

Interstate 15 (I-15) Repair Earthen Dike Project

San Bernardino County, California
DISTRICT 8 - SBD-15 (PM R110.00/R110.00)
PN 0816000060 / EA 08-1G740

Initial Study [with Proposed] Mitigated Negative Declaration/Environmental Assessment



**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.



March 2019

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General Information about This Document

What's in this document:

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located adjacent to Interstate 15 (I-15), at post mile (PM) R110.0, in the Dunn/New Dunn area northeast of Yermo, 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). This 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.

What you should do:

- Please read this document.
- Additional copies of this IS/EA, as well as the related technical studies, are available for review at:

Barstow Library
304 E Buena Vista Street
Barstow, CA 92311

This IS/EA may be downloaded at the following website:

<http://www.dot.ca.gov/dist8/>

- We'd like to hear what you think. If you have any comments regarding the proposed project, please attend the Public Hearing and/or please send your written comments to the Department by the deadline.
- Send comments via postal mail to:
Renetta Cloud, Senior Environmental Planner
California Department of Transportation, District 8
464 West 4th Street, 6th Floor, MS-823
San Bernardino, California 92401-1400
- Send comments via email to: I15RepairEarthenDike@dot.ca.gov
Please use "I-15 Repair Failed and Eroded Earthen Dike Project" in the subject line of the email.
- Be sure to send comments by the deadline: April 29, 2019

What happens next:

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

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, or audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Joy Schneider, Public Information Officer, 464 West 4th Street, 6th Floor, MS-1247, San Bernardino, CA, 92401; (909) 806-4726 (Voice), or use the California Relay Service 1 (800)735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

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Reconstruct a portion of an eroded earthen dike (berm) located 0.43 mile north of Interstate 15 (I-15) near Baker,
1.6 miles south of the Afton Road Overcrossing at post mile R110.00 in San Bernardino County.

**INITIAL STUDY [with Proposed] Mitigated Negative Declaration/
Environmental Assessment**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C) and 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

3/20/19
Date


David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA Lead Agency
NEPA Lead Agency

The following persons may be contacted for information concerning this document:

California Department of Transportation
Renetta Cloud, Senior Environmental Planner
464 West 4th Street, 6th Floor, MS-823
San Bernardino, CA 92401-1400

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PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (the Department) proposes to reconstruct a portion of an eroded earthen dike (berm) located 0.43 mile north of Interstate 15 (I-15) near Baker, 1.6 miles south of the Afton Road Overcrossing at post mile R110.00 in San Bernardino County, California. A temporary access road would also be constructed to allow for the reconstruction work. The total project area is approximately 13 acres.

Determination

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

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

The proposed project would have **no effect** on:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Energy
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems
- Wildfire

In addition, the proposed project would have **less-than-significant effects** on:

- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality

With the following mitigation measure incorporated, the proposed project would have **less-than-significant effects** on:

- Biological Resources

BIO-22: Desert Tortoise Mitigation. Impacts related to desert tortoise take will be mitigated at a minimum of 2:1 ratio, or as defined through consultation with resource agencies.

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

Date

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Chapter 1 Proposed Project

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. 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.

1.2 Introduction

The proposed project would reconstruct an eroded earthen dike (berm) located 0.43 mile north of Interstate 15 (I-15) at post mile (PM) R110.0, 36 miles northeast of Barstow, 27 miles southwest of Baker and 1.6 miles south of Afton Road Overcrossing in San Bernardino County (County), California. A temporary access road would also be constructed to allow for the reconstruction work. The total project area is approximately 13 acres. Figures 1-1 and 1-2 show the regional vicinity and location of the project, respectively.

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

This proposed project is included in the Fiscal Year 2019 Federal Statewide Transportation Improvement Program and is proposed for funding from the 2017 Federal Transportation Improvement Program SHP04 (State Highway Operation and Protection Program [SHOPP] Emergency Response Program). It is also included in Southern California Association of Governments' 2016 Regional Transportation Plan/Sustainable Communities Strategy.

The project is funded from the SHOPP under the 201.131 Permanent Restoration Program. This project is classified as a Category 4B, as defined in the Project Development Procedures Manual (7th edition, Part 2, Chapter 8, Section 5).

1.2.1 Existing Facility

I-15 begins at the junction with Interstate 5 (I-5) in San Diego County and ends at the United States/Canada border in Montana, connecting five states along the way. Within District 8, it starts at the county line between Riverside and San Diego and ends at the Nevada state line. I-15 is considered as a major north/south corridor with a high volume of truck traffic transporting goods in and out of the state, and has an annual average daily traffic of 40,000. This four-lane portion of the route within District 8 faces exceptionally high holiday recreational traffic, which is generated mostly from the Los Angeles, Las Vegas, San Diego, and Temecula Valley areas.

The location of the earthen dike is 0.43 miles away from the southbound I-15 outside shoulder at PM R110.0. It is 36 miles northeast of Barstow, 27 miles southwest of Baker, and 1.6 miles south of Afton Road Overcrossing. The area surrounding the project area is undeveloped desert landscape. The project area is at an elevation of approximately 1,730 feet above mean sea level (AMSL) and is generally flat with a gentle gradient toward the southeast. There are no surrounding local traffic movements or activities, and there are no structures, roads, or other improvements on the site.

1.2.2 Project Background

A Project Initiation Proposal (PIP) No. 4280 was prepared by the District 8 Office of Maintenance Engineering to obtain approval for the development of Project Initiation Documents (PID) to address the damaged section of the dike/berm. The PID proposed to reconstruct an eroded section of earthen dike section 0.43 miles away from the southbound I-15 outside shoulder at PM R110.0. The PID provided conceptual approval of the proposal and a recommendation to program the project into the 2016 SHOPP.

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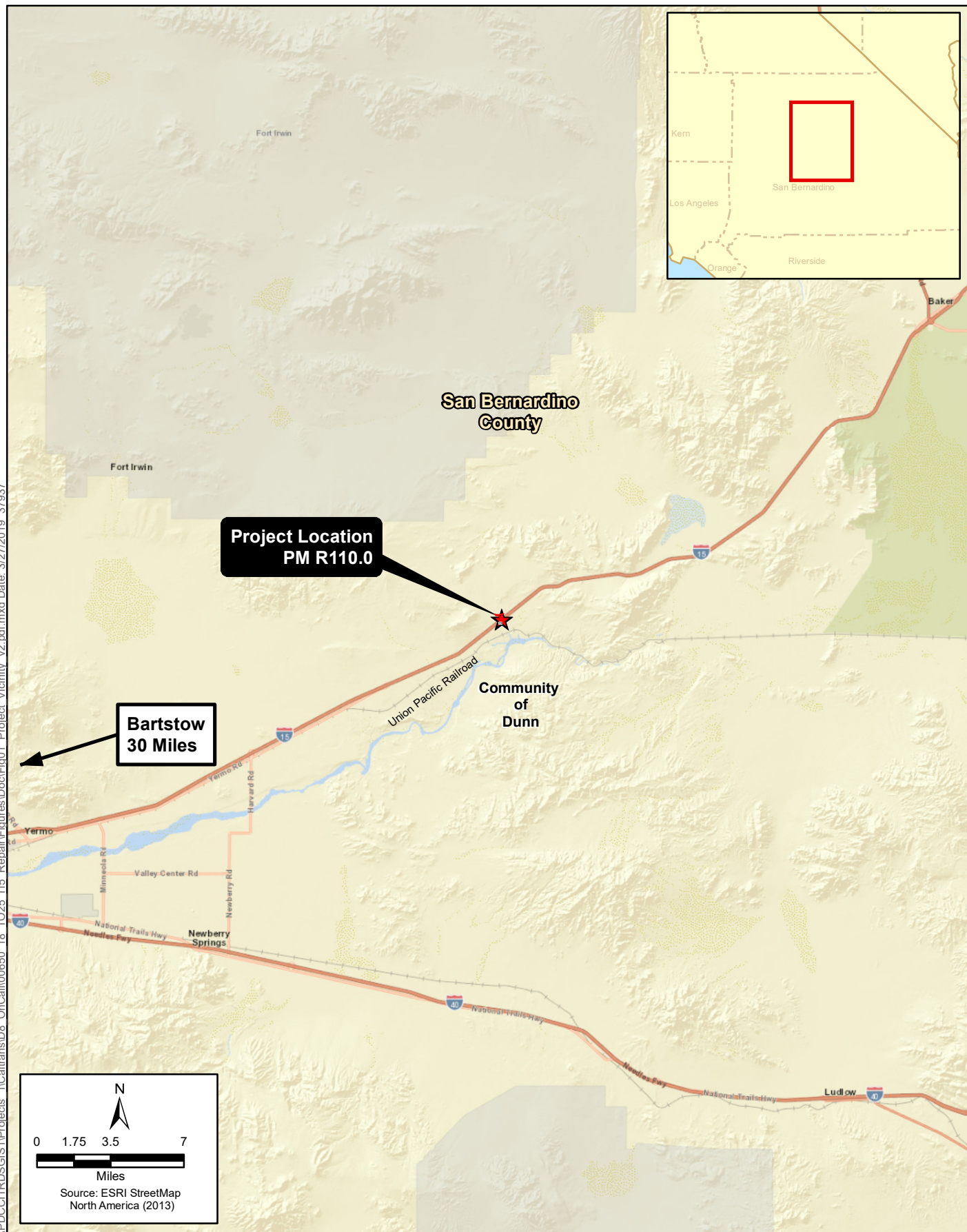


Figure 1-1
Regional Vicinity Map
I-15 Repair Earthen Dike Project

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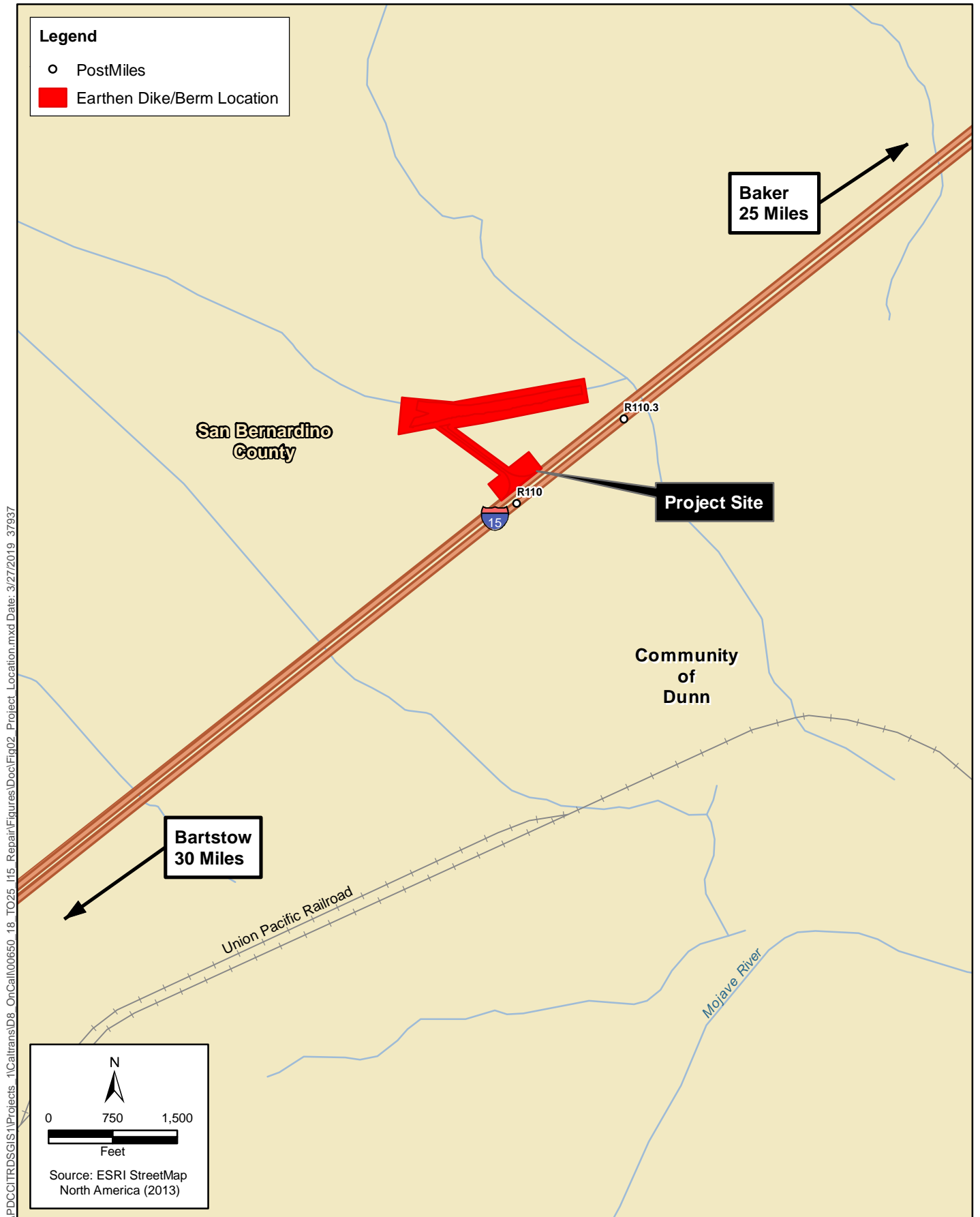


Figure 1-2
Project Location
I-15 Repair Earthen Dike Project

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1.2.3 Purpose and Need

1.2.3.1 PROJECT PURPOSE

The purpose of this permanent restoration project is to prevent water flow onto I-15 during heavy periods of rainfall and flash flooding to maintain uninterrupted movement of interstate traffic.

1.2.3.2 PROJECT NEED

According to existing documents, the earthen dike system was built in the 1930s to protect the highway from inundation and flooding. In recent rainstorms, an important section of the existing earthen dike was washed out; consequently, the system no longer functions as designed. As a result, runoff has overflowed onto the mainline of southbound I-15 during heavy rains due to the damaged section of the dike/berm, causing significant interruptions in freeway traffic flow.

Capacity, Transportation Demand, and Safety

The scope of this project does not propose to increase the capacity or improve the operations of a facility to carry traffic; as such, forecasted traffic information and collision data are not needed.

Roadway Deficiencies

As discussed above, the earthen dike system, which is located approximately 0.43 miles north of the southbound I-15, is unable to hold back runoff from heavy rains. As a result, there have been significant interruptions in traffic flow on the mainline southbound I-15 due to flooding. On July 29, 2015, the I-15 southbound lanes were restricted to one lane and completely closed for a couple of hours due to flooding. The area is located in the desert, which results in substantial travel time for a maintenance team to respond in flooding situations. The repaired dike/berm at this location is expected to prevent potential interruptions in traffic movement during heavy rainfall.

Social Demands or Economic Development

I-15 is considered as a major north/south corridor with a high volume of truck traffic transporting goods in and out of the state. This portion of the route within District 8 faces exceptionally high holiday recreational traffic mostly from the Los Angeles, Las Vegas, San Diego, and Temecula Valley areas.

The location of I-15 at PM R110.0 is in the Mojave Desert area with no surrounding local traffic movements or activities. It is 36 miles northeast of Barstow and 27 miles southwest of Baker, 0.43 miles away from the southbound I-15 outside shoulder at PM R110.0. The land uses of the project area include transportation use and Bureau of Land Management (BLM) property. There are no anticipated changes in land use.

Modal Interrelationships and System Linkages

I-15 is a major interstate goods-movement corridor, which links to the Los Angeles area. It is the primary link between the major economic centers and geographic regions and is classified as a "High Emphasis" and a "Gateway" route in the Interregional Road System. I-15 is also federally classified as a Rural/Urban Principal Arterial and is part of the Freeway and Expressway System, and is part of the following:

- National Highway System

- Strategic Highway Corridor Network of National Defense
- Interregional Road System
- National Network for Over-Sized Trucks under the Federal Surface Transportation Assistance Act

A railroad is located south and southwest of the project location, across I-15 and approximately 0.75 miles from the nearest project activities. The project would not affect the railroad.

Independent Utility and Logical Termini

FHWA regulations (23 CFR 771.111(f)) require that the action evaluated:

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

Logical termini should encompass an entire project. Cutting a larger project into smaller projects may be considered “improper segmentation.” A project must have independent utility; that is, a project must be able to function on its own, without further improvements.

This Initial Study/Environmental Assessment (IS/EA) assesses the proposed project area, extending 0.3 mile from PM R110.0 to 110.3, approximately 1.3 miles northwest of Afton Road in San Bernardino County. An important section of the existing earthen dike adjacent to the freeway was washed out due to a severe rainstorm, causing significant interruptions in freeway traffic flow. The District’s Division of Maintenance identified that repairing the dike/berm at this location should save potential interruptions in traffic movement during heavy rainfall. The project is of sufficient length, with project termini logically placed, to allow environmental issues to be addressed on a broad scope. The proposed project would save potential interruptions in traffic movement along the I-15 during heavy rainfall, without any additional transportation improvements being made in the area. 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 that were developed to meet the identified purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are the Build Alternative and the No-Build Alternative.

The proposed project is located in San Bernardino County, 0.43 miles north of I-15 near Baker and 1.6 miles south of the Afton Road Overcrossing at PM R110.00. The purpose of the proposed project is to prevent water flow onto I-15 during heavy periods of rainfall and flash flooding to maintain uninterrupted movement of interstate traffic. Runoff has overflowed onto the mainline of southbound I-15 during heavy rains due to the damaged section of the dike/berm, causing significant interruptions in freeway traffic flow.

1.4 Alternatives

1.4.1 No-Build (No-Action) Alternative

Under the No-Build Alternative, the earthen dike would not be reconstructed. No BLM right of way would be needed. Runoff would continue to overflow onto the mainline of southbound I-15 during heavy rains due to the damaged section of the dike/berm, causing significant interruptions in freeway traffic flow. Under this alternative, no avoidance, minimization, and/or mitigation measures would be required.

1.4.2 Proposed Build Alternative

The Department proposes to reconstruct a portion of an earthen ditch and dike/berm system (Ditch A-117a) that washed away due to an intense rainstorm that occurred in the desert at the project location (see Figure 1-3). The dike and ditch would be reconstructed per the original design. The ditch width varies from 5 to 20 feet and the depth varies from 5 to 10 feet. The dike top width is 4 feet with a base varying from 36 to 44 feet. Material from the ditch excavation would be reused for the dike construction. Import material is expected to be used for the remaining dike construction.

The District Hydraulics unit prepared a preliminary hydraulic analysis of the drainage facility and recommended the eroded earthen dike should be reconstructed per original design (see Figures 1-3, 1-4, and 1-5).

Additionally, the proposed project consists of the construction of a temporary access road. Temporary construction easements would be required for this project from BLM. Please refer to Figure 1-3.

Utilities

There are two utility facility owners within the project limits. There is an AT&T fiber optic line at the western end of the project area and a Kinder Morgan Petroleum line at the southern end of the project parallel to I-15 where the temporary access road is to be constructed. Both utilities have been potholed. It was determined that the AT&T fiber optic line would be relocated due to the existing depth of cover. The Kinder Morgan petroleum line would be protected in place with a concrete encasement during the construction and operation of the temporary access road.

Nonstandard Design Features

This project consists of reconstruction of a ditch and an earthen dike outside of Department right of way to protect against flooding inundation and would not alter or introduce new roadway geometric features. This project is not expected to correct or provide a design standard decision document for existing nonstandard features.

Cost

The estimated capital cost, which includes the Project Approval and Environmental Document phase as well as the Plans, Specifications, and Estimates phase of the project and right of way costs, for the Build Alternative is estimated at \$2,191,000.

The Build Alternative includes the following standardized measures, which are included as part of the project description. Standardized measures (such as Best Management Practices [BMPs]) are those measures that are generally applied to most or all Caltrans projects. The following items are included as part of the Build Alternative and would be included in the project plans and/or specifications in order to reduce environmental impacts.

1.4.2.1 AIR QUALITY

- The construction contractor shall apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a “no visible dust” criterion either at the point of emission or at the right of way line, depending on local regulations.
- The construction contractor shall spread soil binder on any unpaved roads used for construction purposes, and all project construction parking areas.
- The construction contractor shall properly tune and maintain construction equipment and vehicles.
- The construction contractor shall minimize idling time to five minutes—saves fuel and reduces emissions.
- The construction contractor shall maintain all construction equipment in proper working order, according to manufacturer’s specifications. The equipment must be checked by an ASE-certified mechanic and determined to be running in proper condition before it is operated.

1.4.2.2 CULTURAL RESOURCES

- Standard special provision (SSP) dealing with the discovery of unanticipated cultural materials or human remains (14-2.03A).
- If buried cultural resources are encountered during construction, it is Caltrans policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.
- If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, who will then notify the Most Likely Descendant. At this time, the person who discovered the remains will contact Andrew Walters, Senior Environmental Planner, Cultural Studies, at (909) 383-2647; or Gary Jones, District Native American Coordinator, at (909) 383-7505 so that they may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

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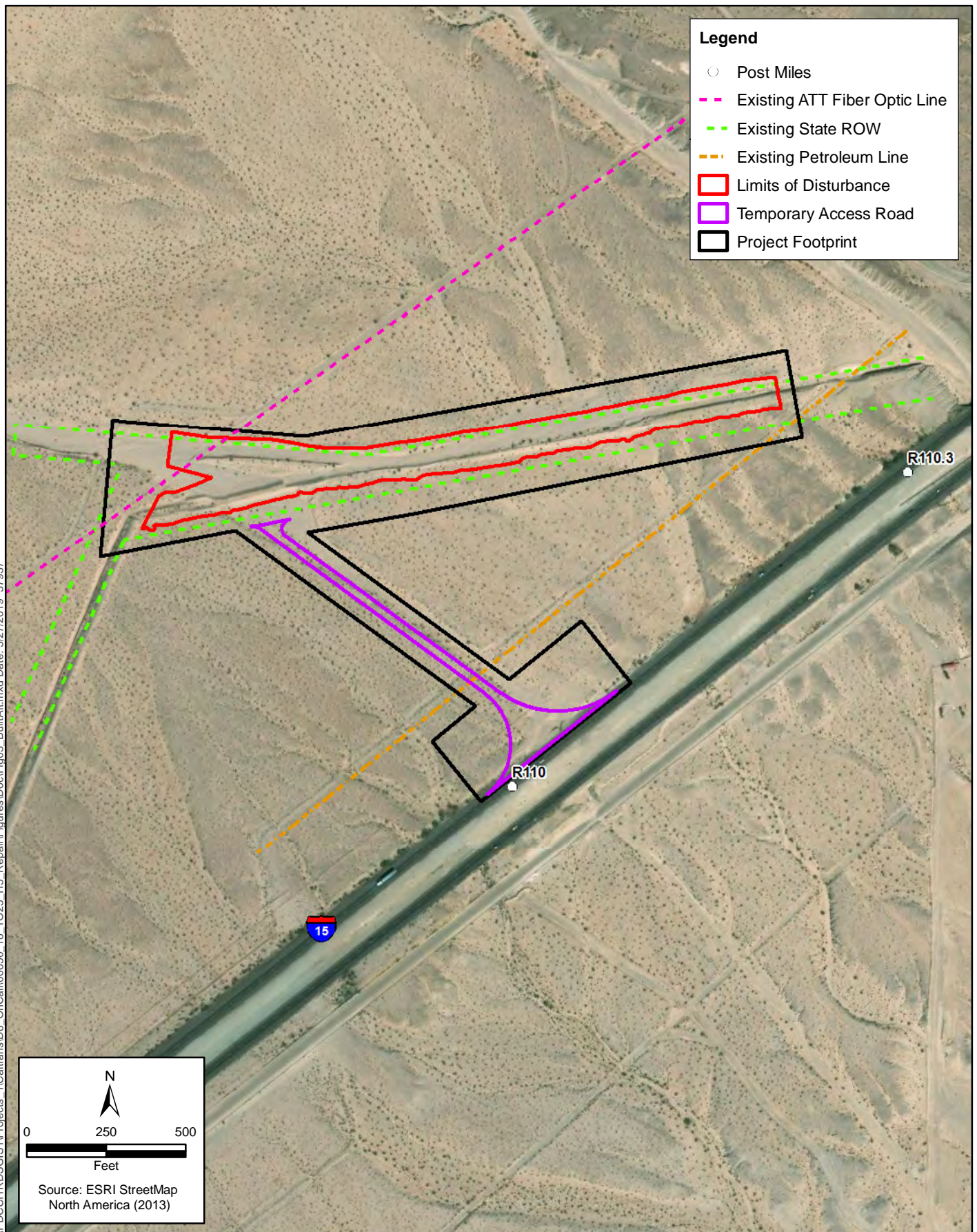
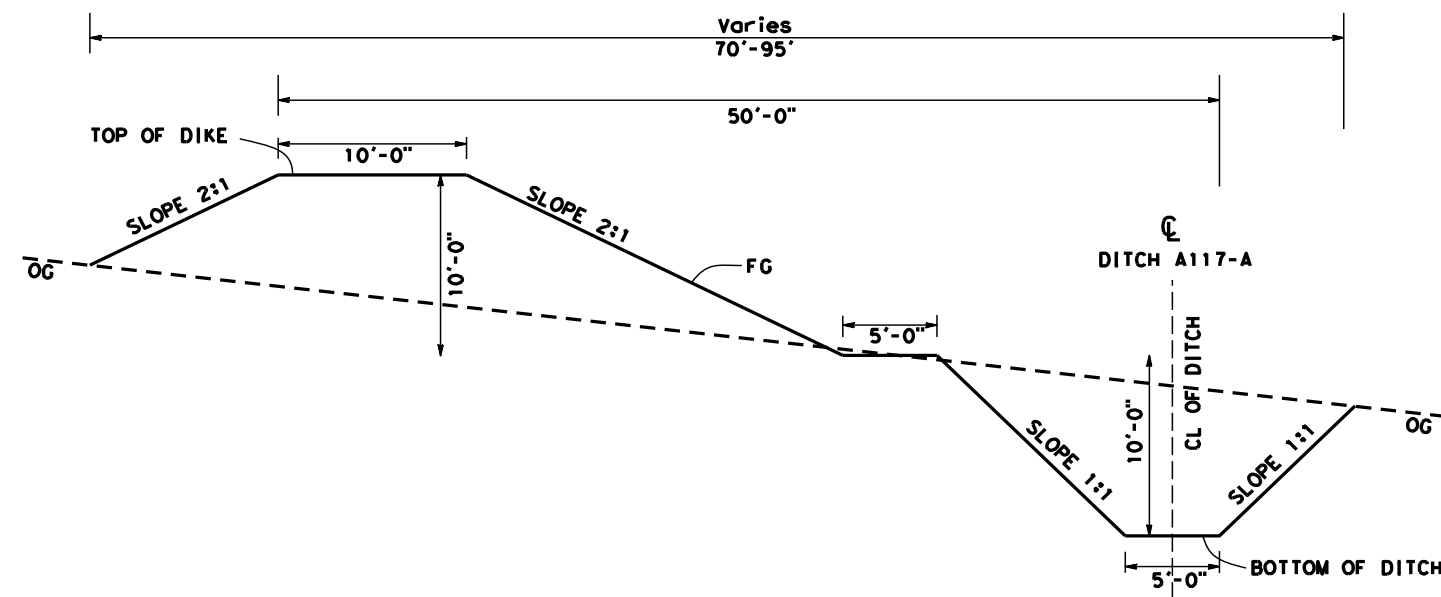
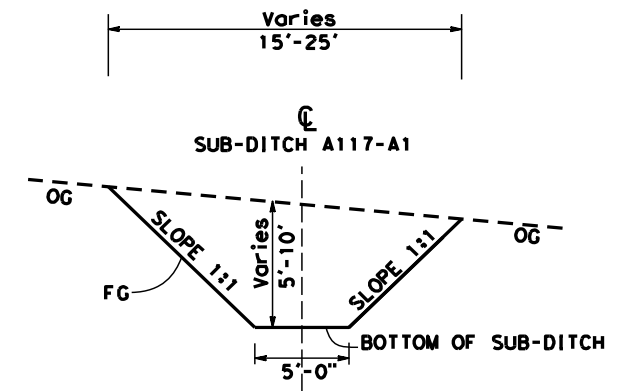


Figure 1-3
Build Alternative
I-15 Repair Earthen Dike Project

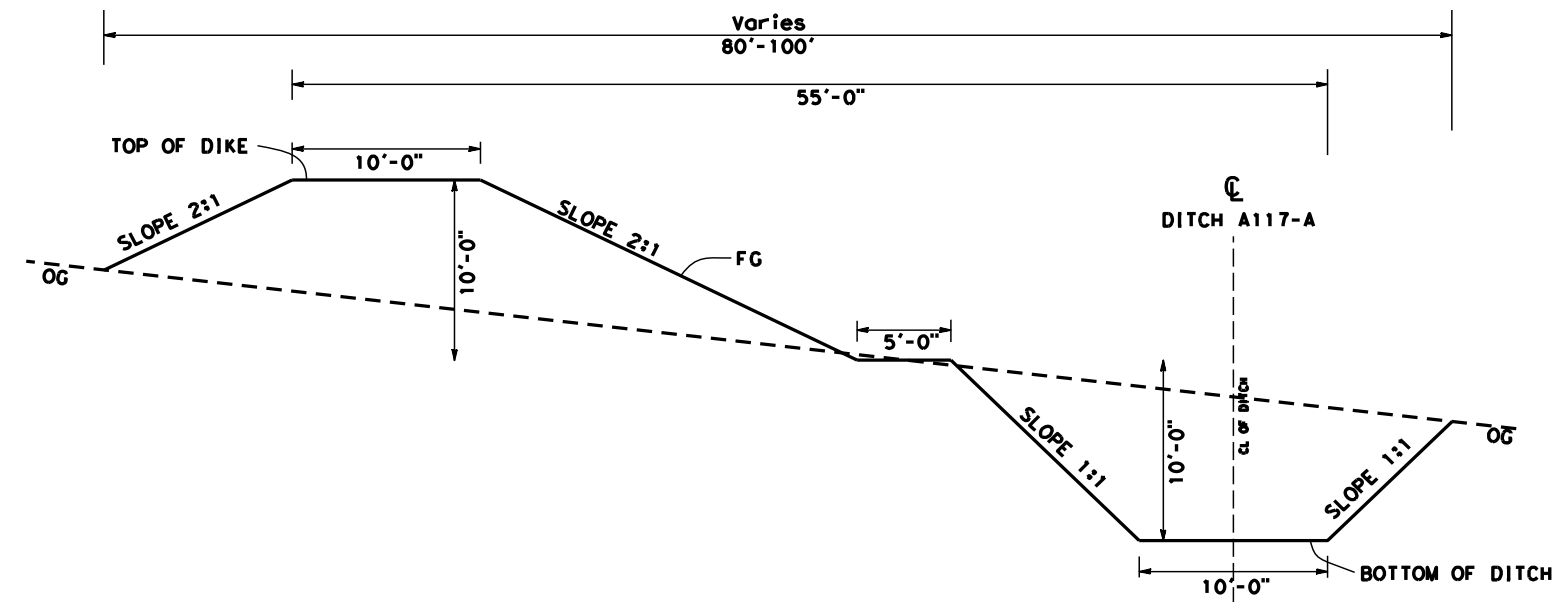
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TYPICAL SECTION FOR DITCH
(From 18+00 to 26+24)



TYPICAL SECTION FOR SUB-DITCH
(From 0+00 to 10+03.74)



TYPICAL SECTION FOR DITCH
(From 8+00 to 18+00)

Figure 1-4
Typical Cross-sections
I-15 Repair Earthen Dike Project

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Ditch to be excavated



Ditch and side of dike/berm

Figure 1-5. Photos of Existing Ditch and Dike System

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1.4.2.3 HAZARDOUS WASTE

- SSP 7-1.02K(6)(J)(III) Includes specifications for handling, removing, and disposing of earth material containing lead.

If the project would remove treated wood waste, use the following SSP that would be included in the Plans, Specifications, and Estimates package:

- SSP 14-11.14 for the Removal and Disposal of Treated Wood Waste such as Sign Posts and Guardrail Posts

1.4.2.4 BIOLOGICAL RESOURCES

- Caltrans Standard Specification 13-4.03E(3) Vehicle and Equipment Cleaning
- Caltrans Standard Specification 13-4.03E(4) Vehicle and Equipment Fueling and maintenance
- A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit

1.4.2.5 NOISE

- Construction will be conducted in accordance with applicable local noise standards and Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications and Special Provisions.

1.4.2.6 TRANSPORTATION/TRAFFIC

- Prior to construction, a Traffic Management Plan will be developed by Caltrans to minimize potential impacts on emergency services and commuters during construction.

1.4.3 Transportation System Management and Transportation Demand Management Alternatives

1.4.3.1 TRANSPORTATION SYSTEM MANAGEMENT ALTERNATIVES

Transportation System Management (TSM) strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. Other TSM strategies include encouraging the public to use public and private transit and ridesharing programs.

This project does not qualify as a capacity-increasing or a major street or highway realignment project and reversible lanes will not be considered.

Although no specific TSM features are included as part of the project, the proposed project serves a TSM purpose by providing safer and more efficient operation of I-15 within the project limits. The project proposes to reconstruct an eroded section of earthen dike section along I-15 to prevent water flow onto the facility during heavy periods of rainfall and flash flooding;

therefore, the proposed project is considered consistent with TSM goals and would support the safe and efficient operation of I-15 within the project limits once it is in place.

1.4.4 Final Decision-Making Process

After the public circulation period, all comments received will be considered, and Caltrans will identify a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, if no immitigable significant adverse impacts are identified, Caltrans will prepare a Negative Declaration or Mitigated Negative Declaration. Similarly, if Caltrans determines the action does not significantly affect the environment, Caltrans, as assigned by FHWA, will issue a Finding of No Significant Impact in accordance with NEPA.

1.4.5 Alternatives Considered But Eliminated from Further Discussion

There is only one build alternative for this project considering cost and effort required to this project. Reconstructing the earthen dikes is the most efficient solution for the flooding problem. No other alternatives were considered.

1.5 Permits and Approvals Needed

The permits, licenses, agreements, and certifications listed in Table 1-1 would be required for project construction.

Table 1-1. Required Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
Bureau of Land Management (BLM)	Permission to access project location for surveys and initial assessments	Caltrans biologist Tracey D'Aoust Roberts met with the BLM biologist on September 6, 2018 to discuss project features, desert tortoise survey results, and other sensitive flora and fauna within the project vicinity as well as to discuss potential minimization and avoidance measures for the proposed project.
California Department of Fish and Wildlife (CDFW)	1602 Streambed Alteration Agreement, and a Section 2081 Incidental Take Permit	To be submitted after approval of Project Report and Final Environmental Document.
U.S. Army Corps of Engineers	CWA Section 404 Nationwide Permit	To be submitted after approval of Project Report and Final Environmental Document.
U.S. Fish and Wildlife Service (USFWS)	Federal Endangered Species Act Section 7 consultation	Caltrans will submit a biological assessment for desert tortoise and desert tortoise critical habitat to USFWS for review.

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

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.

- **Land Use:** The proposed project is located adjacent to I-15 in San Bernardino County, California, in the Mojave Desert, 36 miles northeast of Barstow and 27 miles southwest of Baker. No relocation of residences or businesses and no change in land use would occur as a result of the proposed project (see Figure 2-1). No mineral resource zones are located in the area (see Figure 2-2). As such, the proposed project would be consistent with the existing land use.
- **Coastal Zone:** The proposed project is not in the vicinity of a coastal zone.
- **National Marine Fisheries Service (NMFS) Jurisdiction:** This project is located outside of NMFS jurisdiction; therefore, an NMFS species list is not required and no effects to NMFS species are anticipated.
- **Wild and Scenic Rivers:** The proposed project is not in the vicinity of a designated Wild and Scenic River.
- **Farmlands and Timberlands:** According to the California Department of Conservation's Farmland Mapping and Monitoring Program, no farmlands or vacant lands have been mapped as Prime Farmlands, Unique Farmlands, Farmlands of Statewide Importance, or Farmlands of Local Importance in the vicinity of the proposed project. In addition, the study area is not under a Williamson Act contract (see Figure 2-1). Therefore, the proposed project would have no effect on farmlands. The proposed project is located in the Mojave Desert in a rural area. There are no timberlands located near the proposed project and as such, there would be no impact on timberlands.
- **Community Impacts:** The proposed project would reconstruct an earthen dike adjacent to I-15 at PM R110.0, which is in a desert area with no surrounding residences or businesses (see Figure 2-1). Right of way acquisitions or relocations would not be required for the proposed project. In addition, 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.
- **Hydrology and Floodplains:** The proposed project is not within a designated Federal Emergency Management Agency (FEMA) one-percent-annual-chance (i.e., 100-year) floodplain and has no potential to affect any floodplain. The project would not result in significant floodplain encroachment, as defined in 23 CFR 650.105.
- **Paleontology:** The proposed project is located within a previously disturbed area and has no potential to affect paleontological resources.
- **Air Quality:** The proposed project would result in reconstructing an existing earthen dike adjacent to I-15 in a rural area along an existing roadway. The project would not increase

the capacity of the existing roadway or include the installation of traffic signals. No adverse effects on air quality are expected.

- **Noise:** No adverse noise impacts from project construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications, Section 14.8.02. Construction noise would be short term and intermittent. In addition, there are no residences or businesses located near the project, so there are no noise-sensitive receptors. No permanent noise impacts are anticipated because the proposed project is not a Type I project, as defined in Caltrans' Traffic Noise Analysis Protocol.
- **Parks and Recreation:** The proposed project is in a rural area in the Mojave Desert on I-15 at PM R110.0. There are no parks, trails, or other recreational facilities within 0.5 mile of the project (see Figure 2-1). The proposed project does not have the capacity to generate a substantial increase in use of any existing neighborhood parks, regional parks, or other recreational facilities such that physical deterioration would occur, nor would it require the construction or expansion of existing recreational facilities.

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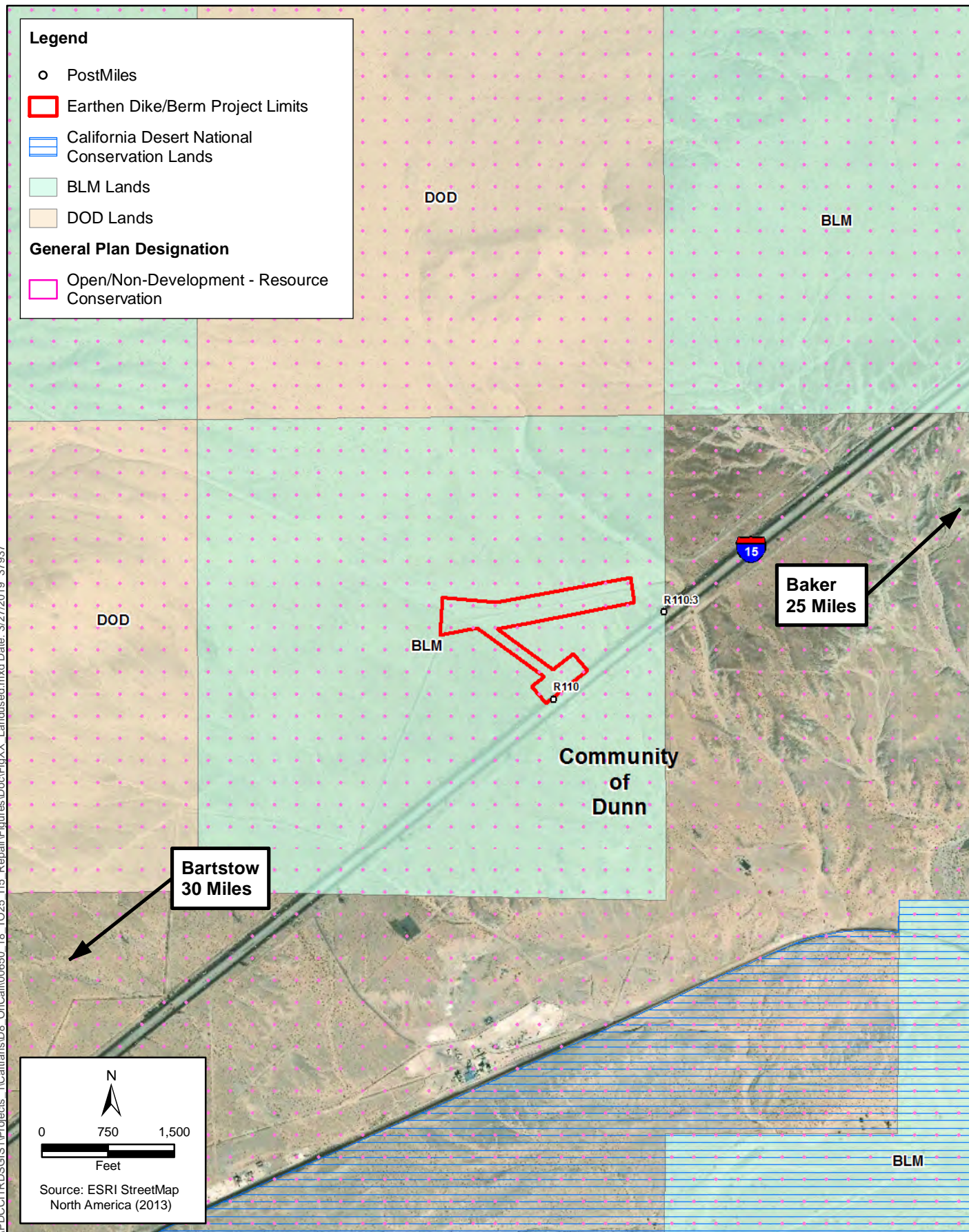


Figure 2-1
Landuses
I-15 Repair Earthen Dike Project

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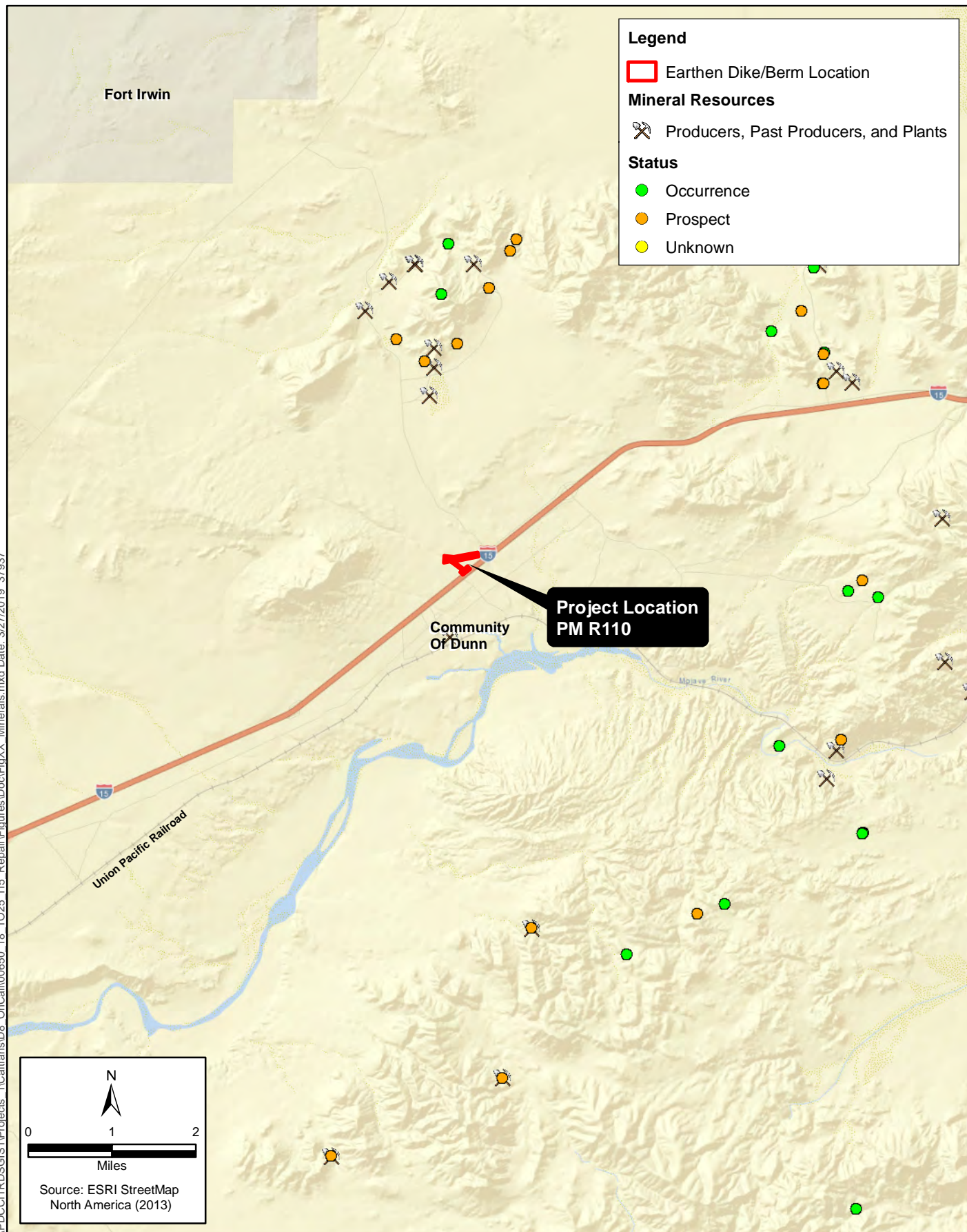


Figure 2-2
Mineral Resources
I-15 Repair Earthen Dike Project

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2.1 Human Environment

2.1.1 Growth

2.1.1.1 REGULATORY SETTING

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

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

2.1.1.2 ENVIRONMENTAL CONSEQUENCES

Build Alternative

Permanent

An assessment of potential growth-related impacts of the Build Alternative was completed using the "first-cut screening" analysis, as discussed below.

- How, if at all, does the project potentially change accessibility?

The Build Alternative would not change accessibility along I-15 or provide new access to the mainline. The Build Alternative would reconstruct an eroded earthen dike that is located adjacent to I-15 at PM R110.00. No new on- or off-ramps to employment or commercial centers are proposed. The Build Alternative would not provide new transportation facilities or new access points to areas previously not accessible. Therefore, the Build Alternative would not result in changes in accessibility to the transportation system in the study area.

- How, if at all, do project type, project location, and growth pressure potentially influence growth?

The Build Alternative is not expected to influence growth in the project study area or the County because it proposes improvements to an existing facility. The proposed project would not provide new access to developable land, as the improvements would be limited to repairing an earthen dike and drainage channel. The Build Alternative would not induce or influence growth directly or indirectly because there would be no change in land use, and it is not anticipated to encourage population density or construction of additional housing.

- Is project-related growth “reasonably foreseeable”?

Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.

As discussed above, the Build Alternative would not influence growth and would not change the rate, type, or amount of growth. Therefore, no project-related growth would occur under the Build Alternative.

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

The Build Alternative is not anticipated to affect resources of concern, such as housing and/or jobs in the local study area. All land use plans in the County and the cities within the study area consider future growth. Service providers regularly evaluate growth trends and provide required infrastructure upgrades as needed.

Based on the analysis above, the Build Alternative does not require further analysis because growth-related impacts would not occur.

Temporary

There would be no temporary growth-inducing impacts under the Build Alternative.

No-Build Alternative

Permanent

The No-Build Alternative would not change existing accessibility along the I-15 corridor and, therefore, would not influence growth along the corridor.

Temporary

The No-Build Alternative would have no temporary direct or indirect growth-inducing impacts because the proposed project would not be constructed along the I-15 corridor.

2.1.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No measures are proposed or required for growth, as there would be no impacts.

2.1.2 Utilities/Emergency Services

2.1.2.1 AFFECTED ENVIRONMENT

There is a Kinder Morgan petroleum pipeline that traverses the southern corner of the project limits. A meeting with a Kinder Morgan representative at the proposed boring location occurred in late 2018 to confirm that the proposed boring was located a safe distance from the pipeline. The meeting with Kinder Morgan and the resulting USA markings showed no conflicts between the proposed boring location and subsurface utilities; as a result, the boring was advanced at the location marked. See Figure 1-3 in Chapter 1 for the location of the petroleum pipeline.

In addition, there is an AT&T fiber optic line at the western end of the project area. It was determined that the AT&T fiber optic line would be relocated due to the existing depth of cover.

San Bernardino County Sheriff's Department, California Highway Patrol, and San Bernardino County Fire department all serve the project area. San Bernardino County Fire Station 52 is approximately 16 miles south of the project location, and Baker Fire Station is approximately 25 miles north of the project. A California Highway Patrol station and the Sheriff's Department for San Bernardino County Sheriff, Barstow Station, are approximately 40 miles south of the project area. There is an Army Community Hospital approximately 17 miles north of the project area, and Flagstaff Hospital is approximately 60 miles south of the project.

2.1.2.2 ENVIRONMENTAL CONSEQUENCES

Build Alternative

The proposed project would not result in an increase in population, and therefore would not increase the demand for community services such as police, highway patrol, or fire protection services. No fire or police stations would be acquired or displaced. Construction activities may have the potential to result in temporary traffic disruptions during the construction period by trucks needing to slow down on I-15 to utilize the access road to and from the project location. This could increase response times for emergency vehicles during construction; however, the proposed project would include preparation and implementation of a Traffic Management Plan (TMP). Construction impacts would be short term, lasting only the length of construction, and cease upon completion of construction. Once completed, the proposed project would help ensure that the road does not flood during heavy rains, allowing for normal and reliable access for emergency responders on I-15, which would be a beneficial impact.

In addition, although the petroleum pipeline would be protected in place, the AT&T fiber optic line would need to be relocated as part of the project. In order to ensure impacts are minimized, the proposed project includes measure **UES-1** that would require coordination with AT&T prior to relocation of the AT&T fiber optic line.

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur, and no utilities would be relocated; therefore, no effects on utilities or emergency services would result from project construction or operation. Without the proposed project, traffic conditions would continue to worsen during heavy rainstorms.

2.1.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to avoidance and minimization measure **TRF-1** in Section 2.1.4, avoidance and minimization measure **UES-1** would reduce or avoid impacts related to relocating the AT&T utility.

UES-1. During final design, utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in place. If relocation is necessary, the final design will focus on relocating utilities within the state right of way or other existing public rights of way and/or easements. If relocation outside of existing rights of way or additional public rights of way and/or easements are necessary, the final design will focus on relocating facilities so as to minimize environmental impacts resulting from project construction as well as ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications.

Prior to and during construction, the contractor will implement the components of the utility relocation plans provided in the project specifications.

Prior to utility relocation activities, the contractor will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.

2.1.3 Traffic and Transportation

2.1.3.1 AFFECTED ENVIRONMENT

Information in this section is based on the *Draft Project Report* prepared by Caltrans for the proposed project.

The purpose of this permanent restoration project is to prevent water flow onto I-15 during heavy periods of rainfall and flash flooding to maintain intrastate and interstate commerce. The scope of this project does not propose to increase the capacity or improve the operations of a facility to carry traffic; as such, forecasted traffic information and collision data are not needed. The proposed project activities include rebuilding the earthen dike to solve the flooding problem during heavy rains on I-15 near PM R110.0. This activity does not have the potential to change the configuration or capacity of I-15.

2.1.3.2 ENVIRONMENTAL CONSEQUENCES

Build Alternative

During construction, temporary impacts, such as lane closures, nighttime construction, and flagging, could occur. This could result in traffic delays along I-15 in the project vicinity. However, the proposed project would include preparation and implementation of a TMP. The TMP could include public information communications, such as mailers, handouts, brochures, and press releases; information for motorists from changeable message signs or temporary signs; construction strategies, such as traffic plans; and information regarding construction staging, lane modifications (e.g., reduced lane widths or lane closures), and the use of alternate routes/detours. Construction impacts would be short term, lasting only the length of construction, and cease upon completion of the project. Once the project is completed, the flooding problem on I-15 in this location during heavy rain is expected to no longer occur and I-15 would operate as normal.

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on traffic and transportation would result from project construction or operation.

2.1.3.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

TRF-1. A Traffic Management Plan (TMP) will be prepared and implemented during construction of the project. Public information and awareness campaigns, motorist information strategies, and incident management strategies in the TMP will inform the public of the proposed project.

2.1.4 Visual/Aesthetics

2.1.4.1 REGULATORY SETTING

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

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

2.1.4.2 AFFECTED ENVIRONMENT

Information in this section is based on the October 2018 *Questionnaire to Determine Visual Impact Assessment Level* prepared for the proposed project.

The proposed project would be located adjacent to I-15 at PM R110.0. The section of I-15 within the project limits is listed as an eligible State Scenic Highway and includes open views of the desert landscape and mountains at varying distances to the north, south, west, and east (Caltrans 2011). The existing structural section along I-15 is asphalt concrete and the eroded earthen dike and drainage channel located adjacent to the southbound I-15 outside shoulder.

2.1.4.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

A review of the project site and project plans indicates that the proposed project would not result in substantial adverse impacts on the visual environment because the proposed project would make improvements to an existing earthen dike and drainage channel and would not introduce substantial or new visual elements. The improved earthen dike and drainage channel would have similar appearances to the existing eroded earthen dike and drainage channel. In addition, the proposed project would not substantially damage scenic resources such as trees, rock outcroppings, or historic buildings along I-15. Furthermore, the proposed project would not introduce light or glare and therefore would not adversely affect day or nighttime views.

The *Questionnaire to Determine Visual Impact Assessment Level* prepared for the proposed project indicated that the project would not adversely affect any eligible scenic resource, as defined by CEQA statutes and guidelines or Caltrans policy.

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on visual quality and aesthetics would result from project construction or operation.

2.1.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The proposed project would not adversely affect the visual setting or scenic resources and therefore would not require the implementation of any avoidance, minimization, or mitigation measures.

2.1.5 Cultural Resources

2.1.5.1 REGULATORY SETTING

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

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and 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 Caltrans went into effect for Caltrans 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 Caltrans. The FHWA’s responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 USC 327).

The Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. The ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties. See Appendix A for specific information regarding Section 4(f).

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. 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; AB 52 is commonly referenced instead of CEQA when discussing the process of identifying tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects on them). As defined in PRC Section 21074(a), a tribal cultural resource is an eligible CRHR or local register site, feature, place, cultural landscape, or object that 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 Caltrans 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 or eligible for inclusion in the NRHP or 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 Caltrans and the SHPO, effective January 1, 2015. For most federal-aid projects on the State Highway System, compliance with the Section 106 PA would satisfy the requirements of PRC Section 5024.

2.1.5.2 AFFECTED ENVIRONMENT

Information for this section comes from the approved *Historic Property Survey Report* (HPSR) dated January 2019 and *Archaeological Survey Report* (ASR) dated December 2018 that were completed for the proposed project. Identification efforts included archaeological, ethnohistoric, and historic literature review and records search at the South Central Coastal Information Center at California State University, Fullerton, consultation with the Native American Heritage Commission (NAHC) and local Native American groups and individuals, and an archaeological survey of the project's Area of Potential Effects (APE).

Native American Consultation

On August 13, 2018, the NAHC was contacted, requesting a search of the Sacred Lands File and a list of Native American contacts. A response was received from the NAHC on August 13, 2018, stating that the Sacred Lands File did not contain information regarding the presence of Sacred Lands within the project area. The NAHC provided a list of Native American individuals and organizations that should be contacted.

Initial contact letters were sent out to four tribes on the list the NAHC provided on August 20, 2018. The following summarizes outreach efforts:

- Dennis Patch, Chairman, Colorado River Indian Tribes of the Colorado River Indian Reservation: A letter was sent on August 20, 2018, and follow-up emails were sent on October 8 and November 6, 2018. No response has been received to date.
- Anthony Madrigal, Tribal Historic Preservation Officer, Twenty-Nine Palms Band of Mission Indians: A letter was sent on August 20, 2018. A response was received on September 19, 2018, in which Mr. Madrigal requested all available cultural reports. The ASR was sent to Mr. Madrigal on December 14, 2018, and no response or comments have been received to date.
- Charles F. Wood, Chairperson, Chemehuevi Indian Tribe: A letter was sent on August 20, 2018, and follow-up emails were sent on October 8 and November 6, 2018. No response has been received to date.

¹ The MOU is located in the SER at http://www.dot.ca.gov/ser/vol2/5024mou_15pdf.

- Lee Clauss, Director of the Cultural Resources Management Department, San Manuel Band of Mission Indians: A letter was sent on August 20, 2018. On September 25, 2018, an email from Ms. Clauss was sent to Caltrans in which she requested a copy of the ASR. The report was sent to her on December 17, 2018. On December 18, 2018 a phone call to discuss comments occurred between Caltrans and Ms. Clauss. Comments were addressed and the report was sent back to Ms. Clauss on December 28, 2018. No further communications have occurred to date.

BLM Coordination

Initial phone consultation with Jim Shearer of the BLM Barstow office on August 30, 2018, confirmed that there were no known cultural resources within the APE of the project area. BLM requested a copy of the ASR upon completion of the ASR. A copy of the Phase 1 report was sent to BLM on December 18, 2018. A response was received on December 19, 2018, stating that BLM concurred with the project finding and that the document is sufficient to fulfil the requirements of the Field Use Authorization FA-680-18-33 provided trinomials are obtained, which will be obtained from the California Historical Resources Information System Center.

Area of Potential Effects

In accordance with Section 106 PA Stipulation VIII.A, the APE for the project was established in consultation with Ashley Bowman, Lead Archaeological Surveyor (PQS), and Martin Villanueva, Project Manager, on December 13, 2018. The APE is approximately 21 acres and was established to include the maximum extent of ground disturbance, including potential indirect effects. The APE boundary extends beyond the Area of Direct Impacts to encompass existing Caltrans right of way and BLM right of way in the project area and includes a temporary construction easement with the BLM. The APE was extended to include the surveyed boundaries of the new archaeological site found during survey (CA-SBr-ABSC; more information below). The maximum vertical limit of the APE extends 10 feet above ground surface for the height of the dike, and ten feet below ground surface (bgs) to reestablish existing channel depth. All excavation is within previously disturbed or fill soils.

Records Search

A records search was conducted at the South Central Coastal Information Center on October 19, 2018. The records search encompassed the project APE and a 0.50-mile buffer around the APE. Search efforts included a review of the NRHP, CRHR, National Historic Landmarks, California Historical Landmarks, California Points of Historical Interest, and California Historical Resources Information System. The records search concluded that within a 0.50-mile radius of the project area a total of nine cultural resources were previously recorded: seven prehistoric sites, one historic site, and one multicomponent site. However, none were located within the APE. Within the 0.50-mile radius, a total of 16 reports were found, six of which cross into the APE: nine survey reports, six technical reports, and one data recovery report. Four reports show complete survey coverage of the APE. The Caltrans Cultural Resources Database reported no resources within the APE.

Field Survey, Methods, and Results

An archaeological survey of the project area and APE was conducted on September 5, 6, and 10, 2018, by a two-person field crew. The project area was surveyed by 15-meter spaced transects across the APE. The project APE had generally excellent ground visibility (80 to 100 percent). The surveyors paid special attention to natural exposures of gravel and cobbles, soil and vegetation changes, and other potential markers of prehistoric archaeological sites. When the surveyors encountered potential resources, they took care to identify the visible artifacts and

map the artifact with a global positioning system (GPS) reference point with a Trimble unit. All potential resources were mapped using a Trimble GeoXH hand-held GPS unit and photographed with a Nikon Coolpix digital camera.

During the field survey, a new lithic scatter (temporary designation CA-SBr-ABSC) was located and recorded along the northwestern portion of the project area. The southern portion of the prehistoric lithic scatter extends into the northwestern portion of the project area; the rest of the southern edge of the lithic scatter abuts the northwestern proposed cut-fill limits. The site is a sparse lithic scatter that was recorded as three main loci. The site contains 53 lithic artifacts including multiple primary, secondary, and tertiary flakes; three cores; two tested cobbles; one scraper; and five core fragments. The lithics are made of red-brown jasper, red jasper, red jaspagate, and white chert. The outer loci had the majority of the lithics while the central loci only held seven; the artifacts were broken up into separate loci due to the rivulet channels dividing the incipient desert pavement in the southern half of the site. *Diagnostic* artifacts are those that are known to be specific to a particular place, region, period of use, cultural tradition, or ethnic group. No complete or diagnostic tools were found at the site and therefore the site cannot be accurately dated; a suspected looter is known to have frequented the area and this may be why no fully formed tools were discovered. During the field survey it was determined that the scatter continues northwest beyond the APE for an unknown distance; due to time constraints and scope and scale of the project, the survey crew was unable to physically determine the boundaries to the northeast. The site boundaries for the project were determined by physical boundaries already located in the area: the power line road, incipient desert pavement, and previously constructed water channels. The site is located on top of incipient desert pavement and there is little chance of a subsurface component.

Caltrans proposes to assume the site as NRHP eligible under Stipulation VIII.C.3 in accordance with Attachment 5 of the PA for the purpose of this undertaking. Caltrans proposes to protect this resource in its entirety by instituting an Environmentally Sensitive Area (ESA) and Action Plan around the affected northwestern portion of the project area in order to ensure that no equipment staging or other construction activities for the current reconstruction project occur on the site.

Lastly, the nearest bridge, bridge number 54 0233L/R Telephone Wash built in 1964 on I-15 at PM R110.36, is defined as a Category 5 bridge and determined to not be NRHP eligible.

Subsurface Sensitivity

The project area is underlain by an incipient desert pavement surrounded by quaternary Aeolian and colluvium deposits originating from the Alvord and Soda Mountains. Wind collected sand to form dunes and displaced sand from rocky terraces that transformed, over time, into developed large patches of moderately patinated desert pavements throughout the project area. The surrounding aeolian surfaces are consistent with ancient Qol deposits left by the evaporation and eventual drying of West Cronese Lake's lacustrine environment over time. While this type of sediment is normally highly mollic and suggests that buried deposits are likely, the change in regional climate, following the sediment deposit, toward less wet and more arid temperatures negates the suggestion of buried deposits. Hot and dry climates offer less soil movement, thus lower opportunities for cultural deposits to be buried by natural and organic processes.

The rock surface of desert pavements stabilizes fine sediments underneath and may potentially increase rainwater infiltration. When they are disturbed, desert pavements lose this function and surface runoff increases, as does erosion and downhill sedimentation. An arid environment

decreases the amount of material movement, aside from the loose sand. Evidence of this lack of material movement is seen on cultural constituents that have been eroded and smoothed by the moving sand particles while the artifacts themselves are locked in place. Therefore, the likelihood of encountering intact cultural subsurface deposits during ground-disturbing activities within the APE is extremely low.

2.1.5.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

Temporary

There are no temporary impacts associated with cultural resources, as all impacts would be considered permanent in nature.

Permanent

There is one assumed eligible NRHP property within the APE: temporary designation CA-SBr-ABSC. The site is assumed eligible under Criterion D. There would be no adverse effects on historic properties as a result of construction or operation of the Build Alternative, as an ESA Action Plan has been prepared for the project. ESA fencing would be placed prior to project activities along the edge of the site boundary for CA-SBr-ABSC. Prior to any construction or construction-related activity, the ESA would be delineated in the field by a Caltrans archaeologist for the placement of temporary fencing.

If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find. Additional surveys may be required if project plans change to include areas that were not previously surveyed for cultural resources.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the coroner would notify the NAHC, which would then notify the most likely descendant. At that time, the person who discovered the remains would contact the Caltrans District 8 Environmental Branch so it can work with the most likely descendant on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.

No prehistoric or historic archaeological sites, or cultural resources of any kind, that qualify for consideration under Section 4(f) are present within the project's APE (refer to Appendix A, Section 4(f) Determination).

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on historical or archaeological cultural resources would result from project construction or operation.

2.1.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measures **CR-1** and **CR-2**, which are standard measures for all Caltrans projects, are included to ensure that potential effects on cultural resources and human remains, should they exist and

be discovered during construction, would be avoided. In addition, avoidance and minimization measures **CR-3** and **CR-4** would be required to avoid impacts on CA-SBr-ABSC.

CR-1. If cultural materials are discovered during construction, all earthmoving 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, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner shall be contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC who will then notify the Most Likely Descendant. At that time, the person who discovered the remains will contact Andrew Walters, District Environmental Branch Chief for Caltrans District 8, Division of Environmental Planning, at (909) 383-2647, and Gary Jones, District Native American Coordinator, at (909) 383-7505 so that they can work with the Most Likely Descendant regarding the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

CR-3. ESA fencing will be placed prior to any proposed project activities along the edge of the site boundary for CA-SBr-ABSC prior to any construction activity. The ESA fencing will be delineated by a qualified Caltrans archaeologist. The ESA fence will stay within the Caltrans right of way in front of the BLM parcel. No ground-disturbing construction activities shall occur within the site or ESA boundaries. No work is allowed within the ESA. The area will be fenced with ESA fencing to prevent incursion onto the site. The entirety of the site will not be fenced, as the boundary goes beyond Caltrans' right of way on the northwestern side of the project area for an unknown distance.

CR-4. An Archaeological Monitoring Area will also be established at the site to avoid any potential construction-related impacts. The Archaeological Monitoring Area will be defined by a qualified Caltrans archaeologist prior to any ground-disturbing activities. During construction, the archaeological monitor shall have the authority to halt work temporarily for a 60-foot radius upon discovery of any cultural materials and/or deposits in order to evaluate the nature and significance of the find. Such a temporary pause in construction activity should not exceed 15 minutes. In the event that a longer work stoppage is warranted, the archaeological monitor shall notify the Resident Engineer, who will issue the appropriate orders to halt work. The archaeological monitor shall assess the significance of the find and make a determination as to whether the discovery warrants further investigation, collection, or dismissal.

2.2 Physical Environment

2.2.1 Water Quality and Storm Water Runoff

2.2.1.1 REGULATORY SETTING

Federal Requirements

Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source² 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 (RWQCB) 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 United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual 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 Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether

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

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 effluent³ 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 Section 2.3.2, *Wetlands and Other Waters*.

State Requirements

Porter-Cologne Water Quality Control Act

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

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

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. RWQCBs are

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

responsible for prescribing waste discharge requirements 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 became 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:

- The Department must comply with the requirements of the Construction General Permit (see below);
- 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
- 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 of sediments 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 Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

2.2.1.2 AFFECTED ENVIRONMENT

The primary source used in the preparation of this section is the approved *Natural Environment Study* (NES) prepared for the project in November 2018.

The Project Impact Area (PIA) is the area within the actual construction footprint, which, in this particular instance, is the earthen dike/berm that would be repaired, the ditch that would be excavated, and the access road that would be constructed. The biological study area (BSA) consists of the PIA and the natural environment surrounding the PIA within a 500-foot buffer that has the potential to house special-status species and/or be affected by the proposed project activities.

The proposed project is within Lahontan RWQCB jurisdiction in the Mojave Hydrologic Unit, Afton Hydrologic Area, and Caves Hydrologic Subarea. The receiving water body is the Mojave River. In addition, the proposed project is mapped by FEMA within Flood Insurance Rate Map 06071C3425H. The flood map for this location has a status of "not printed," which indicates the

entire area of the panel is single flood zone. The identified zone is Zone D, which is defined as an area of undetermined flood hazard.

The proposed project is located in the County of San Bernardino within the Mojave River waterbody. A single ephemeral wash crosses through the project area, Wilhelm Wash. A total of 3.33 acres of non-wetland Waters of the U.S. (WUS) (USACE)/Waters of the State of California (WSC) (RWQCB) and California Department of Fish and Wildlife (CDFW) streambed was measured within the PIA, with a total length of 2,172 linear feet. The on-site drainage flows into Telephone Wash, which then flows under I-15 and into the Mojave River, the nearest receiving water body, which is approximately 1.5 miles downstream from the project area. The Mojave River flows for approximately 110 miles total, but downstream of the project area flows for approximately 23 miles to the east before reaching the dry Soda Lake, which has no outlet and is the terminus of the waterbody.

Two segments of the Mojave River have been designated as impaired and are on California's 303(d) list. These include the 14.66-mile segment from the Mojave River Forks Reservoir to the Upper Narrows (impaired by fluoride), and the 3.68-mile segment from the Upper Narrows to the Lower Narrows (impaired by fluoride, sulfates, and total dissolved solids). These are approximately 76 miles upstream from the portion of the river that is fed by the on-site ephemeral wash. The segment of the Mojave River that the proposed project would feed into is not listed on the 2014/2016 combined 303(d) list for impairments, nor have any TMDLs been established for it. Wilhelm Wash is in the Streams category for San Bernardino County and is also not on the 303d list, nor have any TMDLs been established for it.

According to California's Groundwater Bulletin 118 (DWR 2016), South Coast Hydrologic Region, the project area lies within the Caves Canyon Valley Groundwater Basin. According to SWRCB's Groundwater Information Center Map Application, groundwater depths within the Yermo/Dunn area were most recently reported in 2010 at approximately 198 feet bgs. The historical high and low groundwater depths are reported at approximately 153 and 200 feet, respectively. Given the depth of groundwater, it is not reasonably expected to be affected by this project.

The proposed project would reconstruct an eroded earthen dike and associated drainage channel located adjacent to the southbound I-15 outside shoulder. The drainage channel itself is considered a water stream.

There are no domestic drinking water sources within or near the project limits.

2.2.1.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

Temporary

The on-site ephemeral wash would be temporarily affected during construction as a result of construction-related activities. The scope of work for the project is to reconstruct an eroded earthen dike and associated ditch located 1,130 feet north of the southbound I-15 and to construct a temporary access road. The existing five- to 20-foot-wide ditch is to be reconstructed by excavating it to a depth of five to ten feet. The excavated material would then be used to reconstruct the eroded dike back to its as-built configuration (four feet wide at its top and 36 to 44 feet wide at its base) with a height of eight to ten feet. A total of 2.27 acres of non-wetland WUS/WSC and CDFW streambed would be temporarily affected during construction,

across a total of 1,939 linear feet. There would be no permanent impacts, as the drainage would be restored to its as-built condition alongside the dike.

Pollutants of concern during construction include sediments, trash, petroleum products, sanitary waste, and chemicals. During construction activities, excavated soil 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 (such as paints, solvents, and fuels) may be spilled or leaked, and have the potential to be transported via storm runoff into receiving waters.

Construction activities below groundwater and/or in water courses requiring dewatering is not anticipated to occur. Construction materials would not be stored or stockpiled near creeks, channels, or any other waterways, including the on-site ephemeral wash.

The proposed project contains an ephemeral wash that serves as a tributary to the Mojave River via Telephone Wash. A formal jurisdictional delineation survey determined that no wetlands are present, but that the on-site feature qualifies as non-wetland WUS/WSC and as a feature exhibiting bed and bank under the jurisdiction of CDFW. Because of this, the project would require the following permits from regulatory agencies: a Section 404 Permit (USACE) and a Section 1602 Streambed Alteration Agreement (CDFW).

Permanent

The project would restore the existing dike to its as-built condition and therefore would not result in any new permanent impacts on the on-site ephemeral wash. Post-construction erosion control would be required to ensure that the project site does not pose any additional sediment discharge risk than it did prior to the beginning of construction. The proposed project would not alter the alignment of the ephemeral wash or of any other water body.

No-Build Alternative

Under the No-Build Alternative, the on-site ephemeral wash would remain consistent with its current condition and there would be no risk of any project-related construction pollutants. This alternative would also not result in an increase in any long-term pollutant loading. However, the No-Build Alternative does not preclude the construction of other future improvements or general maintenance to improve the operation of the wash, the dike, or the dirt road (an access road for a distribution line) that crosses through the wash.

2.2.1.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to implementing BMPs required by the project's SWPPP, avoidance and minimization measures **BIO-1** and **BIO-2**, listed in Section 2.3.1.3, would help to reduce any impacts on jurisdictional waters and water quality as a result of the proposed project. Caltrans would also coordinate and work with regulatory agencies to protect both on-site and off-site water bodies through the issuance of regulatory permits.

2.2.2 Geology/Soils/Seismicity/Topography

2.2.2.1 REGULATORY SETTING

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples

of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department’s Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. 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](http://www.dot.ca.gov/hq/esc/earthquake_engineering/index.php) (http://www.dot.ca.gov/hq/esc/earthquake_engineering/index.php).

2.2.2.2 AFFECTED ENVIRONMENT

The primary source used in the preparation of this section is the March 2018 *Phase I Initial Site Assessment* (ISA) prepared for the proposed project, and the County of San Bernardino General Plan.

Topography

The proposed project area is within the Mojave Desert Geomorphic Province of California. According to the California Geological Society’s *California Geomorphic Provinces-Note 36* (CGS 2002), this province is characterized by an interior region of isolated mountain ranges separated by expanses of desert plains. In general, the province has an interior enclosed drainage and many playas. Two important fault trends control the topography within the Mojave Desert province, one being a prominent northwest/southeast trend and the other a secondary east-west trend. According to published geology maps, the primary surficial geologic units in the vicinity of the project area consists of Quaternary-age older lake deposits described as clay and silt from Manix Lake (USGS 2008).

As is the case with most of Southern California, the project is in a seismically active area. According to the U.S. Geological Survey (USGS) Interactive Fault Map and the USGS Alvord and Cave Mountains Quadrangle maps, the nearest faults to the project area are undifferentiated Quaternary faults, with unspecified probable magnitudes. At least one of these faults appears to be adjacent to the project’s northern boundary (USGS 2008).

Soil Conditions

Much of the Mojave Desert is made up of coarse-grained, stony alluvial fan materials. Moisture drains readily by gravity in coarser soils, while fine-grained soils have pores small enough to hold water by capillary force, which reduces conductivity. This inhibits gravity drainage and holds the moisture in place, where it can be used by plants. Some soil layers with very low conductivities can act as barriers, preventing water infiltrating to lower soil horizons. Within the project area, the soil is moderately alkaline (pH 7.9-8.4).

Soil organic matter ranges from 10–17 kilograms per square meter. The soil is entisols, with a thermic soil temperature and very deep depth. This area is greater than 80 percent sand and between 10 and 20 percent silt from Manix Lake deposits (Qol) consisting of clays and silts.

Geologic Hazards

Landslides

Due to the relatively flat terrain, within the proposed project area, I-15 lies on the desert floor with mountain ranges to the north and south. The County of San Bernardino General Plan, Liquefaction and Landslides map, shows that the project area has low susceptibility to landslides (<http://www.sbcounty.gov/Uploads/lus/GeoHazMaps/CIDIC.pdf>).

Seismicity and Fault Rupture

According to the County of San Bernardino General Plan, the nearest earthquake fault to the proposed project is the Manix Fault Zone approximately five miles southwest of the project area. The Southern California Earthquake Data Center indicates the Manix Fault Zone as northwest-trending along the Mojave River, with the last major rupture occurring in 1947.

Cut and Fill Slopes

The project area consists of BLM undeveloped desert property. An earthen dike and drainage channel have been cut/filled across the property to divert runoff from the secondary ephemeral runoff streams of the nearby hills toward a slightly engineered larger channel that funnels runoff under the I-15 pavement. Petroleum pipeline signs are located in the area of the proposed temporary access road. Just east of the project area boundary, in the channel, is a concrete erosion control and energy dissipation structure that appears to cover an area of approximately 2,500 square feet.

The surrounding area consists of natural desert lands and I-15. The project area is at an elevation of approximately 1,730 feet AMSL and is generally flat with a gentle gradient toward the southeast. There are no surrounding local traffic movements or activities, and there are no structures, roads, or other improvements on the site.

Liquefaction

Liquefaction is the loss of soil strength or stiffness due to a buildup of pore-water pressure during ground shaking. Liquefaction is associated primarily with loose (low-density) to medium dense, saturated, fine- to medium-grained cohesion-less soils, where the groundwater level is shallow (typically within 50 feet bgs), and sustained ground shaking is anticipated. Effects of liquefaction can include sand boils, excessive displacements, bearing capacity failures, and lateral spreading. The County of San Bernardino General Plan, Liquefaction and Landslides map, shows that the project area has low susceptibility to liquefaction (<http://www.sbcounty.gov/Uploads/lus/GeoHazMaps/CIDIC.pdf>).

Seiches and Tsunamis

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Tsunamis are waves generated in large bodies of water by fault displacement or major ground movement. According to the County of San Bernardino General Plan, the Mojave River poses a significant flood hazard within the vicinity of the project area. The proposed project is not within the Mojave River 100-year Flood Zone Area. The proposed project is also approximately one mile north of the Mojave River Flood Zone. A review of the California Geological Society Tsunami Inundation Map did not include San Bernardino County or the proposed project area in a tsunami inundation area.

2.2.2.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

Temporary

During construction of the Build Alternative, excavated soil would be exposed, increasing the potential for soil erosion. Additionally, during a storm event, unprotected soils including slopes would be subject to erosion. Construction activities may also temporarily disturb soil outside the facility footprint and within the project right of way, primarily in work areas, and heavy equipment traffic areas.

The temporary effects due to soil erosion within the proposed improvements are discussed in Section 2.2.1, *Water Quality and Storm Water Runoff*. Erosion potential would be addressed through the implementation of standardized measures as part of the project description (refer to Section 1.3.2). These include erosion control BMPs as part of the SWPPP. With implementation of these standardized measures, no short-term direct or indirect adverse impacts related to soil compaction or erosion would occur during construction of the Build Alternative.

Permanent

The Build Alternative is not anticipated to adversely affect geologic or topographic conditions or be affected by fault rupture within the project limits. The primary geologic and geotechnical constraint associated with the design and construction of the Build Alternative is seismic shaking in the event of an earthquake.

Landslides and Rockfalls

The topography along the project alignment is relatively flat terrain. As previously mentioned, the County of San Bernardino General Plan, Liquefaction and Landslides map, indicates that the susceptibility for landslides is low. In addition, with the implementation of standard design measures incorporated into the proposed project, no direct or indirect, adverse, long-term impacts from landslides or rockfalls would occur as a result of the Build Alternative.

Seismic Shaking

The proposed project is in the seismically active Southern California region. Design and construction of the proposed project following Caltrans' current highway and structure seismic design standards would minimize potential impacts. With implementation of these standard measures, no direct or indirect, adverse, long-term impacts on seismic shaking would occur as a result of the Build Alternative.

Liquefaction

As previously mentioned, the County of San Bernardino General Plan, Liquefaction and Landslides map, indicates that the project area has low susceptibility to liquefaction; therefore, liquefaction is unlikely for this project. In addition, the project would follow Caltrans' latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With implementation of these standard measures, no direct or indirect, adverse, long-term impacts would occur as a result of the proposed project.

No-Build Alternative

Hazards associated with seismic activity would still exist under the No-Build Alternative listed in Section 1.4.2. The No-Build Alternative would not result in any impacts on geology, soils, seismicity, or topography, as no construction would occur along I-15.

2.2.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

With adherence to Caltrans' standard design and construction practices, which are required on all State Highway System projects, impacts related to geology, soils, seismicity, and topography would be avoided or minimized. No additional measures are required.

2.2.3 Hazardous Waste/Materials

2.2.3.1 REGULATORY SETTING

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

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up 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 clean up 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 clean up

contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

2.2.3.2 AFFECTED ENVIRONMENT

Environmental Records Review

The primary sources used in the preparation of this section are the December 2018 *ISA Checklist* and the March 2018 *Phase I ISA* and second phase report November 2018 Preliminary Site Investigation Report (PSI) prepared for the proposed project.

The California Department of Toxic Substances Control (DTSC) tracks and identifies sites within known or potential contamination through its EnviroStor database, and the SWRCB tracks and identifies sites that may affect groundwater through its GeoTracker database. The EnviroStor database and GeoTracker database were reviewed and did not identify any existing sites.

According to the ISA Checklist prepared for the proposed project, there was no evidence of underground storage tanks, surface tanks, sumps, drums, ponds, basins, transformers, or landfills. Furthermore, no surface staining, oil sheen, odors, or vegetation damage was observed.

Aerially deposited lead (ADL) is a recognized environmental concern (REC) linked to the proposed project. ADL is a regional condition common along roadways constructed prior to 1996 that resulted from the combustion of leaded gasoline. The accumulation of lead in near-surface soils at concentrations above California human health screening levels and hazardous waste thresholds is common along roadways constructed prior to the mid-1990s. This finding is considered a REC.

Another REC linked to the project is a Kinder Morgan petroleum pipeline that traverses the southern corner of the project limit, which a review of historic aerial photographs revealed has been located across the project area since at least 1974. Although there is no evidence of a release, the petroleum pipeline identified within the project area is considered a REC due to the potential for an unknown release to soils that may be used for project construction. A meeting with a Kinder Morgan representative at the proposed boring location occurred in late 2018 to confirm that the proposed boring was located a safe distance from the pipeline. The meeting with Kinder Morgan and the resulting USA markings showed no conflicts between the proposed boring location and subsurface utilities; as a result, the boring was advanced at the location marked.

One boring was advanced to a total depth of 20 feet bgs using a hand auger for the first five feet and Direct Push Technology rig from 5 to 20 feet bgs. Soil samples were collected at the target sample depths of surface (0.0–0.5), 5 (4.5–5.0), 10 (9.5–10.0), 15 (14.5–15.0), and 20 (19.5–20.0) feet bgs. A total of five soil samples were analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). As directed in Section CC.1 of Contract 08A2810, Stantec conducted a Tier 1A/1B laboratory data validation. The data validation was performed in conformance with United States Environmental Protection Agency (U.S. EPA) Region IX Data Validation Guidance, as required by Caltrans Agreement 08A2810. The data were validated

pursuant to this Caltrans requirement and found to be suitable for the purposes of this investigation. The following conclusions were developed for the project area soils:

- None of the soil samples exhibit a potential characteristic of hazardous waste based on reported concentrations.
- None of the soil samples reported concentrations of VOCs or TPH above screening levels promulgated by U.S. EPA or DTSC.

In addition, although not considered a REC, asbestos-containing materials (ACMs) were identified because asbestos-containing transit pipes are sometimes associated with older structures, utilities, and particularly older fire and irrigation lines.

2.2.3.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

Permanent

Following construction of the proposed project, operations are not expected to result in the creation of any new health hazards or expose people to potential new health hazards. As such, the proposed project would not result in adverse effects.

Temporary

Implementation of the Build Alternative is not expected to result in the creation of any new health hazards or expose people to potential new health hazards because the proposed project involves reconstruction of an eroded earthen dike and drainage channel, and construction of a temporary access road on BLM property. No storage of materials or chemicals would occur and the proposed project is not anticipated to increase the potential hazardous materials in the project area. In addition, construction of the proposed project would not impair implementation of an adopted emergency response plan or emergency evacuation plan or expose people to significant risk of death via wildland fires.

The proposed project is not within two miles of a public or public use airport and is not in the vicinity of a private airstrip; therefore, would not result in safety hazards related to airplanes.

ADL from the historical use of leaded gasoline exists along roadways throughout California. If encountered, soil with elevated concentrations of lead as a result of ADL on the State Highway System right of way within the limits of the project would be managed under the July 1, 2016, ADL Agreement between Caltrans and DTSC. 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.

If soil disturbance and borrowing occur within 30 feet of the petroleum pipeline, shallow soil sampling would be conducted to assess the condition of borrow soils. In addition, during construction, samples of any suspect ACMs would be collected for laboratory analysis prior to disturbance. If ACM is identified, abatement would be conducted in accordance with regulatory requirements.

No-Build Alternative

Under the No-Build Alternative, no improvements would be implemented and no effects involving hazardous waste or materials would occur.

2.2.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to the Caltrans Standard Specifications listed in Section 1.4.2.3, avoidance and minimization measure **HAZ-1** would avoid any potential construction-related impacts on the petroleum pipeline:

HAZ-1. If soil disturbance and borrowing occur within 30 feet of the petroleum pipeline, shallow soil sampling would be conducted to assess the condition of borrow soils. In addition, during construction, samples of any suspect asbestos containing materials (ACMs) would be collected for laboratory analysis prior to disturbance. If ACM is identified, abatement would be conducted in accordance with regulatory requirements.

2.3 Biological Environment

2.3.1 Natural Communities

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act (FESA) are discussed below in Section 2.3.5, *Threatened and Endangered Species*. Wetlands and other waters are discussed in Section 2.3.2.

2.3.1.1 AFFECTED ENVIRONMENT

Information used in this section is based on the approved NES prepared for the proposed project in November 2018.

The BSA includes the dike to be repaired, the ditch, the proposed access road, and a 500-foot buffer around each of these facilities. Biologists performed field reconnaissance work in the BSA in 2018. They conducted habitat assessment surveys, delineation of jurisdictional water survey, and a focused desert tortoise protocol survey. See Figure 2-3, below, for a map of the BSA and PIA.

The proposed project area extends along 0.3 miles from PM R110.0 to 110.3, approximately 1.3 miles northwest of Afton Road in San Bernardino County. The project area is within the BLM Superior Cronese Area of Critical Environmental Concern and within United States Fish and Wildlife Service's (USFWS) designated critical habitat for desert tortoise (*Gopherus agassizii*). In addition, the project impact footprint is within Township 11 North, Range 05 East, Section 10 of the USGS 7.5-minute "Dunn" topographic quadrangle.

The proposed project site contains one natural community: creosote bush (*Larrea tridentata*)–white bursage (*Ambrosia dumosa*)/cryptogamic crust desert shrubland alliance. This natural community is identified by CDFW as a sensitive community. The two dominant species within this natural community are creosote bush and white bursage, while other species are also included within the natural community.

While the proposed project area contains creosote bush–white bursage/cryptogamic crust desert shrubland alliance, it is dominated by creosote bush-white bursage shrubland alliance, which is not protected. These communities are nearly identical; however, one is lacking in cryptogamic crust (also known as biological crust, or biocrust).

During the field visit, the creosote bush–white bursage/cryptogamic crust desert shrubland alliance natural community was observed within the BSA, but the cryptogamic crust was observed sparsely and found to be more present in areas north of the PIA, which is synonymous with the construction footprint.

2.3.1.2 ENVIRONMENTAL CONSEQUENCES

Build Alternative

The Build Alternative is anticipated to permanently affect 4.5 acres of the creosote bush–white bursage alliance vegetation, which is not a protected natural community. However, its alliance is important to the ecosystem and the species that depend upon it, including the protected desert tortoise. With implementation of the avoidance and minimization measures listed below for the natural community, impacts on this community are anticipated to be minimal.

No-Build Alternative

If the proposed project is not constructed, it would not cause any impacts on vegetation communities, including natural communities.

2.3.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to Caltrans Standard Specifications listed in Section 1.4.2.4, implementation of the following would avoid and/or minimize effects during construction.

BIO-1: Materials and Spoils Control. Project materials will not be cast from the project site and project-related debris, spoils, and trash will be contained and removed to a proper disposal facility.

BIO-2: Equipment Staging. Equipment, vehicles, and materials staged and stored in Caltrans right of way will be sited in previously paved or previously disturbed areas only and will avoid native vegetation.

BIO-3: Dust Control. The contractor shall implement dust control measures during construction activities to avoid inundating surrounding vegetation and to ensure biological monitors on the project site have visibility for monitoring the covered species.

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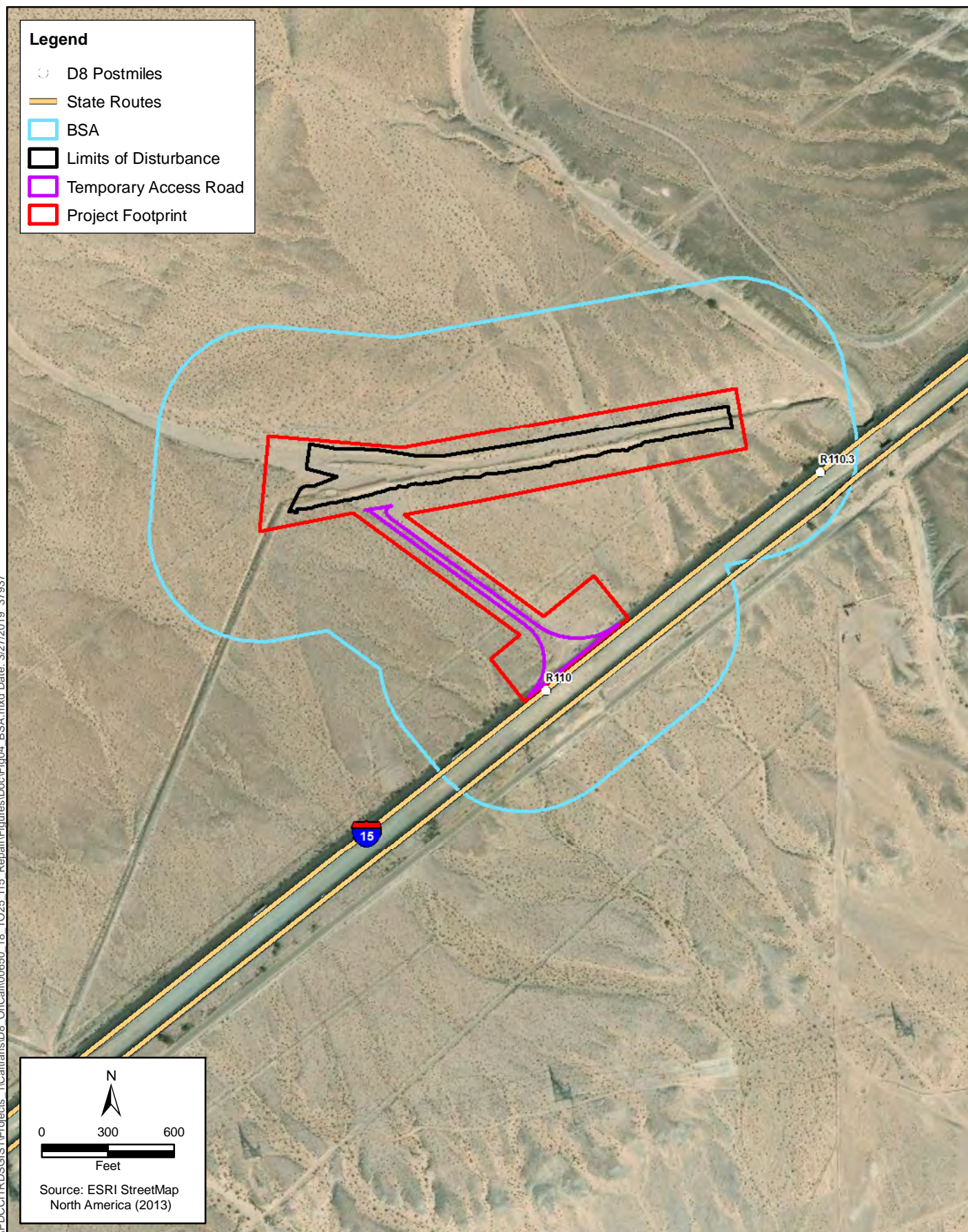


Figure 2-3
Project Impact Area (PIA) and Biological Study Area (BSA)
I-15 Repair Earthen Dike Project

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2.3.2 Wetlands and Other Waters

2.3.2.1 REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 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 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. Through the Porter-Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State of California (WSC), which is generally the same as WUS, but may also include isolated waterbodies. The Porter-Cologne Act defines WSC as “surface water or ground water, including saline waters, within the boundaries of the state.” 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.

2.3.2.2 AFFECTED ENVIRONMENT

Information used in this section is based on the project’s approved NES dated November 2018.

A jurisdictional delineation of water resources was performed for the proposed project in August 2018. The project study area occurs adjacent to I-15 east of Dunn Peak and northwest of the Cady Mountains and the Mojave River, just before it enters Afton Canyon. Elevations within the study area range from a high of 1,745 feet AMSL, near the northwestern corner of the BSA where a wash enters, to a low of 1,695 feet AMSL where the proposed access road meets I-15. The average rainfall in the area is 4.19 inches per year. Runoff from the study area generally flows southeast for 1.5 miles before reaching the Mojave River. The Mojave River flows for 23 miles east before reaching Soda Lake, which is dry and has no outlet.

The BSA contains one jurisdictional drainage, which is detailed below in Table 2-1 and shown on Figure 2-4. Photos of the viewpoints referenced in Figure 2-4 are presented in Figures 2-5a through 2-5c. The drainage is an ephemeral wash, which likely flows for less than three months per year. The drainage flows for 1.5 miles into the Mojave River before reaching Soda Lake. The drainage exhibits steeply sloping banks averaging six feet deep.

Table 2-1. Summary of Jurisdictional Areas

Drainage ID	Non-Wetland WUS, WSC Acre	CDFW Jurisdiction	Length (feet)	Latitude/ Longitude	Cowardin Class	Class of Aquatic Resource
1	3.33	3.33	2,172	35.05947/-116.43543	R4SBJ	Non-section 10-non-wetland

R4SBJ – Riverine, intermittent, streambed, temporary flooded based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et. al. 1979).

2.3.2.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

The Build Alternative would result in impacts on the jurisdictional drainage located within the BSA. The temporary and permanent impacts are detailed in Table 2-2. The temporary impact on 2.27 acres of the drainage would occur due to construction-related activities. Because the dike/berm would be repaired to its as-built specifications, there would be no permanent impacts on the drainage feature.

Table 2-2. Summary of Jurisdictional Areas

Drainage ID	Temporary Impacts on Non-wetland WUS, WSC, and CDFW Streambed (acres)	Permanent Impacts on Non-wetland WUS, WSC, and CDFW Streambed (acres)	Temporary Impacts on Non-wetland WUS, WSC, and CDFW Streambed (feet)	Permanent Impacts on Non-wetland WUS, WSC, and CDFW Streambed (feet)
1	2.27	0	1,939	0

Source: *Interstate 15 Reconstruct Eroded Earthen Dike and Ditch Project Jurisdictional Delineation*, August 2018.

Direct effects on waters include the loss of vegetation from direct removal due to site preparation activities such as vegetation clearing, grubbing, and site grading. Other indirect effects on waters may include sediment entering the drainage during vegetation clearing and/or invasive, nonnative plants transported into the site from along the roadway. Preliminary project design indicates no permanent impacts on non-wetland WUS, WSC, and CDFW streambeds, and 2.27 acres of temporary impacts on non-wetland WUS, WSC, and CDFW streambeds.

The proposed project would cause temporary impacts on a jurisdictional drainage; therefore, authorizations from USACE, RWQCB, and CDFW are required. The two most common types of permits issued by USACE under Section 404 of the CWA to authorize the discharge of dredged or fill material into WUS are a Nationwide Permit (NWP) or an Individual Permit (IP). NWPs are general permits for specific categories of activities that result in minimal impacts on aquatic resources. NWP 03 can be used for maintenance projects. To qualify for NWP 03, the project follows one of the following: a) repair, rehabilitation, or replacement of previously authorized, currently serviceable structures or fills, b) discharges associated with removal of accumulated sediments and debris in the vicinity of existing structures, including intake and outfall structures and associated canals, c) temporary structures, fills, and work necessary to conduct the maintenance activity. The proposed project would likely qualify under NWP 03. However, if project impacts change to the point where they no longer meet the provisions of an existing NWP, USACE would require an IP. An IP requires detailed analysis and compliance with the USACE formal review process. This process includes preparation of an alternatives analysis as required by U.S. EPA Section 404(b)(1) Guidelines and NEPA, and requires compliance with NEPA's environmental review process. This process provides opportunities for a public notice and public comment.

The project area occurs in Lahontan RWQCB (Region 6) jurisdiction. The RWQCB regulates impacts on WSC under the Porter-Cologne Water Quality Control Act through issuance of a Construction General Permit, either a State General Waste Discharge Order or a WDR, depending upon the level of impact and the properties of the waterway. The project proponent does not need to obtain a Water Quality Certification because it is not required for the proposed

project. A CDFW 1602 Streambed Alteration Agreement is required for all activities that alter streams and lakes and their associated riparian habitat.

No-Build Alternative

If this project is not constructed, project-related impacts on federal and state jurisdictional waters and wetlands would not occur.

2.3.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The implementation of avoidance and minimization measures **BIO-1** and **BIO-2** (listed in Section 2.3.1.3) would minimize effects during construction. Furthermore, the proposed project's impacts on jurisdictional areas would be mitigated and coordinated with USACE, RWQCB, and CDFW during the permitting process.

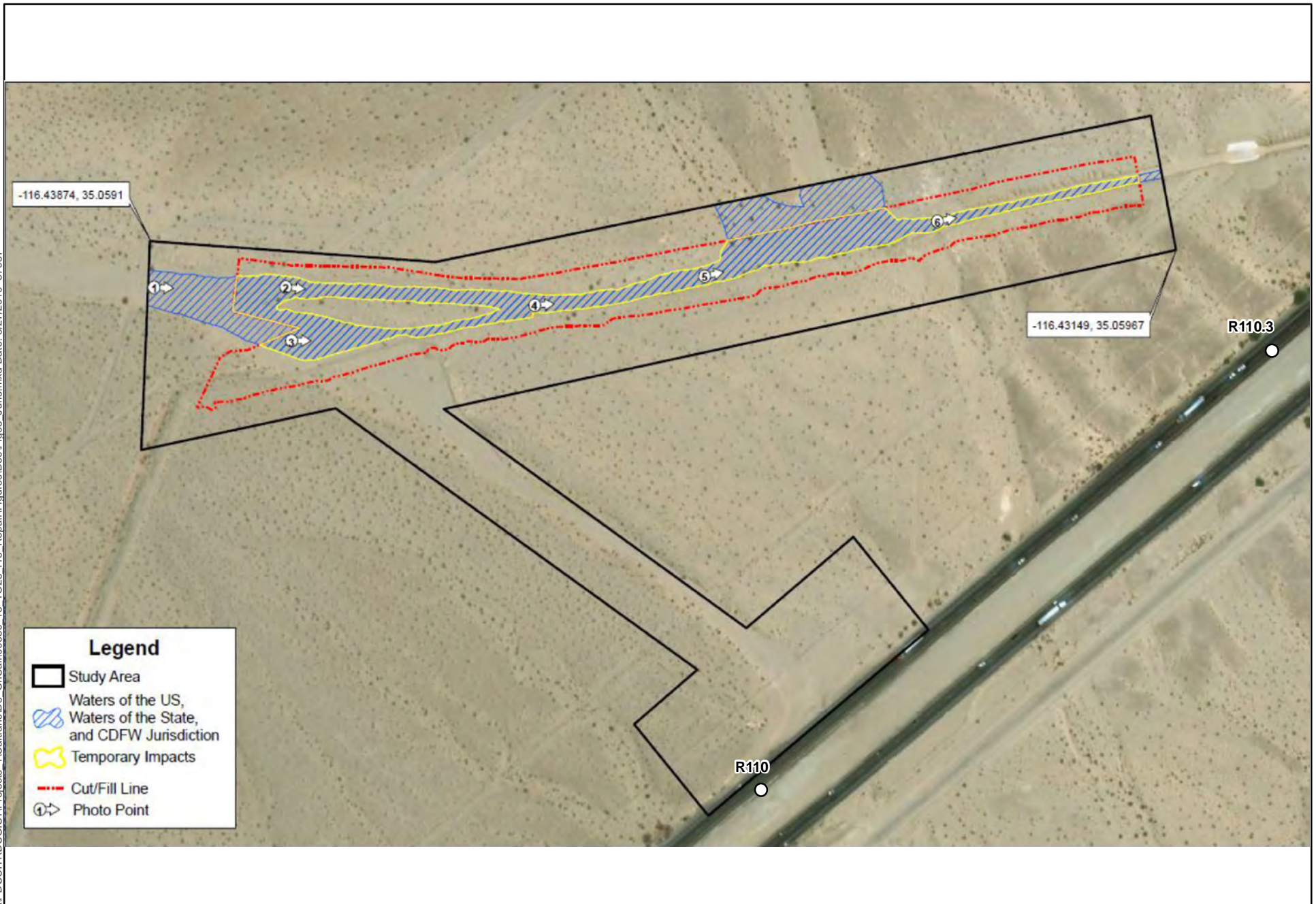


Figure 2-4
Jurisdictional Delineation Map
I-15 Repair Earthen Dike Project

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Photo 1: View of the upstream end of Drainage 1 facing downstream



Photo 2: Downstream-facing perspective of Drainage 2 near the upstream end

Figure 5a: Jurisdictional Delineation Photos

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Photo 3: View of Drainage 1 near the upstream end facing downstream



Photo 4: Downstream-facing perspective of Drainage 1 near the middle of the study area

Figure 5b: Jurisdictional Delineation Photos

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Photo 5: View of Drainage 1 facing downstream



Photo 6: Downstream facing perspective of Drainage 1 near the downstream end of the study area

Figure 5c: Jurisdictional Delineation Photos

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2.3.3 Plant Species

2.3.3.1 REGULATORY SETTING

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see Section 2.3.5, *Threatened and Endangered Species*, in this document for detailed information about these species.

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

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

2.3.3.2 AFFECTED ENVIRONMENT

Information used in this section is based on the project’s approved NES dated November 2018.

Special-status Plant Species

Two special-status plant species have the potential of occurring within the BSA as listed in Table 2-3 and discussed below.

Emory Crucifixion Thorn (*Castela emoryi*)

Emory crucifixion thorn (ECT) is a dicot shrub from the Simaroubaceae family that is native to California, Arizona, and Sonora, Mexico. Its blooming period is from April to October. In California, ECT generally grows up to around three feet tall, but can grow up to 12 feet tall. Its leaves are green and are greatly reduced to small deciduous scale. Its flowers are greenish-yellow and its inflorescence is a panicle. Its flowers are pollinated by insects, particularly by bumblebees. ECT can be found on desert plains, along slopes, or in dry gravelly washes in Mojavean and/or Sonoran desert scrub at an elevation of 2,000 feet AMSL or lower. Its CNPS rare plant ranking is 2B.2, which means it is rare or endangered in California, but common elsewhere.

Although suitable habitat to support this species is present within the BSA, ECT was not identified during the habitat assessment. Because it is a perennial shrub and not an annual plant, it is expected that, if present, ECT would have been observed within the BSA.

Small-Flowered Androstephium (*Androstephium breviflorum*)

Small-flowered androstephium, also known as pink funnel lily, is a perennial herb monocot in the Asparagaceae family. This species is native to the deserts of California, but is also found outside of California within the confines of the western United States. It is found within creosote bush communities or desert dunes at elevations of 330 to 5,250 feet AMSL in sandy to rocky soil. Its inflorescence is a peduncle up to 30 centimeters tall containing up to 12 white to light lavender funnel-shaped flowers each one or two centimeters long. The fruit is a three-lobed capsule just over a centimeter long. It has a blooming period of March through June. According to the CNPS, this species is threatened by solar energy development and off-road vehicle activities. The CNPS rare plant ranking for this species is 2B.2, which is defined as a rare or endangered plant in California, but common elsewhere.

Although suitable habitat to support this species is present within the BSA, it was not identified during the habitat assessment. Due to persistent drought conditions, it is possible that it was not present at the time of the assessment.

Table 2-3. Special-status Plant Species Occurring or Potentially Occurring in the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
Emory's crucifixion-thorn	<i>Castela emoryi</i>	CNPS 2B.2	Mojavean desert scrub, Sonoran desert scrub, playas.	HP	Habitat is present. There are no occurrences reported within the project vicinity.
Small-flowered androstephium	<i>Androstephium breviflorum</i>	CNPS 2B.2	Mojavean desert scrub, desert dunes.	HP	Suitable habitat is present within the BSA.
Source: NES, November 2018					
Notes:					
California Native Plant Society Classifications (CNPS): 2B—Plants Rare, Threatened, or Endangered in California, but more common elsewhere. .2—Moderately threatened in California (20%–80% occurrences threatened).					
Habitat Present/Absent: HP—Habitat Present: habitat is or may be present, and the species may be present.					

2.3.3.3 ENVIRONMENTAL CONSEQUENCES***Build Alternative***

Although habitat is present within the BSA for ECT and small-flowered androstephium, neither special-status plant species was identified during the site visit. The existing dike/berm and wash, which would be altered under the Build Alternative, do not have the ability to support either species. In addition, the area in which the access road would be constructed lacks the loose sand necessary to support either species. Although dunes are present near the dike/berm and throughout the BSA, the dunes are not present within the project footprint itself. Therefore, it is unlikely these species would be affected by the project activities.

Impacts on the species would be further avoided and minimized by implementation of measures **BIO-4**, **BIO-5**, and **BIO-6**, which are detailed in Section 2.3.3.4 below.

No-Build Alternative

No construction activities would be undertaken, and no effects on plant species would occur.

2.3.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance and minimization measures would be implemented to minimize effects during construction.

BIO-4: Rare Plant Pre-Construction Clearance Survey. No more than one week prior to ground-breaking activities, a qualified biologist must perform a pre-construction plant survey. Should any small-flowered androstephium be encountered, they will be flagged or fenced for avoidance.

BIO-5: Flagging and Fencing. Within three days prior to the start of construction, special-status plant species individuals will be flagged for clear identification to ensure they are visible to construction personnel for avoidance. Should multiple plants in a single location be found, the groupings will be fenced with ESA temporary fencing.

BIO-6: Translocation. If a special-status plant species is found within the work area, the authorized, contracted supplied biologist will contact the appropriate resource agency(s) to determine the time and suitable translocation area for the plant species to be moved. Additional requirements and actions will be determined at the time when such an action arises.

2.3.4 Animal Species

2.3.4.1 REGULATORY SETTING

Many state and federal laws regulate impacts to wildlife. The USFWS, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the 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 Section 2.3.5, below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

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

2.3.4.2 AFFECTED ENVIRONMENT

Information used in this section is based on the project's approved NES dated November 2018.

Special-status Animal Species

Based on surveys that were conducted in 2018, one special-status animal species is considered present within the BSA, and an additional two special-status animal species have the potential of occurring within the BSA as listed in Table 2-4 and discussed below.

Burrowing Owl

Burrowing owls (*Athene cunicularia*) are found in grasslands, deserts, farmlands, rangelands, and other areas with low vegetation, and depend on old burrows left behind by other species such as ground squirrels (*Otospermophilus* spp.) and kangaroo rats (*Dipodomys* spp.). Burrowing owls are considered a California Species of Special Concern and Federal BLM Sensitive Species. Burrowing owl breeding season occurs from February 1 to August 31. Suitable habitat exists throughout the project area.

During the field survey, several small mammal complexes, desert tortoise burrows, and fox complexes were observed within the BSA. However, no sign of burrowing owl was present within the project site or the study area.

Desert Kit Fox

Desert kit fox (*Vulpes macrotis arsipus*; DKF) is a small, slender fox with large ears. DKF is considered a Federal BLM Sensitive Species. Their color is a yellowish-gray with a hint of rust. DKF is found in arid areas within Southern California, southern Nevada, southwestern Utah, and Arizona. The California populations are closely associated with creosote bush scrub communities.

During the field survey, DKF scat, prints, and multiple den complexes were observed within the BSA.

Mojave Fringe-Toed Lizard

The Mojave fringe-toed lizard (*Uma scoparia*; MFTL) is a lizard with a “fringe” of scales on the sides of the toes allowing it to move swiftly atop soft sands and burrow quickly. MFTL is considered a California Species of Special Concern and Federal BLM Sensitive Species. MFTL are diurnal, with their daily activities being temperature driven. MFTL are torpid during winter and go underground from November through February. During the breeding season, males forage in the early morning, then move throughout their home ranges. Females and juveniles forage until the late afternoon, even when surface sands began to blow. In the early spring and fall, lizards are active midday. From May to September, they move about in the mornings and late afternoons, but retreat underground when temperatures are high. During March and April, they are active fewer hours than other species of fringe-toed lizards due to cooler temperatures in the Mojave Desert.

MFTL inhabit sparsely vegetated arid areas with soft sands such as dry lakebeds, desert washes, sparse alkali scrub, and Mojave Desert scrub and/or sand dunes in the Mojave Desert within elevations from near sea level to 3,000 feet. Their diet consists of primarily small invertebrates, occasional blossoms, leaves, and seeds. MFTL's defense is to burrow in the

sand in order to escape predators. They usually bury themselves within 2 to 2.5 inches from the surface. MFTL eggs are buried in the sand. Reproduction varies from year to year depending on the amount of rainfall. MFTL is vulnerable to off-road vehicle activities as well as the establishment of windbreaks that affect how windblown sand is deposited.

Although MFTL habitat is present within the BSA, no MFTL were observed during field surveys. Moreover, there are no California Natural Diversity Database (CNDDB) reported occurrences within the study area.

Habitat Connectivity

Wildlife movement and habitat fragmentation are important issues in assessing project effects on wildlife because the spatial relationship of food, water, and cover is of importance for animal species. Large areas of habitat or narrower habitat between expanses of open space provide linkages and corridors for wildlife movement, which includes seasonal migration as well as daily movements for foraging or pollinator dispersal, which is of importance for many plant species.

The BSA falls within the California Statewide Essential Habitat Connectivity Project's Mojave Desert Ecoregion. The specific area in which the project is located is listed as an essential linkage area and natural landscape block. Although this area is identified as an essential linkage, it is severed by existing barriers. In the *California Essential Habitat Connectivity Project* report (Spencer et al. 2010), these barriers are identified as I-15 and Fort Irwin. The specific species reported as being affected by this barrier is bighorn sheep (*Ovis canadensis nelsoni*).

The dike/berm in the proposed project was originally constructed in 1930 and is now a feature of the landscape. The species present within the area are able to make their way over this dike/berm as well as the others in the dike/berm complexes in this area, or can utilize the wash system to move about. The dike/berm is damaged in several areas. However, none of the areas where the dike/berm is failing allow water from the wash running parallel to the dike/berm to penetrate the dike/berm and connect with washes on the other side.

Table 2-4. Special-status Animal Species Occurring or Potentially Occurring in the BSA

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Amargosa pupfish	<i>Cyprinodon nevadensis amargosae</i>	BLM-S	Permanent water sections of the lower Amargosa River.	A	Outside of species' range. Additionally, no permanent water sources present.
Amargosa Canyon speckled dace	<i>Rhinichthys osculus</i> ssp.	BLM-S	Found only in Amargosa Canyon and tributaries of the Amargosa River, especially Willow Creek & Willow Creek Reservoir.	A	Outside of species' range. Additionally, no permanent water sources present.
Bendire's thrasher	<i>Toxostoma bendirei</i>	BLM-S, SSC	Migratory; local spring/summer resident in flat areas of desert succulent shrub/Joshua tree habitats in Mojave Desert.	A	Habitat needs are not met within the project vicinity. Additionally, there are no local reported occurrences within the CNDDDB.
Burrowing owl	<i>Athene cunicularia</i>	BLM-S, SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	HP	Habitat is present; however, there are no reported CNDDDB occurrences within the project vicinity. Additionally, the burrows that are present appear to be used by desert tortoises or kit foxes.
California Condor	<i>Gymnogyps californianus</i>	FE, FP	Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	A	No nesting sites present within project vicinity.
California leaf-nose bat	<i>Macrotus californicus</i>	BLM-S, SSC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub, and palm oasis habitats.	A	Needs rocky, rugged terrain with mines or caves for roosting, which is not present within the project vicinity. Additionally, the CNDDDB reported occurrences are all along the Colorado River, south of Lake Havasu City and well outside of the project vicinity.
Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>	BLM-S, FP	Open, rocky, steep areas with available water and herbaceous forage.	A	Although there are populations documented south of I-15 relatively near this project and populations north of this project (near Fort Irwin), there are no populations reported in the project vicinity. Due to I-15, connectivity is hindered (even with

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
					undercrossings, which are not utilized by desert big horn sheep).
Desert kit fox	<i>Vulpes macrotis arsipus</i>	BLM-S	Typically found in desert scrub, washes, and arid grasslands.	P	Scat, tracks, and burrows present within the PIA and BSA.
Desert tortoise	<i>Gopherus agassizii</i>	FT, ST	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat.	P, CH	Burrows, scat, and tortoises observed in the BSA and PIA.
Fringed myotis	<i>Myotis thysanodes</i>	BLM-S	In a wide variety of habitats; optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood-conifer.	A	Uses caves, mines, buildings, or crevices for maternity colonies and roosts, which are not present within the project vicinity. No suitable habitat present, as the area is lacking trees and the only bridge is outside of the BSA.
Gila monster	<i>Heloderma suspectum</i>	BLM-S	Inhabits the lower slopes of rocky canyons and arroyos, but is also found on desert flats among scrub and succulents.	A	Uncommon species in California with well-documented occurrences. All occurrences reported are well outside of the project vicinity.
Grey-headed junco	<i>Junco hyemalis caniceps</i>	WL	Inhabits white fir association at 7,300 feet (Clark Mountain); also, from dense pinyons above 6,700 feet (Grapevine Mountains).	A	Habitat needs are not met. No suitable habitat present.
Grey vireo	<i>Vireo vicinior</i>	BLM-S, SSC	Dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave Desert, associated with juniper and <i>Artemisia</i> .	A	Forage, nest, and sing in areas formed by a continuous growth of twigs, which is lacking within the project site. No suitable habitat.
Mojave fringe-toed lizard	<i>Uma scoparia</i>	BLM-S, SSC	Fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub.	HP	Habitat is present within the PIA and BSA. The species was not observed during the field visits. Moreover, there are no occurrences reported in the CNDDDB within the project limits; however, several occurrences have been reported in the surrounding areas.
Mohave ground squirrel	<i>Spermophilus mohavensis</i>	BLM-S, ST	Open desert scrub, alkali scrub, and Joshua tree woodland. Also feeds in	A	The project is outside of its current range. No CNDDDB

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
			annual grasslands. Restricted to Mojave Desert.		occurrences reported within the project vicinity.
Mohave tui chub	<i>Siphateles bicolor mohavensis</i>	FE, SE	Endemic to the Mojave River basin; adapted to alkaline, mineralized waters.	A	No permanent water sources within the project vicinity. No suitable habitat present.
Pallid bat	<i>Antrozous pallidus</i>	BLM-S	Deserts, grasslands, shrub lands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	A	Only one reported occurrence within the Dunn quad, southeast of the project vicinity, and well outside of the study area. No roosting sites present within the project vicinity, as the area is lacking trees and the closest bridge is outside of the BSA.
Shoshone Cave whip-scorpion	<i>Hubbardia shoshonensis</i>	BLM-S	Known only from Upper Shoshone Cave, Inyo County; 1,800 feet elevation. Cave is in limestone, surrounded by saltbush scrub	A	Project is outside of this species' range.
Spotted bat	<i>Euderma maculatum</i>	BLM-S, SSC	Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	A	No water sources or suitable areas for roosting within the project vicinity. No suitable habitat present.
Summer tanager	<i>Piranga rubra</i>	SSC	Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	A	This species uses riparian habitats for nesting and foraging, which are not present within the project vicinity.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	BLM-S, SSC	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	A	No suitable roosting sites present within the project vicinity.
Vermillion flycatcher	<i>Pyrocephalus rubinus</i>	SSC	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas.	A	No large desert riparian trees present within the project vicinity. No suitable habitat present.
Western mastiff bat	<i>Eumops perotis californicus</i>	BLM-S, SSC	Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	A	Lacking areas to roost within project vicinity. Additionally, project is removed from any permanent water sources. No suitable habitat.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
Western pond turtle	<i>Emys marmorata</i>	BLM-S, SSC	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	A	No permanent water source to support species. No suitable habitat present.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FE, SE, BLM-S	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	A	No suitable habitat present.
<p>Source: NES, November 2018</p> <p>Notes:</p> <p><u>Federal Classification</u>: FE—Federal Endangered, FT—Federal Threatened, BLM-S—BLM Sensitive</p> <p><u>California Classification</u>: SE—State Endangered, ST—State Threatened, FP—Fully Protected, SSC—Species of Special Concern, WL—Watch List.</p> <p><u>Habitat Present/Absent</u>: CH—Critical Habitat: project footprint is located within designated Critical Habitat, but does not necessarily mean that appropriate habitat is present. P—Present: species is present. HP—Habitat Present: habitat is or may be present, and the species may be present. A—Absent: no habitat present and no further work is needed.</p>					

2.3.4.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

The literature search conducted for the proposed project reported 25 special-status species occurring, or having the potential to occur, within the BSA. Special-status wildlife species having habitat present and with a potential to occur within the BSA are discussed further below.

Burrowing Owl

No sign of burrowing owl was present within the project site or the BSA. Suitable habitat would not be affected, even with the scope of work; because it appears burrowing owls are not present, it is assumed the project would not affect burrowing owls.

Desert Kit Fox

Two fox complexes and several large burrows that may be utilized by DKF are within 100 feet of the project footprint within the BSA. Construction of the Build Alternative would disrupt DKF habitat, but operation of the Build Alternative would not result in any long-term impacts.

Mojave Fringe-toed Lizard

Construction of the Build Alternative would require excavation of the wash, which would temporarily disrupt MFTL habitat and has the potential to disturb, kill, and/or harm any MFTL that may be in the PIA. Therefore, the Build Alternative would have temporary and permanent impacts on the MFTL.

Habitat Connectivity

The restoration of the dike/berm under the Build Alternative would not hinder the dispersal or migration of the species present within the BSA from making their way to the closest crossing point for I-15. Although there are culverts within the project area, the section of the highway near the project location is enclosed with right of way fencing and desert tortoise fencing, prohibiting species from using these culverts. The crossing would not be changed or altered by the project. Therefore, the Build Alternative would not affect habitat connectivity.

No-Build Alternative

No construction and operation activities would occur under the No-Build Alternative, and no effects would occur.

2.3.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of measures **BIO-3** (see Section 2.3.1.3), **BIO-7**, **BIO-11**, **BIO-15**, **BIO-17**, **BIO-18**, **BIO-19**, **BIO-20**, and **BIO-21** would minimize impacts on the DKF, while implementation of **BIO-7** would minimize impacts on the MFTL.

BIO-7: Worker Environmental Awareness Training. A qualified biologist will present to each employee (including temporary, contractors, and subcontractors) a worker environmental awareness training prior to the initiation of work. They will be advised of the special-status species in the BSA, the steps to avoid impacts on the species, and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general

ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of federal and state laws, reporting requirements, and project features designed to reduce the impacts on these species and promote continued successful occupation of the project area environs. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they will remain through the duration of the project. The contractor, resident engineer, and qualified biologist will be responsible for ensuring that employees are aware of the listed species. If additional employees are added to the project after initiation, they will receive instruction prior to working on the project.

BIO-11: Desert Tortoise and DKF under Vehicles and/or Equipment. The contract supplied biologist and project personnel shall carefully check under parked vehicles and equipment for protected species before any of the vehicles or equipment can be moved. Protected species found within the staging and/or construction areas will be allowed to move away from such areas to a location away from danger, on their own accord. Workers will not be allowed to capture, handle, touch, or relocate protected species. Project activities shall re-commence only once the protected species is safely outside the project areas or required protected areas.

BIO-15: Speed Limits in Desert Tortoise Habitat. Except on maintained public roads designated for higher speeds or within desert tortoise-proof fenced areas, driving speeds will not exceed 20 miles per hour through potential desert tortoise habitat on unpaved roads.

BIO-17: Pre-Construction Survey. A qualified contractor supplied biologist will conduct pre-construction surveys for DKF within the project site and biological study area boundaries no more than 30 days prior to the commencement of ground-breaking activities. Dens will be classified as inactive, potentially active, or definitely active. Should dens be deemed active, additional surveys will be required (see BIO-18).

BIO-18: Den Complex Monitoring. All DKF den complexes in the project site identified as potentially active or definitely active will be monitored in accordance with CDFW guidelines. If, once the monitoring is concluded, no DKF tracks are found at the burrow entrance or no photos of the target species using the den are observed, the den can be excavated and backfilled by hand. If a den is identified as being active, it must further be classified as non-natal or natal den. Potential natal den complexes are to be monitored for a minimum of 3 additional days using infrared wildlife cameras and/or tracking medium to determine their status. If the den complex is determined to be natal during the denning period (February–June), a 200-foot non-disturbance buffer zone will be established surrounding natal dens, and monitoring by infrared cameras or weekly visits by a qualified contractor supplied biologist will continue until it has been determined that the young have dispersed. The final buffer distance will be determined in consultation with BLM and CDFW. If the den complex within the project site is determined to be non-natal, passive hazing techniques will be used to discourage DKF from using the den complex.

BIO-19: Passive Relocation. DKF must be excluded from all den complexes within the project site portion of the project disturbance area. Inactive dens that are within the project site will immediately be excavated by hand and backfilled to prevent reuse by DKF. If tracks or DKF are captured in camera photos, then various passive hazing techniques will be implemented to deter DKF from using the den complex. If DKF are present and passive

relocation techniques fail, CDFW will be contacted to explore other relocation options, such as trapping, in consultation with BLM.

BIO-20: Stop Work Restrictions. If, during construction activities, a DKF is within the project site, all construction activities shall stop and the contracted supplied biologist shall be notified. Consultation with resource agencies may be required, as appropriate.

BIO-21: Entrapment Avoidance. To prevent inadvertent entrapment of kit foxes or other animals (such as desert tortoise) during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.

2.3.5 Threatened and Endangered Species

2.3.5.1 REGULATORY SETTING

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

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The CDFW is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the CDFW. For species listed under both the FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish

within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.3.5.2 AFFECTED ENVIRONMENT

Information used in this section is based on the project's approved NES dated November 2018.

An official USFWS Species List was obtained March 27, 2019 for the proposed project (see Chapter 5). Caltrans will submit a biological assessment for desert tortoise and desert tortoise critical habitat to USFWS for review. Pursuant to the Moving Ahead for Progress in the 21st Century Act, as described in the NEPA Delegation Pilot Program MOU between FHWA and Caltrans, Caltrans has been designated the authority to conduct Section 7 Consultation of the FESA. The species list provided by USFWS for the project area identified the following two listed and proposed species and/or designated critical habitat, which were analyzed in the NES prepared for the proposed project.

California Condor

The California condor (federally listed as endangered and State Fully Protected species) is a bird species that is found in deep canyons containing clefts in the rocky walls providing nesting sites. It forages up to 100 miles from its roost/nest.

As detailed above in Table 2-4 of Section 2.3.4.2, no California condors were observed within the BSA. In addition, there was no suitable habitat observed, as no nesting sites or nesting habitat were present within the BSA.

Desert Tortoise

The desert tortoise (federally and State-listed as threatened species) ranges from southern Nevada and extreme southwestern Utah south through southeastern California and southwestern Arizona into northern Mexico. In California, desert tortoises occur in northeastern Los Angeles, eastern Kern, and southeastern Inyo Counties, and over most of San Bernardino, Riverside, and Imperial Counties. They inhabit a diverse array of desert habitats including river washes, rocky hillsides and mountains, and flat expanses of creosote bush scrub. The desert tortoise is listed by the State of California and USFWS as a threatened species.

Protocol desert tortoise surveys were conducted on May 22 and October 17, 2018, in accordance with the currently accepted protocol for the species. Several burrows were identified within the project footprint. Additionally, several burrows, scat, carcasses, and a live desert tortoise were determined to be present within the BSA.

2.3.5.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

California Condor

Because no California condors were observed within the BSA and there was no suitable habitat observed, the project will seek a determination of "No Effect" under the FESA for California condor.

Desert Tortoise

Surface disturbance and vegetation removal required during construction of the Build Alternative would result in a temporary impact on desert tortoise. The required removal of existing burrows during the dike/berm repair would result in a permanent impact on desert tortoises, and an additional 19.2 acres of vegetation removal would result in a permanent impact on desert tortoise designated critical habitat. The project will seek a determination of “May Affect, Likely to Adversely Affect” under the FESA to desert tortoise and its critical habitat.

California Endangered Species Act

CDFW authorizes take of endangered, threatened, or candidate species through the provisions of Sections 2081 (Incidental Take Permit, issued independent of federal authorizations) or 2080.1 (consistency determination, issued in conjunction with federal authorizations) of the Fish and Game Code. The proposed project would “take” desert tortoise and would require authorization from CDFW.

No-Build Alternative

No construction activities would occur under the No-Build Alternative, and no effects would occur.

2.3.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of measures **BIO-7**, **BIO-11**, and **BIO-15**, as described in Section 2.3.4.4 above, as well as measures **BIO-8**, **BIO-9**, **BIO-10**, **BIO-12**, **BIO-13**, **BIO-14**, and **BIO-16**, as described below, would be implemented to avoid and minimize impacts on the desert tortoise. With the addition of **BIO-22**, impacts on desert tortoise would be mitigated to a less-than-significant level.

BIO-8: Biological Monitor. A contractor supplied biologist will be designated to oversee compliance of all protective measures and will monitor all construction-related activities. The biological monitor will notify the resident engineer of project activities that may not be in compliance. The resident engineer will stop work until the protective measures are implemented fully.

BIO-9: Pre-Construction Desert Tortoise Survey. Immediately prior to the start of ground-disturbing activities, and prior to the installation of any desert tortoise exclusion fencing, clearance surveys for the desert tortoise will be conducted by the biologist. The entire project area will be surveyed for desert tortoise and its burrows by the contract supplied biologist prior to the start of any ground-disturbing activities.

BIO-10: Temporary Desert Tortoise Fencing. Temporary exclusion fencing will be installed outlining the perimeter of any construction staging, storage, or batch plant areas to prevent entry by desert tortoises into the work site. Exclusion fencing will be installed following USFWS guidelines (2005) or by more current protocol. The biologist must check the fencing daily and make any necessary repairs should it become damaged.

BIO-12: Desert Tortoise in Work Area. If at any time a desert tortoise is observed in the right of way, the contract supplied biologist will have the authority to halt any activities, through the Resident Engineer or any other identified authority in charge of implementation, that may pose a threat to desert tortoises and to direct movements of equipment and

personnel to avoid injury or mortality to desert tortoises. Desert tortoises will be removed by the authorized biologist according to guidelines set forth by USFWS. Should a tortoise require removal from the work site, USFWS will be contacted.

BIO-13: Injured Desert Tortoise. The contract supplied biologist will inform USFWS and CDFW of any injured or dead desert tortoises (and other special-status species) found on site (verbal notification within 24 hours and written notification within five days).

BIO-14: Desert Tortoise Monitoring Reports. The contract supplied biologist will conduct daily on-site monitoring and submit a weekly monitoring report for desert tortoises (and additional special-status species) during construction.

BIO-16: Predation Prevention. To preclude attracting predators, such as the common raven (*Corvus corax*) and coyotes (*Canis latrans*), food-related trash items will be removed daily from the work sites in their entirety and disposed of at an appropriate refuse disposal site. Workers are prohibited from feeding any and all wildlife.

BIO-22: Desert Tortoise Mitigation. Impacts related to desert tortoise take will be mitigated at a minimum of 2:1 ratio, or as defined through consultation with resource agencies.

2.3.6 Invasive Species

2.3.6.1 REGULATORY SETTING

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

2.3.6.2 AFFECTED ENVIRONMENT

Information used in this section is based on the project’s approved NES dated November 2018.

Seeds of invasive species can be transported to natural open space areas through a variety of mechanisms, including vehicles. Recurring fires can encourage the establishment of invasive species and so can some forms of routine land maintenance (e.g., disking). The impact invasive species have on Southern California’s native vegetation communities, as well as the plants and animals that are found within these areas, is, in some circumstances, catastrophic. Therefore, a need exists to identify and recommend measures that reduce and/or avoid further transport of invasive species into natural open space areas. Because this project is federalized, EO 13112 is triggered, which states that federal agencies are required to combat the introduction or spread of invasive species in the United States.

No non-native plant species were identified within the BSA during field surveys conducted for this project.

2.3.6.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

The proposed project has the potential to spread invasive species by entrance to and exit from construction sites with contaminated equipment, through the inclusion of invasive species in seed mixtures and mulch, and by the improper removal and disposal of invasive species so that seed is spread along the highway.

No-Build Alternative

The No-Build Alternative is not expected to add impacts from invasive species because it would not change existing conditions.

2.3.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

To ensure that the Build Alternative does not promote the introduction or spread of invasive plant species to the open space areas within the study area, Caltrans Standard Specifications (see Section 1.4.2.4), and measures **BIO-1** through **BIO-3**, as listed in Section 2.3.1.3 above, would be implemented.

Chapter 3 **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 (USC) Section 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 environmental impact statement (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 environmental impact report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts on 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 BMPs and measures

included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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 publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1.1 CEQA SIGNIFICANCE DETERMINATIONS FOR AESTHETICS

a), b), c), d) No Impact. As discussed in Chapter 2, the proposed project would not result in substantial adverse impacts on the visual environment because the proposed project would make improvements to an existing earthen dike and drainage channel and would not introduce substantial or new visual elements. The project as designed would not substantially degrade the visual character and quality of the site and would not create a new source of substantial light or glare in the area.

3.2.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.2.1 CEQA SIGNIFICANCE DETERMINATION FOR AGRICULTURE AND FOREST RESOURCES

a), b), c), d), e) No Impact. There are no farmlands or vacant land mapped as Prime Farmlands, Unique Farmlands, Farmlands of Statewide Importance, or Farmlands of Local Importance in the vicinity. There are no parcels under a Williamson Act contract within the project limits. There is no potential to convert forest land or farmland to non-forest or non-farmland uses.

3.2.3 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.3.1 CEQA SIGNIFICANCE DETERMINATIONS FOR AIR QUALITY

a), b), c), d) No Impact. The proposed project would result in reconstructing an existing earthen dike adjacent to I-15 at PM R110.00 in a rural area along an existing roadway. The project would not increase the capacity of the existing roadway or include the installation of traffic signals. There are no sensitive receptors nearby, as there are no residences or businesses in the vicinity. The project would not obstruct implementation of any applicable air quality plan, violate any air quality standard, or contribute substantially to any existing or projected air quality violations. No adverse effects on air quality are expected.

3.2.4 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 or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.4.1 CEQA SIGNIFICANCE DETERMINATION FOR BIOLOGICAL RESOURCES

a) Less Than Significant with Mitigation Incorporated. Two fox complexes and several large burrows that may be utilized by DKF are within 100 feet of the project footprint within the BSA. DKF is a Federal BLM Sensitive Species. Construction of the Build Alternative would disrupt DKF habitat, but operation of the Build Alternative would not result in any long-term impacts. Construction of the Build Alternative would require excavation of the wash, which would temporarily disrupt MFTL habitat and has the potential to disturb, kill, and/or harm any MFTL that may be in the PIA. MFTL is a California Species of Special Concern and Federal BLM Sensitive Species. Therefore, the Build Alternative would have temporary and permanent impacts on the MFTL. Implementation of measures **BIO-3** (as described in Section 2.3.1.3), **BIO-7**, **BIO-11**, **BIO-15**, **BIO-17**, **BIO-18**, **BIO-19**, **BIO-20**, and **BIO-21** (as described in Section 2.3.4.4) would minimize impacts on the DKF, while implementation of **BIO-7** would minimize impacts on the MFTL.

Surface disturbance and vegetation removal required during construction of the Build Alternative would result in a temporary impact on desert tortoise. The required removal of existing burrows during the dike/berm repair would result in a permanent impact on desert tortoises, and an additional 19.2 acres of vegetation removal would result in a permanent impact on desert tortoise designated critical habitat. The project will seek a determination of “May Affect, Likely to Adversely Affect” under the FESA to desert tortoise and its critical habitat.

CDFW authorizes take of endangered, threatened, or candidate species through the provisions of Sections 2081 (Incidental Take Permit, issued independent of federal authorizations) or 2080.1 (consistency determination, issued in conjunction with federal authorizations) of the Fish and Game Code. The proposed project would “take” desert tortoise and would require authorization from CDFW as well as from USFWS.

Implementation of measures **BIO-7**, **BIO-11**, and **BIO-15**, as described in Section 2.3.1.3, as well as measures **BIO-8**, **BIO-9**, **BIO-10**, **BIO-12**, **BIO-13**, **BIO-14**, and **BIO-16**, as described in Section 2.3.5.4, would be implemented to avoid and minimize impacts on the desert tortoise. With the addition of mitigation measure **BIO-22** (as described in Section 2.3.5.4), project impacts on desert tortoise would be mitigated to less-than-significant levels.

b), c) Less Than Significant Impact. The proposed project site contains one natural community: creosote bush (*Larrea tridentata*)–white bursage (*Ambrosia dumosa*)/cryptogamic crust desert shrubland alliance. This natural community is identified by CDFW as a sensitive community. The Build Alternative is anticipated to permanently affect 4.5 acres of the creosote bush–white bursage alliance vegetation, which is not a protected natural community. However, its alliance is important to the ecosystem and the species that depend upon it, including the protected desert tortoise. With implementation of avoidance and minimization measures **BIO-1**, **BIO-2**, and **BIO-3** (as described in Section 2.3.1.3), impacts on this community are anticipated to be minimal.

The proposed project would cause temporary impacts on 2.27 acres of a jurisdictional drainage; therefore, authorizations from USACE, RWQCB, and CDFW are required. The two most common types of permits issued by USACE under Section 404 of the CWA to authorize the discharge of dredged or fill material into WUS are a NWP or an IP. The proposed project would likely qualify under NWP 03 and could likely avoid notification requirements to USACE. However, if project impacts change to the point where they no longer meet the provisions of an existing NWP, USACE would require an IP. An IP requires detailed analysis and compliance with the USACE formal review process. This process includes preparation of an alternatives analysis as required by U.S. EPA Section 404(b)(1) Guidelines and NEPA, and requires compliance with NEPA's environmental review process. This process provides opportunities for a public notice and public comment.

d), e), f) No Impact. The BSA falls within the California Statewide Essential Habitat Connectivity Project's Mojave Desert Ecoregion. The specific area in which the project is located is listed as an essential linkage area and natural landscape block for big horn sheep. Although this area is identified as an essential linkage, it is severed by existing barriers, which are the I-15 and Fort Irwin. The dike/berm in the proposed project was originally constructed in 1930 and is now a feature of the landscape. The species present within the area are able to make their way over this dike/berm as well as the others in the dike/berm complexes in this area, or can utilize the wash system to move about. The restoration of the dike/berm would not hinder the dispersal or migration of the species present within this area from making their way to the closest crossing point for I-15, at the northern end of the dike/berm. Although there are culverts within the project area, the section of the highway near the project location is enclosed with right of way fencing and desert tortoise fencing, prohibiting species from using these culverts. The crossing would not be changed or altered by the project. The project would not affect habitat connectivity.

The proposed project would have no impact on federally protected wetlands, conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.2.5 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 Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.5.1 CEQA SIGNIFICANCE FOR CULTURAL RESOURCES

a), b) Less Than Significant Impact. As described in Chapter 2, results of identification efforts for cultural resources identified a new lithic scatter (temporary designation CA-SBr-ABSC), which was located and recorded along the northwestern portion of the project area. The Department has proposed that the site be assumed eligible for the NRHP under Criterion D for the purposes of this project. Assuming eligibility for the NRHP also assumes eligibility for the CRHR and thus the site is also assumed as a resource under CEQA. The Department proposes to protect this resource in its entirety by instituting an ESA Action Plan around the affected northwestern portion of the project area in order to ensure that no equipment staging or other construction activities for the current reconstruction project occur on the site.

There would be no adverse effects on historic properties as a result of construction or operation of the Build Alternative, as an ESA Action Plan has been prepared for the project. ESA fencing would be placed prior to project activities along the edge of the site boundary for CA-SBr-ABSC. Prior to any construction or construction-related activity, the ESA would be delineated in the field by a Caltrans Archaeologist for the placement of temporary fencing. Additionally an Archaeological Monitoring Area would be established to avoid any potential construction-related impacts on cultural resources. See avoidance and minimization measures **CR-3** and **CR-4** in Section 2.1.6.4 for more information.

c) No Impact. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. See standard measure **CR-2** in Section 2.1.6.4 for more information.

3.2.6 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.6.1 CEQA SIGNIFICANCE DETERMINATION FOR ENERGY

a), b) No Impact. The proposed project would rebuild an earthen dike adjacent to I-15 at PM R110.00 in a desert rural area. Construction of the project would require relatively minor amounts of energy resources to rebuild the dike and in no way would wasteful, inefficient, or unnecessary amounts of energy be used to rebuild the dike. Operation of the project would have no potential to consume energy. Lastly, the project would not obstruct any local or state plans for renewable energy or energy efficiency. As such, there are no anticipated impacts on energy resources as a result of construction or operation of the project.

3.2.7 Geology, Soils, and Paleontological Resources

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

3.2.7.1 CEQA SIGNIFICANCE DETERMINATION FOR GEOLOGY AND SOILS

a i), a ii), a iii), c), d), e), and f) No Impact. The proposed project site is in the seismically active Southern California region. However, construction and operation of the project has no potential to cause rupture of an earthquake fault, strong ground shaking, or seismic-related ground failure, including liquefaction. In addition, the soil that the dike is on is not unstable and has no potential to become unstable from construction of the project. There would be no on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

The proposed project is not in an area of expansive soils or liquefaction, and would not implement the use of septic tanks. Impacts are not anticipated in this regard.

The proposed project is within a previously disturbed area and has no potential to affect paleontological resources.

a iv), b) Less Than Significant Impact. As previously mentioned, the County of San Bernardino General Plan, Liquefaction and Landslides map, provides no data on the project area, and the susceptibility for landslides is low. In addition, with the implementation of standard design measures incorporated into the proposed project, no direct or indirect, adverse, long-term impacts from landslides or rockfalls would occur as a result of the Build Alternative.

Erosion potential would be addressed through the implementation of standardized measures as part of the project description (refer to Section 1.3.2). These include erosion control BMPs as part of the SWPPP. With implementation of these standardized measures, no short-term direct or indirect adverse impacts related to soil compaction or erosion would occur during construction of the Build Alternative.

3.2.8 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?	Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

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

3.2.9.1 CEQA SIGNIFICANCE DETERMINATIONS FOR HAZARDS AND HAZARDOUS MATERIALS

a), b) Less Than Significant Impact. Implementation of the proposed project is not expected to create a significant hazard to the public or environment and the project site is not on a list of hazardous materials sites. 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 would be managed under the July 1, 2016, ADL Agreement between Caltrans and DTSC. 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 transportation, use, or disposal of ADL soils and other potential hazardous materials that may be present are also covered by standardized measures that are generally applied to Caltrans projects. See Section 1.4.2.3 for these measures that are used to avoid or reduce potential environmental impacts related to hazardous wastes.

There is a petroleum pipeline that parallels I-15 that crosses the project in the southern portion of the project (see Figure 1-3 in Chapter 1). However, if soil disturbance and borrowing occur within 30 feet of the petroleum pipeline, shallow soil sampling would be conducted to assess the condition of borrow soils. In addition, during construction, samples of any suspect ACMs would

be collected for laboratory analysis prior to disturbance. If ACM is identified, abatement would be conducted in accordance with regulatory requirements.

c), d, e), f), g) No Impact. No schools are within a quarter-mile of the project site. The proposed project is not within two miles of a public or public use airport or in the vicinity of a private airstrip. The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Additionally, there are no sites on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 near the proposed project. The project would not interfere with any emergency response or evacuation plans.

3.2.10 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 groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i. Result in substantial erosion or siltation on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.10.1 CEQA SIGNIFICANCE DETERMINATION FOR HYDROLOGY AND WATER QUALITY

a), b), c ii), c iii), c iv), d) No Impact. There would be no permanent water quality impacts with implementation of the project. The historical high and low groundwater depths are reported at approximately 153 and 200 feet, respectively. Given the depth of groundwater, it is not reasonably expected to be affected by this project. Therefore, the proposed project would not violate water quality standards or otherwise substantially degrade surface or groundwater

quality. There is no potential for construction or operation to cause inundation by seiche, tsunami, or mudflow. The project would not substantially degrade water quality or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or impede flood flows, seeing as the purpose of the project is to prevent off-site storm water runoff from flowing onto I-15 during significant rainfalls causing roadway washout to maintain interstate commerce. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

c i), d) Less Than Significant Impact. The proposed project would reconstruct an eroded earthen dike located adjacent to I-15 at PM R110.00. There is a drainage channel that is considered a water stream. The on-site ephemeral wash would be temporarily affected during construction as a result of construction-related activities. It should be noted that there are no permanent water sources within the project vicinity and that the wash is often dry. Construction of the Build Alternative is not expected to result in the alteration of a stream that would result in substantial erosion. Additionally, the amount of surface runoff is expected to improve after construction, as the purpose of the project is to prevent off-site storm water runoff from flowing onto I-15 during significant rainfalls. There would be no permanent impacts, as the drainage would be restored to its as-built condition alongside the dike.

3.2.11 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.11.1 CEQA SIGNIFICANCE DETERMINATIONS FOR LAND USE AND PLANNING

a), b) No Impact. The proposed project is adjacent to I-15 at PM R110.00 in San Bernardino County, California, in the Mojave Desert, 36 miles northeast of Barstow and 27 miles southwest of Baker. No relocation of residences or businesses and no change in land use would occur as a result of the proposed project. As such, the proposed project would be consistent with the existing land use. The proposed project would not divide an established community, as there are none within or near the project area. The proposed project would not conflict with any applicable land use plan, policy, or regulation.

3.2.12 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.12.1 CEQA SIGNIFICANCE DETERMINATIONS FOR MINERAL RESOURCES

a), b) No Impact. According to the County of San Bernardino Plan Land Use Map, the proposed project is not in an area designated for mineral resources. There is no evidence of mineral resources being present at the project location.

3.2.13 Noise

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be 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 and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.13.1 CEQA SIGNIFICANCE DETERMINATIONS FOR NOISE

a), b), c) No Impact. No noise impacts are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications 14.8-02. Construction-related noise would be short term and intermittent during the construction period; therefore, noise impacts would last only during the duration of construction and would not affect potential noise-sensitive receptors in the vicinity, especially because there are no residences, businesses, or recreational facilities near the proposed project location. The project would also not expose people to or generate noise levels in excess of standards established in a general plan or noise ordinance, or applicable standards of other agencies. The proposed project would not permanently increase ambient noise levels in the project vicinity and is not located within an airport land use plan, or in the vicinity of a private airstrip.

3.2.14 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.14.1 CEQA SIGNIFICANCE DETERMINATIONS FOR POPULATION AND HOUSING

a), b) No Impact. The proposed project would reconstruct an earthen dike 0.43 miles north of southbound I-15 at PM R110.0, which is located in a desert area with no surrounding residences or businesses. Temporary construction easements would be required from BLM. Right of way acquisitions and relocations would not be required for the proposed project. As such, the proposed project would not necessitate the relocation of any existing developments and/or people. No impacts on population and housing would occur as a result of the proposed project.

3.2.15 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.15.1 CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

a) No Impact. No fire or police stations would be acquired or displaced. Construction activities may have the potential to result in temporary traffic disruptions during the construction period by trucks needing to slow down on I-15 to utilize the access road to and from the project location. This could increase response times for emergency vehicles during construction, although it is unlikely; however, the proposed project would include preparation and implementation of a TMP. Construction impacts would be short term, lasting only the length of construction, and

cease upon completion of construction. Once completed, the proposed project would make sure that the road does not flood during heavy rains, allowing for normal access for emergency responders on I-15, which would be a beneficial impact.

There are no schools or parks within or near the proposed project; therefore, there would be no short-term or long-term impacts on either from construction or operation of the Build Alternative.

3.2.16 Recreation

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.16.1 CEQA SIGNIFICANCE DETERMINATION FOR RECREATION

a), b) No Impact. The proposed project is not located near any recreational facilities or neighborhoods. The proposed project does not have the capacity to generate a substantial increase in use of any existing neighborhood parks, regional parks, or other recreational facilities such that physical deterioration would occur, nor would it require the construction or expansion of existing recreational facilities. No short-term or long-term impacts would occur.

3.2.17 Transportation/Traffic

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.17.1 CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION/TRAFFIC

a), b), c), d) No Impact. The proposed project would reconstruct an eroded earthen dike and drainage channel located adjacent to the southbound I-15 outside shoulder at PM R110.0 in

San Bernardino County, California. A temporary access road would also be constructed to allow for the reconstruction work. The project has little to no potential to affect traffic along I-15 during construction and has no potential to affect traffic during operation. In fact, operation of the Build Alternative would have the beneficial effect of stopping the flooding problem on I-15 during heavy rains near the project. Regardless, a TMP would be prepared and implemented during construction of the project (see measure **TRF-1** in Section 2.1.4.3). Public information and awareness campaigns, motorist information strategies, and incident management strategies in the TMP would inform the public of the proposed project.

Additionally, there would be no conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Lastly, the proposed project has no potential to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.

3.2.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resources, 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.2.18.1 CEQA SIGNIFICANCE DETERMINATIONS FOR TRIBAL CULTURAL RESOURCES

a), b) Less Than Significant Impact. As described in Chapter 2, results of identification efforts for cultural resources identified a new lithic scatter (temporary designation CA-SBr-ABSC), which was located and recorded along the northwestern portion of the project area. The Department has proposed that the site be assumed eligible for the NRHP under Criterion D for the purposes of this project. Assuming eligibility for the NRHP also assumes eligibility for the CRHR; therefore the site is also assumed as a resource under CEQA. The Department proposes to protect this resource in its entirety by instituting an ESA Action Plan around the affected northwestern portion of the project area in order to ensure that no equipment staging or other construction activities for the current reconstruction project occur on the site.

There would be no adverse effects on historic properties as a result of construction or operation of the Build Alternative, as an ESA Action Plan has been prepared for the project. ESA fencing would be placed prior to project activities along the edge of the site boundary for CA-SBr-ABSC. Prior to any construction or construction-related activity, the ESA would be delineated in the field by a Department archaeologist for the placement of temporary fencing. Additionally, an

Archaeological Monitoring Area would be established to avoid any potential construction-related impacts on cultural resources. See avoidance and minimization measures **CR-3** and **CR-4** in Section 2.1.6.4 for more information.

3.2.19 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, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.19.1 CEQA SIGNIFICANCE DETERMINATIONS FOR UTILITIES AND SERVICE SYSTEMS

a), b), c) d), e) No Impact. Construction of the proposed project is not expected to generate the need for additional wastewater treatment facilities or exceed wastewater treatment requirements of the RWQCB.

No new or expanded entitlements are needed with the proposed project. The proposed project would not require wastewater treatment. The proposed project would require the use of a local landfill, if applicable, to dispose of demolition materials during construction. The use of local landfills would be temporary, lasting the duration of construction. It is Caltrans' policy to recycle materials whenever possible. Furthermore, the proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations.

There is a Kinder Morgan petroleum pipeline that traverses the southern corner of the project limits. In addition, there is an AT&T fiber optic line at the western end of the project area. It was determined that the AT&T fiber optic line would be relocated due to the existing depth of cover. No impacts on service are anticipated. Implementation of avoidance and minimization measure **UES-1** (as described in Section 2.1.3.3) would ensure impacts related to relocating the AT&T utility would be minimized or avoided.

3.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.20.1 CEQA SIGNIFICANCE DETERMINATIONS FOR WILDFIRE

a), b), c), d) No Impact. The proposed project is located adjacent to the southbound I-15 outside shoulder in a rural desert location with no nearby residences, businesses, or structures. The earthen dike itself is not a fire hazard, as it is mainly composed of compacted soil and is used to divert sediment-laden water to appropriate outlets. The dike is not vegetated and the desert landscape is not prone to wildfire hazards. Construction or operation would not substantially impair with emergency or evacuation plan, expose persons or structures to wildlife spread, or require installation or maintenance of infrastructure that may exacerbate fire risk.

3.2.21 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.21.1 CEQA SIGNIFICANCE DETERMINATIONS FOR MANDATORY FINDINGS OF SIGNIFICANCE

a) Less Than Significant with Mitigation Incorporated. The required removal of existing burrows during the dike/berm repair would result in a permanent impact on desert tortoises, and an additional 19.2 acres of vegetation removal would result in a permanent impact on desert tortoise designated critical habitat. The project will seek a determination of “May Affect, Likely to Adversely Affect” under the FESA for desert tortoise and its critical habitat. The proposed project would “take” desert tortoise and would require authorization from CDFW as well as from USFWS.

Implementation of measures **BIO-7**, **BIO-11**, and **BIO-15**, as described in Section 2.3.4.4, as well as measures **BIO-8**, **BIO-9**, **BIO-10**, **BIO-12**, **BIO-13**, and **BIO-14** and **BIO-16**, as described in Section 2.3.5.4, would be implemented to avoid and minimize impacts on the desert tortoise. With the addition of mitigation measure **BIO-22**, as described in Section 2.3.5.4, project impacts on desert tortoise would be mitigated to less-than-significant levels.

b), c) No Impact. The proposed project would not result in cumulatively considerable impacts when combined with past, present, and reasonably foreseeable future projects and therefore would have no cumulative impacts. The proposed project would not have environmental effects that would cause substantial effects on human beings, either directly or indirectly, as the purpose of the project is to prevent off-site storm water runoff from flowing onto I-15 during significant rainfalls and causing the I-15 roadway to wash out.

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Chapter 4 Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and difluoroethane (HFC-152a).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation.⁴ In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of GHG emissions.⁵ The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

4.1 Regulatory Setting

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

4.1.1 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

⁴ <https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014>

⁵ <https://www.arb.ca.gov/cc/inventory/data/data.htm>

that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.⁶ This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”⁷ 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. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The primary goal of the Program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in

⁶ <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

⁷ <https://www.sustainablehighways.dot.gov/overview.aspx>

April 2010⁸ (National Highway Traffic Safety Administration no date) and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which NHTSA, EPA, and CARB will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target⁹.

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO₂ emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

4.1.2 State

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing GHG emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (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 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that CARB 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 Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

⁸ <https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy>

⁹ <http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256> and <https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse>

Executive Order 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. CARB 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 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB 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.

Senate Bill 391 (SB 391), Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including CARB, 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.

Executive Order B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 in order 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 CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e). 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.

Senate Bill 32, (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.

4.2 Environmental Setting

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 ([AB 32](#)), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB 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. The Scoping Plan was first approved by CARB in 2008 and must be updated every 5 years. 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. As part of its supporting documentation for the updated Scoping Plan, CARB released the GHG inventory for California.¹⁰ CARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

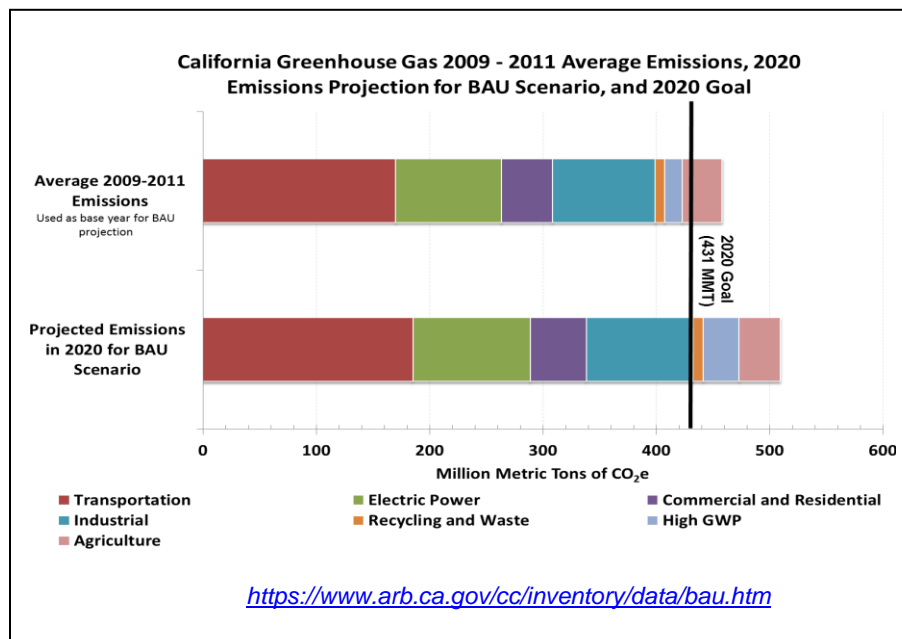
An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 4-1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists CARB in demonstrating progress toward meeting the 2020 goal of 431 MMTCO₂e.¹¹ The 2018 edition of the GHG emissions inventory found total California emissions of 429 MMTCO₂e for 2016.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO₂e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO₂e.

¹⁰ 2018 Edition of the GHG Emission Inventory Released (July 2018):

<https://www.arb.ca.gov/cc/inventory/data/data.htm>

¹¹ The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)

Figure 4-1 2020 Business as Usual (BAU) Emissions Projection 2014 Edition

4.3 Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.¹² 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.

GHG emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential GHG emissions related to the proposed project.

4.3.1 Operational Emissions

Projects that involve culvert/drainage/stormwater work and do not increase the capacity of the roadway, such as this project, generally have minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on I-15, no increase in vehicle miles traveled (VMT) would occur as result of project implementation, and traffic volumes would be the same under the Build Alternative and No-Build Alternative. While

¹² This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

4.3.2 Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, multiple truck loads hauling of earthen materials to and from the construction site (approximately 23,500 cubic yards would be needed to construct the dike/berm), and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction-period GHG emissions were modeled using the Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model, version 9.0.0. Short-term construction activities would result in GHG emissions from fuel combustion associated with off- and on-road construction equipment and vehicles, which would result in emissions of 246 metric tons of CO₂ equivalent (CO₂e)¹³ over the approximately 45-day construction period.

Caltrans Standard Specification 14-9.02 requires that the contractor comply with air-pollution-control rules, regulations, ordinances, and statutes, including those of CARB and local air pollution control districts. Requirements such as idling time restrictions and keeping equipment engines properly tuned and maintained help reduce GHG emissions.

The project would comply with all requirements of the Mojave Desert Air Quality Management District (MDAQMD) (which has jurisdiction over the Mojave Desert Air Basin in which the project site is located). In addition, Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. Measures that reduce vehicle emissions and energy use also reduce GHG emissions. In addition, a TMP would be implemented to minimize traffic delays during construction.

4.3.3 CEQA Conclusion

While the project would result in a slight increase in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

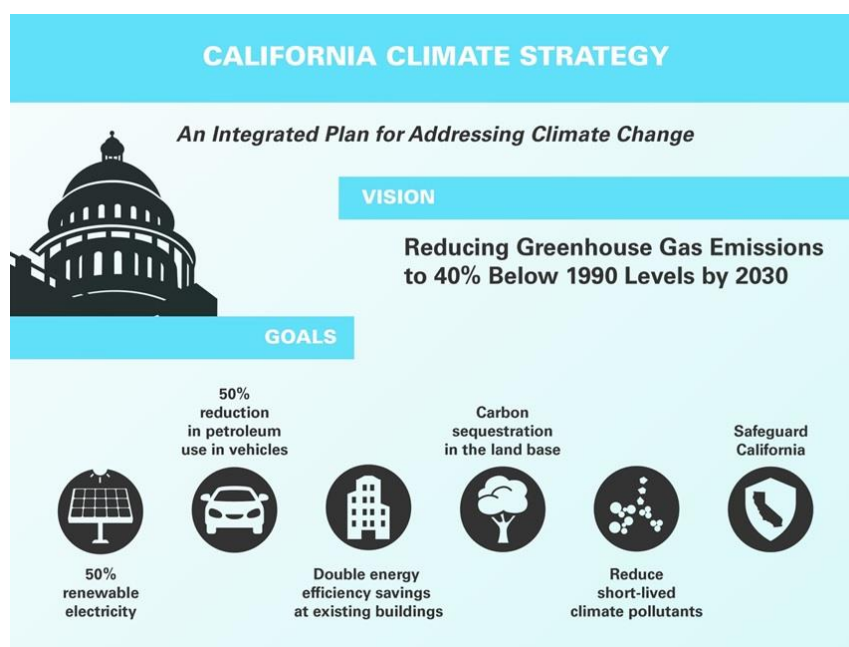
¹³ Because GHGs differ in how much heat each traps in the atmosphere, and CO₂ is the most important GHG, amounts of other gases are expressed relative to CO₂. Measurements are then summed to yield a total in metric tons of CO₂ equivalent over a given time period. The Road Construction Emissions model calculates only CO₂, methane, and nitrous oxide.

4.3.4 Greenhouse Gas Reduction Strategies

4.3.4.1 STATEWIDE EFFORTS

In an effort to further the vision of California's GHG reduction targets outlined in AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 GHG emissions target. These pillars are (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

Figure 4-2 The Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals



The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of [Governor Brown's key pillars](#) sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

California Department of Transportation Activities

Caltrans continues to be involved on the Governor's Climate Action Team as CARB 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 a new interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing the percentage of non-auto mode share
- Reducing VMT per capita
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several funding and technical assistance programs that have GHG reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in [*Caltrans Activities to Address Climate Change*](#) (2013).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

[*Caltrans Activities to Address Climate Change*](#) (April 2013) provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

Implementation of a TMP would involve strategies to maintain traffic safety through the construction zone, as well as minimize traffic delays. The reduction of traffic delays would also reduce short-term increases in GHG emissions from disruptions in traffic flow. Also, in the event that portable changeable message signs are required as part of the TMP, these signs would be solar-powered and would not involve GHG emissions during use.

Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. Requirements of MDAQMD will apply to this project. Requirements that reduce vehicle emissions, such as limits on idling time, may help reduce GHG emissions.

Adaptation Strategies

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

Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011,¹⁴ outlining the federal government’s progress in expanding and strengthening the nation’s capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued *U.S. DOT Policy Statement on Climate Adaptation* in June 2011, committing 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.”¹⁵

To further the DOT Policy Statement, on December 15, 2014, FHWA issued order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather*

¹⁴ <https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience>

¹⁵ https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm

Events).¹⁶ This directive established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation's transportation systems.

FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.¹⁷

State Efforts

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea-level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. Sea-level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, and storm surge and storm wave data.

Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (Sea-Level Rise Assessment Report)¹⁸ was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and a discussion of future research needs regarding sea-level rise.

In response to EO S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed *The California Climate Adaptation Strategy* (Dec 2009),¹⁹ which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan).

Governor Jerry Brown enhanced the overall adaptation planning effort by signing EO B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing EO B-30-15 were added to the Safeguarding California Plan.

¹⁶ <https://www.fhwa.dot.gov/legisregs/directives/orders/5520.cfm>

¹⁷ <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

¹⁸ *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

¹⁹ <http://www.climatechange.ca.gov/adaptation/strategy/index.html>

This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

EO S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California,” specifically, “information and recommendations to enhance consistency across agencies in their development of approaches to SLR.”²⁰

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in working toward identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15. The repaired dike would be larger than the original dike, with an improved capability to withstand increased storm flows that may occur in the future. Additionally, Caltrans 2018 Standard Special Provisions have higher standards for compaction than when the dike was originally constructed in the 1930s; Caltrans Standard Specification Section 19-5 requires a minimum compaction of 95 or 90 percent.

The proposed project is outside the coastal zone and is not near any bodies of water subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

The proposed project is not located in a 100-year floodplain. It drains to an ephemeral wash that likely flows for less than three months per year and is a tributary to the Mojave River via Telephone Wash. The purpose of the project is to prevent off-site storm water runoff from flowing onto I-15 during heavy rainfall and flashflood events by restoring the ditch and damaged dike. The average rainfall in the area is 6.7 inches per year and falls between November and April (U.S. Climate Data 2019). There is also a summer thunderstorm season from July to September that can cause a single event of heavy rain (Blue Planet Biomes 2010).

The original dike failed because it exceeded its design life and did not receive adequate maintenance. The repaired ditch would be excavated to a depth of five to ten feet and the dike would be restored to its former height of eight to ten feet, with a broader width. The ephemeral drainage would be restored to its previous condition when project construction is complete. Accordingly, the dike, ditch, and wash would have better capacity to drain water away from the roadway during future rain events. Additionally, periodic cleaning and maintenance will help the dike to remain effective.

²⁰ <http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/>

Chapter 5 **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 coordination meetings, public meetings, public notices, and Project Development Team meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Consultation with several agencies occurred in conjunction with preparation of the proposed project technical reports and this IS/EA. These agencies are identified in the various technical reports and include NAHC, BLM, and USFWS.

5.1 Consultation and Coordination with Public Agencies

The following provides a summary of all meetings, correspondence, and/or coordination relevant for the development of the proposed project.

5.1.1 Native American Heritage Commission

On August 13, 2018, the NAHC was contacted, requesting a search of the Sacred Lands File and a list of Native American contacts. A response was received from the NAHC on August 13, 2018, stating that the Sacred Lands File did not contain information regarding the presence of Sacred Lands within the project area. The NAHC provided a list of Native American individuals and organizations that should be contacted.

Initial contact letters were sent out to four tribes on the list the NAHC provided on August 20, 2018. The following summarizes outreach efforts:

- Dennis Patch, Chairman, Colorado River Indian Tribes of the Colorado River Indian Reservation: A letter was sent on August 20, 2018, and follow-up emails were sent on October 8 and November 6, 2018. No response has been received to date.
- Anthony Madrigal, Tribal Historic Preservation Officer, Twenty-Nine Palms Band of Mission Indians: A letter was sent on August 20, 2018. A response was received on September 19, 2018, in which Mr. Madrigal requested all available cultural reports. The ASR was sent to Mr. Madrigal on December 14, 2018, and no response or comments have been received to date.
- Charles F. Wood, Chairperson, Chemehuevi Indian Tribe: A letter was sent on August 20, 2018, and follow-up emails were sent on October 8 and November 6, 2018. No response has been received to date.
- Lee Clauss, Director of the Cultural Resources Management Department, San Manuel Band of Mission Indians: A letter was sent on August 20, 2018. On September 25, 2018, an email from Ms. Clauss was sent to Caltrans in which she requested a copy of the ASR. The report

was sent to her on December 17, 2018. On December 18, 2018 a phone call to discuss comments occurred between Caltrans and Ms. Clauss. Comments were addressed and the report was sent back to Ms. Clauss on December 28, 2018. No further communications have occurred to date.

5.1.2 Bureau of Land Management

An initial phone consultation between Caltrans and Jim Shearer of the BLM Barstow office on August 30, 2018, confirmed that there are no known cultural resources within the APE of the project area. BLM requested a copy of the ASR upon its completion. A copy of the Phase 1 report was sent to BLM on December 18, 2018. A response was received on December 19, 2018, stating that BLM concurred with the project finding and that the document is sufficient to fulfil the requirements of the Field Use Authorization FA-680-18-33 provided trinomials are obtained, which will be obtained from the California Historical Resources Information System Center.

Contact with BLM was initiated in July 2018. At that time, Caltrans biologist Tracey D'Aoust Roberts spoke to a BLM biologist to introduce the project scope and seek permission to access the project location for surveys and initial assessments.

On September 6, 2018, Caltrans biologist Tracey D'Aoust Roberts met with a BLM biologist to discuss project features, desert tortoise survey results, and other sensitive flora and fauna within the project vicinity, as well as to discuss potential minimization and avoidance measures for the proposed project.

5.1.3 United States Fish and Wildlife Service

Caltrans requested a list of potentially occurring listed species at the proposed project site from USFWS. USFWS responded with a formal list of species in a letter dated July 2, 2018, which is included at the end of this chapter.

Coordination with USFWS was initiated in 2018 in which Caltrans biologist Tracey D'Aoust Roberts spoke with USFWS biologist, John Taylor, regarding biological opinion options for this project during the District 8 quarterly meeting on September 11, 2018.

5.1.4 Agency Correspondence and Documentation

Agency Correspondence letters are provided on the pages that follow this chapter.

Biological Resources

- March 27, 2019, Species List from USFWS



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

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<http://www.fws.gov/carlsbad/>



In Reply Refer To:

March 27, 2019

Consultation Code: 08ECAR00-2018-SLI-0386

Event Code: 08ECAR00-2019-E-01660

Project Name: EA 08-1G740 : I-15 Reconstruction of earthen dike and ditch

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, 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.

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2

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

03/27/2019

Event Code: 08ECAR00-2019-E-01660

1

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

03/27/2019

Event Code: 08ECAR00-2019-E-01660

2

Project Summary

Consultation Code: 08ECAR00-2018-SLI-0386

Event Code: 08ECAR00-2019-E-01660

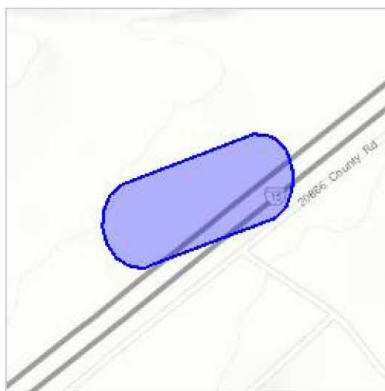
Project Name: EA 08-1G740 : I-15 Reconstruction of earthen dike and ditch

Project Type: TRANSPORTATION

Project Description: 08-SBd-015-PM110.0
Reconstruct eroded earthen dike and ditch, and establish temporary access road.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.056611567870476N116.43546581268312W>



Counties: San Bernardino, CA

Endangered Species Act Species

There is a total of 2 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 Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> https://ecos.fws.gov/ecp/species/4481#crithab	Final



United States Department of the Interior

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<http://www.fws.gov/carlsbad/>



In Reply Refer To:

March 27, 2019

Consultation Code: 08ECAR00-2018-SLI-0386

Event Code: 08ECAR00-2019-E-01660

Project Name: EA 08-1G740 : I-15 Reconstruction of earthen dike and ditch

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, 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.

Chapter 6 List of Preparers

The following Department staff and consultants prepared and reviewed this IS/EA.

6.1 California Department of Transportation

Renetta Cloud	Senior Environmental Planner, Branch Chief of Environmental Studies "A"
Kim Chandler	Associate Environmental Planner, Generalist
Craig Wentworth	Senior Environmental Planner, Branch Chief of Biological Studies
Tracey D' Aoust Roberts	Associate Environmental Planner (Natural Sciences)
Andrew Walters	Senior Environmental Planner, Branch Chief of Cultural Resources
Ashley Bowman	Associate Environmental Planner, Lead Archaeological Surveyor
Cat Vu Quach	Senior Transportation Engineer, Office Chief of Design E
Muqtasid Mahbub	Project Engineer
Rose Bishop	Senior Landscape Architect, Office Chief of Landscape Architecture
Mary Ann Johns	Landscape Associate, Visual Resources
Lorena Salvador	Landscape Associate, Visual Resources
Martin Villanueva	Senior Transportation Engineer, Project Manager
Paul Phan	Senior Transportation Engineer, Branch Chief of Environmental Engineering "A"
Vida Delrooz	Transportation Engineer, Hazardous Waste
Rodrigo Panganiban	Transportation Engineer, Air Quality and Noise
Jon Bumps	Senior Transportation Engineer, Office Chief of Storm Water Quality
Tariq Jouzi	Transportation Engineer, Storm Water Quality
Alan Bisi	Senior Transportation Engineer, Office Chief of Hydraulics
Kha Pham	Transportation Engineer, Hydrology and Floodplain
Bahram Karimi	Associate Environmental Planner, Paleontology

6.2 ICF

Brian Calvert	Project Director
Monica Corpuz	Senior Environmental Planner
Daniela Sanaryan	Senior Environmental Planner

Elliott Wezerek	Climate Change and Air Quality
Johnnie Garcia	GIS Specialist
Rusty Whisman	Senior Associate, Air Quality
Emily Hoyt	Senior Environmental Planner
Liane Chen	Environmental Planner
Saadia Byram	Technical Editor

Chapter 7 Distribution List

A compact disc (CD) copy of this Draft Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment (Draft IS/EA) and/or Notice of Availability was distributed to the following federal, state, regional, local agencies and elected officials, as well as interested groups, organizations and individuals. In addition, all property owners and occupants within a 0.5-mile radius of the project limits were provided the Notice of Availability of the Draft IS/EA.

7.1 Federal Agencies

Col. Aaron Barta, District Commander
U.S. Army Corps Of Engineers
LA District - Regulatory Division
P.O. Box 532711
915 Wilshire Boulevard, Suite 980
Los Angeles, CA 90053-2325

Federal Railroad Administration - Region 7
Attn: Director
801 I Street, Suite 466
Sacramento, CA 95814

Mr. Jeff Scott
United States Environmental Protection
Agency Pacific Southwest, Region 9
75 Hawthorne St.
San Francisco, CA 94105

Ms. Karin Cleary-Rose, Chief, San
Bernardino and Riverside Counties
U.S. Fish and Wildlife Service, Palm Springs
Fish & Wildlife Office
777 E. Tahquitz Canyon Way, Suite 208
Palm Springs, CA 92262

Ms. Katrina Symons, Field Manager
U.S. Bureau of Land Management
2800 Cottage Way, Room E-2609
Sacramento, CA 95825

Natural Resources Conservation Service,
Area 3
Attn: Area Conservationist
4974 East Clinton Avenue, Suite 114
Fresno, CA 93727

Office of Environmental Policy and
Compliance, Department of the Interior
Attn: Director
Main Interior Building, MS 2462
1849 "C" Street, NW
Washington, DC 20240

U.S. Department of Agriculture
Office of the Secretary
1400 Independence Ave., S.W.
Washington, DC 20250

Ms. Holly Shiralipour, District Conservationist
USDA Victorville Service Center
15415 W Sand St, Suite 103
Victorville, CA 92392

7.2 State Agencies

California Air Resource Board
Attn: Clerk of the Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

California Department of Conservation
Attn: Administrator
655 S. Hope St, #700
Los Angeles, CA 90017

Mr. Jeffrey Schmidt
California Department of Conservation State
Mining & Geology Board
801 K Street, MS 20-15
Sacramento, CA 95814

California Department of Transportation -
Division of Environmental Analysis
NEPA Assignment Office
1120 N Street, MS 27
P O Box 942874
Sacramento, CA 94247-0001

Ms. Susan Bransen, Executive Director
California Transportation Commission
1120 N Street, MS 52
Sacramento, CA 95814

State of California Cal-EPA
Department of Toxic Substances Control
Headquarters
Attn: Sr. Environmental Planner
P.O. Box 806
Sacramento, CA 95812-0806

Ms. Karla Nemeth, Director
State of California Department of Water
Resources
P.O. Box 942836, Room 1115
Sacramento, CA 94236

Mr. Kenneth Lewis
State of California Public Utilities
Commission
505 Van Ness Ave
San Francisco, CA 94102

California Highway Patrol
Attn: Administrator
300 E Mountain View St
Barstow, CA 92311-2887

Mr. Wade Crowfoot
California Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Ms. Jennifer Lucchesi, Executive Officer
California State Lands Commission
100 Howe Avenue, #100
Sacramento, CA 95825

Mr. William Presch, Director
California State University Desert Studies
Center, Zzyzx
49441 Zzyzx Rd
Baker, CA 92309

Mr. Christina Snider
Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

State of California Department of Fish and
Wildlife
Attn: Director
3602 Inland Empire Blvd, Suite C-220
Ontario, CA 91764

State of California Office of Historic
Preservation
State Historic Preservation Officer
1416 Ninth Street, Room 1442
P.O. Box 942896
Sacramento, CA 95814

Ms. Eileen Sobeck, Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

7.3 County Agencies

County of San Bernardino, Special
Districts Department
Water and Sanitation Division
P.O. Box 5004
Victorville, CA 92393-5004

County of San Bernardino, Dept. of
Planning Attn: Department Head
385 North Arrowhead Ave
San Bernardino, CA 92415

County of San Bernardino, Dept. of Public
Works
Environmental Management Division
825 East Third Street
San Bernardino, CA 92415-0835

County of San Bernardino, Dept. of Public
Works
Attn: Flood Control District
825 East Third Street
San Bernardino, CA 92415-0835

Land Use Services Department
Attn: Director
477 Summit Boulevard
Big Bear Lake, CA 92315

Mr. Steven Smith, Director of Planning
San Bernardino County Transportation
Authority
1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410

San Bernardino County Fire Station 52
Fire Chief
39059 Kathy Ln
Newberry Springs, CA 92356

Mr. Mark Hartwig, Fire Chief/Fire Warden
County of San Bernardino
Fire Department Communications Center
1743 W. Miro Way
Rialto, CA 92376

Ms. Carrie Schindler, Transit & Rail Director
San Bernardino County Transportation Authority
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Ms. Kelly Lynn, Chief of Air Quality & Mobility
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1170 W. 3rd Street, 2nd Floor
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Mr. Tim Watkins, Chief of Legislative and Public
Affairs
San Bernardino County Transportation Authority
1170 W. 3rd Street, 2nd Floor
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Ms. Paula Beauchamp, Director of Project
Delivery
San Bernardino County Transportation Authority
1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410

Ms. Andrea Zureick, Director of Fund
Administration & Programming
San Bernardino County Transportation Authority
1170 W. 3rd Street, 2nd Floor
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Mr. Raymond Wolfe, Executive Director
San Bernardino County Transportation Authority
1170 West 3rd Street, 2nd Floor
San Bernardino, CA 92410-1715

Southern California Association of Governments
San Bernardino County Regional Office Santa
Fe Depot
Attn: Arnold San Miguel
1170 West 3rd Street, Suite 140
San Bernardino, CA 92418

County of San Bernardino
Sheriff's Department, Barstow Station Sheriff
225 East Mountain View
Barstow, CA 92311

7.4 Local Agencies

Dr. Dan Koopman, President
Baker Chamber of Commerce
72730 Baker Blvd.
Baker, CA 92309

Ms. Ronda Tremblay, Superintendent
Baker Unified School District
P.O. Box 460
Baker, CA 92309

Mr. Eugene Buttici, Executive Director
Barstow Area Chamber of Commerce
PO Box 698
Barstow, CA 92312-0698

Barstow Branch Library
Attn: Branch Manager
304 E. Buena Vista St.
Barstow, CA 92311-2806

Mr. Jeff Malan, Superintendent
Barstow Unified School District
551 S. Avenue H
Barstow, CA 92311

Mr. Peter C. Pumphrey
California Regional Water Quality Control
Board Lahontan Region 6
14440 Civic Drive, Suite 200
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Ms. Sheri Haggard, Supervising Air Quality
Engineer
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Victorville, CA 92392

Newberry Springs Senior Center
Attn: Director
33383 Newberry Rd
Newberry Springs, CA 92356

7.5 Federal Legislators

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United States House of Representatives,
District 8
14955 Dale Evans Parkway
Apple Valley, CA 92307

Hon. Kamala Harris, Senator
United States Senate
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Los Angeles, CA 90064

Hon. Dianne Feinstein, Senator
United States Senate
11111 Santa Monica Blvd., Suite 915
Los Angeles, CA 90025-3343

7.6 State Elected Officials

Hon. Jay Obernolte, Assembly member
California Assembly, District 33
9700 Seventh Avenue, Suite 201
Hesperia, CA 92345

Hon. Shannon Grove, Senator
California Senate, District 16
7248 Joshua Lane
Yucca Valley, CA 92284

7.7 Local Elected Officials

Hon. Josie Gonzales, Supervisor
County of San Bernardino Board of
Supervisors, District 5
385 N. Arrowhead Ave., Fifth Floor
San Bernardino, CA 92415-0110

Hon. Robert Lovingood, Supervisor
County of San Bernardino Board of
Supervisors, District 1
385 N. Arrowhead Ave, 5th Floor
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Carmen Hernandez
Mayor Pro Tem, City of Barstow
PO Box 698
Barstow, CA 92312-0698

Richard Harpole
City of Barstow
Councilmember
PO Box 698
Barstow, CA 92312-0698

Hon. Janice Rutherford, Supervisor
County of San Bernardino Board of
Supervisors, District 2
385 N. Arrowhead Ave, 5th Floor
San Bernardino, CA 92415-0110

Hon. Dawn Rowe, Supervisor
County of San Bernardino Board of
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Merrill Gracey
City of Barstow
Councilmember
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Barstow, CA 92312-0698

Tim Silva
City of Barstow
Councilmember
PO Box 698
Barstow, CA 92312-0698

7.8 Utilities and Services

City of Los Angeles
Department of Water and Power, Rm 633
PO Box 51111
Los Angeles, CA 90051

City of Los Angeles
Department of Water and Power
PO Box 111, Room 340
Los Angeles, CA 90051

Joe Forkert
Consultant and Liaison to AT&T
22311 Brookhurst Street #203
Huntington Beach, CA 92646

Desert Power Company
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#800
Los Angeles, CA 90069

Southern California Public Power Authority
Department of Water and Power
PO Box 111, Room 1203
Los Angeles, CA 90051

Rommel Rodriguez
ROW Specialist
Kinder Morgan
2359 S Riverside Avenue
Bloomington, CA 92316

Union Pacific Railway Co.
[1 Union Pacific Rd,](#)
[Yermo, CA 92398](#)

7.9 Property Owners and Occupants within 0.5-mile Radius

Eugene and Marian Gabrych
GM Gabrych Family Limited Partnership
2006 Old Highway 395
Fallbrook, CA 90208

Desert Power Company
9255 Sunset Boulevard, #800
Los Angeles, CA 90069

Marshall Pettit
Bio-Mineral Technologies LL Advanced
2470 St Rose Parkway
Henderson, NV 89074

Hillcrest Projects Llc Series Iv
3 A 4015 1st SE
Calgary, AB T2G4X, Canada

Chapter 8 References

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- U.S. Climate Data. 2019. “Climate Mojave – California.” Available:
<https://www.usclimatedata.com/climate/mojave/california/united-states/usca0715>.
- U.S. Geological Survey (USGS). 2008. Geologic map of the Alvord Mountain & Cave Mountain 15-minute quadrangles, San Bernardino County, California Author(s): Dibblee, T. W., and J. A. Minch.

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Appendix A Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Resources Evaluated Relative to the Requirements of Section 4(f)

This section analyzes all cultural resources, public and private parks, recreational facilities, and wildlife refuges within approximately 0.5 mile of the project to determine if they are protected Section 4(f) properties. There are no recreational facilities, wildlife refuges, public or private parks, or public schools within 0.5 mile of the proposed project. The list below includes all potential cultural resources within 0.5 mile of the proposed project.

- **CA-SBr-ABSC:** This is a prehistoric lithic scatter that California Department of Transportation archaeologists discovered near the proposed project site that is being assumed, for purposes of this project, to be eligible for the National Register of Historic Places (NRHP) under Criterion D: *Has yielded, or may be likely to yield, information important in prehistory or history*. Caltrans proposes to protect this resource in its entirety with an Environmentally Sensitive Area (ESA) designation and an ESA Action Plan. According to 23 CFR 774, Section 4(f) applies to archeological sites that are on or eligible for the National Register and warrant preservation in place, as does CA-SBr-ABSC. As such, while the property is a Section 4(f) property, no “use” would occur. Therefore, the provisions of Section 4(f) do not apply.

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Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov



*Making Conservation
a California Way of Life.*

April 2018

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page:
http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

A handwritten signature in blue ink, appearing to read "Laurie Berman".

LAURIE BERMAN
Director

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

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Appendix C Environmental Commitments Record

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.

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Permit Type	Agency	Date Submitted	Date Received	Expiration	Fee	Notes	Permit Requirement Completed	
							Name	Date
1602	California Department of Fish & Wildlife	TBD				Streambed Alteration Agreement		
2081	California Department of Fish and Wildlife	TBD				Incidental Take		
404	US Army Corps of Engineers	TBD				Nationwide Permit		

Date of ECR: March 2019

ENVIRONMENTAL COMMITMENTS RECORD

(I-15 Repair Earthen Dike Project)

08-SBd-015
PM R110.0

Project Phase:

☒ PA/ED (DED)☐ PS&E Submittal _____ %☐ ConstructionEA 08-1G740-0
PN 0816000060
Generalist: Kim Chandler
ECL: John Stanton

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date / Initials	Date / Initials	YES	NO
CULTURAL RESOURCES										
CR-1. If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	2-14	Archaeological Survey Report (December 2018)	Resident Engineer/ Contractor	Construction						
CR-2. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner shall be contacted. Pursuant to California Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC who will then notify the Most Likely Descendant. At that time, the person who discovered the remains will contact Andrew Walters, District Environmental Branch Chief for Caltrans District 8, Division of Environmental Planning, at (909) 383-2647, and Gary Jones, District Native American Coordinator, at (909) 383-7505 so that they can work with the Most Likely Descendant regarding the respectful	2-14	Archaeological Survey Report (December 2018)	Resident Engineer/ Contractor	Construction						

Date of ECR: March 2019

ENVIRONMENTAL COMMITMENTS RECORD

(I-15 Repair Earthen Dike Project)

08-SBd-015
PM R110.0

Project Phase:

☒ PA/ED (DED)☐ PS&E Submittal _____ %☐ ConstructionEA 08-1G740-0
PN 0816000060
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Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date / Initials	Date / Initials	YES	NO
treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.										
CR-3. ESA fencing will be placed prior to any proposed project activities along the edge of the site boundary for CA-SBr-ABSC prior to any construction activity. The ESA fencing will be delineated by a qualified Caltrans archaeologist. The ESA fence will stay within the Caltrans right of way in front of the BLM parcel. No ground-disturbing construction activities shall occur within the site or ESA boundaries. No work is allowed within the ESA. The area will be fenced with ESA fencing to prevent incursion onto the site. The entirety of the site will not be fenced, as the boundary goes beyond Caltrans' right of way on the northwestern side of the project area for an unknown distance.	2-14	Archaeological Survey Report (December 2018)	District Cultural Studies/Resident Engineer/ Contractor	Final Design, Construction						
CR-4. An Archaeological Monitoring Area will also be established at the site to avoid any potential construction-related impacts. The Archaeological Monitoring Area will be defined by a qualified Caltrans archaeologist prior to any ground-disturbing activities. During construction, the archaeological monitor shall have the authority to halt work	2-14	Archaeological Survey Report (December 2018)	District Cultural Studies/Resident Engineer/ Contractor	Final Design, Construction						

Date of ECR: March 2019

ENVIRONMENTAL COMMITMENTS RECORD

(I-15 Repair Earthen Dike Project)

08-SBd-015
PM R110.0

Project Phase:

- ☒ PA/ED (DED)
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☐ Construction

EA 08-1G740-0
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Generalist: Kim Chandler
ECL: John Stanton

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date / Initials	Date / Initials	YES	NO
temporarily for a 60-foot radius upon discovery of any cultural materials and/or deposits in order to evaluate the nature and significance of the find. Such a temporary pause in construction activity should not exceed 15 minutes. In the event that a longer work stoppage is warranted, the archaeological monitor shall notify the Resident Engineer, who will issue the appropriate orders to halt work. The archaeological monitor shall assess the significance of the find and make a determination as to whether the discovery warrants further investigation, collection, or dismissal.										
UTILITIES AND EMERGENCY SERVICES										
UES-1. During final design, utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in place. If relocation is necessary, the final design will focus on relocating utilities within the state right of way or other existing public rights of way and/or easements. If relocation outside of existing rights of way or additional public rights of way and/or easements are necessary, the final design will focus on relocating facilities so as to minimize environmental impacts resulting from	2-7	Environmental Document	Design: Caltrans Project Manager, Caltrans Project Engineer Construction: Caltrans Project Manager, Caltrans Resident Engineer	Final Design, Construction						

Date of ECR: March 2019

ENVIRONMENTAL COMMITMENTS RECORD

(I-15 Repair Earthen Dike Project)

08-SBd-015
PM R110.0

Project Phase:

- ☒ PA/ED (DED)
☐ PS&E Submittal _____ %
☐ Construction

EA 08-1G740-0
PN 0816000060
Generalist: Kim Chandler
ECL: John Stanton

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date / Initials	Date / Initials	YES	NO
project construction as well as ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction, the contractor will implement the components of the utility relocation plans provided in the project specifications. Prior to utility relocation activities, the contractor will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.										
TRAFFIC AND TRANSPORTATION/BICYCLE AND PEDESTRIAN FACILITIES										
TRF-1. A Traffic Management Plan (TMP) will be prepared and implemented during construction of the project. Public information and awareness campaigns, motorist information strategies, and incident management strategies in the TMP will inform the public of the proposed project.	2-8	Environmental Document	District Design/ District Traffic Management/ Resident Engineer/ Contractor	Final Design, Construction						
HAZARDOUS WASTE / MATERIALS										
HAZ-1. If soil disturbance and borrowing occur within 30 feet of the petroleum pipeline, shallow soil sampling would be conducted to assess the condition of borrow soils. In addition, during construction, samples of any suspect	2-27	Phase I ISA (March 2018)	Design/Resident Engineer/ Contractor	Design/Pre-Construction/ Construction						

Date of ECR: March 2019

ENVIRONMENTAL COMMITMENTS RECORD

(I-15 Repair Earthen Dike Project)

08-SBd-015
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Project Phase:

- ☒ PA/ED (DED)
☐ PS&E Submittal _____ %
☐ Construction

EA 08-1G740-0
PN 0816000060
Generalist: Kim Chandler
ECL: John Stanton

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asbestos containing materials (ACMs) would be collected for laboratory analysis prior to disturbance. If ACM is identified, abatement would be conducted in accordance with regulatory requirements.										
BIOLOGICAL RESOURCES										
BIO-1: Materials and Spoils Control. Project materials will not be cast from the project site and project-related debris, spoils, and trash will be contained and removed to a proper disposal facility.	2-20	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Final Design, Construction						
BIO-2: Equipment Staging. Equipment, vehicles, and materials staged and stored in Caltrans right of way will be sited in previously paved or previously disturbed areas only and will avoid native vegetation.	2-21	Natural Environment Study (November 2018)	Biological Monitor/ Design/Resident Engineer/ Contractor	Final Design, Pre-Construction, Construction						
BIO-3: Dust Control. The contractor shall implement dust control measures during construction activities to avoid inundating surrounding vegetation and to ensure biological monitors on the project site have visibility for monitoring the covered species.	2-31	Natural Environment Study (November 2018)	Resident Engineer/ Contractor	Pre-Construction, Construction						
BIO-4: Rare Plant Pre-Construction Clearance Survey. No more than one week prior to ground-breaking activities, a qualified biologist must perform a pre-	2-39	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction						

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construction plant survey. Should any small-flowered androstephium be encountered, they will be flagged or fenced for avoidance.										
BIO-5: Flagging and Fencing. Within three days prior to the start of construction, special-status plant species individuals will be flagged for clear identification to ensure they are visible to construction personnel for avoidance. Should multiple plants in a single location be found, the groupings will be fenced with ESA temporary fencing.	2-39	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction						
BIO-6: Translocation. If a special-status plant species is found within the work area, the authorized, contracted supplied biologist will contact the appropriate resource agency(s) to determine the time and suitable translocation area for the plant species to be moved. Additional requirements and actions will be determined at the time when such an action arises.	2-39	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction						
BIO-7: Worker Environmental Awareness Training. A qualified biologist will present to each employee (including temporary, contractors, and subcontractors) a worker environmental awareness training prior to the initiation of work. They will be advised of the	2-46	Natural Environment Study (November 2018)	Biological Monitor/Design/ Resident Engineer/ Contractor	Design/Pre-Construction/ Construction						

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special-status species in the BSA, the steps to avoid impacts on the species, and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of federal and state laws, reporting requirements, and project features designed to reduce the impacts on these species and promote continued successful occupation of the project area environs. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they will remain through the duration of the project. The contractor, resident engineer, and qualified biologist will be responsible for ensuring that employees are aware of the listed species. If additional employees are added to the project after initiation, they will receive instruction prior to working on the project.										

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BIO-8: Biological Monitor. A contractor supplied biologist will be designated to oversee compliance of all protective measures and will monitor all construction-related activities. The biological monitor will notify the resident engineer of project activities that may not be in compliance. The resident engineer will stop work until the protective measures are implemented fully.	2-50	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction, Construction						
BIO-9: Pre-Construction Desert Tortoise Survey. Immediately prior to the start of ground-disturbing activities, and prior to the installation of any desert tortoise exclusion fencing, clearance surveys for the desert tortoise will be conducted by the biologist. The entire project area will be surveyed for desert tortoise and its burrows by the contract supplied biologist prior to the start of any ground-disturbing activities.	2-50	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction						
BIO-10: Temporary Desert Tortoise Fencing. Temporary exclusion fencing will be installed outlining the perimeter of any construction staging, storage, or batch plant areas to prevent entry by desert tortoises into the work site. Exclusion fencing will be installed following USFWS guidelines (2005) or by more current protocol. The biologist	2-50	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction, Construction						

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must check the fencing daily and make any necessary repairs should it become damaged.										
BIO-11: Desert Tortoise and DKF under Vehicles and/or Equipment. The contract supplied biologist and project personnel shall carefully check under parked vehicles and equipment for protect species before any of the vehicles or equipment can be moved. Protected species found within the staging and/or construction areas will be allowed to move away from such areas to a location away from danger, on their own accord. Workers will not be allowed to capture, handle, touch, or relocate protected species. Project activities shall re-commence only once the protected species is safely outside the project areas or required protected areas.	2-47	Natural Environment Study (November 2018)	Biological Monitor/Design/Resident Engineer/Contractor	Design/Pre-Construction/Construction						
BIO-12: Desert Tortoise in Work Area. If at any time a desert tortoise is observed in the right of way, the contract supplied biologist will have the authority to halt any activities, through the Resident Engineer or any other identified authority in charge of implementation, that may pose a threat to desert tortoises and to direct movements of equipment and personnel to avoid injury or mortality to desert tortoises. Desert	2-50	Natural Environment Study (November 2018)	Biological Monitor/Resident Engineer/Contractor	Construction						

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tortoises will be removed by the authorized biologist according to guidelines set forth by USFWS. Should a tortoise require removal from the work site, USFWS will be contacted.										
BIO-13: Injured Desert Tortoise. The contract supplied biologist will inform USFWS and CDFW of any injured or dead desert tortoises (and other special-status species) found on site (verbal notification within 24 hours and written notification within five days).	2-51	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction						
BIO-14: Desert Tortoise Monitoring Reports. The contract supplied biologist will conduct daily on-site monitoring and submit a weekly monitoring report for desert tortoises (and additional special-status species) during construction.	2-51	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Construction						
BIO-15: Speed Limits in Desert Tortoise Habitat. Except on maintained public roads designated for higher speeds or within desert tortoise-proof fenced areas, driving speeds will not exceed 20 miles per hour through potential desert tortoise habitat on unpaved roads.	2-47	Natural Environment Study (November 2018)	Biological Monitor/Design/ Resident Engineer/ Contractor	Design/Pre-Construction/ Construction						
BIO-16: Predation Prevention. To preclude attracting predators, such as the common raven (<i>Corvus corax</i>) and coyotes (<i>Canis latrans</i>), food-related trash items will be removed daily from	2-51	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Construction						

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the work sites in their entirety and disposed of at an appropriate refuse disposal site. Workers are prohibited from feeding any and all wildlife.										
BIO-17: Pre-Construction Survey. A qualified contractor supplied biologist will conduct pre-construction surveys for DKF within the project site and biological study area boundaries no more than 30 days prior to the commencement of ground-breaking activities. Dens will be classified as inactive, potentially active, or definitely active. Should dens be deemed active, additional surveys will be required (see BIO-18).	2-47	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction, Construction						
BIO-18: Den Complex Monitoring. All DKF den complexes in the project site identified as potentially active or definitely active will be monitored in accordance with CDFW guidelines. If, once the monitoring is concluded, no DKF tracks are found at the burrow entrance or no photos of the target species using the den are observed, the den can be excavated and backfilled by hand. If a den is identified as being active, it must further be classified as non-natal or natal den. Potential natal den complexes are to be monitored for a minimum of 3 additional days using infrared wildlife cameras and/or tracking	2-47	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction, Construction						

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medium to determine their status. If the den complex is determined to be natal during the denning period (February–June), a 200-foot non-disturbance buffer zone will be established surrounding natal dens, and monitoring by infrared cameras or weekly visits by a qualified contractor supplied biologist will continue until it has been determined that the young have dispersed. The final buffer distance will be determined in consultation with BLM and CDFW. If the den complex within the project site is determined to be non-natal, passive hazing techniques will be used to discourage DKF from using the den complex.										
BIO-19: Passive Relocation. DKF must be excluded from all den complexes within the project site portion of the project disturbance area. Inactive dens that are within the project site will immediately be excavated by hand and backfilled to prevent reuse by DKF. If tracks or DKF are captured in camera photos, then various passive hazing techniques will be implemented to deter DKF from using the den complex. If DKF are present and passive relocation techniques fail, CDFW will be contacted	2-47	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Pre-Construction, Construction						

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to explore other relocation options, such as trapping, in consultation with BLM.										
BIO-20: Stop Work Restrictions. If during construction activities a DKF is within the project site, all construction activities shall stop and the contracted supplied biologist shall be notified. Consultation with resource agencies may be required, as appropriate.	2-48	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Construction						
BIO-21: Entrapment Avoidance. To prevent inadvertent entrapment of kit foxes or other animals (such as desert tortoise) during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.	2-48	Natural Environment Study (November 2018)	Biological Monitor/ Resident Engineer/ Contractor	Construction						
BIO-22: Desert Tortoise Mitigation. Impacts related to desert tortoise take will be mitigated at a minimum of 2:1 ratio, or as defined through consultation with resource agencies.	2-51	Environmental Document	Biological Monitor/ Resident Engineer/ Contractor	Final Design, Construction						

Appendix D List of Acronyms and Abbreviations

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADL	Aerially deposited lead
AMSL	above mean sea level
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
ASR	Archaeological Survey Report
BAU	business-as-usual
bgs	below ground surface
BLM	Bureau of Land Management
BMP	Best Management Practice
BSA	biological study area
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
County	San Bernardino County
CRHR	California Register of Historical Resources
CTP	California Transportation Plan
CWA	Clean Water Act
Department	California Department of Transportation
DKF	desert kit fox
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
ECT	Emory crucifixion thorn
EIR	environmental impact report
EIS	environmental impact statement
EO	Executive Order
EPACT92	Energy Policy Act of 1992
ESA	Environmentally Sensitive Area

FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
GPS	global positioning system
Guidelines	Section 404(b)(1) Guidelines
I-15	Interstate 15
IP	individual permit
IPCC	Intergovernmental Panel on Climate Change
IS/EA	Initial Study/Environmental Assessment
ISA	Initial Site Assessment
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
MDAQMD	Mojave Desert Air Quality Management District
MFTL	Mojave fringe-toed lizard
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MSHCP	Multi-Species Habitat Conservation Plan
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NOAA Fisheries Service	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWP	nationwide permit
OHWM	ordinary high water mark
PA	Programmatic Agreement
PIA	Project Impact Area
PID	Project Initiation Documents
PM	post mile
PRC	Public Resources Code
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental concern
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SDC	Seismic Design Criteria
SF	sulfur hexafluoride

SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SLR	sea-level rise
SSP	standard special provision
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TMP	Traffic Management Plan
TPH	total petroleum hydrocarbons
TSM	Transportation System Management
U.S. EPA	United States Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	Waste Discharge Requirement
WPCP	Water Pollution Control Plan
WSC	Waters of the State of California
WUS	Waters of the U.S.

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Appendix E List of Technical Studies

Air Quality Exemption Memorandum: October 2018

Transportation Air Quality Conformity Checklist: October 2018

Noise Memorandum: October 2018

Natural Environment Study: November 2018

Draft Project Report: March 2019

Phase I Initial Site Assessment: March 2018

Initial Site Assessment Checklist: December 2018

Preliminary Site Investigation Report: November 2018

Historic Property Survey Report: January 2019

Archaeological Survey Report: December 2018

Questionnaire to Determine Visual Impact Assessment Level: September 2018

Jurisdictional Delineation: August 2018

Storm Water Quality Memorandum September 2018

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