? NO_____ YES X

C. Practicable detour available? NO_____YES__X_____
D. School bus or mail route? NO_____YES __X_____

7. Estimated duration of traffic interruption for 100-year event hours: 48

8. Estimated value of Q_{100} flood damages (if any) – moderate risk level.

A.	Roadway	$ 10K
B	Property	$ 0
	Total	$ 10K

9. Assessment of Level of Risk Low____X___
Moderate_____
High_____

For High Risk projects, during design phase, additional Design Study Risk Analysis May be necessary to determine design alternative.

Signature – Dist. Hydraulic Engineer Raftar Sharia Date 10/27/21
(Item numbers 3,4,5,7,9)

Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? NO___X_____YES_____

If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

Signature – Dist. Project Engineer_____Date_____
(Item numbers 1,2,6,8)

* Same as Figure 804.7A Technical Information for Location Hydraulic Study located in Chapter 804 of the Highway Design Manual

SUMMARY FLOODPLAIN ENCROACHMENT REPORT*

Dist. 08 Co. SBd Rte. 247 P.M 0.0/23.0
EA 08-1J270 Bridge No. N/A

Limits: The project consists of repaving through the length of the project with 2.7 miles of shoulder widening at the end. There is some grading outside of the south bound SR 247 (PM 3.0), culvert extension (PM 3.57) and rock slope protection replacement in the watercourse (PM 0.3).

Floodplain Description: The only point of interaction of project with a floodplain, is at Yucca Creek at the existing crossing (PM 0.3). At this point there is a Zone AE, as well as Zone X for small areas on either side of the watercourse

		No	Yes
1.	Is the proposed action a longitudinal encroachment of the base floodplain?	_X_	___
2.	Are the risks associated with the implementation of the proposed action significant?	_X	___
3.	Will the proposed action support probable incompatible floodplain development?	_X_	___
4.	Are there any significant impacts on natural and beneficial floodplain values?	_X_	___
5.	Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain.	_X_	___
6.	Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).	_X_	___
7.	Are Location Hydraulic Studies that document the above answers on file? If not explain.	___	X__

PREPARED BY:

Raftar Sharia 10/27/21
Signature - Dist. Hydraulic Engineer Date

Signature - Dist. Environmental Branch Chief Date

Signature - Dist. Project Engineer Date

* Same as Figure 804.7B Floodplain Evaluation Report Summary located in Chapter 804 of the Highway Design Manual

Appendix F. Initial Site Assessment Checklist & Summary

Initial Site Assessment (ISA) Checklist

Project Information

District 8 **County** SBd **Route** 247 **Post Mile** Varies **EA** 1J2700

Description: The scope of work consists of milling and overlaying from postmile (PM) 0.0 to PM 23.0. In addition, this project includes widening to construct new shoulders between PM 20.3 to PM 23.0, and implementing complete street elements. The construction of standard shoulders and graded slopes will result in the widening of the existing roadway and creation of new right-of-way limits. Acquisition of 49 parcel slivers will be necessary.

1. Cold plane 0.20-foot and overlay with 0.20-foot RHMA-G. Existing pavement distresses will be repaired before overlaying the pavement.
2. Construct shoulder and centerline rumble strips from PM 0.00 to PM 23.3.
3. Shoulder widening to current Caltrans standards from PM 20.3 to PM 23.0.
4. Culvert/Drainage improvements in scattered locations identified on the plans set.
5. Install Bike Lane Markings and Signs from PM 0.30 to PM 23.0

Is the project on the HW Study Minimal-Risk Projects List? _____

Project Manager:_____ **phone #** _____

Project Engineer: Refaat M El Sherif **phone #** 909/383-6891

Project Screening

Attach the project location map to this checklist to show location of all know and/or potential HW sites identified.

1. **Project Features: New R/W?** YES **Excavation?** YES **Railroad Involvement?** NO **Structure demolition/modification?** NO **Subsurface utility relocation?** POSSIBLE
2. **Project Setting:** PM 0.3: unpaved shoulders, existing culverts to be reconstructed; PM 3.0: unpaved/paved (asphalt & concrete) shoulder, new culvert construction; PM 3.57: unpaved shoulders, new culvert construction; PM 20.3-23.0: unpaved shoulders, shoulder widening proposed.

   Rural or Urban: Rural

   Current land uses: PM 0.3-3.57: mixed residential (large size properties) and small commercial /light industrial; PM 20.3-23.0: undeveloped desert landscape (sporadic residential properties)

   Adjacent land uses: (industrial, light industry, commercial, agricultural, residential, undeveloped)

3. **Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.**

   Facilities listed in the EDR located greater than 1/4-mile and/or downgradient, soil only case-closed status (or no longer an active site on GeoTracker), with violations noted with a return-to-compliance date are not considered to be at risk of environmentally impacting the Project Area and are therefore not included in the checklist.

   Refer to Figure 1 and 2 reference a nearby FUDS site to the Project Area near PM23.0. No other sites were found to list.

4. **Conduct Field Inspection. Date:** 11/17/2021 **Use the attached map to locate potential or knownHW sites.**

STORAGE STRUCTURES / PIPELINES:

Underground tanks: None observed **Surface tanks:** None observed

Sumps: None observed **Ponds:** None observed

Drums: None observed **Basins:** None observed

Transformers: None observed **Landfill:** None observed

Other: Gas Pipeline markers in the area of PM 0.3

Initial Site Assessment (ISA) Checklist (continued)

CONTAMINATION: (spills, leaks, illegal dumping, etcetera)

Surface staining: None observed **Oil sheen:** None observed

Odors: None observed **Vegetation damage:** None observed

Other: NA

HAZARDOUS MATERIALS: (asbestos, lead, etcetera)

Buildings: No structures in proposed ROW **Spray-on fireproofing:** None observed

Pipe wrap: None observed aboveground **Friable tile:** REFER to #6 BELOW

Acoustical plaster: None observed **Serpentine:** None observed

Paint: Lane Striping (Lead-based potential) **Other:** REFER to #6 BELOW

5. **Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites.**

   Refer to #6 below and Figure 1 and Figure 2.

6. **Other comments and/or observations:**

   FRIABLE TILE: a remnant foundation (parcel 045449253) contained numerous 9”x9” floor tiles with black mastic – these tiles with mastic typically contain asbestos; many tiles are broken and scattered across the ground surrounding the foundation; the foundation is located greater than 200 feet from SR247 centerline.

   OTHER: 1) FUDS/UXO Listing: a mapped FUDS boundary, for a former military practice bombing range, is located approximately 700 feet west of, and outside of, the Project Area near PM23.0; during the site reconnaissance, components of the former explosives were observed on the ground surface within the FUDS boundary.

   OTHER 2) Trenched property: during reconnaissance of parcel 045449326 to confirm aerial photo observations of large containers, Stantec staff instead found two trenches (approximately L20’xW4’xD3’) and broken slabs of drywall; the southern end of one trench is located approximately 40 feet from SR247 edge of pavement; the purpose of the trenches is unknown.

   OTHER 3) SR247 appears to have been used as a roadway from at least 1902, and paved sometime prior to 1955, as such, Aerially Deposited Lead in near surface soils near the roadway would be a concern.

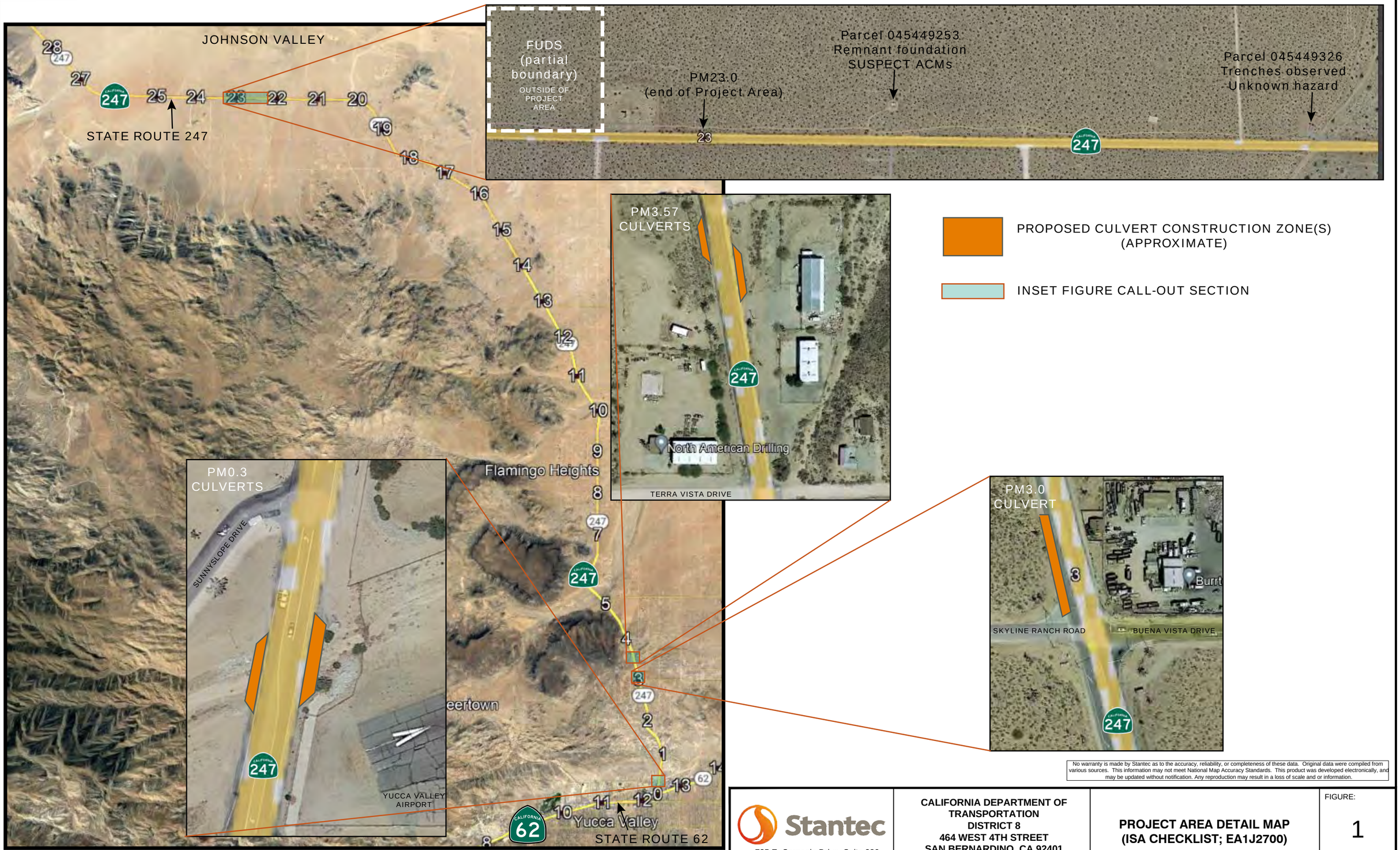
ISA Determination

Does the project have potential hazardous waste involvement? YES_____**If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation?** YES_____**If "YES," explain; then give an estimate of additional time required:** ____

Completion of the full ISA with conclusions and recommendations is recommended prior to initiating additional investigation to address the items noted in #4 and #6 of this checklist. Expected completion date: 12/30/2021

A brief memorandum should be prepared to transmit the ISA conclusions to the Project Manager and Project Engineer.
ISA is currently contract to Stantec

ISA Checklist Inspection by: Stantec (Dion Monge and Anne Perez) **Date:** 11/17/2021



Basemap from: GOOGLE EARTH, 2021

Stantec
735 E. Carnegie Drive, Suite 280
San Bernardino, CA 92408
www.stantec.com

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 8
464 WEST 4TH STREET
SAN BERNARDINO, CA 92401

PROJECT AREA DETAIL MAP (ISA CHECKLIST; EA1J2700)

FIGURE: 1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
	STA	AP	KM	06/11/2020

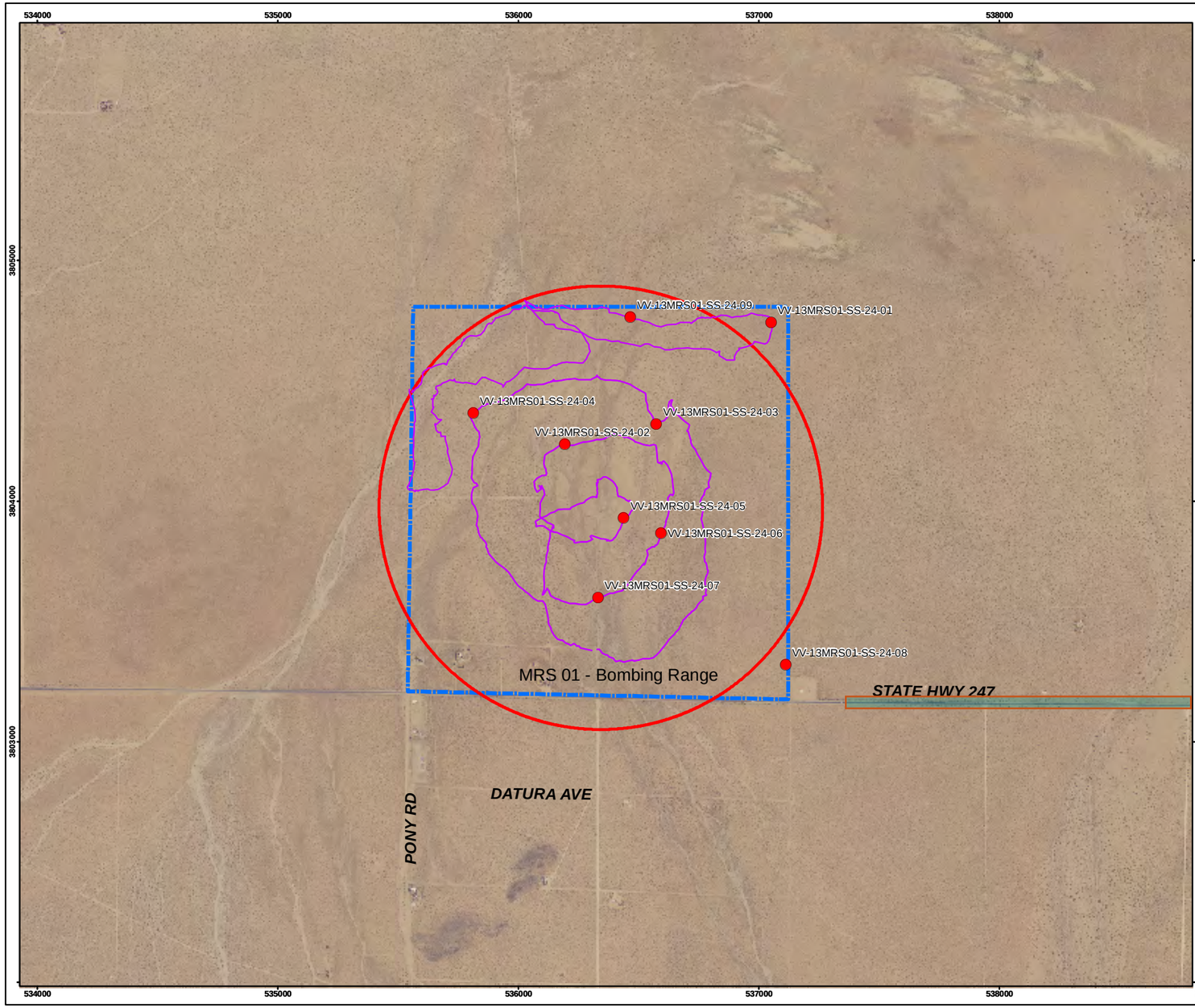


Figure 5.4

Qualitative Reconnaissance and Sample Locations

Victorville PBR No. 13

FUDS Project No. J09CA067901

San Bernardino County, California

Legend

- Soil Sample Location
- Range Boundary
- Project Boundary
- Qualitative Reconnaissance Track

CALTRANS PROJECT AREA IN RELATION TO THE FUDS BOMBING RANGE

Site Location in California

N

Image: Orthophoto, 2005
Projection: UTM Zone 11 NAD83, Map Units in Meters

2,000 1,000 0 2,000 Feet

PARSONS	U.S. ARMY SOUTH PACIFIC DIVISION RANGE SUPPORT CENTER

DESIGNED BY: BT	Qualitative Reconnaissance and Sample Locations		
DRAWN BY: BT			
CHECKED BY: BB	SCALE: As Shown	PROJECT NUMBER: 744653.76000	
SUBMITTED BY: DS	DATE: April 2008	PAGE NUMBER: 5-24	
	FILE: X:\GIS\Site_inspections_sw\Maps\victorville_ca\Fig5_4_pbr13.mxd		

Basemap from: FINAL Site Inspection Report, Former Victorville Precision Bombing Range No. 13, San Bernardino County, California, FUDS Project No. J09CA067901, April 2008; prepared by Parsons; prepared for US Army Corps of Engineers Southwest IMA Region

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FUDS/UXO FORMER BOMBING RANGE LOCATION (ISA CHECKLIST; EA1J2700)

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
	STA	AP	KM	06/11/2020

Appendix G. Programmatic Biological Opinion

In reply, refer to: FWS-SB-2022-0045853

On April 8, 2022, we received your consultation package for the State Route 247 *(SR-247) Pavement Rehabilitation and Widening Project, San Bernardino County, California, 08-SBd-247-PM 0.0/23.0* (Project; 1J270). Using the criteria outlined in the desert tortoise programmatic biological opinion (PBO), as issued February 17, 2021 (FWS-SB/INY/KRN/RIV/LA/IMP/SD-20B0255-20F1650), due to the presence of suitable habitat, you requested our concurrence the Project may affect, and is likely to adversely affect the federally threatened desert tortoise (*Gopherus agassizii*). Your request and our response are made pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.).

The Project as proposed consists of multiple actions including: 1) installation of shoulder and centerline rumble strips along with road repair and overlay from Post Mile (PM) 0.0 to PM 23.0; 2) shoulder widening to current Caltrans standards (PM 20.3 to PM 23.0); 3) replacement cleaning of culverts and replacement of rock slope protection (PMs 0.3, 3.0, and 3.59); and 4) installation of lane markings and signage for bicyclists (PM 1.6 to PM 23.0). Project related actions, including the staging of materials and equipment, will be limited to existing turnouts or previously-disturbed areas

Caltrans is assuming the presence of the species and in accordance with their Federal delegated authority will ensure the following conservation measures are implemented to avoid and minimize impacts to desert tortoise for the duration of Project related activities. As identified in the NESMI received April 8, 2022, these measures include, but are not limited to backfilling of interstitial spaces within rock slope protection with native material or grout, the presence of an approved biological monitor during daily project activities, and cessation of Project activities should a desert tortoise be observed until such time as the Caltrans biologist is contacted and guidance provided. A full list of desert tortoise conservation measures may be found in Section 4.3.3.3 of the NESMI.

Based on the information you provided in the consultation package, we find the proposed Project consistent with the desert tortoise PBO, as issued February 17, 2021. Thank you for your coordination on this Project. If you have any questions regarding this letter, please contact me at any time.

Sincerely,

John M. Taylor
U.S. Fish and Wildlife Service - Palm Springs
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, CA 92262
760-322-2070 x218
john_m_taylor@fws.gov
https://www.fws.gov/office/carlsbad-fish-and-wildlife

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer to:
FWS-SB/INY/KRN/RIV/LA/IMP/SD-20B0255-20F1650

February 17, 2021
Sent Electronically

David Bricker
Deputy District Director
Environmental Division, District 8
California Department of Transportation
464 West 4th Street, 6th Floor
San Bernardino, California 92401-1400

Attention: Craig Wentworth

Subject: Biological Opinion for Highway Improvements, Maintenance Activities, and Safety Projects in Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties, California

Dear David Bricker:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion regarding the effects on the federally threatened desert tortoise [Mojave population DPS (*Gopherus agassizii*); desert tortoise] and its critical habitat of certain future actions that the California Department of Transportation (Caltrans) is likely to undertake within its habitat in California. Because the Federal Highway Administration (FHA) has delegated responsibility for consultation to Caltrans for federally funded actions, we have prepared this biological opinion in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq*.).

This document replaces the biological opinion that addressed routine highway improvement, maintenance activities, and safety projects (Service 2013). We based this biological opinion on information in our files and discussions with your staff during the course of consultation.

CONSULTATION HISTORY

Staff from Caltrans and the Service discussed the basic concepts of this consultation on August 17, 2017, and met several times thereafter to resolve specific issues. Based on these discussions and our general knowledge of Caltrans' activities, we provided draft versions of the biological opinion to Caltrans for comment. After we completed this iterative process, on February 1, 2021, Caltrans (2021) requested that we issue a final biological opinion.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Scope of the Consultation

Caltrans and the Service agreed that this consultation will address only the desert tortoise and its critical habitat because they are the subjects of most consultations between our agencies in the California desert. Caltrans will consult with the Service on a case-by-case basis for any future activity that may affect other listed species or critical habitat.

Caltrans and the Service agreed to consult formally on activities that Caltrans undertakes within the current range of the desert tortoise in California. This biological opinion pertains to all activities that Caltrans may undertake within its rights-of-way[1] on interstates, U.S. highways, and state routes. The term "all activities" includes, but is not limited to, capital projects and maintenance and operation projects. Capital projects produce physical improvements to the transportation system in California. Maintenance and operation projects do not involve improvements to transportation and generally involve on-going maintenance, minor road improvements, culvert improvements, placement of shoulder backing and rock-slope protection, and safety and operation improvements.

This biological opinion also addresses certain activities that Caltrans may undertake adjacent to, but outside of its rights-of-way along these roads. These activities are generally more limited in size and include, but are not limited to, geotechnical borings, fence installation, utility relocations, shoulder backing, biological studies, archaeological studies, and other activities that may be required because of regular maintenance or construction activities on these roads.

We based our description of the proposed action and the analysis in this biological opinion on our discussions with Caltrans. From these discussions, we gained an understanding of the nature of work that Caltrans anticipates would occur in the foreseeable future, which it based on projections of population growth, the State's needs, and priorities for improvements of the State Highway System. Within the action area, Caltrans anticipates that all likely future activities along the roads it administers would occur within the current boundaries of the right-of-way. Caltrans anticipates two exceptions to this general rule; it is likely to widen sections of State Routes 14 and 395 from two to four lanes in the foreseeable future. Caltrans may occasionally work outside of the rights-of-way to conduct seismic testing and other localized activities.

[1] "State Highways" references any and all real property, rights, and title (whether in fee, easement, or other right), whether of land or attachments thereto, that legally constitute State Highways pursuant to pertinent law, whether constitutional, statutory, regulatory, codified civil, uncodified civil, or of application of law to facilities constructed, or of application of law to the best available evidence of what defines State Highways where not specifically defined in statute or regulation. The People of the State of California are the landowner of the People's State Highways. The Legislature has established that Caltrans is the sole Administrative Agent of the People on the People's State Highways.

This biological opinion does not address activities such as proposals to reroute highways outside of the current Caltrans rights-of-way (e.g., State Route 58 Kramer Junction Expressway Project, which routes State Route 58 to the north of Kramer Junction, or Olancha Cartago Four-lane Project, which routes U.S. Highway 395 to the west of Olancha and Cartago). The Service and Caltrans agreed that such actions would be subject to future individual consultations.

Generally, this biological opinion does not mention or list specific types of projects because the Service and Caltrans intend it to be as inclusive as possible. If questions regarding a specific project arise, Caltrans and the Service will consider the likely effects of the proposed activity in relation to the scope considered in this section of the biological opinion and assess whether use of this biological opinion is appropriate. The Service and Caltrans may opt out of using this consultation for a specific project. If either agency determines that the use of this biological opinion may not be appropriate for a specific project, it will notify the other agency as soon as possible to allow for changes in planning schedules.

Caltrans also works with cities and counties on local assistance projects. Under this program, Caltrans assists local agencies in scoping, organizing, designing, constructing, and maintaining their public transportation facilities when local agencies seek funding from the FHA. Because administering this program involves discretionary decisions regarding Federal funds, Caltrans and the Service agreed to include it in this formal consultation. We will describe the process for evaluating local assistance projects in the following section of this biological opinion.

Administration of the Consultation

Introduction

Caltrans and the Service developed this consultation with the following goals:

1. Provide guidance for Caltrans to implement a conservation program in accordance with section 7(a)(1) of the Endangered Species Act and the recovery actions described in the recovery plan for the desert tortoise (Service 2011);

2. Facilitate Caltrans' compliance with section 7(a)(2) of the Endangered Species Act;

3. Maintain the highest level of protection of the desert tortoise and its critical habitat during the implementation of Caltrans's activities; and

4. Focus our agencies' efforts and staff time on activity-specific discussions that will translate into on-the-ground protection of the desert tortoise and its critical habitat.

To meet these goals, Caltrans and the Service considered the effects of past road projects on the desert tortoise and its critical habitat, how well past consultations addressed these effects, and the staff and time required to implement the consultations. Because of these considerations and through numerous discussions, the Service and Caltrans agreed that this biological opinion would address the effects of certain activities that Caltrans conducts within the range of the desert tortoise in California in a broad manner. To that end, Caltrans and the Service did not

develop detailed descriptions of the types of activities that the consultation would address; we also did not develop an extensive list of detailed protective measures for the desert tortoise and its critical habitat.

Rather than include detailed descriptions of specific activities and protective measures, Caltrans and the Service agreed that the consultation would address the activities discussed in the Scope of the Consultation section of this biological opinion and generally define the protective measures that Caltrans would implement to protect desert tortoises and their critical habitat during the implementation of each activity (see page 8 of this biological opinion). At the time Caltrans has specific information about a proposed activity and determines that it may affect the desert tortoise and its critical habitat, it would contact the Service to develop site-specific protective measures.

To facilitate the development of the site-specific measures, Caltrans and the Service agreed to use the "activity form" that is enclosed with this biological opinion (Enclosure 2). The activity form consists of three pages of a fillable PDF file. On the first page, Caltrans will provide a basic description of the proposed activity, its location, and any biological information (e.g., the results of surveys, etc.) that the agencies agree would be appropriate. Caltrans will also include the protective measures that it intends to implement during the activity. These measures will derive from the general measures contained in this biological opinion, but Caltrans may add activity-specific measures that it deems appropriate. Caltrans may use attachments to this first page to provide the necessary information.

Caltrans and Service staff agreed that early informal consultation will remain a key component of the coordination between our agencies as Caltrans proposes activities; this informal consultation may begin before Caltrans submits the activity form to the Service. This coordination will include the discussion of survey protocols, the sharing of the results of surveys, and the discussion of the appropriate protective measures. The Service and Caltrans recognize that informal consultation is an optional process; in some situations (e.g., small activities that are like those that we have previously reviewed), informal consultation may be unnecessary.

When Caltrans is ready to initiate consultation on a specific project, it will submit the form and attach any necessary information, such as the natural environment study, to the Service with the completed first page via electronic mail. The Service will respond within 30 days by signing and returning the second page of the activity form via electronic mail. The Service will indicate on the form whether it has any concerns with use of the programmatic consultation; it may also propose additional protective measures, if necessary. Staff from Caltrans and the Service may discuss issues informally during this time; if such discussions result in revisions to the protective measures, the Service will add these measures to the activity form as appropriate and sign and submit it to Caltrans.

Page 3 of the form will describe the information that Caltrans will provide to the Service at the conclusion of the activity to comply with the monitoring requirements of section 7(a)(2) of the Act [50 CFR 402.14(i)(3)]. For activities that last for several years, the Service and Caltrans may agree that the submission of annual reports would be appropriate.

When is Use of the Activity Form Appropriate?

The implementing regulations require that each Federal agency "review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitat" [50 CFR 402.14(a)]. If the agency determines that its action will have no effect on a listed species or critical habitat, it may proceed with the action without contacting the Service.

If Caltrans determines that a proposed action will have no effect on the desert tortoise or its critical habitat, it will not prepare an activity form. In general, a "no effect" determination is appropriate when Caltrans could conduct the activity without implementing protective measures that are specific to the desert tortoise or its critical habitat. For example, "no effect" determinations are appropriate when the proposed action would occur in urbanized, degraded habitat (as defined below) and agricultural areas; within an area enclosed by a desert tortoise exclusion fence that has undergone consultation (e.g., portions of Interstate 40); or on areas where desert tortoises cannot reside (e.g., restriping or resurfacing a paved road). Caltrans and the Service consider degraded habitat to be habitat that has been affected by previous highway maintenance activities or routine use of the area by the public. Degraded habitat will generally exhibit a low diversity and density of native shrubs and disrupted substrates when compared with undisturbed habitat because of the presence of ongoing human activity. Residences or businesses are also evidence of degraded habitat. Although the potential for desert tortoises to occur in degraded habitat is low, desert tortoises will occupy these locations on occasion. Caltrans should carefully analyze the use of degraded habitat as a rationale for a "no effect" determination in combination with other information, such as knowledge of the area and protocol surveys.

The Service recommends that Caltrans maintain an internal record of its decision-making process for its "no effect" determinations. Caltrans may contact the Service to discuss whether a "no effect" determination is appropriate for any specific action; however, the ultimate decision remains with Caltrans.

In the unlikely event that a desert tortoise enters a staging or other work area (i.e., the animal is not merely crossing a road but may be attempting to forage or shelter) under this situation, Caltrans will immediately contact the Service and implement measures to protect the desert tortoise (including collecting and holding it a secure location, if necessary). The Service will provide direction as to how to proceed from that point. Solutions may range from determining that the desert tortoise is a pet that escaped to completing an activity form.

If Caltrans determines that a proposed action may affect the desert tortoise or its critical habitat, it will prepare an activity form. In general, a "may affect" determination is appropriate when the activity would result in the loss or disturbance of more than a negligible amount of suitable habitat within the current range of the desert tortoise (including critical habitat) or when the activity is reasonably certain to result in the capture, injury, or death of desert tortoises. Pursuant to the implementing regulations for section 7(a)(2) of the Act [50 CFR 402.14(a)], if a Federal agency determines that "any action may affect listed species or critical habitat," then "formal consultation is required…."

The implementing regulations allow the Federal agency to avoid formal consultation with the Service when "the Federal agency determines, with the written concurrence of the (Service), that the proposed action is not likely to adversely affect any listed species or critical habitat" [50 CFR 402.14(b)]. Caltrans and the Service agreed that we would not use this procedure and would instead address any activity for which Caltrans makes a "may affect" determination and submits an activity form to be a formal consultation. We agreed upon this course of action to simplify and expedite consultation upon each activity. For example, our agencies can spend considerable time in informal discussions regarding whether a proposed action is likely to adversely affect the desert tortoise or its critical habitat. Under standard procedures, if we concurred that a specific action was not likely to adversely affect the species and a desert tortoise entered the work site during construction, Caltrans would be required to initiate formal consultation. By considering all activities to be formal consultations, the Service and Caltrans can develop project-specific protective measures that allow for flexibility as conditions change, without compromising protection of the desert tortoise.

Activities that May Affect the Desert Tortoise or Critical Habitat

Caltrans will maintain a record of all its activities that it determines may affect desert tortoises or their critical habitat. For all activities, Caltrans will include in its record:

1. The title of the action;
2. A description of the proposed action;
3. Location;
4. The acreage of permanent and temporary impacts; and
5. The protective measures, if any, for the desert tortoise and its critical habitat.

To assist in record keeping and in communicating between our agencies, Caltrans and the Service will use the activity form that accompanies this biological opinion to document consultations on these actions (Enclosure 2).

Elevation

If staff from the Service and Caltrans cannot agree on a course of action after discussions on this or other issues, any disagreement will be elevated to the next appropriate supervisory level within the Palm Springs Fish and Wildlife Office (PSFWO) for the area within which the project lies and Caltrans' appropriate District Office for resolution. If further elevation is required, these individuals will contact the next level of supervisors within their agencies. Although the elevation of issues is likely to be an infrequent occurrence, Caltrans and the Service consider this procedure to be a useful tool to maintain efficient processes and a healthy working relationship between our agencies and to prevent a single disagreement from stalling progress on other activities.

Reporting

Caltrans will provide the Service with an annual report of the activities that it conducts under the auspices of this consultation. The annual report will include the information that Caltrans will maintain in its records for any activity it determined may affect the desert tortoise or its critical habitat, as described in this section. Caltrans will include information on:

1. Any desert tortoises that it moves from harm's way, kills, or injures during the implementation of projects;

2. The acreage of habitat and critical habitat disturbed during its activities; and

3. The installation or maintenance of exclusion fencing or any other activities it undertakes as part of its implementation of its section 7(a)(1) responsibilities.

Caltrans will provide the annual report to the Service by February 28 of each year this biological opinion is in effect.

No Sunset Clause

This biological opinion will remain in effect until the Service or Caltrans determines that it is no longer meeting the agencies' needs. If such a circumstance arises, the agency reaching this conclusion will notify the other agency at the earliest possible time. If any of the thresholds for re-initiation of formal consultation are met (see Re-initiation Notice section of this biological opinion), Caltrans and the Service will work together and revisit the consultation. If Caltrans and the Service determine that this biological opinion requires changes that do not rise to the level of re-initiation, they will work together to amend the procedures contained herein.

Optional Annual Meeting

The PSFWO's Division Supervisors, Caltrans' Environmental Deputy Director and Branch Chiefs for the Biological Studies, Permitting and Stewardship, and appropriate staff will meet annually to review how this consultation is functioning and to discuss any potentially important events in the upcoming year. If the Service and Caltrans agree that such a meeting is unnecessary in any given year, they may cancel the meeting.

Emergency Consultations

The implementing regulations for section 7(a)(2) contain procedures for emergency consultations; 50 CFR 402.05 defines emergencies as "acts of God, disasters, casualties, national defense or security emergencies, etc." These procedures allow for verbal communication between the Federal agency or their delegated non-Federal representative and the Service at the onset of an emergency. After the emergency is under control, the agencies conclude consultation, with the Federal agency determining whether the response to the emergency adversely affected the listed species or critical habitat and the Service responding accordingly.

We have incorporated these emergency provisions into this consultation. At the onset of any emergency, Caltrans will contact the PSFWO, usually by telephone, and describe the emergency and the likely response. At that time, the PSFWO will recommend measures to minimize the adverse effects of the response on the desert tortoise and critical habitat and advise Caltrans regarding whether the response is likely to jeopardize the continued existence of the species or result in the destruction or adverse modification of critical habitat. The Service must ensure that its recommendations do not impede the emergency response.

Once the emergency is under control, Caltrans will submit the activity form (Enclosure 2) to the Service. The Service will evaluate this information and respond with its portion of the activity form.

Generalized Protective Measures

Because of the numerous types of activities that Caltrans would undertake under the auspices of this biological opinion and the potential for our knowledge of how best to protect desert tortoises to change, Caltrans and the Service decided not to include detailed protective measures for the desert tortoise and critical habitat in this biological opinion. Instead, we agreed upon a generalized set of measures that broadly address the major components of most protective programs for the desert tortoise and its critical habitat.

When Caltrans proposes a specific activity, it will base its detailed, project-specific protective measures on the following generalized concepts for protecting desert tortoises and their habitat. For activities that may affect the desert tortoise or its critical habitat, the Service and Caltrans will use the activity form to describe the protective measures with activity-specific protective measures. The authorized biologist will provide site-specific and seasonally appropriate guidance to workers regarding implementation of all measures contained in the activity form.

1. Depending on the nature and location of the proposed action, Caltrans may conduct pre-project surveys of the action area according to the Service's current protocol or a modified protocol agreed upon by the agencies for the specific action; it may also use the regional density as determined by the Service's range-wide monitoring. Caltrans will determine the appropriate course of action through discussions with the Service. The purpose of these surveys is to assess the number of desert tortoises that may be present for environmental analysis. If the proposed action will occur entirely within areas that do not support the normal components of habitat for the desert tortoise (e.g., on roads, highly disturbed areas, etc.), Caltrans does not need to conduct pre-project surveys of the action area.

2. Caltrans will employ authorized biologists, monitors, and/or fencing, as necessary and appropriate, to protect desert tortoises during construction. Authorized biologists for each activity must have sufficient training and experience to resolve any issue that may arise regarding the specific activity on which they are working. For example, if the activity involves the translocation of desert tortoises, at least one authorized biologist must have sufficient training and experience to conduct full health assessments and implement the translocation according to the Service's guidance. For an activity where

translocation is not needed, the authorized biologist need not have that specific training and experience. Monitors may work under the supervision of authorized biologists. Monitors may handle desert tortoises; the authorized biologist will determine the protective measures the monitors may conduct and the level of supervision the monitors need to complete each task.

Upon completion of this consultation, Caltrans will not request authorization of a biologist on a project-by-project basis. Any person approved by the Service to undertake the duties of an authorized biologist for Caltrans' actions may also perform those duties on its future actions if those actions are within the scope of this biological opinion. If Caltrans wishes an authorized biologist to conduct additional duties beyond those that the Service initially authorized (e.g., conduct full health assessments, attach and remove transmitters, etc.), it will contact the Service for approval. If Caltrans determines that an authorized biologist is not performing his or her duties in a satisfactory manner, it will notify the Service at the earliest possible time it makes this determination.

3. Caltrans will employ authorized biologists and monitors to conduct clearance surveys to remove desert tortoises from work areas prior to the onset of ground-disturbing activities. Desert tortoises removed from work areas may be moved from harm's way to the nearest suitable habitat or translocated (i.e., moved longer distances to suitable protected habitat on public or designated conservation lands or used for augmentation of depleted populations). Caltrans will follow the Service's most recent guidance for handling, moving, and translocating desert tortoises and obtain approval of the land manager of the recipient sites prior to placing desert tortoises on them.

4. Caltrans will implement measures to reduce the attractiveness of work sites to common ravens (*Corvus corax*) and other subsidized predators by controlling trash and educating workers.

5. Caltrans will implement an education program for workers to ensure they are aware of the protective measures in place for the desert tortoise.

6. Caltrans will require that all workers and contractors to check under their vehicles or equipment prior to moving them when they are working in areas where desert tortoises are likely to be active.

7. Caltrans will install permanent fencing to exclude desert tortoises from roads when the proposed action crosses desert tortoise conservation areas [e.g., critical habitat, the Bureau of Land Management's (Bureau) areas of critical environmental concern and California Desert National Conservation Lands, etc.] and involves major construction. As examples, repair of one or more bridges or culverts would not comprise major construction with regard to fencing; widening miles of a road from two lanes to four would comprise major construction with regard to fencing.

8. Caltrans will follow the Service's most recent protocol for construction of fencing to exclude desert tortoises.

9. Caltrans will employ best management practices to reduce the likelihood that its actions will introduce non-native invasive plant species.

10. In any situation where a desert tortoise places itself in danger (e.g., it enters a work area, such as a road that is being resurfaced), Caltrans will undertake immediate action to move the desert tortoise from harm's way and contact one of its authorized biologists for additional guidance. Caltrans may also contact the Service for further guidance, if needed.

11. Placement and construction of rock-slope protections will require the interstitial spaces within rock-slope protection be filled with substrate to prevent trapping of desert tortoises.

If these generalized protective measures do not address a specific concern during the review of a proposed action, the Service and Caltrans may develop additional protective measures for that project.

Coordination with the California Department of Fish and Wildlife

Because of Caltrans' delegated authority to conduct consultation with the Service, it is required to follow the FHA's requirements to complete formal consultation years in advance of the implementation of an action. However, because its own guidelines require it to consult with the California Department of Fish and Wildlife (Department) later in time, years often pass between Caltrans' consultations with the Service and the Department. In the interim, some elements of the proposed action and our knowledge of how to minimize adverse effects to desert tortoises and their habitat may change. Caltrans and the Service will work with the Department to develop more detailed measures when Caltrans applies for its incidental take permit, pursuant to the California Endangered Species Act.

When Caltrans is following the FHA's schedule for section 7(a)(2) consultation, Caltrans will submit an activity form to the Service according to the schedule required by its procedures for its project approval/environmental document. Based on the best available information, Caltrans and the Service will complete the first two parts of the activity form at that time. At any time, when Caltrans begins coordination with the Department, it will include the Service in that review. If the proposed action has changed since completion of the initial activity form or the Department identifies new protective measures, Caltrans will coordinate with the Department and the Service and submit a revised activity form to the Service that addresses any revisions to the proposed project.

Thresholds for Re-Initiating Formal Consultation

To ensure that its activities are not likely to jeopardize the continued existence of the desert tortoise, Caltrans has proposed to re-initiate formal consultation if activities considered in this biological opinion kill 10 desert tortoises in a calendar year. Caltrans and the Service will re-assess, and alter if appropriate, the re-initiation threshold every 5 years using the results of the Service's range-wide monitoring program and the number of large desert tortoises killed in the previous 5 years. We will conduct the re-assessment using the number of large desert tortoises killed because the Service includes only those individuals in its range-wide monitoring; comparing the

number of large desert tortoises killed to the estimate of the number of such individuals in the population provides for a valid means of assessing population-level effects. For example, if the density of desert tortoises decreases, we will reduce the re-initiation threshold accordingly.

Caltrans will transport any injured desert tortoise to a qualified veterinarian. If the desert tortoise recovers from its injuries but cannot be returned to the wild, we will consider this individual to have been killed. We will not consider rehabilitated desert tortoises that are returned to the wild as having been killed. During translocation, some desert tortoises may be found to be in such poor condition that euthanizing them would be the humane course of action. We will not consider these individuals as having been killed as a result of the activity because they would likely have died absent Caltrans finding them. We expect that Caltrans will rarely encounter this situation; it would contact us to determine the appropriate course of action in such a situation.

Caltrans and the Service have not established re-initiation thresholds for critical habitat or habitat in general. Our rationale for not establishing a threshold for habitat loss is twofold. First, through its land use plan amendment, the Bureau (2016) established areas of critical environmental concern and California Desert National Conservation Lands that overlap areas that the Service considers important for the recovery of the desert tortoise. Legally and legislatively protected areas (e.g., lands managed by the National Park Service) also overlap important desert tortoise habitat. The management of these lands already limits the loss of critical habitat. Overlaying additional thresholds through this formal consultation would be duplicative. Secondly, the Service and Caltrans have not established a cap system for habitat loss outside of protected areas because those areas support few desert tortoises and are not necessary for the conservation of the species.

Conservation Program

Section 7(a)(1) of the Endangered Species Act requires Federal agencies to use their authorities to further the purposes of the Endangered Species Act by carrying out conservation programs for the benefit of endangered and threatened species. Because Caltrans has assumed the FHA's responsibilities under the Act in accordance with section 1313 of the Moving Ahead for Progress in the 21st Century Act of 2012, the Service and Caltrans have agreed upon a framework that would guide Caltrans' implementation of its section 7(a)(1) mandate with regard to the desert tortoise.

The State of California has also listed the desert tortoise as threatened; the Department may require compensatory mitigation for projects covered under this biological opinion during its permitting process pursuant to section 2081 of the California Fish and Game Code. Although coordination with the Department during the review of specific projects is a key component of the conservation program, its permit requirements and approval of mitigation proposals under its permitting process are entirely under its authority. The Department could conceivably accept compensatory mitigation to fulfill section 2081 permit requirements that have limited alignment with the section 7(a)(1) program described below (e.g., approving mitigation lands outside of desert tortoise conservation areas). To address this potential conflict, Caltrans would seek input and recommendations from the Service during project review to help guide development of mitigation proposals for the Department's consideration.

General Framework

Caltrans and the Service have coordinated to develop the following general framework for use in Caltrans' section 7(a)(1) program:

Which Caltrans Activities Will Generate Section 7(a)(1) Commitments? Only those activities proposed by Caltrans for which it also obtains an incidental take permit for the desert tortoise from the Department, pursuant to section 2081 of the California Fish and Game Code, will generate section 7(a)(1) commitments. Because its management authority differs from that of the Service, the Department may require additional conservation measures for species listed under the California Endangered Species Act (but not the Federal Endangered Species Act) and other State species of concern. This biological opinion does not address these needs; however, the Service will work with Caltrans and make recommendations to ensure that actions taken to fulfill Caltrans' section 7(a)(1) commitments overlap to the maximum extent with the section 2081 compensatory mitigation requirements set by the Department.

How Will Caltrans Quantify Its Specific Section 7(a)(1) Commitments? Caltrans and the Service have not included any specific quantification of section 7(a)(1) actions in this biological opinion. The Department will establish the requirements for Caltrans' section 2081 permit, which usually involves the establishment of ratios to assess compensation. Caltrans and the Service anticipate that fulfillment of these ratios will fulfill section 7(a)(1) obligations.

Where Will Caltrans Apply Its Section 7(a)(1) Commitments? In general, Caltrans' 7(a)(1) program would involve implementation of recovery actions that promote the conservation of the desert tortoise within desert tortoise conservation areas. In the revised recovery plan for the desert tortoise, the Service (2011) identified the need for "conservation areas" to protect existing desert tortoise populations and habitat. The recovery plan describes these areas as designated critical habitat, areas of critical environmental concern, the Desert National Wildlife Refuge, National Park Service lands, and other conservation areas or easements managed for desert tortoises. The recovery plan did not provide specific boundaries for these conservation areas; also, some land management designations have changed since publication of the recovery plan in 2011.

For these reasons, we developed a map for California that depicts the conservation areas as defined in the recovery plan to guide the implementation of recovery actions for the desert tortoise. Our identification of the specific conservation areas does not impose any additional regulatory burdens or modify existing recovery planning; our intent is merely to ensure that conservation actions for the desert tortoise occur in the areas that are most appropriate for the recovery of the species. Figure 1 depicts areas where land management direction that is conducive to the species' conservation overlaps habitat with a higher probability of containing a desert tortoise. Within the conservation areas as mapped in Figure 1, the highest priority lands for the implementation of recovery actions are those areas where the Service conducts range-wide monitoring to assess population trends of desert tortoises.

To the maximum extent feasible, recovery projects will occur within that same critical habitat unit or recovery unit as the impact; this goal should ensure that the condition of the certain areas

do not degrade over time. If Caltrans cannot implement recovery actions within the same critical habitat unit or recovery unit, it will discuss the most appropriate action to take with the Service. Such actions could include implementing high-priority recovery actions in adjacent critical habitat units or recovery units.

As stated previously, the Department could conceivably accept compensatory mitigation to fulfill its section 2081 permit requirements that may have limited alignment with Caltrans' section 7(a)(1) program. (e.g., approving mitigation lands outside of desert tortoise conservation areas or in recovery units/critical habitat units that the permitted project did not affect.) To ensure maximum overlap between its section 7(a)(1) obligations and the compensatory mitigation proposed by Caltrans, Caltrans would seek input and recommendations from the Service during project review to help guide development of proposed mitigation.

How Will Caltrans Apply Its Section 7(a)(1) Commitment? Caltrans will fulfill its section 7(a)(1) commitment through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), mitigation bank credits, or a combination of these options. The Department will define the appropriate quantity and type of mitigation necessary for Caltrans to address its section 2081 permitting requirements and Caltrans will develop a mitigation proposal to meet these requirements. As discussed above, Caltrans will seek recommendations from the Service to help align its section 2081 compensatory mitigation proposal with its section 7(a)(1) obligations. If the Department identifies aspects of Caltrans' proposal that are deficient, Caltrans can seek recommendations from the Service when modifying the proposal.

For ***land-acquisition*** options, Caltrans will directly purchase lands or purchase them through a third party (e.g., land trust); in either case, both the Department and Service will review lands proposed for acquisition. Caltrans would place acquired lands under a conservation easement to ensure in-perpetuity conservation.

For ***mitigation banking*** options, Caltrans would directly purchase credits from a mitigation bank that both the Department and Service have approved. If the bank lacks approval from either agency, Caltrans would provide the bank's enabling instrument to the agency to gain approval.

For ***non-acquisition*** options, Caltrans could work with the Service to identify any appropriate recovery action(s) to fulfill a portion of its section 7(a)(1) obligations. Caltrans will either directly fund implementation of the project or place funds into a regional recovery account to provide for its implementation by an entity approved by the Service. Because the Department will typically require land acquisition to fulfill all, or a portion of, a project's section 2081 mitigation requirement, this option may not be available for all projects if Caltrans' is seeking maximum overlap between section 2081 requirements and fulfillment of its section 7(a)(1) obligation. Use of this option would require substantial coordination with the Department.

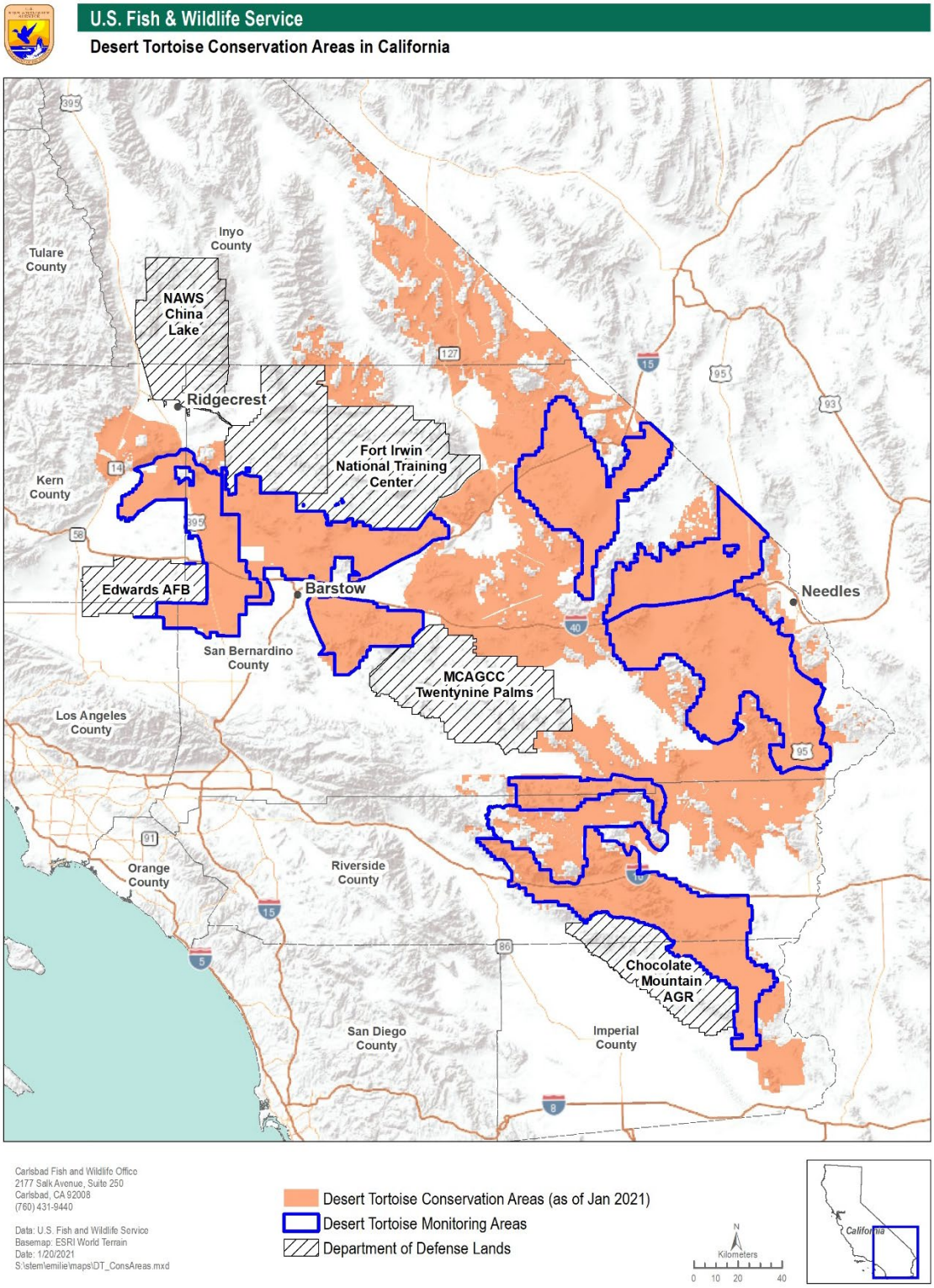

Figure 1. Conservation Areas for the Desert Tortoise in California.

How Will Caltrans Fund Long-term Management for Recovery Actions?

For ***land-acquisition*** options, Caltrans would develop long-term funding strategies for acquired land for review and approval by the Department. These strategies will typically include funding to address management needs on the acquired parcel itself (i.e., parcel-specific management needs), but could also address additional regional management needs that influence achievement of conservation objectives on the acquired parcel (e.g., regional management of common ravens, road mortalities, route proliferation, non-native invasive plants, etc.). The Service will work with Caltrans and make recommendations during development of long-term funding proposals for acquired lands. The Department will make the final determination regarding alignment of long-term funding proposals with section 2081 permit issuance criteria. If the Department identifies aspects of Caltrans's proposal that are deficient, Caltrans can seek recommendations from the Service when modifying the proposal.

For ***mitigation banking*** options, Caltrans would fulfill long-term funding requirements through purchase of credits in the bank because the cost of the credits incorporate the long-term management needs of the bank.

For ***non-acquisition*** options, Caltrans will work with the Service in development of long-term management funding required to maintain the benefits of the implemented recovery projects. Caltrans would place these funds into a management endowment. As with long-term funding for land acquisition, the Department will make the final determination regarding alignment of a long-term funding proposal with section 2081 permit issuance criteria. If the Department identifies aspects of Caltrans's proposal that are deficient, Caltrans can seek recommendations from the Service when modifying the proposal.

When Will Caltrans Implement Its section 7(a)(1) Commitments? Caltrans will implement its section 7(a)(1) activities within 12 months from the time the resource impact occurs. Caltrans and the Service may extend the implementation period on a project-by-project basis, if needed.

How Will Caltrans Notify the Service when It Implements Conservation Activities? Each Caltrans District will maintain a record of any conservation activities that it implements. Each year, with the annual report, Caltrans will provide this information to the Service. At a minimum, the report on the conservation program will include information regarding the acquisition of land, new exclusion fencing, and culverts and under crossings that are available to desert tortoises within the area covered by this biological opinion. The report will include global positioning system locations of any conservation activities. Caltrans will input all recorded data into a geographical information system database and submit it to the Service to assist with future planning for fencing high priority roadways to reduce vehicle strikes to desert tortoises.

Coordination Process

When requesting use of this biological opinion for a specific project, Caltrans will use the activity form to:

1. Estimate the amount of permanent and temporary disturbance the project will have in desert tortoise habitat, including a breakdown of disturbance within critical habitat and linkages, if applicable;

2. Describe the protective measures that Caltrans will employ to reduce adverse effects to the desert tortoise and its habitat;

3. Quantify the conservation action(s) that Caltrans would implement as part of its section 7(a)(1) program. Projects that do not involve a section 2081 incidental take permit would not include conservation actions; and

4. Describe an appropriate conservation option for the project if Caltrans already has one identified.

The Service and Caltrans may engage in informal consultation prior to the submission of the activity form to ensure that they fully understand Caltrans' proposed action and agree upon appropriate, project-specific protective measures. Such early coordination will be an important aspect of the consultation process.

The Service will review the activity form to determine if it concurs with the proposed measures to protect desert tortoises during the work activity and the assessment of disturbance. If the Service does not concur with Caltrans' proposed measures, it will work with Caltrans to refine them. Once the Service and Caltrans agree on the appropriate measures, Caltrans will incorporate the details into the final activity form for the project.

It is important to note that the coordination process and general framework described above describe how Caltrans would implement its section 7(a)(1) program for the desert tortoise through this biological opinion. The Department may also issue section 2081 incidental take permits for the desert tortoise and potentially other State-listed species for projects that the Service would address through this biological opinion. In many cases, the timing of the Service's review of a project under this biological opinion is unlikely to occur at the same time as the Department's issuance of its incidental take permit. The Service and Caltrans intend the coordination process described above to ensure that conflicts do not occur between the Service's and Department's review processes for a given project.

Action Area

Regulations implementing section 7(a)(2) describe the action area as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area for the proposed action comprises Caltrans' rights-of-way on interstates, U.S. highways, and state routes within the range of the desert tortoise in California;

the action area also includes sites outside of, but adjacent to, existing rights-of-way that Caltrans uses to support its activities within rights-of-ways. As examples, the Service and Caltrans agreed to include seismic work that is adjacent to the right-of-way as part of this consultation; conversely, we did not include borrow sites located outside of the right-of-way.

Because Caltrans assists local agencies in scoping, organizing, designing, constructing, and maintaining their public transportation facilities when they seek funding from the FHA, we have included such activities in this consultation; therefore, we have included these public transportation facilities within the action area. We have not mapped these facilities because of their scattered locations around the desert. However, because of the nature of this program that supports local agencies, these public transportation facilities are generally located adjacent to existing urban areas.

Caltrans is likely to translocate desert tortoises from its rights-of-way to nearby areas. For this reason, we are including the recipient sites within the action area for this consultation. At this time, we do not know the locations of these sites. However, the agencies would choose recipient sites that meet the criteria in the Service's translocation guidance; their management and condition would be the same as we described in the Status of the Species section of this biological opinion.

Desert tortoises occur within the area covered by the Coachella Valley Multiple Species Habitat Conservation Plan. Because the habitat conservation plan contains a mechanism for Caltrans to conduct its activities in compliance with the Act, we have not included that area in our action area or analysis for this consultation.

ANALYTICAL FRAMEWORK FOR THE SECTION 7(A)(2) DETERMINATIONS

Jeopardy Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02).

The jeopardy analysis in this biological opinion relies on four components:

1. The status of the species, which describes the range-wide condition of the species, the factors responsible for that condition, and its survival and recovery needs;

2. The environmental baseline, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species;

3. The effects of the action, which are all consequences to listed species caused by the proposed action that are reasonably certain to occur; and

4. The cumulative effects, which evaluate the effects of future, non-Federal activities in the action area on the species.

For the section 7(a)(2) determination regarding jeopardizing the continued existence of the species, the Service begins by evaluating the effects of the proposed Federal action and the cumulative effects. The Service then examines those effects against the current status of the species to determine if implementation of the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of the species in the wild.

Adverse Modification Determination

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. "Destruction or adverse modification" of critical habitat means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species (50 CFR 402.02).

The adverse modification analysis in this biological opinion relies on four components:

1. The status of critical habitat, which describes the condition of all designated critical habitat in terms of its physical and biological features, the factors responsible for that condition, and the intended recovery function of the critical habitat overall;

2. The environmental baseline, which analyzes the condition of the designated critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area;

3. The effects of the action, which analyze all consequences to critical habitat caused by the proposed action that are reasonably certain to occur and their influence on the recovery role of the affected designated critical habitat units; and

4. Cumulative effects, which evaluate the effects of future non-Federal activities in the action area on the physical and biological features of critical habitat and how that will influence the recovery role of affected critical habitat units.

For the adverse modification determination, the Service begins by evaluating the effects of the proposed Federal action on critical habitat and the cumulative effects. The Service then examines those effects against current status of the critical habitat to determine if implementation of the proposed action appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

STATUS OF THE DESERT TORTOISE AND ITS CRITICAL HABITAT

Desert Tortoise

Listing History

The Service listed the Mojave population of desert tortoise (all desert tortoises north and west of the Colorado River in Arizona, Utah, Nevada, and California) as threatened on April 2, 1990 [55 FR 12178].

Recovery Plan

In the revised recovery plan for the desert tortoise, the Service (2011) identified the need for "conservation areas" to protect existing desert tortoise populations and habitat. Please refer to the description and map of these areas in the **General Framework - Where Will Caltrans Apply Its Section 7(a)(1) Commitments?** section of this biological opinion. Also, Box 2 and Figure 2 in the recovery plan (Service 2011) describe and depict these areas in a generalized manner, respectively.

The revised recovery plan lists three objectives and associated criteria to achieve delisting. The first objective is to maintain self-sustaining populations of desert tortoises within each recovery unit into the future. The criterion is that the rates of population change for desert tortoises are increasing over at least 25 years (i.e., a single generation), as measured by extensive, range-wide monitoring across conservation areas within each recovery unit and by direct monitoring and estimation of vital rates (recruitment, survival) from demographic study areas within each recovery unit.

The second objective addresses the distribution of desert tortoises. The goal is to maintain well-distributed populations of desert tortoises throughout each recovery unit; the criterion is that the distribution of desert tortoises throughout each conservation area increase over at least 25 years.

The final objective is to ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations. The criterion is that the quantity of desert tortoise habitat within each conservation area be maintained with no net loss until population viability is ensured.

The revised recovery plan (Service 2011) also recommends connecting blocks of desert tortoise habitat, such as critical habitat units and other important areas, to maintain gene flow between populations. Linkages defined using least-cost path analysis (Averill-Murray *et al*. 2013) illustrate a minimum connection of habitat for desert tortoises between blocks of habitat and represent priority areas for conservation of population connectivity.

Threats

The threats described in the listing rule and both recovery plans (Service 1994, 2011) continue to affect the species. The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects, and those that fragment and degrade habitats, such as proliferation of roads and highways, off-highway vehicle activity, wildfire, and habitat invasion by non-native invasive plant species.

We remain unable to precisely quantify how particular threats affect desert tortoise populations relative to other threats. The assessment of the original recovery plan emphasized the need for a better understanding of the implications of multiple, simultaneous threats facing desert tortoise populations and of the relative contribution of multiple threats on demographic factors (i.e., birth rate, survivorship, fecundity, and death rate; Tracy *et al*. 2004).

For example, we have long known that the construction of a transmission line can result in the death of desert tortoises and loss of habitat. We have also known that common ravens, known predators of desert tortoises, use transmission line pylons for nesting, roosting, and perching and that the access routes associated with transmission lines provide a vector for the introduction and spread of invasive weeds and facilitate increased human access into an area. Increased human access can accelerate illegal collection and release of desert tortoises and their deliberate maiming and killing, as well as facilitate the spread of other threats associated with human presence, such as vehicle use, garbage and dumping, and invasive plants (Service 2011). Changes in the abundance of native plants due to invasive weeds can compromise the physiological health of desert tortoises, making them more vulnerable to drought, disease, and predation.

Five-Year Review

Section 4(c)(2) of the Act requires the Service to conduct a status review of each listed species once every 5 years. The purpose of a 5-year review is to evaluate whether the species' status has changed since listing (or since the most recent 5-year review); these reviews, at the time of their completion, provide the most up-to-date information on the range-wide status of the species. For this reason, we are incorporating the 5-year review of the status of the desert tortoise (Service 2010) by reference to provide most of the information needed for this section of the biological opinion. The following paragraphs provide a summary of the relevant information in the 5-year review.

In the 5-year review, the Service discusses the status of the desert tortoise as a single distinct population segment and provides information on the Federal Register notices that resulted in its listing and the designation of critical habitat. The Service also describes the desert tortoise's ecology, life history, spatial distribution, abundance, habitats, and the threats that led to its listing (i.e., the five-factor analysis required by section 4(a)(1) of the Act). In the 5-year review, the Service concluded by recommending that the status of the desert tortoise as a threatened species be maintained.

With regard to the status of the desert tortoise as a distinct population segment, the Service concluded in the 5-year review that the recovery units recognized in the original and revised

recovery plans (Service 1994 and 2011, respectively) do not qualify as distinct population segments under the Service's distinct population segment policy (61 FR 4722; February 7, 1996). We reached this conclusion because individuals of the listed taxon occupy habitat that is relatively continuously distributed, exhibit genetic differentiation that is consistent with isolation-by-distance in a continuous-distribution model of gene flow, and likely vary in behavioral and physiological characteristics across the area they occupy as a result of the transitional nature of, or environmental gradations between, the described subdivisions of the Mojave and Colorado deserts.

The Service summarizes information in the 5-year review with regard to the desert tortoise's ecology and life history. Of key importance to assessing threats to the species and to developing and implementing a strategy for recovery is that desert tortoises are long lived, require up to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential. The number of eggs that a female desert tortoise can produce in a season is dependent on a variety of factors including environment, habitat, availability of forage and drinking water, and physiological condition. Predation seems to play an important role in clutch failure. Predation and environmental factors also affect the survival of hatchlings. The Service notes in the 5-year review that the combination of the desert tortoise's late breeding age and a low reproductive rate challenges our ability to recover the species.

The 5-year review also notes that desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen may leave desert tortoises vulnerable to disease, and the reproductive rate of diseased desert tortoises is likely lower than that of healthy animals. Young desert tortoises also rely upon high-quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across its range (Oftedal *et al*. 2002; Tracy *et al*. 2004). Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reaches adulthood. Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to affect the reproduction of desert tortoises and recruitment into the adult population in a negative manner.

"Adult" desert tortoise connotes reproductive maturity. Desert tortoises may become reproductive at various sizes. We have used the term "adult" in this biological opinion to indicate reproductive status. In range-wide monitoring and for pre-project surveys, the Service uses 180 millimeters as its cut-off length for counting desert tortoises, because the best available information indicates that surveyors do not see desert tortoises that are smaller than 180 millimeters with the same frequency that they see the larger animals (Service 2019c).

The vast majority of threats to the desert tortoise or its habitat are associated with human land uses. Using captive neonate and yearling desert tortoises, Drake *et al*. (2016) found that individuals "eating native forbs had better body condition and immune functions, grew more, and had higher survival rates (>95 percent) than (desert) tortoises consuming any other diet";

health and body condition declined in individuals fed only grasses (native or non-native). Current information indicates that invasive species likely affect a large portion of the desert tortoise's range. Furthermore, high densities of weedy species increase the likelihood of wildfires; wildfires, in turn, destroy native species and further the spread of invasive weeds.

Drake *et al*. (2015) "compared movement patterns, home-range size, behavior, microhabitat use, reproduction, and survival for adult desert tortoises located in, and adjacent to, burned habitat" in Nevada. They noted that the fires killed many desert tortoises but found that, in the first 5 years post-fire, individuals moved deeper into burned habitat on a seasonal basis and foraged more frequently in burned areas (corresponding with greater production of annual plants and herbaceous perennials in these areas). Production of annual plants upon which desert tortoises feed was 10 times greater in burned versus unburned areas but was dominated by non-native species [e.g., red brome (*Bromus madritensis* ssp. *rubens*)] that frequently have lower digestibility than native vegetation. During years six and seven, the movements of desert tortoises into burned areas contracted with a decline in the live cover of a perennial forage plant that rapidly colonizes burned areas. Drake *et al*. (2015) did not find any differences in health or survivorship for desert tortoises occupying either habitat (burned or unburned) during this study or in reproduction during the 7th year after the fire.

Since the completion of the 5-year review, the Service has issued several biological opinions that affect large areas of desert tortoise habitat because of numerous proposals to develop renewable energy within its range. These biological opinions concluded that proposed solar plants were not likely to jeopardize the continued existence of the desert tortoise primarily because they were located outside of critical habitat and areas of critical environmental concern designated by the Bureau that contain most of the land base required for the recovery of the species. The proposed actions also included numerous measures intended to protect desert tortoise during the construction of the projects, such as translocation of affected individuals. In aggregate, these projects would result in an overall loss of approximately 65,560 acres of habitat of the desert tortoise. We also predicted that the project areas supported up to 13,594 desert tortoises; we concluded that most of these individuals were small desert tortoises, that most large desert tortoises would likely be translocated from project sites, and that most mortalities would be small desert tortoises (<180 millimeters) that were not detected during clearance surveys. To date, 661 desert tortoises have been observed during construction of solar projects (see Enclosure 1); most of these individuals were translocated from work areas, although some desert tortoises have been killed. The mitigation required by the Bureau and California Energy Commission (the agencies permitting some of these facilities) resulted in the acquisition of private land and funding for the implementation of various actions that are intended to promote the recovery of the desert tortoise. These mitigation measures are consistent with recommendations in the recovery plans for the desert tortoise; many of the measures have been derived directly from the recovery plans and the Service supports their implementation. We expect that, based on the best available scientific information, they will result in conservation benefits to the desert tortoise; however, it is difficult to assess how desert tortoise populations will respond because of the long generation time of the species.

In August 2016, the Service (2016) issued a biological opinion to the Bureau for a land use plan amendment under the Desert Renewable Energy Conservation Plan. The land use plan amendment

addressed all aspects of the Bureau's management of the California Desert Conservation Area; however, the Service and Bureau agreed that only those aspects related to the construction, operation, maintenance, and decommissioning of renewable energy facilities were likely to adversely affect the desert tortoise. The land use plan amendment resulted in the designation of approximately 388,000 acres of development focus areas where the Bureau would apply a streamlined review process to applications for projects that generate renewable energy; the Bureau estimated that approximately 11,290 acres of modeled desert tortoise habitat within the development focus areas would eventually be developed for renewable energy. The Bureau also adopted numerous conservation and management actions as part of the land use plan amendment to further reduce the adverse effects of renewable energy development on the desert tortoise.

The land use plan amendment also increased the amount of land that the Bureau manages for conservation in California (e.g., areas of critical environmental concern, California Desert National Conservation Lands, etc.) from 6,118,135 to 8,689,669 acres (Bureau 2015); not all of the areas subject to increased protection are within desert tortoise habitat. The Bureau will also manage lands outside of development focus areas according to numerous conservation and management actions; these conservation and management actions are more protective of desert tortoises than direction contained in the previous land use plan. The Service (2016) concluded that the land use plan amendment was not likely to jeopardize the continued existence of the desert tortoise and would benefit its recovery.

In addition to the biological opinions issued for solar development within the range of the desert tortoise, the Service (2012) also issued a biological opinion to the Department of the Army (Army) for the use of additional training lands at Fort Irwin. As part of this proposed action, the Army translocated approximately 650 adult desert tortoises from 18,197 acres of the southern area of Fort Irwin, which had been off-limits to training, to lands south of the base that are managed by the Bureau and the Army. The Army would also use an additional 48,629 acres that lie east of the former boundaries of Fort Irwin; much of this parcel is either too mountainous or too rocky and low in elevation to support numerous desert tortoises. As part of the proposed action, the Army also acquired approximately 100,000 acres of non-federal land within the Superior-Cronese Critical Habitat Unit for management for conservation of desert tortoises. It also purchased the base property of three cattle allotments; the Bureau subsequently re-allotted the forage on those allotments to wildlife. The Army also funded several other activities aimed at conserving desert tortoises in the Western Mojave Recovery Unit.

The Service also issued a biological opinion to the Department of the Navy (Navy) that considered the effects of the expansion of the Marine Corps Air Ground Combat Center at Twentynine Palms (Service 2017a). We concluded that the Navy's proposed action, the use of approximately 167,982 acres of public and private land for training, was not likely to jeopardize the continued existence of the desert tortoise. Most of the expansion area lies within the Johnson Valley Off-highway Vehicle Recreation Area. As part of this proposed action, the Navy translocated 998 adult desert tortoises from the expansion area to 4 recipient sites to the north and east of the expansion area (Henen 2019, pers. comm.). The Lucerne-Ord and Siberia sites are entirely within Bureau-managed lands, and the Rodman-Sunshine Peak North and Cleghorn sites overlap Bureau-managed lands and lands managed by the Navy. The Lucerne-Ord site lies within the

Ord-Rodman Area of Critical Environmental Concern. The Navy translocated desert tortoises from the Johnson Valley Off-highway Vehicle Recreation Area into populations that were below the Service's established minimum viable density, to attempt to augment these populations and make them more viable in the long-term.

The Service also issued a biological opinion to the Navy that considered the effects of the expansion of the Naval Air Weapons Station at China Lake (Service 2019b). We concluded that the Navy's proposed action, the use of approximately 2,777 acres of the 26,509-acre Cuddeback Range expansion area, was not likely to jeopardize the continued existence of the desert tortoise. The Cuddeback Range lies within the Superior-Cronese Critical Habitat Unit. However, all of the disturbance would occur in a previously disturbed area that the U.S. Air Force historically used as a target zone. The Navy will include the entire Cuddeback Range in its Integrated Natural Resource Management Plan and construct a perimeter fence around the range to prevent trespass by the public. These actions will provide conservation benefits for plants, fish, and wildlife within the area, including the desert tortoise. Because the Navy will not disturb most of the area, it did not translocate any desert tortoises as part of this action.

The incremental effect of the larger actions (i.e., solar development, the expansions of Fort Irwin and the Marine Corps Air Ground Combat Center) on the desert tortoise is unlikely to be positive, despite the numerous conservation measures that have been (or will be) implemented as part of the actions. The acquisition of private lands as mitigation for most of these actions increases the level of protection afforded these lands; however, these acquisitions do not create new habitat and federal, state, and privately managed lands remain subject to most of the threats and stresses we discussed previously in this section. Land managers have been implementing measures to manage these threats and we expect, based on the best available scientific information, that such measures provide conservation benefits to the desert tortoise. We have been unable, to date, to determine whether desert tortoise populations have benefited from the measures. This is partly because of the low reproductive capacity of the desert tortoise. Therefore, the conversion of habitat into areas that are unsuitable for this species continues the trend of constricting the desert tortoise into a smaller portion of its range.

As the Service notes in the 5-year review (Service 2010), "(t)he threats identified in the original listing rule continue to affect the (desert tortoise) today, with invasive species, wildfire, and renewable energy development coming to the forefront as important factors in habitat loss and conversion. The vast majority of threats to the desert tortoise or its habitat are associated with human land uses."

Climate change is likely to affect the prospects for the long-term conservation of the desert tortoise. For example, predictions for climate change within the range of the desert tortoise suggest more frequent and/or prolonged droughts with an increase of the annual mean temperature by 3.5 to 4.0 degrees Celsius. The greatest increases will likely occur in summer [June-July-August mean increase of as much as 5 degrees Celsius (Christensen *et al*. 2007)]. Precipitation will likely decrease by 5 to 15 percent annually in the region; with winter precipitation decreasing by up to 20 percent and summer precipitation increasing by up to 5 percent. Because germination of the desert tortoise's food plants is highly dependent on cool-season rains,

increasing temperatures and decreasing winter precipitation could reduce the forage base. Although drought occurs routinely in the Mojave Desert, extended periods of drought have the potential to affect desert tortoises and their habitats through physiological effects to individuals (i.e., stress) and limited forage availability. To place the consequences of long-term drought in perspective, Longshore *et al*. (2003) demonstrated that even short-term drought could result in elevated levels of mortality of desert tortoises. Therefore, long-term drought is likely to have even greater effects, particularly given that the current fragmented nature of desert tortoise habitat (e.g., urban and agricultural development, highways, freeways, military training areas, etc.) will make recolonization of extirpated areas difficult, if not impossible.

Core Criteria for the Jeopardy Determination

When determining whether a proposed action is likely to jeopardize the continued existence of a species, we are required to consider whether the action would "reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR 402.02). We have used the best available information to summarize the status of the desert tortoise with respect to its reproduction, numbers, and distribution.

Reproduction

In the 5-year review, the Service notes that desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen may leave desert tortoises vulnerable to disease (Oftedal *et al*. 2002), and the reproductive rate of diseased desert tortoises is likely lower than that of healthy animals. Young desert tortoises also rely upon high-quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across its range (Oftedal *et al*. 2002; Tracy *et al*. 2004). Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reach adulthood; see previous information from Drake *et al*. (2016). Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to affect the reproduction of desert tortoises and recruitment into the adult population in a negative manner.

Various human activities have introduced numerous species of non-native invasive plants into the California desert. Routes that humans use to travel through the desert (paved and unpaved roads, railroads, motorcycle trails, etc.) serve as pathways for new species to enter habitat of the desert tortoise and for species that currently occur there to spread. Other disturbances of the desert substrate also provide invasive species with entry points into the desert. The abundance and distribution of invasive weeds may compromise, at least to some degree in localized areas across its range, the reproductive capacity of the desert tortoise; the continued increase in human access across the desert likely continues to facilitate the spread of weeds and further affect the reproductive capacity of the species.

Numbers

In the 5-year review, the Service discusses various means by which researchers have attempted to determine the abundance of desert tortoises and the strengths and weaknesses of those methods. Due to differences in area covered and especially to the non-representative nature of earlier study sites, data gathered by the Service's current range-wide monitoring program cannot be reliably compared to information gathered through other means at this time.

Data from small-scale study plots (e.g., 1 square mile) established as early as 1976 and surveyed primarily through the mid-1990s indicate that localized population declines occurred at many sites across the desert tortoise's range, especially in the western Mojave Desert. Spatial analyses of more widespread surveys also found evidence of relatively high mortality in some parts of the range (Tracy *et al*. 2004). Although we cannot extrapolate population densities from the local study plots to provide an estimate of the number of desert tortoises on a range-wide basis, historical densities in some parts of the desert exceeded 38 per square kilometer (Tracy *et al*. 2004). The Service (2010) concluded that "appreciable declines at the local level in many areas, which coupled with other survey results, suggest that declines may have occurred more broadly."

The range-wide monitoring that the Service initiated in 2001 is the first comprehensive attempt to determine the densities of desert tortoises in conservation areas across their range. Allison and McLuckie (2018) used annual density estimates obtained from this monitoring effort to evaluate range-wide trends in the density of desert tortoises over time. (All references to the density of desert tortoises within each monitoring area are averages. Some local areas within each monitoring area support higher densities and some lower; desert tortoises do not occur in uniform densities across large areas.) This analysis indicates that densities in the Northeastern Mojave Recovery Unit have increased since 2004, with the increase apparently resulting from increased survival of adults and sub-adults moving into the adult size class. The analysis also indicates that the populations in the other four recovery units are declining; Table 1 depicts the estimated abundance of desert tortoises within the recovery units and the change in abundance. Surveys did not include the steepest slopes in these desert tortoise conservation areas; however, the model developed by Nussear *et al*. (2009) generally rates steep slopes as less likely to support desert tortoises.

To further assess the status of the desert tortoise, the Desert Tortoise Recovery Office (Service 2015a) used multi-year trends from the best-fitting model describing log-transformed density of adult animals per square kilometer. In 2014, three of the five recovery units supported densities below 3.9 adult animals per square kilometer [Western Mojave (2.8), Eastern Mojave (1.5), and Colorado Desert (3.7); see Table 10 in Service 2015b], which is the minimum density recommended to avoid extinction in the 1994 recovery plan. The Northeastern Mojave Recovery Unit supported 4.4 adult desert tortoises per square kilometer and the Upper Virgin River Recovery Unit, which is by far the smallest recovery unit, supported 15.3 adults per square kilometer.

Table 1. Change in desert tortoise abundance in recovery units (Allison and McLuckie 2018).*

Recovery Units	Modeled Habitat (km^2)	2004 Abundance	2014 Abundance	Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668
Colorado Desert	18,024	103,675	66,097	-37,578
Northeastern Mojave	10,664	12,610	46,701	+34,091
Eastern Mojave	16,061	75,342	24,664	-50,679
Upper Virgin River	613	13,226	10,010	-3,216
Total	68,501	336,393	212,343	-124,050

* Allison and McLuckie (2018) used modeled habitat within the entire range of the desert tortoise for this estimate. In other discussions in this biological opinion, we used information only the area of monitored habitat with desert tortoise conservation areas to estimate the number of desert tortoises in the recovery unit.

Allison and McLuckie (2018) considered the declines of adult desert tortoises in the Western Mojave and Easter Mojave recovery units and concluded that these "steep declines" in density are sustainable only if reproduction and the growth and survival of juveniles improved greatly. (Allison and McLuckie used 180 millimeters as the separation point between large and small desert tortoises.) However, they note "the proportion of juveniles has not increased anywhere since 2007, and in these two recovery units the proportion of juveniles in 2014 has declined to 91 percent and 77 percent of their representation in 2004, respectively." In short, as of 2014, small desert tortoises were not moving into the large cohort at a rate that was sufficient to reverse declines.

Distribution

The Service (2010) concluded in its 5-year review that the distribution of the desert tortoise has not changed substantially since the publication of the original recovery plan in 1994 in terms of the overall extent of its range. Prior to 1994, urban and agricultural development, military training, and off-road vehicle use extirpated desert tortoises from large areas within their distributional limits. For example, the cities of Barstow, Lancaster, Las Vegas, and St. George, agricultural areas south of Edwards Air Force Base, the National Training Center at Fort Irwin, and portions of off-road recreation areas managed by the Bureau are located within the range of the desert tortoise. Unauthorized off-highway vehicle use in areas such as east of California City has also affected the distribution of the desert tortoise.

Urban development around Las Vegas has likely been the largest contributor to habitat loss throughout the range since 1994. Desert tortoises have essentially been removed from the 18,197-acre southern expansion area at Fort Irwin (Service 2012). The development of large solar facilities has also reduced the amount of habitat available to desert tortoises. No solar facilities have been developed within areas of critical environmental concern that the Bureau has designated for the desert tortoise in California, although such projects have occurred in areas that

the Service considers important linkages between conservation areas (e.g., Silver State South Project in Nevada).

In recognition of the absence of specific and recent information on the location of habitable areas within the Mojave Desert, especially at the outer edges, Nussear *et al*. (2009) developed a quantitative, spatial habitat model for the desert tortoise north and west of the Colorado River. The model incorporates environmental variables such as precipitation, geology, vegetation, and slope and uses occurrence data of desert tortoises from sources spanning more than 80 years, including data from the 2001 to 2008 range-wide monitoring surveys. The model predicts the relative potential for desert tortoises to be present in any given location, given the combination of habitat variables at that location in relation to areas of known occupancy throughout the range. Calculations of the amount of desert tortoise habitat in the 5-year review (Service 2010) and in this biological opinion use a threshold of 0.5 or greater predicted value for potential desert tortoise habitat. The model does not account for anthropogenic effects to habitat and represents the potential for occupancy by desert tortoises absent these effects.

Table 2 depicts acreages of habitat (as modeled by Nussear *et al*. 2009, using only areas with a probability of occupancy by desert tortoises greater than 0.5 as potential habitat) within the recovery units of the desert tortoise and of impervious surfaces as of 2006 (Fry *et al*. 2011); calculations are by Darst (2014). Impervious surfaces include paved and developed areas and other disturbed areas that have zero probability of supporting desert tortoises.

Table 2. Modeled habitat of the desert tortoise.*

Recovery Units	Modeled Habitat	Impervious Surfaces (percentage)	Remaining Modeled Habitat
Western Mojave	7,585,312	1,989,843 (26)	5,595,469
Colorado Desert	4,950,225	510,862 (10)	4,439,363
Northeastern Mojave	3,012,293	386,182 (13)	2,626,111
Eastern Mojave	4,763,123	825,274 (17)	3,937,849
Upper Virgin River	231,460	84,404 (36)	147,056
Total	**20,542,413**	**3,796,565 (18)**	**16,745,848**

* All units are in acres.

Since 2010, we again conclude that the species' distribution has not changed substantially in terms of the overall extent of its range. However, solar facilities, military activities, and other developments have removed desert tortoises from several thousand acres within their range.

Status of Critical Habitat of the Desert Tortoise

The Service designated critical habitat for the desert tortoise in portions of California, Nevada, Arizona, and Utah in a final rule published February 8, 1994 (59 FR 5820). The Service designates critical habitat to identify the key biological and physical needs of the species and key areas for recovery and to focus conservation actions on those areas. Within the geographical area occupied by the species at the time of listing, critical habitat is composed of specific geographic areas that contain the biological and physical features essential to the species' conservation and that may

require special management considerations or protection. These features, which include space, food, water, nutrition, cover, shelter, reproductive sites, and special habitats, are called the physical and biological features of critical habitat. The specific physical and biological features of critical habitat of the desert tortoise are: sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality.

Critical habitat of the desert tortoise would not be able to fulfill its intended recovery function without each of the physical and biological features being functional. For example, critical habitat would not function properly if a sufficient amount of forage species were present but human-caused mortality was excessive. A second example is that critical habitat could not fulfill its intended function for recovery if an area with sufficient space to support viable populations and to provide for movement, dispersal, and gene flow did not support adequate forage species.

The final rule for designation of critical habitat did not explicitly ascribe specific conservation roles or functions to the various critical habitat units. Rather, it refers to the strategy of establishing recovery units and "desert wildlife management areas" recommended by the recovery plan for the desert tortoise, which had been published as a draft at the time of the designation of critical habitat, to capture the "biotic and abiotic variability found in desert tortoise habitat" (59 FR 5823). Specifically, we designated the critical habitat units to follow the direction provided by the draft recovery plan for the establishment of desert wildlife management areas. The critical habitat units in aggregate are intended to protect the variability that occurs across the large range of the desert tortoise; the loss of any specific unit may compromise the ability of critical habitat as a whole to serve its intended function for recovery.

Since the designation of critical habitat, Congress increased the size of Joshua Tree National Park and created the Mojave National Preserve. A portion of the expanded boundary of Joshua Tree National Park lies within critical habitat of the desert tortoise; portions of other critical habitat units lie within the boundaries of the Mojave National Preserve. The inclusion of these areas of critical habitat within National Park Service boundaries increased the level of legal protection they are afforded.

Congress also increased the size of the Johnson Valley Off-highway Vehicle Recreation Area through the passage of the Dingell Act in 2019. This act included 3,471 acres of the Ord-Rodman Critical Habitat Unit in the Johnson Valley Off-highway Vehicle Recreation Area, which represents approximately 1.37 percent of the 253,200-acre critical habitat unit. The transfer of this area of critical habitat into the off-highway vehicle recreation area decreased its level of protection; whether this area of critical habitat will actually experience increased recreation will depend on future use patterns.

Within each critical habitat unit, both natural and anthropogenic factors affect the function of the physical and biological features of critical habitat. As an example of a natural factor, in some

specific areas within the boundaries of critical habitat, such as within and adjacent to dry lakes, some of the physical and biological features are naturally absent because the substrate is extremely silty; desert tortoises do not normally reside in such areas. Comparing the acreage of desert tortoise habitat as depicted by Nussear *et al.*'s (2009) model to the gross acreage of the critical habitat units demonstrates quantitatively that the entire area within the boundaries of critical habitat likely does not support the physical and biological features. In Table 3, the acreage for modeled habitat is for the area in which the probability that desert tortoises are present is greater than 0.5. (We used the 0.5 probability here, rather than the 0.6 value we used to define conservation areas, to depict the broader area that most desert tortoises likely occupy, instead of the slightly more restricted area we consider important for conservation.) The acreages of modeled habitat do not include loss of habitat due to human-caused impacts. The difference between gross acreage and modeled habitat is 653,214 acres; that is, approximately 10 percent of the gross acreage of the designated critical habitat is unlikely to support the features of habitat that are conducive to the presence of desert tortoises.

Table 3. Acreage of gross and modeled habitat within critical habitat units for the desert tortoise.[1, 2]

Critical Habitat Unit	Gross Acreage	Modeled Habitat
Superior-Cronese	766,900	724,967
Fremont-Kramer	518,000	501,095
Ord-Rodman	253,200	184,155
Pinto Mountain	171,700	144,056
Piute-Eldorado	970,600	930,008
Ivanpah Valley	632,400	510,711
Chuckwalla	1,020,600	809,319
Chemehuevi	937,400	914,505
Gold Butte-Pakoon	488,300	418,189
Mormon Mesa	427,900	407,041
Beaver Dam Slope	204,600	202,499
Upper Virgin River	54,600	46,441
Total	**6,446,200**	**5,792,986**

[1] We have not adjusted the acreage for the Ord-Rodman Critical Habitat Unit in response to the Dingell Act.

[2] All units are in acres.

Human activities can have obvious or more subtle effects on the physical and biological features of critical habitat. The grading of an area and subsequent construction of a building removes physical and biological features; this action has an obvious effect on critical habitat. The revised recovery plan identifies human activities such as urbanization and the proliferation of roads and highways as threats to the desert tortoise and its habitat; these threats are examples of activities that have a clear effect on the physical and biological features of critical habitat.

Condition of the Physical and Biological Features of Critical Habitat

The revised recovery plan (Service 2011) discusses the importance of understanding the combined and synergistic effects of human activities on habitat of the desert tortoise. For example, surface disturbance causes increased rates of erosion and generation of dust. Increased erosion alters additional habitat outside of the area directly affected by altering the nature of the substrate, removing shrubs, and possibly destroying burrows and other shelter sites. Increased dust affects photosynthesis in the plants that provide cover and forage to desert tortoises. Disturbed substrates and increased atmospheric nitrogen enhance the likelihood that invasive weeds will out-compete native species; the proliferation of weedy species increases the risk of large-scale fires, which further move habitat conditions away from those that are favorable to desert tortoises.

The following paragraphs generally describe how the threats described in the revised recovery plan affect the physical and biological features of critical habitat of the desert tortoise.

Sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow

Urban and agricultural development, concentrated use by off-road vehicles, and other activities such as development of transmission lines and pipelines completely remove habitat. Although we are aware of local areas within the boundaries of critical habitat that have been heavily disturbed, we do not know of any areas that have been disturbed to the intensity and extent that compromise the function of this physical and biological feature. To date, the largest single loss of critical habitat is the use of 18,197 acres of additional training land in the southern portion of Fort Irwin. The congressional transfer of 3,471 acres of the Ord-Rodman Critical Habitat Unit to the Johnson Valley Off-highway Vehicle Recreation Area may reduce the space available to support viable populations within the Western Mojave Recovery Unit and to provide for movement, dispersal, and gene flow. The extent to which recreationists use the transferred area will determine the extent of the effect on this and the other physical and biological features.

The widening of existing freeways likely caused the second largest loss of critical habitat. Despite these losses of critical habitat, which occur in a linear manner, the critical habitat units continue to support sufficient space to support viable populations within each of the six recovery units.

In some cases, major roads likely disrupt the movement, dispersal, and gene flow of desert tortoises. State Route 58 and Highway 395 in the Fremont-Kramer Critical Habitat Unit, Fort Irwin Road in the Superior-Cronese Critical Habitat Unit, and Interstate 10 in the Chuckwalla Critical Habitat Unit are examples of large and heavily travelled roads that likely disrupt movement, dispersal, and gene flow. Roads that have been fenced and provided with underpasses may alleviate this fragmentation to some degree; however, such facilities have not been in place for sufficient time to determine whether they will eliminate fragmentation.

The threats of invasive plant species described in the revised recovery plan generally do not result in the removal of this physical and biological feature because they do not convert habitat into impervious surfaces, as would urban development.

Sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species

This physical and biological feature addresses the ability of critical habitat to provide adequate nutrition to desert tortoises. As described in the revised recovery plan and 5-year review, grazing, historical fire, invasive plants, altered hydrology, drought, wildfire potential, fugitive dust, and climate change/temperature extremes contribute to the stress of "nutritional compromise." Paved and unpaved roads through critical habitat of the desert tortoise provide avenues by which invasive native species disperse; these legal routes also provide the means by which unauthorized use occurs over large areas of critical habitat. Nitrogen deposition from atmospheric pollution likely occurs throughout all the critical habitat units and exacerbates the effects of the disturbance of substrates. Because paved and unpaved roads are so widespread through critical habitat, this threat has adversely affected the value of critical habitat for conservation of the desert tortoise throughout its range, to some degree.

Suitable substrates for burrowing, nesting, and overwintering

Surface disturbance, motor vehicles traveling off route, use of off-highway vehicle management areas, off-highway vehicle events, unpaved roads, grazing, historical fire, wildfire potential, altered hydrology, and climate change leading to shifts in habitat composition and location, storms, and flooding can alter substrates to the extent that they are no longer suitable for burrowing, nesting, and overwintering. Erosion caused by these activities can alter washes to the extent that desert tortoise burrows placed along the edge of a wash, which is a preferred location for burrows, could be destroyed. We expect that the area within critical habitat that is affected by off-road vehicle use to the extent that substrates are no longer suitable is relatively small in relation to the area that desert tortoises have available for burrowing, nesting, and overwintering; consequently, off-road vehicle use has not had a substantial effect on this physical and biological feature.

Most livestock allotments have been eliminated from within the boundaries of critical habitat. Of those that remain, livestock would compact substrates to the extent that they would become unsuitable for burrowing, nesting, and overwintering only in areas of concentrated use, such as around watering areas and corrals. Because livestock grazing occurs over a relatively small portion of critical habitat and the substrates in most areas within livestock allotments would not be substantially affected, suitable substrates for burrowing, nesting, and overwintering remain throughout most of the critical habitat units.

Burrows, caliche caves, and other shelter sites

Human-caused effects to burrows, caliche caves, and other shelter sites likely occur at a similar rate as effects to substrates for burrowing, nesting, and overwintering for the same general reasons. Consequently, sufficient burrows, caliche caves, and other shelter sites remain in the critical habitat units.

Sufficient vegetation for shelter from temperature extremes and predators

In general, sufficient vegetation for shelter from temperature extremes and predators remains throughout critical habitat. In areas where large fires have occurred in critical habitat, many of the shrubs that provide shelter from temperature extremes and predators have been destroyed; in such areas, cover sites may be a limiting factor. The proliferation of invasive plants poses a threat to shrub cover throughout critical habitat as the potential for larger and more frequent wildfires increases.

In 2005, wildfires in Nevada, Utah, and Arizona burned extensive areas of critical habitat (Service 2010). Although different agencies report slightly different acreages, Table 4 provides an indication of the scale of the fires. The Service is aware that fires in August 2020 also occurred in critical habitat of the desert tortoise; at the time of this biological opinion, we do not know the acreages of those fires.

Table 4. Summary of total burned area within desert tortoise critical habitat.

Critical Habitat Unit	Total Area Burned (acres)	Percent of the Critical Habitat Unit Burned
Beaver Dam Slope	53,528	26
Gold-Butte Pakoon	65,339	13
Mormon Mesa	12,952	3
Upper Virgin River	10,557	19

The revised recovery plan notes that the fires caused statistically significant losses of perennial plant cover, although patches of unburned shrubs remained. The percentages of burned habitat do not mean that the fire removed all habitat value for desert tortoises. Drake *et al*. (2015) noted that the production of annual plants was 10 times greater in burned areas compared to unburned areas; however, non-native plants, such as red brome, dominated the burned areas. Desert tortoises continued to use the dead branches of shrubs, such as creosote bush (*Larrea tridentata*) and burro bush (*Ambrosia dumosa*). Their use of burrows was similar in burned and unburned areas (Drake *et al*. 2015). We cannot quantify precisely the extent to which these fires disrupted the value of the critical habitat, given the patchiness with which the physical and biological features of critical habitat are distributed across the critical habitat units and the varying intensity of the wildfires. The work by Drake *et al*. (2015) demonstrates that the physical and biological features within burned areas retain at least some of their value for the conservation of desert tortoises but conclude "burned habitat may take years to recover sufficiently to fully support (desert) tortoise populations."

Habitat protected from disturbance and human-caused mortality

In general, the Federal agencies that manage lands within the boundaries of critical habitat have adopted land management plans that include implementation of some or all of the recommendations contained in the original recovery plan for the desert tortoise (see pages 70 to 72 of Service 2010). The Bureau's (Service 2016) land use plan amendment for the Desert Renewable Energy Conservation Plan increased the amount of land under protective status and adopted conservation

and management actions that furthered the Bureau's goals for these areas. Areas of critical environmental concern and California Desert National Conservation Lands are the units by which the Bureau manages its lands; for the most part, these management units overlap critical habitat of the desert tortoise.

To at least some degree, the adoption of these plans has resulted in the implementation of management actions that are likely to reduce the disturbance and human-caused mortality of desert tortoises. For example, these plans resulted in the designation of open routes of travel and the closure (and, in some cases, physical closure) of unauthorized routes. Numerous livestock allotments have been relinquished by the permittees and cattle no longer graze these allotments. Because of actions on the part of various agencies, many miles of highways and other paved roads have been fenced to prevent desert tortoises from wandering into traffic and being killed. The Service and other agencies of the Desert Managers Group in California are implementing a plan to remove common ravens that prey on desert tortoises and to undertake other actions that would reduce subsidies (i.e., food, water, sites for nesting, roosting, and perching, etc.) that facilitate their abundance in the California Desert (Service 2008).

Despite the implementation of these actions, disturbance and human-caused mortality continue to occur in many areas of critical habitat to the extent that they adversely affect the value of critical habitat for the conservation of the desert tortoise, to some degree. For example, many highways and other paved roads in California remain unfenced. Hughson and Darby (2013) noted that as many as 10 desert tortoises are reported killed annually on paved roads within Mojave National Preserve. Because scavengers quickly remove carcasses from roads, we expect that vehicle use kills more desert tortoises are than are reported.

Unauthorized off-road vehicle use continues to disturb habitat and result in loss of vegetation within the boundaries of critical habitat; although we have not documented the death of desert tortoises as a direct result of this activity, it likely occurs. Additionally, the habitat disturbance caused by this unauthorized activity exacerbates the spread of invasive plants, which displace native plants that are important forage for the desert tortoise, thereby increasing the physiological stress faced by desert tortoises.

Finally, in California, the Bureau will not allow the development of renewable energy facilities on public lands within the boundaries of areas of critical environmental concern and California Desert National Conservation Lands. Counties have not specifically restricted the development of renewable energy facilities on private lands within the boundaries of areas of critical environmental concern. However, the checkerboard pattern of land ownership would likely necessitate that the Bureau consider issuance of a right-of-way for such a facility, which likely decreases the potential for such proposals in the future.

Summary of the Status of Critical Habitat of the Desert Tortoise

As noted in the 5-year review and revised recovery plan for the desert tortoise (Service 2010, 2011), critical habitat of the desert tortoise is subject to landscape-level impacts in addition to the site-specific effects of individual human activities. Land managers have undertaken actions to improve

the status of critical habitat. For example, as part of its efforts to offset the effects of the use of additional training maneuver lands at Fort Irwin (Service 2004), the Army acquired the private interests in the Harper Lake and Cronese Lakes allotments, which are located within critical habitat in the Western Mojave Recovery Unit; as a result, cattle have been removed from these allotments. The retirement of allotments assists in the recovery of the species by eliminating disturbance to the physical and biological features of critical habitat by cattle and range improvements.

Although human activities have affected the remaining physical and biological features to some degree, these impacts have not, to date, appreciably diminished the value of the critical habitat units for the conservation of the desert tortoise. We have reached this conclusion primarily because the effects are localized and thus do not affect the value of large areas of critical habitat for the conservation of the desert tortoise.

ENVIRONMENTAL BASELINE

The regulations implementing section 7(a)(2) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02).

Status of the Desert Tortoise in the Action Area

Caltrans did not conduct surveys for desert tortoises specifically in support of this consultation, nor did the Service request such information. Surveys conducted prior to the issuance of this biological opinion would likely not represent conditions at the time Caltrans pursued the activities addressed by this biological opinon. Additionally, the precise locations of some activities may change over time.

Figure 2 depicts the range of the desert tortoise in California. In general, we use Nussear *et al*.'s (2009) predicted value of 0.5 and greater to assess effects to desert tortoises because, at this value, we can focus our analysis on those areas that possess most of the habitat attributes that support desert tortoises. In this case, to ensure that Caltrans is aware of the potential presence of desert tortoises in work areas, we used the 0.2 predicted value to define a "regulatory boundary." This boundary encompasses 100 percent of recorded sightings of desert tortoises in our records. To be clear, we are not saying that desert tortoises occur everywhere within this boundary. Conversely, our intent is to indicate that they may be present within suitable habitat in the mapped area depicted in Figure 2 and they are reasonably certain to be absent from the area outside the "regulatory boundary."

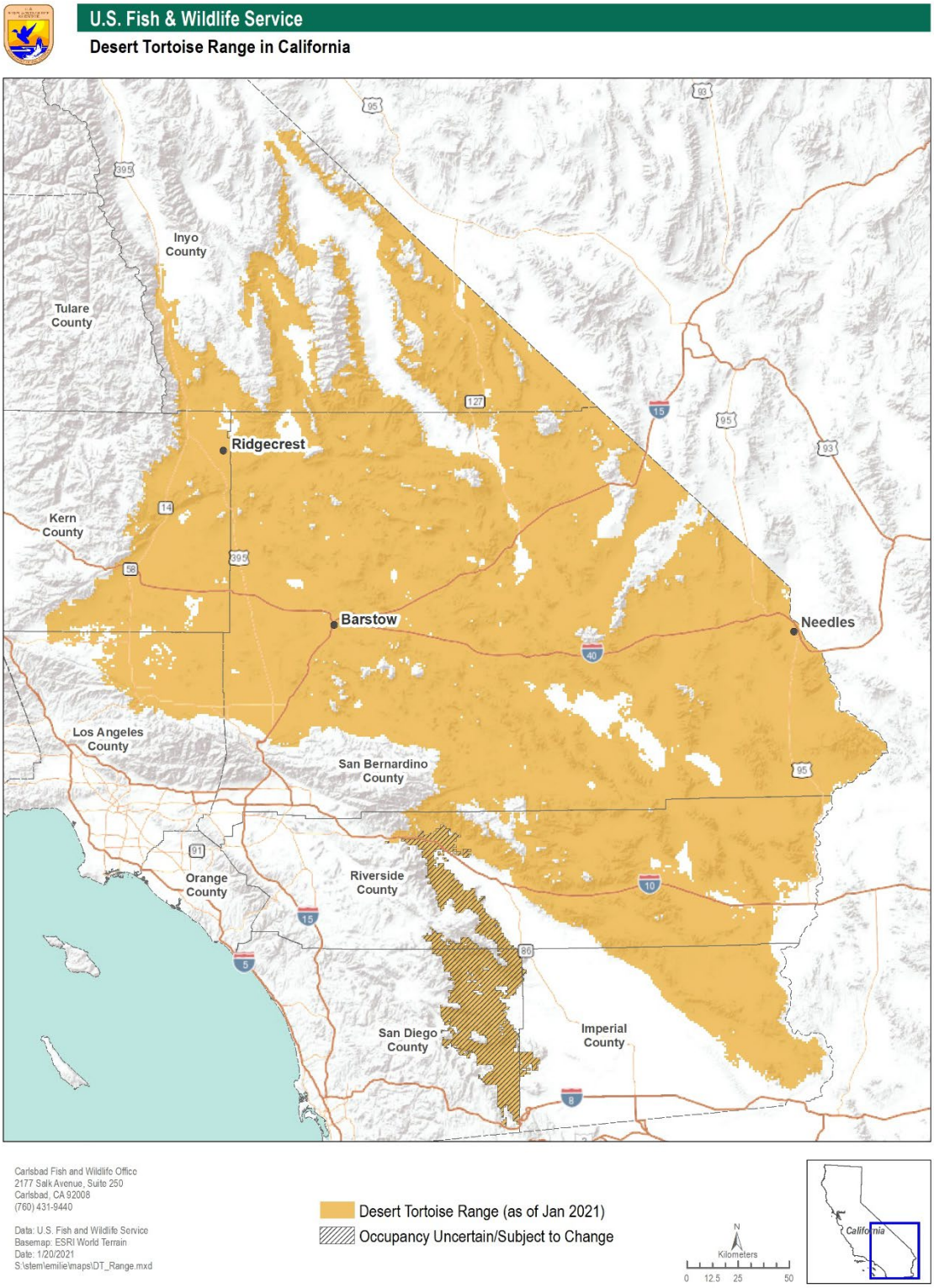

Figure 2. Range of the Desert Tortoise in California. This area may change as our knowledge of the species' distribution evolves**.**

Caltrans (2020b, see maps in Appendix C) provided general information on the location of projects it would undertake through the State Highway Operation and Protection Program for the next 10 years. These projects are relatively minor repairs to existing roads These 17 projects would affect approximately 534.71 acres of desert tortoise habitat (Caltrans 2020a) in the northern portion of the species' range in California.

Caltrans also projects that it would undertake approximately 28 acres of work under the same program in the southern portion of the species' range in California (Loy 2020, pers. comm.). Although we do not know the approximate locations of these projects, their small size ensures that they would not (individually or in aggregate), involve numerous desert tortoises. These acreages are merely examples. Caltrans will also implement activities under other programs that it administers that may affect the desert tortoise and its critical habitat. The same maps depict where Caltrans is likely to implement larger projects, such as the widening of roads, under its State Transportation Improvement Program. Local agencies provide Caltrans with guidance on their needs with regard to these projects. Consequently, Caltrans does not have detailed information on the nature of these projects or the amount of habitat they may affect.

The Service and Caltrans do not intend for the information in these documents (i.e., Caltrans 2020a, 2020b) to define limits of the activities Caltrans may pursue under the auspices of this biological opinion. We fully intend for this biological opinion to apply to all Caltrans activities that meet the criteria we described in the Description of the Proposed Action - Scope of the Consultation section of this biological opinion.

Rather than use the results of surveys, we relied on general information for this consultation. Specifically, the Service's range-wide monitoring provides a broad view of the status and trends of desert tortoise populations. We provided information from those reports in the Status of the Desert Tortoise section of this biological opinion and will not repeat it here.

Roads of various sizes have substantial effects on desert tortoise populations. For example, Boarman and Sazaki (2006) found that highway in the western Mojave Desert depressed the density of desert tortoises for at least 400 meters from the edge of the road; they considered it likely that mortality on the road caused this decrease in density.

In the eastern Mojave Desert, Peaden *et al*. (2015) determined that large, high-traffic interstates reduced the abundance of desert tortoise sign to 306 meters from the edge of the road. Smaller, lower-traffic county roads reduced the abundance of sign to 230 meters.

Nafus *et al*. (2013) found that the volume of traffic influenced the density of desert tortoises in adjacent areas. The "relative abundance of (desert) tortoise sign was greatest along roads with low traffic volume (<1 vehicle/day) compared to roads with intermediate (30–60 vehicles/day) and high (320–1100 vehicles/day) traffic volumes." They found that the size of desert tortoises correlated significantly with traffic volume; they found that desert tortoises near the busiest roads were smaller. They suggest that this finding indicates road mortality, particularly along roads with higher volumes of traffic, also reduced overall population growth because of the effects on the larger, reproductive desert tortoises.

As we noted previously in this biological opinion, in some cases, the Service may request that Caltrans translocate desert tortoises from projects sites that are outside of desert tortoise conservation areas to augmentation sites within areas that are important for the long-term conservation of the species. The Service has not identified these areas at this time. However, we anticipate that any such area will meet criteria that the Desert Tortoise Recovery Office establishes. For example, augmentation sites will support suitable habitat and depressed densities of desert tortoises. The U.S. Geological Survey is currently evaluating sites in the Western Mojave Recovery Unit for augmentation; we expect Caltrans would use this site more than potential sites in other recovery units. The Service and Caltrans would coordinate use of augmentation sites with the land manager prior to its use.

In summary, we generally expect that desert tortoises occur in the action area for this biological opinion as described in the Service's reports on the results from range-wide monitoring. We expect that densities of desert tortoises are lower outside of desert tortoise conservation areas than they are within these areas. Regardless of the location, the presence of roads, whether interstates or smaller, is likely to reduce the density of desert tortoises in adjacent habitat.

Status of Critical Habitat of the Species in the Action Area

The presence of roads affects the condition of the physical and biological features of critical habitat of the desert tortoise in the action area. In general, the effect of the road decreases as the distance from the road increases. The physical nature of the habitat and the presence or absence of fencing influence the condition of critical habitat.

For example, in areas of critical habitat, roads are not fenced and the surrounding habitat is level and lightly vegetated. In such areas, the condition of all of the physical and biological features of critical habitat is generally degraded for some distance from the edge of the road. Conversely, in other areas, fencing or rugged habitat prevent vehicles from leaving the road. In these situations, the physical and biological features of critical habitat are generally in good condition. The Service and Caltrans have not attempted to quantify the condition of the physical and biological features of critical habitat in the action area but expect that they reflect the conditions we described in this paragraph.

EFFECTS OF THE ACTION

The regulations implementing section 7(a)(2) of the Endangered Species Act define the effects of the action as "all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action" (50 CFR 402.02).

The implementing regulations for section 7(a)(2) note that "a conclusion of reasonably certain to occur must be based on clear and substantial information, using the best scientific and commercial data available" [50 CFR 402.17(a)]. Factors to consider when evaluating whether activities

caused by the proposed action (but not part of the proposed action) or activities reviewed under cumulative effects are reasonably certain to occur include, but are not limited to:

1. Past experiences with activities that have resulted from actions that are similar in scope, nature, and magnitude to the proposed action;

2. Existing plans for the activity; and

3. Any remaining economic, administrative, and legal requirements necessary for the activity to go forward [50 CFR 402.17(a)].

The implementing regulations for section 7(a)(2) note that, to be "an effect of a proposed action," a consequence must be caused by the proposed action (i.e., the consequence would not occur but for the proposed action and is reasonably certain to occur). A conclusion of reasonably certain to occur must be based on clear and substantial information, using the best scientific and commercial data available. Considerations for determining that a consequence to the species or critical habitat is not caused by the proposed action include, but are not limited to:

1. The consequence is so remote in time from the action under consultation that it is not reasonably certain to occur; or

2. The consequence is so geographically remote from the immediate area involved in the action that it is not reasonably certain to occur; or

3. The consequence is only reached through a lengthy causal chain that involves so many steps as to make the consequence not reasonably certain to occur.

Effects of the Proposed Action on the Desert Tortoise

Caltrans' proposed activities would affect desert tortoises in a few general ways. We will not discuss how the individual types of activities that Caltrans is likely to conduct (e.g., widening of a road, repairing a bridge, etc.) may affect desert tortoises. Instead, we will present a general analysis of the effects that these activities are likely to have on desert tortoises, such as the mortality of individuals, the moving from harm's way and translocation of desert tortoises, and the loss or disturbance of habitat. We will then summarize and quantify (where possible) these effects with regard to the appropriate metrics for our determinations with regard to whether the proposed action is likely to jeopardize the continued existence of the desert tortoise. We will then present a parallel analysis for critical habitat.

Mortality of Desert Tortoises

Activities conducted by Caltrans can kill or injure desert tortoises in various ways. Equipment that Caltrans uses for construction, seismic testing, or other work can crush desert tortoises of all sizes. Foot traffic may kill smaller animals. Desert tortoises may fall into trenches or other holes in the ground and die of exposure. Caltrans' activities are also likely to crush burrows, which can either trap desert tortoises inside or leave them exposed to predation or extreme weather.

Although these are the most likely threats to desert tortoises from Caltrans' activities, we do not intend this discussion as presentation of a complete list. Our intent with this biological opinion is to consider all mortalities of desert tortoises that occur because of Caltrans' activities, as described in the Description of the Proposed Action section of this biological opinion, as effects of the proposed action.

Human activities in the desert generally provide subsidies such as food, water, shelter, and breeding and resting sites to common ravens and other species that may prey on desert tortoises. For example, common ravens may scavenge animals that are killed during ground-disturbing activities and obtain food from workers. These subsidies then can increase the numbers of predators, which kill desert tortoises. Effective management of trash, especially food wastes, during construction, can limit the amount of subsidies an action is likely to provide to predators. Caltrans has proposed to educate workers to be aware of this threat and to refrain from feeding wildlife.

Most of Caltrans' activities are likely to involve the repair of existing roads; these activities would not cause any increase in the use of the roads such that road-killed animals are likely to provide additional subsidies to predators of desert tortoises. Caltrans' projects that result in an increased traffic capacity could increase the amount of road-killed animals, which could provide additional subsidies to predators. We are unable to assess the level to which this potential increase in food subsidy would occur and, if it did, the amount of additional predation on desert tortoises it would cause because of the many variables involved. For example, numerous factors, including the types of adjacent habitat and previous human activities, and whether the proposed action includes fencing to reduce the amount of wildlife that enters the road, will affect the number of road-killed animals. Additionally, the management program for common ravens is likely to influence the number of common ravens in the action area.

Small desert tortoises (i.e., those under 180 millimeters) are harder to see than large individuals. Because desert tortoises bury their eggs, they are even more difficult to detect. Therefore, surveyors are more likely to miss them during surveys and Caltrans' activities are more likely to kill or injure these individuals. The loss of small desert tortoises and eggs is not as deleterious to the population as the loss of reproductive animals, because they require up to 20 years to reach sexual maturity, have low reproductive rates during a long period of reproductive potential, and individuals experience relatively high mortality early in life (Service 2011).

During past projects, Caltrans has implemented numerous measures, such as those described previously in this biological opinion, that have protected desert tortoises during its activities. For example, prior to any ground-disturbing activities, Caltrans will survey the work area and move desert tortoises to habitat that the proposed action would not affect. Because of these protective measures, Caltrans has killed few desert tortoises during its activities. The depressed density of desert tortoises adjacent to roads, which we discussed in the Environmental Baseline - Status of the Desert Tortoise in the Action Area, is also a factor in the low number of mortalities.

Moving Desert Tortoises from Harm's Way

Moving desert tortoises from harm's way involves transporting individuals from the immediate area of an activity that is likely to injure or kill the animals. Depending on the nature of the activity, Caltrans may move desert tortoises up to several hundred feet from the activity.

No one has studied the effects of moving desert tortoises from harm's way. We expect that the placement of the desert tortoise up to several hundred feet from its original location is not likely to adversely affect individuals because they are likely still within their territories. (That is, they remain where they are familiar with local resources, such as areas to forage and seek shelter.)

Handling desert tortoises can cause them to void their bladders, which they use to store water. Averill-Murray (2002) found that desert tortoises that voided their bladders had lower survival rates than those that did not. Careful handling while moving desert tortoises from harm's way can reduce the likelihood of their voiding their bladders. Because moving desert tortoises from harm's way does not involve excessive handling and anyone who does so will receive instruction beforehand, we expect that desert tortoises voiding their bladders is likely to occur infrequently. If a desert tortoise voided its bladder upon handling, Caltrans' protective measures would require that the authorized biologist attempt to rehydrate the individual.

Translocation of Desert Tortoises

Caltrans will likely translocate at least some desert tortoises from work areas associated with its capital projects because adjacent lands are not in conservation management; that is, Caltrans would need to move them outside of their home ranges. In recent years, agencies and project proponents have translocated numerous desert tortoises from military training areas and construction sites. Many of these translocations involved various studies to evaluate how the movement affected resident and translocated desert tortoises in relation to control animals. Resident desert tortoises are those animals within their home ranges with translocated individuals nearby; control desert tortoises are animals within their home ranges with no translocated individuals nearby. Recent biological opinions summarized various studies regarding the effects of translocation on desert tortoises (Service 2017a, 2017b) and Dickson *et al*. (2019) evaluated the results of a multi-year study of translocation on desert tortoises from the site of a solar project. We have incorporated those analyses into this biological opinion and will not repeat that information here.

In general, studies demonstrate that translocated, resident, and control desert tortoises do not differ significantly in survival rates, levels of stress hormones, movements, susceptibility to predation, and other aspects of behavior. In some cases (e.g., movement patterns), the behavior pattern of translocated desert tortoises resembled those of controls and residents after 2 to 3 years. Consequently, we conclude that translocation is an effective tool for protecting desert tortoises, if those conducting the translocation follow specific protocols designed to increase the chance of success. These protocols include translocating desert tortoises only during appropriate times of the year (i.e., when they are active), only into suitable habitat, and with appropriate consideration of disease issues.

The Service and Caltrans will consider disease when translocating desert tortoises. To the best of our knowledge, no wild desert tortoise population is free of disease; Rideout (2015) notes that no wildlife populations are completely free of disease. Consequently, Caltrans and the Service's goal is to ensure that translocated desert tortoises do not affect the prevalence of disease in a negative manner among recipient populations. To achieve this goal, Caltrans will follow the Service's most recent protocol with regard to management of disease, including the use of an algorithm to determine whether translocation of any individual is appropriate and an evaluation of the recipient sites to ensure that the sites do not show evidence of an active outbreak of disease (Service 2019a; Figure 3 below).

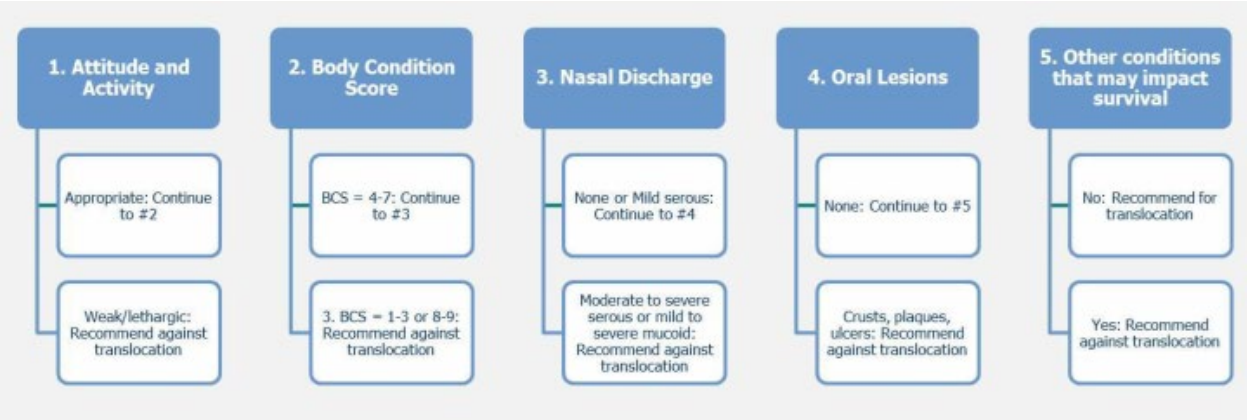

Figure 3. Translocation algorithm from Service (2019a).

The Service and Caltrans expect that new information regarding the management of diseases will emerge over time. We will modify the management of disease when new information is available, through coordination with the Service's Desert Tortoise Recovery Office.

Loss or Disturbance of Habitat

We consider loss of habitat to occur when Caltrans expands the footprint of paved or maintained areas (e.g., road shoulders) and when it installs a fence to exclude desert tortoises from the right-of-way. In those contexts, the loss of habitat is permanent.

Caltrans and the Service have already consulted on some areas within the rights-of-way; additionally, Caltrans has installed fencing to prevent desert tortoises from entering the roads in some of these areas. Because Caltrans and the Service have already consulted on the effects of activities in those areas, future activities in those areas would not affect desert tortoise habitat; that is, Caltrans has already removed desert tortoises from those areas.

The activities that Caltrans would implement under the auspices of this consultation would result in the loss of habitat within its rights-of-way. The habitat that Caltrans would permanently remove occurs along hundreds of miles of existing roads. Because of this linear distribution, this loss of habitat would not have a measurable effect on the amount of habitat that is available to desert tortoises to breed, find shelter, or forage.

Caltrans' activities would not increase the degree of fragmentation of habitat that already exists. We have reached that conclusion because all of the activities Caltrans would implement under the auspices of this biological opinion would be along existing roads that have already caused fragmentation of habitat, at least to some degree. If Caltrans widens a road within a conservation area, it will install fencing to prevent desert tortoises from entering the roadway. Although fencing could prevent desert tortoises from opposite sides of the roads from mingling, Caltrans will incorporate bridges and culverts to maintain existing hydrological connections; Caltrans will attach the exclusion fencing to the bridges and culverts to direct desert tortoises to these crossings, which will promote connectivity between groups of animals.

Caltrans may provide assistance to local agencies. In general, local assistance projects occur near communities where the density of desert tortoises is low; in our experience, local assistance projects occur outside of desert tortoise conservation areas, where the Service and its partners are working for the long-term conservation of the species. Consequently, we expect that local assistance projects will not affect habitat that is important for the long-term conservation of desert tortoises.

Disturbance of habitat generally involves activities such as seismic testing and repair of structures, such as bridges. These activities may occur outside of Caltrans' rights-of-way. We consider disturbance of habitat to be temporary.

Seismic testing generally involves the disturbance of a small area prior to the onset of a larger construction project. Occasionally, the testing occurs outside of the footprint of the larger project. In such cases, the disturbance associated with this activity would not have a measurable effect on the ability of habitat to support the breeding, sheltering, or foraging of the desert tortoise.

Most disturbance associated with the repair of bridges would occur in the right-of-way and in washes under the bridges. The existing right-of-way is usually heavily disturbed by ongoing maintenance and regular use of the road. The effects of habitat disturbance in washes would generally be undetectable after the next rain event. Consequently, such repair work would not have a measurable effect on the ability of habitat to support the breeding, sheltering, or foraging of the desert tortoise.

Any action that causes the disturbance of substrates has the potential to enhance the likelihood of the establishment of non-native invasive plant species. Weeds compete with native species and their proliferation increases the risk of large-scale fires, which further move habitat conditions away from those that are favorable to desert tortoises.

Many variables govern whether a particular activity would introduce a new weedy species or cause an increase in species that are already present in an area. These variables include the type of substrate, prevalence of native and non-native species, and weather patterns, in addition to how the project proponent manages the activity. For these reasons, we cannot predict whether any specific activity conducted by Caltrans is likely to result in a change to desert tortoise habitat with regard to non-native invasive plants. Caltrans' use best management practices regarding weeds would reduce the likelihood that its actions will introduce non-native invasive plant species. Also, many areas adjacent to roads already experience at least some degree of degradation

because of non-native invasive plant species; because Caltrans would conduct most of its activities in proximity to existing roads, its activities are probably less likely to introduce new species or spread non-native species that are already present in desert tortoise habitat.

Core Criteria for the Jeopardy Determination

As we stated previously in this biological opinion, "jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). This regulatory definition focuses on how the proposed action would affect the reproduction, numbers, and distribution of the species under consideration in the biological opinion. For that reason, we have used those aspects of the desert tortoise's status as the basis to assess the overall effect of the proposed action on the species.

Additionally, we determine whether a proposed action is likely "to jeopardize the continued existence of the species" through an analysis of how a proposed action affects the listed taxon within the action area in relation to the range of the entire listed taxon. For the desert tortoise, this process involves considering the effects at the level of the action area, then at the level of the recovery unit, and then finally for the range of the listed taxon. Logically, if a proposed action is unlikely to cause a measurable effect on the listed taxon within the action area, it is unlikely to affect the species throughout the recovery unit or the remainder of its range. Conversely, an action with appreciable effects on the listed entity in the action area may degrade the status of the species to the extent that it affects the recovery unit or the entire range.

In the following sections, we will synthesize the analyses contained in the Effects of the Action section of this biological opinion to determine how the proposed action affects the reproduction, number, and distribution of the desert tortoise. We will then assess the effects of the proposed action on the recovery of the species and whether it is likely to appreciably reduce the likelihood of both the survival and recovery of the desert tortoise in the wild.

Reproduction

The proposed action will not affect the reproduction of desert tortoises. We consider effects on reproduction to be those that would alter the reproductive capacity of the species. For example, the use of a pesticide that would disrupt the endocrine system of a species would alter its reproductive capacity.

Numbers

Caltrans has proposed to re-initiate formal consultation if it finds 10 desert tortoises that have died because of the activities considered in this biological opinion in any calendar year. Given the nature of these activities and the fact that Caltrans will use monitors during its activities, we expect that Caltrans will detect most, if not all of the desert tortoises that it kills.

We used information collected in 2019 by the Service's range-wide monitoring program to estimate the abundance of desert tortoises in California. Based on this information, we estimate that a minimum of 45,231 desert tortoises larger than 180 millimeters reside in California (derived from Table 6 in Service 2020; see Bransfield 2020b). This number underestimates the total number of large individuals in California because it does not include animals outside of conservation areas; it also does not include desert tortoises that reside within the Chemehuevi Critical Habitat Unit, which the Service did not monitor in 2019. Therefore, the following calculations upon which we based this analysis are not precise; however, they allow for a reasonable approach to the analysis based on the best available information and our professional judgment.

The loss of 10 desert tortoises represents approximately 0.02 percent of the estimated number of large desert tortoises within conservation areas in California (10 / 45,231 x 100 = 0.022). Small desert tortoises would comprise a portion of these mortalities; also, this calculation does not include desert tortoises that reside outside of conservation areas. For these reasons, this percentage represents a worst-case scenario; i.e., in any given year, Caltrans is likely to kill less than 0.02 percent of the large desert tortoises in California.

This annual loss of 10 desert tortoises through Caltrans' activities is not likely to appreciably reduce the number of desert tortoises in California. For this reason, we will not extend our analysis to the entire range of the listed taxon.

We have not established a re-initiation threshold with regard to translocation at this time. We expect that Caltrans will translocate few desert tortoises because of the nature of its activity and the reduced density of desert tortoises along roads. Also, we do not expect that this activity will kill desert tortoises because Caltrans will follow the Service's protocols, which have proven effective during past translocations.

Distribution

The proposed action will not change the distribution of desert tortoises. Some of Caltrans' activities, such as capital projects that result in the widening of roads, would cause the loss of habitat. However, the loss of habitat would not measurably alter the area in which desert tortoises occur.

Caltrans and the Service are not able to predict precisely how much habitat Caltrans is likely to disturb or remove as a result of the activities that are likely to occur under the auspices of this biological opinion. Caltrans (2020a; Loy 2020, pers. comm.) estimates that activities associated with its State Highway Operation and Protection Program are likely to result in approximately 562.51 acres of disturbance in the next 10 years. Disturbances associated with numerous small road repair projects contribute to this acreage.

As we discussed previously in this biological opinion, local agencies provide Caltrans with guidance on their needs with regard to projects in the State Transportation Improvement Program. Consequently, Caltrans does not have detailed information on these projects at this time. This program includes actions such as widening a road from two to four lanes and

generally involves projects that result in larger areas of disturbed habitat that those in the State Highway Operation and Protection Program.

Because Caltrans cannot predict the amount of disturbance that may occur because of projects in its State Transportation Improvement Program, we used projections in Caltrans (2020a, see Figure 2-4) and information in previous biological opinions that addressed larger projects to select a reasonable amount of habitat that is likely to be disturbed by Caltrans' activities in the next 10 years. Specifically, we estimated that activities associated with the State Transportation Improvement Program are likely to affect approximately 840 acres (Bransfield 2020a); for the sake of analysis, we rounded this number to 1,000 acres. We then considered the estimated area of State Highway Operation and Protection Program projects that Caltrans is likely to undertake in that period (562.51 acres) and rounded it to 600 acres. Finally, we added 200 acres to account for local assistance projects. Consequently, we based our analysis with regard to the effects of the proposed actions on the loss of 1,800 acres of desert tortoise habitat along Caltrans' existing rights-of-way and in areas where local agencies require assistance.

As we noted previously in this biological opinion, the range of the desert tortoise contains approximately 16,745,848 acres of modeled habitat (see Table 3). The 1,800 acres of desert tortoise habitat along Caltrans' existing rights-of-way and in areas where local agencies require assistance comprises approximately 0.01 percent of the modeled habitat range wide (that is, 1,800 / 16,745,848 x 100 = 0.0107 percent.) This loss would cause a negligible effect to the distribution of the desert tortoise. The facts that these projects would occur in numerous locations, in a linear manner along previously disturbed areas, and occasionally within areas from which desert tortoises have already been excluded by fencing even further reduces the effects on the distribution of the desert tortoise of Caltrans' activities being considered in this biological opinion.

The Service hopes to work with Caltrans and other partners in the recovery of the desert tortoise to install additional fencing to exclude desert tortoises from roads. This fencing would further reduce the distribution of the desert tortoise by making habitat between the edge of the road and the fence line unavailable. Although loss of habitat continues to threaten the desert tortoise, this fencing is a crucial component in reducing mortality levels of the desert tortoise; the loss of this relatively small amount of habitat in a linear manner would not have a measurable biological effect on the desert tortoise.

Finally, the Service does not consider the 1,800 acres of potential habitat loss over 10 years we have analyzed in this biological opinion as a threshold for the re-initiation of formal consultation. As we discussed previously in this biological opinion in the Thresholds for Re-Initiating Formal Consultation section of this biological opinion, the protections that other land management agencies have adopted render a threshold for this biological opinion unnecessary.

Recovery

The proposed action will not impede recovery of the desert tortoise. When Caltrans undertakes projects to widen roads within conservation areas for the desert tortoise, it will install fencing to prevent desert tortoises from entering the road. The fencing will reduce mortality associated with

the road. Such fencing would implement recovery action 2.5 (Restrict, designate, close, and fence roads) in the desert tortoise recovery plan (Service 2011).

For its capital projects, Caltrans will acquire private lands and transfer them to conservation management or purchase mitigation bank credits as part of its incidental take permit process with the Department. Caltrans will also work with the Service to try to ensure the acquired lands or bank credits are within conservation areas that will further the recovery of the desert tortoise. Such acquisitions would implement recovery actions 2.1 and 2.9 (Conserve intact desert tortoise habitat and Secure lands/habitat for conservation) in the desert tortoise recovery plan (Service 2011) and contribute to Caltrans' section 7(a)(1) obligation. In some instances, Caltrans may also identify non-acquisition recovery activities (e.g., habitat restoration on public lands, management activities for common ravens, etc.) to augment the acquisition-based compensation it proposes to the Department. Because the Service would work with Caltrans in development of these proposals, we anticipate that they would also contribute to recovery and Caltrans' section 7(a)(1) program.

Effects on Critical Habitat of the Desert Tortoise

Approximately 4,754,000 acres of critical habitat occur in California (59 FR 5820, Table 3). Roads for which Caltrans is responsible traverse critical habitat of the desert tortoise in many places. We are unable to determine precisely how many acres of critical habitat occur within Caltrans' rights-of-way because the widths of the rights-of-way vary along different roads. Some local assistance projects may also occur in critical habitat. The Service and Caltrans cannot predict where a local agency may request assistance in critical habitat; however, because most local assistance projects occur near existing development and critical habitat is generally not located adjacent to developed areas, we expect that few projects of this type will occur in critical habitat.

As we discussed in the Core Criteria for the Jeopardy Determination - Distribution section of this biological opinion, Caltrans cannot provide us with precise acreages of projects it may undertake. To provide a metric for use in this analysis, we evaluated the projects Caltrans (2020a) portrays in Figure 2-4 and estimated that they may affect approximately 960 acres of critical habitat. (See Bransfield 2020a) We did not attempt to assign acreages to individual critical habitat units. Additionally, Caltrans and others have already installed fencing to prevent desert tortoises from entering roads (portions of Interstates 15 and 40, for example); consequently, some of the projects that Caltrans may undertake in the next 10 years include areas where the physical and biological features of critical habitat are already unavailable to desert tortoises.

Caltrans is likely to undertake activities, such as seismic testing, outside of its rights-of-way. As we discussed previously in this biological opinion, these activities would result in temporary disturbance of small areas. As such, these activities would have a negligible effect on the value of critical habitat for the conservation of the desert tortoise. Likewise, Caltrans is likely to translocate desert tortoises into critical habitat; the release of translocated desert tortoises would not affect the physical and biological features of critical habitat. Consequently, we will not discuss these activities again.

We will now analyze how the proposed action is likely adversely affect the physical and biological features of critical habitat of the desert tortoise.

Sufficient Space to Support Viable Populations within Each of the Six Recovery Units and to Provide for Movement, Dispersal, and Gene Flow

The proposed action would slightly reduce the amount of space that is available to support viable populations. Approximately 4,754,000 acres of critical habitat occur in California (59 FR 5820, Table 3). If Caltrans entirely removed this physical and biological feature of critical habitat from within 960 acres that it may affect, it would affect approximately 0.02 percent of the total area in California (i.e., 960 / 4,754,000 x 100 = 0.020).

The linear distribution of this loss of critical habitat along hundreds of miles of roads ameliorates its adverse effect; that is, the loss of this physical and biological feature in this manner would have a negligible effect on the value of critical habitat for the conservation of the desert tortoise.

The activities that Caltrans would undertake under the auspices of this biological opinion would not adversely affect movement, dispersal, and gene flow of desert tortoises. Busier unfenced roads are currently a barrier. In cases where Caltrans would fence roads to exclude desert tortoises and direct them to undercrossings, its activities may increase movement, dispersal, and gene flow. We have reached this conclusion because exclusion fences would lower mortality rates, which would likely positively affect overall population growth. (See the Nafus *et al*. 2013 discussion regarding the negative effects of road mortality on larger, reproductive desert tortoises in the Environmental Baseline - Status of the Desert Tortoise in the Action Area section of this biological opinion.)

In conclusion, the proposed action would result in a negligible reduction in the space available to support viable populations of desert tortoises. The proposed action would not adversely affect movement, dispersal, and gene flow of desert tortoises; Caltrans' installation of exclusion fencing and undercrossings is likely to enhance connectivity to some degree.

Sufficient Quality and Quantity of Forage Species and the Proper Soil Conditions to Provide for the Growth of these Species

Any action that causes the disturbance of substrates has the potential to enhance the likelihood of the establishment of non-native invasive plant species. Weeds compete with native species and their proliferation increases the risk of large-scale fires, which further move habitat conditions away from those that are favorable to desert tortoises. Specifically, the proliferation of non-native invasive plant species has the potential to diminish the quality and quantity of forage species upon which desert tortoises forage.

As we noted previously in the biological opinion, many variables govern whether a particular activity would introduce a new weedy species or cause an increase in species that are already present in an area. These variables include the type of substrate, prevalence of native and non-native species, and weather patterns, in addition to how the project proponent manages the activity. For these reasons, we cannot predict whether any specific activity conducted by Caltrans

is likely to affect this physical and biological feature with regard to non-native invasive plants. Caltrans' use of best management practices regarding weeds would reduce the likelihood that its actions will introduce non-native invasive plant species. Also, many areas adjacent to roads already experience at least some degree of degradation because of non-native invasive plant species; because Caltrans would conduct most of its activities in proximity to existing roads, its activities are probably less likely to introduce new species or spread non-native species that are already present in desert tortoise habitat. Consequently, we conclude that the proposed action would result in a negligible change quality and quantity of forage species.

We also conclude that the proposed action would not measurably affect soil conditions that provide for the growth of forage species. Caltrans' activities would disturb and cause the loss of relatively small areas with proper soil conditions. However, disturbed areas would occur in small patches over a large, linear expanse of critical habitat, which is likely to lead to their recovery. Permanent losses would affect an even smaller area and would therefore have no measurable effect on the overall value of critical habitat for the recovery of the desert tortoise.

Suitable Substrates for Burrowing, Nesting, and Overwintering; Burrows, Caliche Caves, and other Shelter Sites; and Sufficient Vegetation for Shelter from Temperature Extremes and Predators

We have grouped the third, fourth, and fifth physical and biological features because they are closely interrelated ecologically and the proposed action would affect them in the same general manner.

The widening of roads and installation of fencing to exclude desert tortoises would render these physical and biological features unavailable to desert tortoises. These activities would result in the loss of a small amount of critical habitat distributed along many miles of road. Consequently, we conclude that the proposed action would result in a negligible reduction in substrates available for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; and vegetation available for shelter from temperature extremes and predators.

Habitat Protected from Disturbance and Human-caused Mortality

The proposed action would increase disturbance to critical habitat and introduce various sources of human-caused mortality during the construction of projects. The temporary increase in disturbance would affect a small portion of critical habitat.

In the long term, the proposed action would not appreciably alter the level of disturbance because of the intermittent nature of Caltrans' activities. Additionally, Caltrans' installation of fences to exclude desert tortoises from roads would reduce human-caused mortality in the action area.

In summary, disturbance associated with the proposed action is unlikely to have any long-term effect to habitat. The proposed action is likely to reduce human-caused mortality in the action area through the installation of fences to exclude desert tortoises from roads.

CUMULATIVE EFFECTS

Cumulative effects are those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation" (50 CFR 402.02). Future Federal actions are not considered cumulative effects because they are subject to consultation, pursuant to section 7(a)(2) of the Act.

The potential exists that future activities could occur within Caltrans' rights-of-way or in areas where Caltrans provides local assistance that do not have a federal nexus. At this time, we are unaware of any such activities.

The recipient areas for translocated desert tortoises would be in federal management or on lands managed by non-governmental conservation organizations. In the former situation, future activities would have a federal nexus. In the latter situation, the management goals and restrictions placed on these conservation lands would preclude activities that are detrimental to desert tortoises.

CONCLUSION

Desert Tortoise

After reviewing the current status of the desert tortoise, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, we have determined that the proposed action is not likely to jeopardize the continued existence of the desert tortoise. We have reached this conclusion for the following reasons:

1. The proposed action is not likely to affect the reproductive capacity of desert tortoises.

2. The proposed action is not likely to appreciably reduce the number of desert tortoises within the action area and, by extension, throughout the range of the desert tortoise.

3. The proposed action will not appreciably decrease the distribution of the desert tortoise.

4. The proposed action is likely to positively affect recovery of the desert tortoise.

Critical Habitat

"Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species" (50 CFR 402.02). We determine whether a proposed action is likely to result in the destruction or adverse modification of critical habitat through an analysis of how a proposed action affects the physical and biological features of critical habitat within the action area in relation to the entirety of designated critical habitat. For critical habitat of the desert tortoise, this process involves considering the effects at the level of the action area, then at the level of critical habitat unit, and then finally for the entirety of designated critical habitat.

Logically, if a proposed action is unlikely to diminish the conservation value of critical habitat within the action area, it will not affect the conservation value of the critical habitat unit or the remainder of critical habitat. Conversely, an action with appreciable effects on the conservation value of critical habitat in the action area may degrade the status of critical habitat to the extent that it affects the critical habitat unit or the entire designated area of critical habitat.

After reviewing the current status of the critical habitat, the environmental baseline for the action area, the effects of the proposed activities, and the cumulative effects, it is our biological opinion that the proposed action is not likely to result in the destruction or adverse modification of critical habitat of the desert tortoise. We have reached this conclusion because the adverse effects to critical habitat would occur on a small portion of critical habitat in California (approximately 0.06 percent) and an even smaller portion of critical habitat as a whole. Two aspects of Caltrans' proposed action will promote the recovery of desert tortoises. First, Caltrans will install fences to prevent desert tortoises from entering roads that traverse conservation areas; this action will reduce a current cause of mortality of desert tortoises. Second, to implement a portion of its section 7(a)(1) responsibilities, Caltrans' will endeavor to acquire lands within desert tortoise conservation areas for the long-term management of the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. The Service further defines "harm" to mean "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Endangered Species Act, provided that such taking is in compliance with the proposed protective measures and the terms and conditions of an incidental take statement and occurs as a result of the action as proposed.

The protective measures described in the Description of the Proposed Action section of this biological opinion, along with the reporting and disposition requirements and the protective measures container in the activity forms, are non-discretionary. Caltrans must undertake them or make them binding conditions for its contractors for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activities covered by this incidental take statement. If Caltrans does not implement the proposed actions as described in this biological opinion, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, Caltrans must report the progress of its actions and the impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

We anticipate that, at most, the proposed action is likely to result in the incidental take of 10 desert tortoises annually in the form of mortality. We anticipate that the proposed action is likely to result in the incidental take of eggs in the form of mortality. As we discussed in the

Effects of the Action section of this biological opinion, eggs are difficult to detect during clearance surveys and more so after heavy equipment crushes them. Under natural conditions, few desert tortoise eggs survive until reproductive age; for this reason and because they are difficult to detect under any circumstances, we do not consider it reasonable or prudent to try to anticipate the number of eggs that Caltrans might destroy.

If an injured desert tortoise survives treatment and can return to the wild, we will not include it as a mortality. We will consider injured desert tortoises that survive but are not suitable for release to the wild because of their injury as mortalities.

We also anticipate that the proposed action is likely to result in the incidental take of desert tortoises in the form of capture, when Caltrans moves individuals from harm's way or translocates them as it implements its future activities. We have not anticipated the number of individuals that Caltrans is likely to capture for two reasons. First, we cannot reasonably predict how many desert tortoises Caltrans will encounter that it would need to move from harm's way or translocate during its work. Second, as we discussed previously in the biological opinion, this form of take is unlikely to kill or injure desert tortoises.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

This biological opinion does not include reasonable and prudent measures and terms and conditions. Caltrans and the Service agreed on the appropriate protective measures during informal consultation and we have included them as part of the proposed action in this biological opinion.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), Caltrans must report the progress of the action and its impact on the species to the Service as specified in this incidental take statement. We have described the reporting requirements associated with this biological opinion in the Description of the Proposed Action section of this biological opinion.

DISPOSITION OF INJURED OR DEAD SPECIMENS

Within 24 hours of locating a dead desert tortoise, you must notify the Palm Springs Fish and Wildlife Office by telephone 760-322-2070 and by facsimile or electronic mail. The report must include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.

Please notify us immediately if you find an injured desert tortoise. If the injured animal has the potential to survive, Caltrans must take it to a qualified veterinarian for treatment. If the desert tortoise survives, Caltrans must contact the Service regarding its final disposition.

After recording all pertinent information, we recommend that Caltrans dispose of carcasses in a manner that reduces the likelihood that someone else will find and report the same carcass. Appropriate methods of disposal include burying animals in the field or providing them to local animal service for disposal with other carcasses; we recommend that Caltrans provide the animal service office with a note that explains this arrangement with the Service.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Endangered Species Act directs Federal agencies to use their authorities to further its purposes by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We do not have any conservation recommendations at this time.

RE-INITIATION NOTICE

This concludes formal consultation on Caltrans' operations and activities. Re-initiation of consultation (50 CFR 402.16) is required and will be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and if:

1. The amount or extent of taking specified in the incidental take statement is exceeded;

2. New information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3. The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or

4. A new species is listed or critical habitat designated that may be affected by the identified action.

We appreciate the cooperation of your staff during this consultation. If you have any questions, please contact Ray Bransfield[2] of my staff at (805) 677-3398.

Sincerely,

Scott A. Sobiech
Field Supervisor

Enclosures

1. Solar projects for which the U.S. Fish and Wildlife Service has issued biological opinions or incidental take permits (as of February, 2021).

2. Caltrans PBO Activity Request Form (sep cover).

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LITERATURE CITED

Allison, L.J. and A.M. McLuckie. 2018. Population trends in Mojave desert tortoises (*Gopherus agassizii*). Herpetological Conservation and Biology 13(2):433-452.

Averill-Murray, R.C. 2002. Effects on survival of desert tortoises (*Gopherus agassizii*) urinating during handling. Chelonian Conservation and Biology 4(2):430-435.

Averill-Murray, R., C.R. Darst, N. Strout, and M. Wong. 2013. Conserving population linkages for the Mojave desert tortoise. Herpetological Conservation Biology 8(1):1-15.

Boarman, W.I., and M. Sazaki. 2006. A highway's road-effect zone for desert tortoise (*Gopherus agassizii*). Journal of Arid Environments 65:94-101.

[Bureau] Bureau of Land Management. 2015. Request for Endangered Species Act consultation for the Bureau of Land Management's proposed land use plan amendment under the Desert Renewable Energy Conservation Plan and biological assessment. Dated July 13. Memorandum to Field Supervisor, Carlsbad and Palm Springs Field Offices, U.S. Fish and Wildlife Service, Carlsbad, California. From Deputy State Director of Natural Resources, Bureau of Land Management. Sacramento, California.

[Bureau] Bureau of Land Management. 2016. Desert Renewable Energy Conservation Plan. Record of decision for the land use plan amendment to the California Desert Conservation Area Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. Dated September. Sacramento, California.

[Caltrans] California Department of Transportation. 2020a. Advance mitigation program. Mojave Desert section. Regional advance mitigation needs assessment. Version 1.0 draft. Establishing Caltrans' need for advance mitigation for the Mojave Desert section, forecast fiscal years 2017/2018 to 2026/2027. Dated February. Districts 7, 8, and 9.

[Caltrans] California Department of Transportation. 2020b. Advance mitigation program. Mojave Desert section. Regional advance mitigation needs assessment. Version 1.0 draft. Establishing Caltrans' need for advance mitigation for the Mojave Desert section, forecast fiscal years 2017/2018 to 2026/2027. Appendices. Dated February. Districts 7, 8, and 9. Headquarters Office of Strategic Biological Planning, Advance Mitigation and Innovation, Division of Environmental Analysis. Sacramento, California.

[Caltrans] California Department of Transportation. 2021. Request for formal consultation for highway improvements, maintenance activities, and safety projects in Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties, California. Dated February 1. Letter to Scott A. Sobiech, Field Supervisor, Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, Carlsbad, California. From Craig Wentworth, Supervising Environmental Planner, District 8. San Bernardino, California.

Christensen, J H., B. Hewitson, A. Busuioc, A. Chen, X. Gao, R. Held, R. Jones, R.K. Kolli, W.K.won, R. Laprise, V. Magana Rueda, L. Mearns, C.G. Menendez, J. Räisänen, A. Rinke, A. Sarr, P. Whetton, R. Arritt, R. Benestad, M. Beniston, D. Bromwich, D. Caya, J. Comiso, R. de Elia, and K.ethloff. 2007. Regional climate projections, Climate Change, 2007: The Physical Science Basis. Contribution of Working group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, University Press, Cambridge, Chapter 11, ISBN: 978-0-521-88009-1.

Darst, C. 2014. Impervious surface calculations. Excel spreadsheet. Dated May 6. Fish and Wildlife Biologist, Desert Tortoise Recovery Office. Ventura, California.

Dickson, B.G., R.D. Scherer, A.M. Kissel, B.P. Wallace, K.M. Langin, M.E. Gray, A.F. Scheib, and B. Weise. 2019. Multiyear monitoring of survival following mitigation-driven translocation of a long-lived threatened reptile. Conservation Biology 33(5):1094–1105.

Drake, K.K., T.C. Esque, K.E. Nussear, L.A. Defalco, S.J. Scoles-Sciulla, A.T. Modlin, P.A. Medica. 2015. Desert tortoise use of burned habitat in the eastern Mojave Desert. Journal of Wildlife Management 79(4):618–629; DOI: 10.1002/jwmg.874.

Drake, K.K., L. Bowen, K.E. Nussear, T.C. Esque, A.J. Berger, N.A. Custer, S.C. Waters, J.D. Johnson, A.K. Miles, and R.L. Lewison. 2016. Negative impacts of invasive plants on conservation of sensitive desert wildlife. Ecosphere 7(10):e01531. 10.1002/ecs2.1531.

Fry, J.A., G. Xian, S. Jin, J.A. Dewitz, C.G. Homer, L. Yang, C.A. Barnes, N.D. Herold, and J.D. Wickham. 2011. National Land Cover Database for the Conterminous United States. Analysis of land cover change in the continental United States from 2001 to 2006 using Landsat ETM+ and TM imagery.

Hughson, D.L., and N. Darby. 2013. Desert tortoise road mortality in Mojave National Preserve, California. California Fish and Game 99:222–232.

Longshore, K.M., J.R Jaeger, and M. Sappington. 2003. Desert tortoise (*Gopherus agassizii*) survival at two eastern Mojave Desert sites: death by short-term drought? Journal of Herpetology 37(1):169-177.

Nafus, M.G., T.D.Tuberville, K.A. Biuhlman, and B.D. Todd. 2013. Relative abundance and demographic structure of Agassiz's desert tortoise (*Gopherus agassizii*) along roads of varying size and traffic volume. Biological Conservation 162: 100-106.

Nussear, K.E., T.C. Esque, R.D. Inman, L. Gass, K.A. Thomas, C.S.A. Wallace, J.B. Blainey, D.M. Miller, and R.H. Webb. 2009. Modeling habitat of the desert tortoise (*Gopherus agassizii*) in the Mojave and parts of the Sonoran Deserts of California, Nevada, Utah, and Arizona. U.S. Geological Survey Open-File Report 2009-1102.

Oftedal, O.T., S. Hillard, and D.J. Morafka. 2002. Selective spring foraging by juvenile desert tortoises (*Gopherus agassizii*) in the Mojave Desert: evidence of an adaptive nutritional strategy. Chelonian Conservation and Biology 4(2):341-352.

Peaden, J.M., T.D. Tuberville, K.A. Buhlmann, M.G. Nafus, and B.D. Todd. 2015. Delimiting road-effect zones for threatened species: implications for mitigation fencing. Wildlife Research 42:650-659.

Rideout, B., ed. 2015. Transmissible infections and desert tortoise translocation: A comprehensive disease risk analysis. A report to the U.S Fish and Wildlife Service. Dated June.

Tracy, C.R., R. Averill-Murray, W.I. Boarman, D. Delehanty, J. Heaton, E. McCoy, D. Morafka, K. Nussear, B. Hagerty, and P. Medica. 2004. Desert tortoise recovery plan assessment. Prepared for the U.S. Fish and Wildlife Service. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 1994. Desert tortoise (Mojave population) recovery plan. Portland, Oregon.

[Service] U.S. Fish and Wildlife Service. 2004. Biological opinion on the addition of maneuver training lands at Fort Irwin, California. Dated March. Letter to Colonel Edward L. Flinn, Deputy, Commander and Chief of Staff, National Training Center and Fort Irwin, Fort Irwin, California. From Diane K. Noda, Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2008. Environmental assessment to implement a desert tortoise recovery plan task: Reduce common raven predation on the desert tortoise. Dated March. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2010. Mojave population of the desert tortoise (*Gopherus agassizii*) 5-year review: summary and evaluation. Desert Tortoise Recovery Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). Sacramento, California.

[Service] U.S. Fish and Wildlife Service. 2012. Biological opinion on the proposed addition of maneuver training lands at Fort Irwin, California (8-8-11-F-38R). Dated April 27. Letter to Chief of Staff, Headquarters, National Training Center and Fort Irwin, Fort Irwin, California. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2013. Biological opinion for routine highway improvement, maintenance activities, and safety projects in Imperial, Inyo, Kern, Los Angeles, Riverside, and San Bernardino Counties, California (8-8-10-F-59). Dated November 5. Letter to David Bricker, Deputy District Director, District 8, California Department of Transportation, San Bernardino, California. From Stephen P. Henry,

Acting Field Supervisor, Ventura Fish and Wildlife Office, and Jim A. Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office. Ventura and Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2015a. Update on Mojave desert tortoise population trends. Dated June 19. Desert Tortoise Recovery Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2015b. Range-wide monitoring of the Mojave desert tortoise (*Gopherus agassizii*): 2013 and 2014 annual reporting. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2016. Biological opinion on the proposed land use plan amendment under the Desert Renewable Energy Plan. Dated August 16. Memorandum to Deputy State Director, Division of Natural Resources, Bureau of Land Management, Sacramento, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2017a. Biological opinion on the land acquisition and airspace establishment, Twentynine Palms, California. Dated January 31. Letter to Lieutenant Colonel T.B. Pochop, Marine Air Ground Task Force Training Command, Twentynine Palms, California. From G. Mendel Stewart, Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2017b. Biological opinion for activities in the California Desert Conservation Area. Dated September 1. Memorandum to District Manager, California Desert District, Bureau of Land Management, Moreno Valley, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2019a. Health assessment procedures for the Mojave desert tortoise (*Gopherus agassizii*): A handbook pertinent to translocation. Dated March. Desert Tortoise Recovery Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2019b. Biological opinion for proposed activities within the Cuddeback Range land withdrawal at the Naval Air Weapons Station, China Lake, California. Dated March 21. Letter to Head, Environmental Management, Division Naval Air Weapons Station, China Lake, California. From Acting Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2019c. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). Dated October 8. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2020. Range-wide monitoring of the Mojave desert tortoise (*Gopherus agassizii*): 2019 annual reporting DRAFT. Report by the Desert Tortoise Recovery Office. Reno, Nevada.

PERSONAL COMMUNICATIONS, IN LITTERIS

Bransfield, R. 2020a. Note to file regarding estimates of the acreage of disturbance. Dated June 9. Fish and Wildlife Biologist. Palm Springs Fish and Wildlife Office, U.S. Fish and Wildlife Service. Palm Springs, California.

Bransfield, R. 2020b. Note to file regarding the estimated number of desert tortoises in conservation areas in California. Dated December 8. Fish and Wildlife Biologist. Palm Springs Fish and Wildlife Office, U.S. Fish and Wildlife Service. Palm Springs, California.

Henen, B.T. 2019. Electronic mail. Number of desert tortoises found on the Marine Corps Air Ground Combat Center at Twentynine Palms expansion project. Dated January 25. Ecologist, Marine Corps Air Ground Combat Center. Twentynine Palms, California.

Loy, C. 2020. Personal communication. Electronic mail regarding the need for advance mitigation for the Colorado Desert section, forecast fiscal years 2017/2018 to 2026/2027. From: California Department of Transportation. 2019. Statewide advance mitigation needs assessment report. State Highway Operation and Protection Program ten-year project book second quarter 2017/2018 fiscal year. Dated May. Headquarters Office of Strategic Biological Planning, Advance Mitigation and Innovation, Division of Environmental Analysis. Sacramento, California.

ENCLOSURE 1

SOLAR PROJECTS FOR WHICH THE U.S. FISH AND WILDLIFE SERVICE HAS ISSUED BIOLOGICAL OPINIONS OR INCIDENTAL TAKE PERMITS

(FEBRUARY 2021)

Table 1 summarizes information regarding the solar projects for which the Fish and Wildlife Service has issued a biological opinion, pursuant to section 7(a)(2), or an incidental take permit, pursuant to section 10(a)(1)(B) of the Endangered Species Act, with regard to the desert tortoise. We are aware of five solar projects for which we issued biological opinions that are no longer on the Federal agency's list of projects; we have removed these projects from this list.

Table 1. List of solar projects that have received biological opinions or incidental take permits

Project	Recovery Unit	Acres of Desert Tortoise Habitat[1]	Desert Tortoises Estimated[2]	Desert Tortoises Observed[3]	Citations[4]
Ivanpah Solar Electric Generating System	Eastern Mojave	3,582	1,136	175	Service 2011a, Davis 2014
Stateline	Eastern Mojave	1,685	947	55	Service 2013a, Ironwood Consulting 2014
Silver State North	Eastern Mojave	685	14	7	Service 2010a, Newfields 2011
Silver State South	Eastern Mojave	2,427	1,020	152	Service 2013a, Cota 2014
Nevada Solar One	Eastern Mojave	400	-[5]	-[5]	Burroughs 2012, 2014
Copper Mountain North	Eastern Mojave	1,400	-[5]	-[5]	Burroughs 2012
Copper Mountain	Eastern Mojave	380	-[5]	-[5]	Burroughs 2012, 2014
Townsite	Eastern Mojave	885	-[5]	-[5]	Service 2014b
Techren Boulder City	Eastern Mojave	2,200	-[5]	-[5]	Service 2012b
Valley Electric Association	Eastern Mojave	80	4	4	Service 2015a
Canyon Mesa	Eastern Mojave	123	2	-	Service 2019a
Yellow Pine	Eastern Mojave	4,285	1,032	-	Service 2020b

Project	Recovery Unit	Acres of Desert Tortoise Habitat[1]	Desert Tortoises Estimated[2]	Desert Tortoises Observed[3]	Citations[4]
Mojave	Western Mojave	Primarily in abandoned agricultural fields	4	0	Service 2011b
Cinco	Western Mojave	500	53	2	Service 2015b, Daitch 2015
Soda Mountain	Western Mojave	1,726	78	-	Service 2015c
High Desert	Western Mojave	547	24	4	Service 2019b, ECORP Consulting 2020
Res Americas Moapa Solar Energy Center	Northeastern Mojave	951	104	-	Service 2014a
Moapa K Road	Northeastern Mojave	2,141	208	177	Service 2012a, Cardno 2018
Playa	Northeastern Mojave	1,538	258	77	Service 2015d, Ironwood Consulting 2016
Invenergy Harry Allen	Northeastern Mojave	594	242	-	Service 2015d
NV Energy Dry Lake Solar Energy Center	Northeastern Mojave	751	45	-	Service 2015d
NV Energy Dry Lake Solar Energy Center at Harry Allen	Northeastern Mojave	55	15	-	Service 2015d
Aiya	Northeastern Mojave	672	91	-	Service 2015e
Mountainview	Northeastern Mojave	146	-[5]	-[5]	Wise 2018
Gemini	Northeastern Mojave	7,113	5,215	-	Service 2019c
Eagle Shadow Mountain	Northeastern Mojave	2,285	2,941	-	Service 2019d
Genesis	Colorado	1,774	8	0	Service 2010b, Fraser 2014a
Blythe	Colorado	6,958	30	0	Service 2010c, Fraser 2014b
Desert Sunlight	Colorado	4,004	56	7	Service 2011c, Fraser 2014a

Project	Recovery Unit	Acres of Desert Tortoise Habitat[1]	Desert Tortoises Estimated[2]	Desert Tortoises Observed[3]	Citations[4]
McCoy	Colorado	4,533	15	0	Service 2013c, Fraser 2014b
Desert Harvest	Colorado	1,300	5	-	Service 2013b
Rice	Colorado	1,368	18	1	Service 2011d, Fraser 2014a
Desert Quartzite	Colorado	2,831	4	-	Service 2019e
IP Athos	Colorado	3,440	5	-	Service 2019f
Crimson	Colorado	2,201	20	-	Service 2020a
Total		**65,560**	**13,594**	**661**	

[1] The acreages may include substations and other ancillary facilities.

[2] The numbers in this column are not necessarily comparable because the methodologies for estimating the numbers of desert tortoises occasionally vary between projects. The largest numbers included the estimated number of small desert tortoises, which likely far exceeded the numbers of individuals present. In some cases, desert tortoises will remain inside the security fence for the solar project; we anticipated that some mortalities would occur during operation of the facility and included these numbers in the estimated total.

[3] This column reflects the numbers of desert tortoises observed within project areas. It includes translocated animals and those that were killed by project activities. Project activities may result in the deaths of more desert tortoises than are found. Dashes represent projects for which we have no information at this point; some projects had not broken ground at the time of this biological opinion.

[4] The first citation in this column is for both the acreage and the estimate of the number of desert tortoises. The second is for the number of desert tortoises observed during construction of the project; where only one citation is present, construction has not begun or data are unavailable at this time.

[5] These projects occurred under the Clark County Multi-species Habitat Conservation Plan; the provisions of the habitat conservation plan do not require the removal of desert tortoises. In some case, the Service issued biological opinions for access roads and generator tie-in line for these projects. We did not include the acreages and number of desert tortoises for those aspects of the overall action; we did not want to provide the impression that those effects were directly associated with the solar facility.

LITERATURE CITED

Burroughs, M. 2012. Electronic mail. Information on solar projects in desert tortoise habitat in Nevada for which the Service has issued biological opinions. Dated April 26. Fish and wildlife biologist, Southern Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service. Las Vegas, Nevada.

Burroughs, M. 2014. Electronic mail. Status of solar projects in Nevada. Dated January 27. Fish and wildlife biologist, Southern Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service. Las Vegas, Nevada.

Cardno, Inc. 2018. Desert tortoise post-translocation report. June 2018 – Final Report. Moapa Southern Paiute Solar Facility. Austin, Texas.

Cota, M. 2014. Electronic mail. Number of desert tortoises found on the Silver State South Project site. Dated November 25. Wildlife biologist, Pahrump Field Office, Bureau of Land Management. Las Vegas, Nevada.

Daitch, D. 2015. Electronic mail. Notifications of desert tortoises found on the Cinco Solar project. Dated November 6. Rincon Consultants. Monterey, California.

Davis, D. 2014. Electronic mail. ISEGS master tortoise list, October 2014. Dated November 3. Environmental specialist III, Ivanpah Solar Thermal. Nipton, California.

ECORP Consulting, Inc. 2020. Desert tortoise translocation package. High Desert Solar Project. Dated May. Redlands, California

Fraser, J. 2014a. Electronic mail. Number of desert tortoises found on the Genesis and Desert Sunlight solar sites. Dated January 28. Fish and wildlife biologist, Palm Springs Fish and Wildlife Office, U.S. Fish and Wildlife Service. Palm Springs, California.

Fraser, J. 2014b. Electronic mail. Number of desert tortoises found on the Blythe and McCoy solar sites. Dated November 5. Fish and wildlife biologist, Palm Springs Fish and Wildlife Office, U.S. Fish and Wildlife Service. Palm Springs, California.

Ironwood Consulting, Inc. 2014. Annual compliance report: April - December 2014. Biological resources. Stateline Solar Farm. Bureau of Land Management case file number: CACA-48669. Redlands, California.

Ironwood Consulting, Inc. 2016. Desert tortoise 2016 third quarter and final report (1 July to 15 October 2016). Playa Solar Project. Clark County, Nevada. Biological opinion #84320-2015-F-0139. Redlands, California.

Newfields. 2011. Biological monitoring and tortoise clearance report for Silver State North Solar Project. Dated May. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2010a. Formal consultation for the Silver State Solar Project (NextLight Renewable Power, LLC), Clark County, Nevada. Dated September 16. Memorandum to Field Manager, Pahrump Field Office, Bureau of Land Management, Las Vegas, Nevada. From State Supervisor, Nevada Fish and Wildlife Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2010b. Biological opinion on the Genesis Solar Energy Project, Riverside County, California. Dated November 2. Memorandum to Field Manager, Palm Springs South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2010c. Section 7 Biological opinion on the Blythe Solar Power Plant, Riverside County, California. Dated October 8. Memorandum to Field Manager, Palm Springs South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2011a. Biological opinion on BrightSource Energy's Ivanpah Solar Electric Generating System Project, San Bernardino County, California. Dated June 10. Memorandum to District Manager, California Desert District, Bureau of Land Management, Moreno Valley, California. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2011b. Biological opinion on the Mojave Solar, LLC's Mojave Solar Project, San Bernardino County, California (8-8-11-F-3). Letter sent to Director of Environmental Compliance, Loan Guarantee Program, Department of Energy, Washington, D.C. and Field Manager, Barstow Field Office, Bureau of Land Management, Barstow, California. Dated March 17. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2011c. Biological opinion for the Desert Sunlight Solar Farm Project, Riverside County, California. Dated July 6. Memorandum to Field Manager, Palm Springs-South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2011d. Biological opinion on the Rice Solar Energy Project, Riverside County, California. Dated July 27. Letter to John Holt, Environmental Manager, Desert Southwest Customer Service Region Western Area Power Administration, Phoenix, Arizona. From Jim A. Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2012a. Biological opinion for the K Road Moapa Solar Project, Moapa River Indian Reservation, Clark County, Nevada. Dated March 7. Memorandum to Superintendent, Southern Paiute Agency, Bureau of Indian Affairs. St. George, Utah. From State Supervisor, Nevada Fish and Wildlife Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2012b. Biological opinion for the Techren Boulder City Solar Project, Boulder City, Clark County, Nevada. Dated December 28. Memorandum to Field Manager, Las Vegas Field Office, Bureau of Land Management, Las Vegas, Nevada. From State Supervisor, Nevada Fish and Wildlife Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2013a. Biological opinion for the bine Solar and Silver State Solar South Projects, San Bernardino County, California, and Clark County, Nevada. Dated September 30. Memorandum to Field Manager, Needles Field Office, Bureau of Land Management, Needles California, and Assistant Field Manager, Las Vegas Field Office, Bureau of Land Management, Las Vegas, Nevada. From Acting Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

[Service] U.S. Fish and Wildlife Service. 2013b. Biological opinion on the proposed Desert Harvest Solar Project, Riverside County, California. Dated January 15. Memorandum to Field Manager, California Desert District Office, Bureau of Land Management, Moreno Valley, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2013c. Biological opinion on the McCoy Solar Power Project, Riverside County, California. Dated March 6. Memorandum to Field Manager, California Desert District Office, Bureau of Land Management, Moreno Valley, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2014a. Biological opinion for the Res Americas Moapa Solar Energy Center, Moapa River Indian Reservation, Clark County, Nevada. Dated January 21. Memorandum to Superintendent, Southern Paiute Agency, Bureau of Indian Affairs, St. George, Utah. From State Supervisor, Nevada Fish and Wildlife Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2014b. Biological opinion for the Townsite Solar Transmission Project. Dated July 24. Memorandum to Environmental Manager, Western Area Power Administration, U.S. Department of Energy, Phoenix, Arizona; Supervisory Biologist - Habitat, Nevada Department of Wildlife, Las Vegas, Nevada. From State Supervisor, Nevada Fish and Wildlife Office. Reno, Nevada.

[Service] U.S. Fish and Wildlife Service. 2015a. Biological opinion for the Valley Electric Association's Community Solar Project Low-Effect Habitat Conservation Plan. Dated October 8. Memorandum to Assistant Regional Director, Ecological Services, Sacramento, California; Supervisory Biologist – Habitat, Nevada Department of Wildlife, Las Vegas, Nevada. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2015b. Biological opinion for the RE Barren Ridge 1 LLC's RE Cinco Generation Intertie Line and RE Cinco Solar Project, Kern County, California. Dated February 11. Memorandum to Field Manager, Ridgecrest Field Office, Bureau of Land Management, Ridgecrest, California, and Deputy Regional Director,

Region 8, U.S. Fish and Wildlife Service, Sacramento, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2015c. Biological opinion for the Soda Mountain Solar Project, San Bernardino County, California. Dated January 13. Memorandum to District Manager, California Desert District, Bureau of Land Management, Moreno Valley, California. From Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2015d. Final - Project-level formal consultations for four solar energy projects in the Dry Lake Solar Energy Zone, Clark County, Nevada. Dated May 1. Memorandum to Assistant Field Manager of Natural Resources, Las Vegas Field Office, Bureau of Land Management, Las Vegas, Nevada. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2015e. Final biological opinion for the Aiya Solar Energy Project. Dated December 18. Memorandum to Bureau of Indian Affairs, Phoenix, Arizona, and Bureau of Land Management, Las Vegas, Nevada. Las Vegas, Nevada. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2019a. Intra-Service biological opinion for issuance of a section 10(a)(1)(B) incidental take permit for the Canyon Mesa Solar Project Low-Effect Habitat Conservation Plan, Nye County, Nevada (TE53923D-0). Dated September 19. Memorandum to Assistant Regional Director, Ecological Services, U.S. Fish and Wildlife Service Sacramento, California. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2019b. Intra-Service consultation on the issuance of a section 10(a)(1)(B) permit for the High Desert Solar Project, San Bernardino County, California. Dated October 23. Memorandum to Field Supervisor, Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, Carlsbad, California. From Acting Assistant Field Supervisor, Palm Springs Fish and Wildlife Office. Palm Springs, California.

[Service] U.S. Fish and Wildlife Service. 2019c. Formal and informal consultation under section 7 of the Endangered Species Act for the Gemini Solar Project, Clark County, Nevada. Dated November 7. Memorandum to Assistant Field Manager of Natural Resources, Las Vegas Field Office, Bureau of Land Management, Las Vegas, Nevada. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2019d. Biological Opinion for the Eagle Shadow Mountain Solar Project, Moapa River Indian Reservation, Clark County, Nevada. Dated November 12. Memorandum to Western Regional Director, Bureau of Indian Affairs, Phoenix, Arizona. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

[Service] U.S. Fish and Wildlife Service. 2019e. Section 7 biological opinion on the Desert Quartzite Solar Project, Riverside County, California. Dated April 12. Memorandum to Field Manager, Palm Springs-South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Acting Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2019f. Section 7 biological opinion on the IP Athos Renewable Energy Project, Riverside County, California. Dated August 28. Memorandum to Field Manager, Palm Springs-South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Acting Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2020a. Section 7 biological opinion on the Crimson Solar Project, Riverside County, California. Dated February 19. Memorandum to Field Manager, Palm Springs-South Coast Field Office, Bureau of Land Management, Palm Springs, California. From Acting Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

[Service] U.S. Fish and Wildlife Service. 2020b. Formal consultation under section 7 of the Endangered Species Act for the Yellow Pine Solar Project, Nye County, Nevada. Dated July 14. Memorandum to Assistant Field Manager, Division of Natural Resources, Southern Nevada District Office, Bureau of Land Management, Las Vegas, Nevada. From Field Supervisor, Southern Nevada Fish and Wildlife Office. Las Vegas, Nevada.

Wise, C. 2018. Electronic mail. Status of solar projects in Nevada. Dated June 28. Fish and wildlife biologist, Southern Nevada Field Office, U.S. Fish and Wildlife Service. Las Vegas, Nevada.

ENCLOSURE 2

CALTRANS PBO ACTIVITY REQUEST FORM

(Separate Cover)

Appendix H. List of Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
ACEC	Areas of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Materials
ADL	Aerially Deposited Lead
AMSL	Above Mean Sea Level
APE	Area of Potential Effects
ARB	California Air Resources Board
ASR	Archaeological Survey Report
BLM	Bureau of Land Management
BMMP	Bat Management & Mitigation Plan
BMPs	Best Management Practices
BSA	Biological Study Area
CAFÉ	Corporate Average Fuel Economy
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCA	Construction Completion Acceptance
CCRD	Caltrans Cultural Resource Database
CDFW	California Department of Fish and Wildlife
CE	Categorical Exclusion
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act

CHL	California Historic Landmarks
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CRHR	California Register of Historical Resources
CTP	California Transportation Plan
CWA	Clean Water Act
DNAC	District Native American Coordinator
DRECP	Desert Renewable Energy Conservation Plan
DSA	Disturbed Soil Area
DTC/CAMA	U.S. Desert Training Center/California Arizona Maneuver Area
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
ECR	Environmental Commitments Record
EO	Executive Order
ESAL	Equivalent Single Axle Load
ESU	Evolutionarily Significant Unit
FCC	Flood Control Channel
FE	Federal Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FP	Federal Proposed

FT	Federal Threatened
FTIP	Federal Transportation Improvement Program
FUDS	Formerly Used Defense Site
GHG	Greenhouse Gas
GIS	Geographic Information System
HA	Hydrologic Area
H&SC	Health and Safety Code
HPSR	Historic Property Survey Report
HR	Hydrologic Region
HSA	Hydrologic Sub Area
HSIP	Highway Safety Improvement Project
HU	Hydrologic Unit
I	Interstate
IP	Individual Permit
ISA	Initial Site Assessment
JD	Jurisdictional Delineation
LBP	Lead Based Paint
LEDPA	Least Environmentally Damaging Practicable Alternative
LHS	Location Hydraulic Study
LUPA	Land Use Plan Amendment
MAP-21	Moving Ahead for Progress in the 21st Century Act
MDAB	Western Mojave Desert Air Basin
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization

MS4s	Municipal Separate Storm Sewer Systems
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards.
NAHC	Native American Heritage Commission
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NES(MI)	Natural Environment Study (Minimal Impact)
MOU	Memorandum of Understanding pursuant to 23 USC 327
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nation-wide Permit
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety & Health Act
PA	Programmatic Agreement
PA&ED	Project Approval and Environmental Document
PBO	Programmatic Biological Opinion
PCB	Polychlorinated Biphenyls
PCR	Pavement Condition Report
PDT	Project Development Team
PHV	Peak Hour Volume

PLACs	Permits, Licenses, Agreements, and Certifications
PM	Post Miles
PQS	Professionally Qualified Staff
PS&E	Plans, Specifications, and Estimates
PSI	Preliminary Site Investigation
RAP	Relocation Assistance Program
RCRA	Resource Conservation and Recovery Act
RDSIP	Roadway Departure Safety Implementation Plan
REC	Recognized Environmental Condition
RL	Combined Risk Level
RSP	Rock Slope Protection
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SFER	Summary Floodplain Encroachment Report
SHOPP	State Highway Operation and Protection Program
SHPO	California State Historic Preservation Officer
SLR	Sea-Level Rise
SM&I	Structure Maintenance and Inventory
SR	State Route
SSP	Standard Special Provision
STAA	Surface Transportation Assistance Act
SWDR	Storm Water Data Report
SWMP	Storm Water Management Plan

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis System
TMDL	Total Maximum Daily Load
TMP	Traffic Management Plan
TSAR	Traffic Selective Accidental Retrieval
TSCA	Toxic Substances Control Act
U.S.	United States
U.S. EPA	U.S. Environmental Protection Agency
Uniform Act	Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
WDR	Waste Discharge Requirement
WEAP	Worker Environmental Awareness Program
WOS	Waters of the State
WPCP	Water Pollution Control Program
WQF	Water Quality Flow
WQV	Water Quality Volume
WQS	Water Quality Standards or Water Quality Objectives
WUS	Waters of the United States