

INTERSTATE 10/MONROE STREET INTERCHANGE IMPROVEMENT PROJECT

CITY OF INDIO, RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 10 (PM R53.9/R55.5)
EA 08-0K730
PN 0800000368

Draft 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.



April 2020

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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 had this Initial Study/Environmental Assessment (IS/EA) prepared, which examines the potential environmental impacts of the alternatives being considered for the proposed project in the City of Indio, in Riverside County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The document describes why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization and/or mitigation measures.

What you should do:

- Please read this IS/EA.
- Please call (760) 391-4017 to make an appointment to review a copy of this document and the related technical studies at:

City of Indio City Hall
100 Civic Center Mall
Indio, CA 92201

- An electronic copy (PDF file format) of the IS/EA can be obtained from the City of Indio's website as follows: <http://www.indio.org/>.
- An electronic copy (PDF file format) of the IS/EA can be obtained from the County of Riverside's website as follows: <https://rcprojects.org/monroe-st-interchange>.
- The IS/EA can be obtained by accessing the "Government Document Review" section of the County of Riverside's library system website as follows: <http://rivlib.info/website/eresources-688>.
- Attend the virtual public hearing, scheduled for June 9, 2020. Details for the virtual public hearing will be provided on the City of Indio's website (<http://www.indio.org/>) prior to the meeting date, and will include a webinar link with instructions, a call-in number, and Spanish translation services.
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the public hearing and/or send your written comments to the Department by the deadline.
- Submit comments via postal mail to:

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

- Submit comments via email to: **Interstate10_Monroe_Int@dot.ca.gov**
- Please be sure to submit comments by the deadline: June 22, 2020.

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 obtained, the Department could design and construct all or part of the project.

Alternative formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Terri Kasinga, Chief, Public and Media Affairs, 464 W. 4th Street, 6th floor, San Bernardino, CA 92401-1400; (909) 383-4646; or use the California Relay Service 1-800-735-2929 (TTY to Voice), 1-800-735-2922 (Voice to TTY), 1-800-855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech to Speech), or 711.

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SCH # _____
08-RIV-10-PM R53.9/R55.5
EA 08-0K730
PN 0800000368

Construction of a new interchange at Interstate 10 (I-10) and Monroe Street located at Post Mile [PM]
Revised (R) 54.7, between PM R53.9 and PM R55.5 on I-10 in the
City of Indio, County of Riverside, California

**Draft 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), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

4/21/2020
Date of Approval


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

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The City of Indio (City), in cooperation with the California Department of Transportation (Department) and County of Riverside, propose to reconstruct and widen Monroe Street at Interstate 10 to improve the operational performance of the Monroe Street interchange within the City limits.

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 timberlands or wetlands.
- In addition, the proposed project would have less-than-significant effects on air quality, land use, parks and recreational facilities, community character and cohesion, farmlands, growth, noise, utilities/emergency services, traffic and transportation, cultural resources, biological resources, floodplains, visual/aesthetic resources, water quality, soils, and greenhouse gas emissions.
- With the following mitigation measures incorporated, the proposed project would have less-than-significant effects on other (jurisdictional) waters and paleontological resources:

BIO-1: Permanent and temporary impacts on jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.

PALEO-1: Prior to the commencement of ground-disturbing activities, a qualified professional paleontologist will be retained to prepare and implement a Paleontological Resources Impact Mitigation Plan (PRIMP) for the project. Full-time monitoring is recommended for construction activities (e.g., grading, excavation, ripping, trenching, etc.), in accordance with criteria set forth by the SVP (2010) and the Department (2016). Monitoring will not be required in areas of previous disturbance or as determined by the qualified paleontologist. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the qualified paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.

Monitoring will include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the paleontologist or approved onsite monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected.

Additionally, bulk sediment samples from geologic units with high paleontological resource potential will be collected and processed to determine the presence of fine-fraction fossils. McLeod (2018) reports many of the collected fossil specimens from nearby localities are small, isolated elements recovered from screen-washing sediment samples. Thus, it is recommended that sediment samples be collected and hydroprocessed to determine the potential for small fossils.

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

Date

DRAFT

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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 United States Code (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 California Department of Transportation (Department or Caltrans) entered into a Memorandum of Understanding pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment Memorandum of Understanding [MOU]) with Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012 and was renewed on December 23, 2016 for a term of five years. 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 Department, as assigned by the FHWA, is the lead agency under NEPA; it is also the lead agency under the California Environmental Quality Act (CEQA). The City of Indio (City), in cooperation with the Department and the County of Riverside (County), proposes to reconstruct and widen Monroe Street at Interstate 10 (I-10) to improve the operational performance of the Monroe Street interchange. The Monroe Street interchange is on I-10 at Post Mile (PM) Revised (R) 54.7, between PM R53.9 (approximately 2 miles east of the Jefferson Street interchange) and PM R55.5 (approximately 1 mile west of the Jackson Street interchange). The project site is centrally located within the City of Indio at the crossroad of I-10, Monroe Street, and the Coachella Valley Stormwater Channel (CVSC) in Riverside County, California. Refer to Figure 1-1 (Regional Vicinity Map) and Figure 1-2 (Project Location Map).

The current I-10/Monroe Street interchange configuration is a diamond-type interchange, with signal control at the on- and off-ramp termini. The project would reconstruct Monroe Street at the interchange, including the existing on- and off-ramps, the Monroe Street I-10 overcrossing, and the bridge over the CVSC (Channel Bridge). The Monroe Street interchange is a major access point for existing development at the interchange area.

1.2.1 Existing Facilities

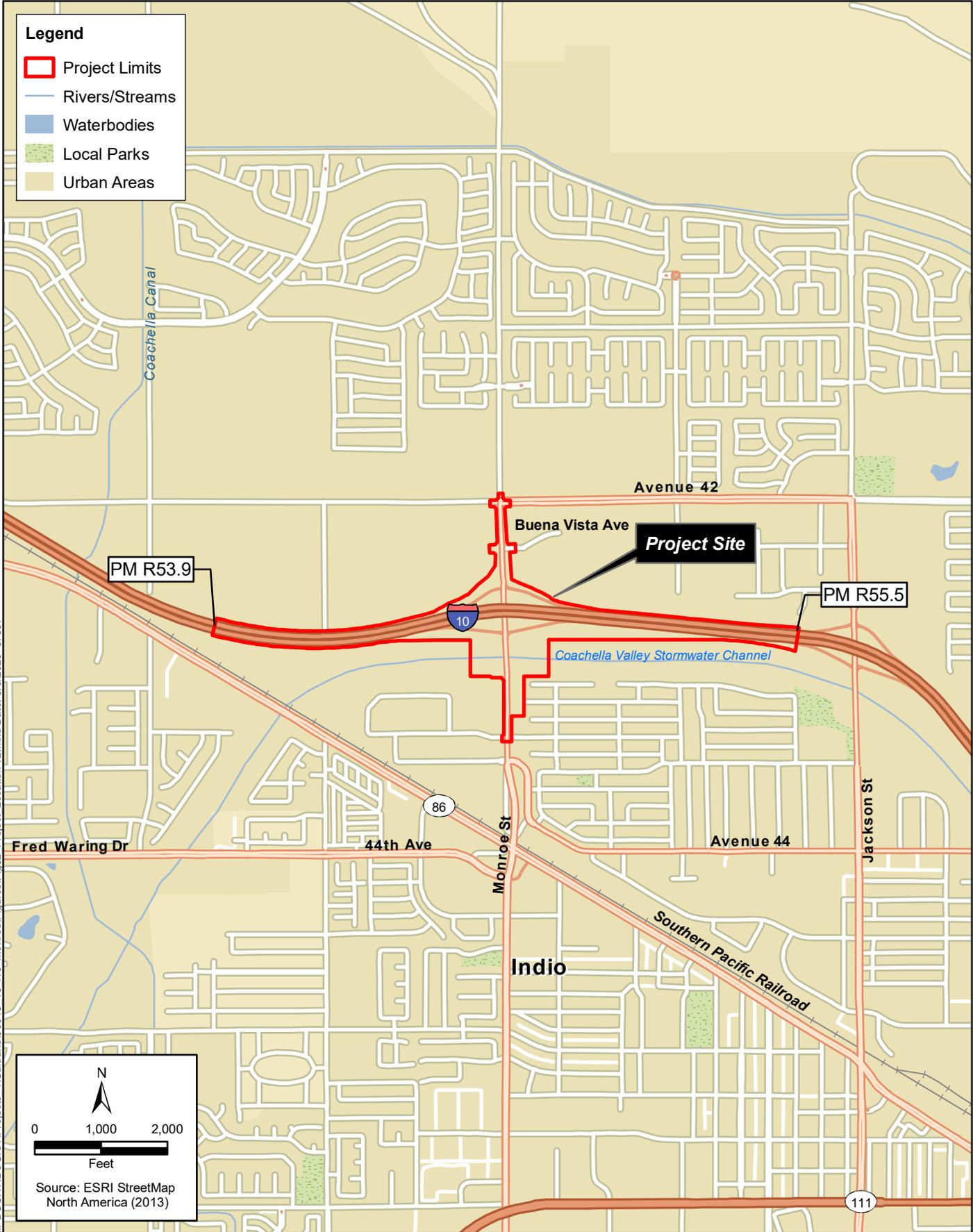
1.2.1.1 Interstate 10

I-10 is a major, east-west transportation route that connects the City of Indio to Los Angeles County to the west, and the California/Arizona State Line to the east. The route is functionally classified as an “Urbanized Freeway” and is a part of the “State Freeway and Express” System. The segment of I-10 from State Route 60 to the California/Arizona State Line is included in the State Interregional Road System, which further classifies the route as a “High Emphasis” and “Gateway” route. In addition, the length of I-10 within the County of Riverside (Department, District 8) is included in the National Highway System, the Rural and Single Interstate Routing System, and the Strategic Highway Corridor Network. It is also a Surface Transportation Assistance Act route for use by oversized trucks. Within the project limits, I-10 is six lanes in total, with three mixed-flow lanes in each direction and a metal-beam center divider; it does not have high occupancy vehicle lanes.

1.2.1.2 Monroe Street

Monroe Street is a north-south, two-lane divided arterial in Indio. The City Draft General Plan Update classifies Monroe Street as a four- to six-lane arterial with a posted 40-mile per hour speed limit through the project limits. Within the project limits, the road cross-section includes curb and gutter, a striped and curbed median, sidewalk in the southbound direction only, and the I-10 overcrossing and Channel Bridge structures. The I-10 overcrossing (Bridge Number 56-0611) structure is a two-span pre-stressed concrete box girder bridge that was constructed in 1972. The bridge is approximately 249 feet long and 47 feet wide, and it spans six lanes of traffic over I-10. The Channel Bridge (Bridge Number 56C-0083) structure is a five-span reinforced concrete box girder bridge, also constructed in 1972. The bridge is approximately 490 feet long, and 47 feet wide, spanning the full length of the CVSC.

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Figure 1-2
Project Location Map
 Interstate 10/Monroe Avenue Interchange Improvement Project

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1.2.2 Project Programming

The project is included in the Southern California Association of Governments' (SCAG's) 2016 regional transportation plan identified as RTP ID 3A07022 titled *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS): A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life* (SCAG 2018a). The project is also currently listed in SCAG's financially constrained 2019 Federal Transportation Improvement Program (2019 FTIP) as a State Highway Project and has \$47,000,000 programmed for the project.

In the forthcoming 2020 RTP, the entry in the corresponding FTIP update for the project is planned to include the following updates: opening year/completion date of 2025; total anticipated project cost of \$85,000,000; and modified and added project improvement components. These components include widening the interchange from two to four lanes, including the bridge over the Coachella Valley Stormwater Channel River and adding an eastbound auxiliary lane between Monroe Street and Jackson Street. The 2020 RTP is being tracked through the Project Approval and Environmental Document (PA&ED) process and will be updated for consistency prior to final approval.

1.3 Purpose and Need

1.3.1 Purpose

The purpose of this project is to:

- Increase capacity at the I-10/Monroe Street interchange to accommodate the forecast travel demand for the 2045 design year within the City of Indio.
- Accommodate multimodal travel consistent with the City of Indio's General Plan and regional plans.
- Improve operations by addressing existing interchange geometric deficiencies that include: inadequate shoulder width; non-standard curves, cross-falls, and profile grades; and non-standard seismic and scour susceptible bridges over I-10 and Whitewater River.

1.3.2 Need

1.3.2.1 Transportation Demand and Safety

Project alternatives were analyzed under the existing year (2018), opening year (2025), and design year (2045) conditions. The study scenarios for traffic operations analysis include the following:

- Existing (2018) Conditions
- Opening Year (2025) No-Build Alternative
- Opening Year (2025) Build Alternative 2 (Locally Preferred Alternative) – Tight Diamond
- Opening Year (2025) Build Alternative 4 – Diverging Diamond
- Design Year (2045) No-Build Alternative

- Design Year (2045) Build Alternative 2 (Locally Preferred Alternative) – Tight Diamond
- Design Year (2045) Build Alternative 4 – Diverging Diamond

A full description of the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative), and Build Alternative 4 is included in Section 1.4, Alternatives.

1.3.2.2 Capacity and Level of Service – Existing Traffic Analysis

Existing traffic volumes were collected in 2018 from the Department Freeway Performance Measurement System (PeMS) and field-collected traffic counts. The intersection turning movement counts were collected from the field in February 2018 to account for increased travel in the Coachella Valley region during the winter months. Data collection was completed during periods when no area-wide festivals were taking place.

Freeway Operations Analysis

Level of service (LOS) is a standard index of the service provided by a transportation facility from the traveler’s perspective. LOS is a concept that is defined in the Highway Capacity Manual (HCM) and can range from A (free-flow conditions) through F (severely congested conditions). LOS A represents travel at free-flow speeds with complete mobility. LOS B represents slightly increased congestion and decreased mobility; however, operations still remain near free-flow speeds. LOS A and LOS B characterize desirable traffic flow conditions (refer to Table 1-1 and Figure 1-3).

Table 1-1. Freeway Mainline and Ramp Junction/Weave Section LOS Threshold

Level of Service	Description	Density (vplpm) ¹	
		Mainline (Basic)	Ramp/Weave
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤ 11	≤ 10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18	> 10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26	> 20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35	> 28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45	> 35 to 45 ²
F	Represents a breakdown in flow.	Demand exceeds capacity	Demand exceeds capacity

Source: Transportation Research Board 2016.

Notes:

¹ Density is reported in vehicles per lane per mile (vplpm).

² Volume over capacity greater than or equal to one (V/C≥1) will be considered LOS F.

The Department's goal for basic freeway segment operations, including I-10 within the traffic analysis study area, is between level of service (LOS) C and LOS D or better.

Table 1-2 presents the existing (2018) AM and PM peak hour density and LOS for the study freeway mainline segments and ramp junctions on eastbound and westbound I-10.

Table 1-2. Existing (2018) Interstate 10 Operations Summary

Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density ¹	LOS ²	Density ¹	LOS ²
Eastbound					
Merge from Jefferson Street	Merge	14	B	17	B
Mainline between Jefferson Street and Monroe Street	Basic	14	B	17	B
Diverge to Monroe Street	Diverge	16	B	18	B
Merge from Monroe Street	Merge	14	B	14	B
Mainline between Monroe Street and Jackson Street	Basic ³	14	B	14	B
Diverge to Jackson Street	Diverge	15	B	14	B
Westbound					
Merge from Jackson Street	Merge	17	B	13	B
Mainline between Jackson Street and Monroe Street	Basic ³	17	B	15	B
Diverge to Monroe Street	Diverge	17	B	15	B
Merge from Monroe Street	Merge	20	B	14	B
Mainline between Monroe Street and Jefferson Street	Basic	19	B	16	B
Diverge to Jefferson Street	Diverge	20	C	17	B
Source: California Department of Transportation 2019a					
Notes:					
¹ Density is reported vehicles per lane per mile.					
² Estimated average grade for the analysis segment.					
³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).					

As presented above in Table 1-2, all freeway facilities currently operate acceptably at LOS B or LOS C in the existing year 2018.

Intersection Operation Analysis

The HCM methodology for signalized intersections estimates the average control delay for vehicles at the intersection (there are no unsignalized intersections within the traffic analysis study area) (see Figure 1-4). The LOS has been calculated for each study facility to evaluate traffic operations. Acceptable peak hour intersection and local road traffic operations is between LOS C and LOS D.

Table 1-3 summarizes the AM and PM peak hour delay and LOS for the study intersections. As shown, all intersections operate acceptably under existing (2018) conditions. Under existing conditions, the westbound ramp terminal intersection operates at LOS B during both the AM and PM peak hours. The eastbound ramp terminal intersection operates at LOS C during the AM peak hour and LOS D during the PM peak hour.

Table 1-3. Existing (2018) Intersection Operations

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
Monroe Street/Avenue 42	30	C	25	C
Monroe Street/Showcase Parkway	7	A	7	A
Monroe Street/I-10 westbound ramps	14	B	11	B
Monroe Street/I-10 eastbound ramps	26	C	35	D
Monroe Street/Oleander Avenue	11	B	13	B
Monroe Street/Avenue 44	17	B	22	C
Jefferson Street/I-10 Westbound Ramps	6	A	5	A
Jefferson Street/I-10 Eastbound Ramps	9	A	12	B
Jackson Street/I-10 Westbound Ramps	7	A	5	A
Jackson Street/I-10 Eastbound Ramps	13	B	21	C
Source: California Department of Transportation 2019a				

LEVELS OF SERVICE

for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. No delays
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. No delays
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. Minimal delays
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. Minimal delays
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. Significant delays
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. Considerable delays

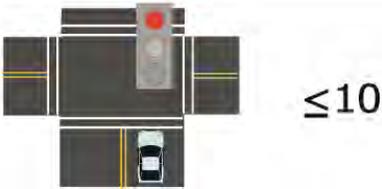
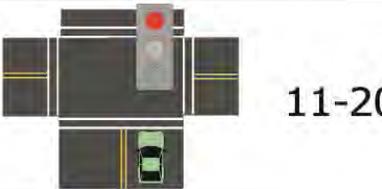
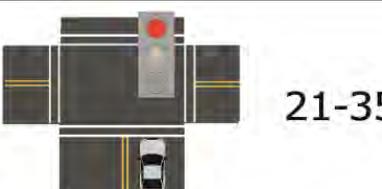
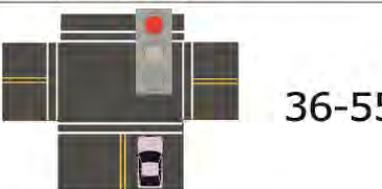
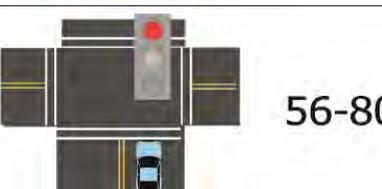
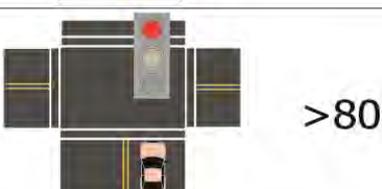
Source: 2000 HCM, Level of Service Criteria for Freeways

Figure 1-3 Level of Service for Basic Freeway Segment

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LEVELS OF SERVICE

for Intersections with Traffic Signals

Level of Service	Delay per Vehicle (seconds)
A	
B	
C	
D	
E	
F	

Factors Affecting LOS of Signalized Intersections

Traffic Signal Conditions:

- Signal Coordination
- Cycle Length
- Protected left turn
- Timing
- Pre-timed or traffic activated signal
- Etc.

Geometric Conditions:

- Left- and right-turn lanes
- Number of lanes
- Etc.

Traffic Conditions:

- Percent of truck traffic
- Number of pedestrians
- Etc.

Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 1-4 Level of Service for Signalized Intersections

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1.3.2.3 Projected Capacity Needs and Level of Service

Future Traffic Demand Forecast

According to SCAG's 2016-2040 RTP/SCS, the SCAG region's population—which encompasses Riverside, Imperial, San Bernardino, Orange, Los Angeles and Ventura Counties—is projected to grow to 22 million by 2040, an increase of 3.8 million from 2012. According to SCAG's 2016-2040 RTP/SCS, population in the SCAG region increased by 2.0 million people between 2000 and 2014; this represents an increase of 12.3 percent (SCAG 2018b). Riverside County grew by 47.5 percent during the same period (SCAG 2018b). Riverside County had the highest annual growth rate of 3.2 percent in the SCAG region (SCAG 2018b).

According to the 2010 U.S. Census, the population of Riverside County more than doubled from 663,166 in 1980 to 1,545,387 in 2000, and more than tripled to 2,189,641 in 2010 (SCAG 2018b). Furthermore, and according to the U.S. Census, Quick Facts, the population of Riverside County as of July 2014 was 2,329,271, which is a 6.4 percentage increase from 2010 (SCAG 2018b).

SCAG's 2016-2040 RTP/SCS indicates that there will be a deconcentration trend toward more growth of population and employment in Riverside and San Bernardino Counties. The share of both Riverside and San Bernardino Counties' population in the SCAG region is projected to increase from 23.5 percent in 2015 to 26.6 percent in 2040, while the share of both Riverside and San Bernardino Counties' employment in the SCAG region is projected to increase from 18.4 percent in 2015 to 22.2 percent in 2040. During the 26th Annual SCAG-USC Demographic Workshop, data were presented to demonstrate that the population growth rate is slowing down due to five key factors: (1) lower birth rates, (2) lower immigration rates, (3) aging population, (4) high housing costs (lack of housing), and (5) slow economic growth. If the region continues to experience faster employment growth in Riverside and San Bernardino Counties, where an abundant labor force is available, the region's transportation and air quality problems may be reduced due to more balanced county distribution of population and employment.

According to SCAG's 2016-2040 RTP/SCS, population, housing unit, and employment growth in the City of Indio will dramatically increase in the next 20 years. More specifically, the City's population is projected to increase from 78,800 people in 2012, to 123,300 in 2040. Overall, the County's population is expected to increase from its current 2.2 million people to approximately 3.2 million in 2040, an increase of approximately 50 percent.

Capacity and Level of Service – Opening Year (2025) Traffic Analysis

Freeway Operations Analysis

As presented below in Table 1-4 and Table 1-5, during the AM and PM peak hours, all freeway facilities would operate acceptably under the No-Build Alternative and both Build Alternatives in the opening year (2025). Under both Build Alternatives, operations at the Monroe Street on-ramp would improve with the extension of the on-ramp acceleration lane.

Table 1-4. Opening Year (2025) AM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²
Eastbound							
Merge from Jefferson Street	Merge	18	B	18	B	18	B
Mainline between Jefferson Street and Monroe Street	Basic	18	B	19	B	19	B
Diverge to Monroe Street	Diverge	20	B	17	B	17	B
Merge from Monroe Street	Merge	18	B	14	B	14	B
Mainline between Monroe Street and Jackson Street	Basic ³	18	B	14	B	14	B
Diverge to Jackson Street	Diverge	18	B	14	B	14	B
Westbound							
Merge from Jackson Street	Merge	21	C	21	C	21	C
Mainline between Jackson Street and Monroe Street	Basic ³	21	C	18	B	18	B
Diverge to Monroe Street	Diverge	21	C	18	B	18	B
Merge from Monroe Street	Merge	23	C	23	C	21	C
Mainline between Monroe Street and Jefferson Street	Basic	23	C	23	C	23	C
Diverge to Jefferson Street	Diverge	24	C	24	C	24	C
Source: California Department of Transportation 2019a							
Notes:							
¹ Density is reported vehicles per lane per mile.							
² Estimated average grade for the analysis segment.							
³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).							

Table 1-5. Opening Year (2025) PM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²
Eastbound							
Merge from Jefferson Street	Merge	22	C	22	C	22	C
Mainline between Jefferson Street and Monroe Street	Basic	22	C	22	C	22	C
Diverge to Monroe Street	Diverge	24	C	20	B	20	B
Merge from Monroe Street	Merge ⁵	22	C	16	B	16	B
Mainline between Monroe Street and Jackson Street	Basic ^{4,5}	22	C	16	B	16	B
Diverge to Jackson Street	Diverge ⁵	23	C	16	B	16	B
Westbound							
Merge from Jackson Street	Merge	22	C	22	C	22	C
Mainline between Jackson Street and Monroe Street	Basic ⁴	22	C	16	B	19	B
Diverge to Monroe Street	Diverge	22	C	16	B	19	B
Merge from Monroe Street	Merge	21	C	21	C	19	B
Mainline between Monroe Street and Jefferson Street	Basic	21	C	22	C	23	C
Diverge to Jefferson Street	Diverge	22	C	22	C	22	C
Source: California Department of Transportation 2019a							
Notes:							
¹ Density is reported vehicles per lane per mile. Bold font indicates LOS E of F conditions.							
² Estimated average grade for the analysis segment.							
³ Bold font indicates unacceptable LOS E or F conditions.							
⁴ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet) under the No Build Alternative.							
⁵ Segment is part of a weave under both Build Alternatives.							

Intersection Operations Analysis

As presented below in Table 1-6 and Table 1-7, during the AM and PM peak hours all intersections would operate acceptably under the No-Build Alternative and Build Alternatives.

AM Peak Hour (2025)

Under the No Build Alternative, all study intersections operate at LOS C or better, except for the westbound ramp terminal intersection and Showcase Parkway/Monroe Street, which operate at LOS D. Under Build Alternative 2 (Locally Preferred Alternative), all study intersections operate acceptably at LOS D or better. The eastbound I-10/Monroe Street intersection shows similar delay as the No Build Alternative, while the westbound I-10/Monroe Street intersection is improved to LOS B.

Under Build Alternative 4, all study intersections operate acceptably at LOS D or better. The westbound I-10/Monroe Street intersection continues to operate at LOS C or better, while the eastbound ramp terminal intersection shows a slight increase in delay due to longer cycle length and improved volume served under Build Alternative 4.

Table 1-6. Opening Year (2025) AM Peak Hour Intersections Operations

Study Intersection	No-Build		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
	Delay	LOS	Delay	LOS	Delay	LOS
Monroe Street/Avenue 42	29	C	29	C	28	C
Monroe Street/Showcase Parkway	36	D	8	A	8	A
Monroe Street/I-10 westbound ramps	41	D	18	B	15	B
Monroe Street/I-10 eastbound ramps	18	B	14	B	23	C
Monroe Street/Oleander Avenue	12	B	12	B	14	B
Monroe Street/Avenue 44	21	C	20	B	23	C
Jackson Street/I-10 westbound ramps ¹	6	A	6	A	5	A
Jackson Street/I-10 eastbound ramps ¹	9	A	9	A	9	A
Jefferson Street/I-10 westbound ramps ¹	9	A	9	A	8	A
Jefferson Street/I-10 eastbound ramps ¹	21	C	20	B	20	C
Notes: ¹ No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4. Source: California Department of Transportation 2019a						

PM Peak Hour (2025)

As presented below in Table 1-7, the Monroe Street/Avenue 44 and the Jackson Street/I-10 eastbound ramps intersections would operate at LOS F during the PM peak hour under the No-Build Alternative in the PM peak hour. Under this alternative, the westbound ramp terminal intersection on Monroe Street would operate at LOS B, while the eastbound ramp terminal intersection would operate at LOS D.

Also shown in Table 1-7, under Build Alternative 2 (Locally Preferred Alternative) the westbound ramp terminal would continue to operate at LOS B. The Monroe Street/Avenue 44 intersection would also improve to LOS C from LOS F. Furthermore, under Build Alternative 4, the westbound ramp terminal intersection would continue to operate at LOS B, while operations

at the eastbound ramp terminal intersection would improve from LOS D to LOS A. Finally, and as also shown in Table 1-7, the Monroe Street/Avenue 44 intersection would also improve from LOS F to LOS C under Build Alternative 4.

Table 1-7. Opening Year (2025) PM Peak Hour Intersections Operations

Study Intersection	No-Build		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
	Delay	LOS ¹	Delay	LOS ¹	Delay	LOS ¹
Monroe Street/Avenue 42	25	C	26	C	25	C
Monroe Street/Showcase Parkway	9	A	9	A	8	A
Monroe Street/I-10 westbound ramps	19	B	17	B	10	B
Monroe Street/I-10 eastbound ramps	40	D	15	B	9	A
Monroe Street/Oleander Avenue	34	C	14	B	14	B
Monroe Street/Avenue 44	87	F	31	C	29	C
Jackson Street/I-10 westbound ramps ²	5	A	5	A	5	A
Jackson Street/I-10 eastbound ramps ²	12	B	12	B	12	B
Jefferson Street/I-10 westbound ramps ²	6	A	6	A	6	A
Jefferson Street/I-10 eastbound ramps ²	94	F	90	F	80	E

Notes:
¹ Bold font indicates unacceptable operations.
² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4.
 Source: California Department of Transportation 2019a

System-wide Performance (2025)

The system-wide performance measures applied for the Opening Year (2025) analysis include travel time, travel speeds, number of vehicles served by the study network, and vehicle-hours delay (VHD). Tables 1-8 and 1-9, respectively, show the Opening Year (2025) AM and PM peak hour travel time and speeds for the I-10 corridor under the No-Build and Build Alternatives.

Table 1-8. Opening Year (2025) AM Peak Hour Travel Time

Direction	Location	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:05	63	3:05	63	3:05	63
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:06	63	3:06	63	3:06	63

Source: California Department of Transportation 2019a

Table 1-9. Opening Year (2025) PM Peak Hour Travel Time

Direction	Location	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:06	63	3:06	63	3:06	62
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:05	63	3:06	63	3:06	62

Source: California Department of Transportation 2019a

Both travel time and average speed along the I-10 corridor would remain consistent under all alternatives during the AM and PM peak hour. These metrics—along with the freeway analysis presented in Section 2.1.9, Traffic and Transportation, of this Initial Study/Environmental Assessment (IS/EA)—indicate that I-10 corridor would operate at free-flow conditions under Opening Year (2025) conditions.

Capacity and Level of Service – Design Year (2045) Conditions

The purpose of the design year analysis is to evaluate long term the traffic operations in the study area under each alternative. For each alternative, traffic operations are evaluated using peak-hour density/LOS for freeway mainline and ramps, delay/LOS for intersections, travel times/speeds, and other system-wide performance measures.

Freeway Operations Analysis

AM Peak Hour (2045)

Under the No-Build Alternative, the following two freeway segments would operate unacceptably at LOS E:

- Westbound merge from Jackson Street
- Westbound diverge to Monroe Street

Under Build Alternative 2 (Locally Preferred Alternative), with the addition of a deceleration and acceleration lane in the westbound direction at the Monroe Street interchange, Monroe Street off-ramp would improve to LOS D. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp and an auxiliary lane between Monroe Street and Jackson Street results in decreased density for segments 3 through 6.

Under Build Alternative 4, similar improvements would occur at the Monroe Street off-ramp, which would improve from LOS E to LOS D with the extension of the deceleration lane. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp and an auxiliary lane between Monroe Street and Jackson Street, results in decreased density for segments 3 through 6.

Table 1-10. Design Year (2045) AM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}
Eastbound							
Merge from Jefferson Street	Merge	30	D	30	D	30	D
Mainline between Jefferson Street and Monroe Street	Basic	30	D	30	D	30	D
Diverge to Monroe Street	Diverge	32	D	28	D	25	C
Merge from Monroe Street	Merge ⁶	30	D	22	C	22	C
Mainline between Monroe Street and Jackson Street	Basic ^{4, 6}	30	D	22	C	22	C
Diverge to Jackson Street	Diverge ⁶	31	D	22	C	22	C
Westbound							
Merge from Jackson Street	Merge	<u>37</u>	<u>E</u>	<u>36</u>	<u>E</u>	<u>35</u>	<u>E</u>
Mainline between Jackson Street and Monroe Street	Basic ⁴	<u>36</u>	<u>E</u>	28	C	28	C
Diverge to Monroe Street	Diverge	<u>36</u>	<u>E</u>	28	C	28	C
Merge from Monroe Street	Merge	32	D	26	C	30	D
Mainline between Monroe Street and Jefferson Street	Basic	37	D	29	D	34	D
Diverge to Jefferson Street	Diverge	33	D	30	D	35	D
Source: California Department of Transportation 2019a							
Notes:							
¹ Density is reported vehicles per lane per mile. Bold and underline font indicate LOS E or F conditions.							
² Estimated average grade for the analysis segment.							
³ Bold font indicates unacceptable LOS E or F conditions.							
⁴ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).							
⁵ A maximum density of 45 vehicles per lane per mile for LOS E is assumed for ramp segments							

PM Peak Hour (2045)

Under the No-Build Alternative, the following four freeway segments were found to operate unacceptably at LOS E and LOS F:

- Westbound Merge from Jackson Street
- Westbound Diverge to Monroe Street
- Westbound Merge from Monroe Street
- Eastbound Diverge to Monroe Street

Under Build Alternative 2 (Locally Preferred Alternative), the addition of westbound deceleration/acceleration lanes at the Monroe Street interchange would improve operation at the Monroe Street off-ramp and on-ramp in the westbound direction to LOS D. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp improves operations to LOS E. The addition of an auxiliary lane also improves LOS from D to C between the Monroe Street on-ramp and Jackson Street off-ramp in the eastbound direction.

Under Build Alternative 4, the addition of westbound deceleration/acceleration lanes at the Monroe Street interchange improves operation at both the Monroe Street off-ramp and on-ramp in the westbound direction to LOS D. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp improves operations to LOS E. The addition of an auxiliary lane also improves LOS from D to C between the Monroe Street on-ramp and Jackson Street off-ramp in the eastbound direction.

Table 1-11. Design Year (2045) PM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}
Eastbound							
Merge from Jefferson Street	Merge	32	D	34	D	34	D
Mainline between Jefferson Street and Monroe Street	Basic	34	D	34	D	34	D
Diverge to Monroe Street	Diverge	37	E	30	D	30	D
Merge from Monroe Street	Merge ⁶	32	D	25	C	28	C
Mainline between Monroe Street and Jackson Street	Basic ^{4, 6}	33	D	25	C	28	C
Diverge to Jackson Street	Diverge ⁶	33	D	25	C	28	C
Westbound							
Merge from Jackson Street	Merge	62	F	59	F	61	F
Mainline between Jackson Street and Monroe Street	Basic ⁴	41	E	32	D	32	D
Diverge to Monroe Street	Diverge	41	E	32	D	32	D
Merge from Monroe Street	Merge	41	E	29	D	30	D
Mainline between Monroe Street and Jefferson Street	Basic	31	D	32	D	32	D
Diverge to Jefferson Street	Diverge	31	D	32	D	32	D
Source: California Department of Transportation 2019a							
Notes:							
¹ Density is reported vehicles per lane per mile. Bold and underline font indicate LOS E or F conditions.							
² Estimated average grade for the analysis segment.							
³ Bold font indicates unacceptable LOS E or F conditions.							
⁴ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).							
⁵ A maximum density of 45 vehicles per lane per mile for LOS E is assumed for ramp segments.							
⁶ Segment is part of a weaving segment under Build Alternative 2 and 4							

Intersection Operations Analysis

Forecast increased traffic volumes, in conjunction with the current capacity of the existing interchange, are expected to result in the interchange ramps and associated intersections operating at unacceptable LOS by the year 2045.

AM Peak Hour (2045)

As shown in Table 1-12, all study intersections on Monroe Street were found to operate unacceptably at LOS E or LOS F under the No-Build Alternative. The westbound and eastbound ramp terminal intersections operate at LOS F.

Under Build Alternative 2 (Locally Preferred Alternative), all study locations on Monroe Street would improve to acceptable operations. Both ramp terminal intersections would improve to LOS B with Build Alternative 2 (Locally Preferred Alternative) in place.

Under Build Alternative 4, all study locations on Monroe Street would improve to acceptable operations. The ramp terminal intersections would improve to LOS B with Build Alternative 4 in place.

Table 1-12. Design Year (2045) AM Peak Hour Intersection Operations

Study Intersection	No-Build Alternative ¹		Build Alternative 2 (Locally Preferred Alternative) ¹		Build Alternative 4 ¹	
	Delay	LOS	Delay	LOS	Delay	LOS
Monroe Street/Avenue 42	256	F	31	C	30	C
Monroe Street/Showcase Parkway	119	F	12	B	12	B
Monroe Street/I-10 Westbound Ramps	164	F	19	B	12	B
Monroe Street/I-10 Eastbound Ramps	121	F	17	B	11	B
Monroe Street/Oleander Avenue	80	E	21	C	21	C
Monroe Street/Avenue 44	125	F	25	C	26	C
Jackson Street/I-10 Westbound Ramps ²	11	B	6	A	6	A
Jackson Street/I-10 Eastbound Ramps ²	10	A	9	A	9	A
Jefferson Street/I-10 Westbound Ramps ²	45	D	45	D	42	D
Jefferson Street/I-10 Eastbound Ramps ²	87	F	82	F	78	E

Source: California Department of Transportation 2019a
 Notes:
¹ Bold font indicates unacceptable operations.
² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4.

PM Peak Hour (2045)

As shown in Table 1-13, all study intersections on Monroe Street operate unacceptably, except for the Monroe Street/Oleander intersection, which operates at LOS D. Both ramp terminal intersections operate at LOS F under the No-Build Alternative.

Under Build Alternative 2, most of the intersections along the Monroe Street corridor would improve to acceptable operations. The Monroe Street/Avenue 44 intersection would still operate at over-capacity LOS F conditions; however, this intersection would anticipate significant operational improvements by reducing overall delay by 90 seconds. Both ramp terminal intersections would operate at LOS B under Build Alternative 2 (Locally Preferred Alternative).

Under Build Alternative 4, intersection operations along the Monroe Street corridor would improve to acceptable operations, with the exception of the Monroe Street/Avenue 44 intersection, at which delay would decrease significantly by 90 seconds. Under Build Alternative 4, the Monroe Street/I-10 westbound ramps intersection would operate at LOS B, while the Monroe Street/I-10 eastbound ramps would improve to LOS C.

Table 1-13. Design Year (2045) PM Peak Hour Intersection Operations

Study Intersection	No-Build Alternative ¹		Build Alternative 2 (Locally Preferred Alternative) ¹		Build Alternative 4 ¹	
	Delay	LOS	Delay	LOS	Delay	LOS
Monroe Street/Avenue 42	234	F	33	C	35	C
Monroe Street/Showcase Parkway	117	F	11	B	11	B
Monroe Street/I-10 westbound ramps	181	F	17	B	17	B
Monroe Street/I-10 eastbound ramps	166	F	19	B	31	C
Monroe Street/Oleander Avenue	51	D	18	B	19	B
Monroe Street/Avenue 44	196	F	100	F	103	F
Jackson Street/I-10 westbound ramps ²	5	A	5	A	5	A
Jackson Street/I-10 eastbound ramps ²	14	B	13	B	13	B
Jefferson Street/I-10 westbound ramps ²	95	F	91	F	86	F
Jefferson Street/I-10 eastbound ramps ²	215	F	204	F	208	F

Source: California Department of Transportation 2019a

Notes:

¹ Bold font indicates unacceptable operations.

² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4.

System-Wide Performance (2045)

The system-wide performance measures applied for the design year (2045) analysis include travel time, travel speeds, number of vehicle served by the study network, and VHD. Tables 1-14 and 1-15 show the design year (2045) AM and PM peak hour travel time and speeds for the I-10 corridor under the No-Build and Build Alternatives.

Table 1-14. Design Year (2045) AM Peak Hour Travel Time

Direction	Location	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:09	62	3:08	62	3:08	62
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:14	60	3:10	61	3:13	61

Source: California Department of Transportation 2019a

AM Peak Hour (2045)

During the AM peak hour, travel time and average speed along the corridor would be similar between the No-Build Alternative and two Build Alternatives in the eastbound direction. In the westbound direction, travel time and speeds under the two Build Alternatives would also remain similar to the No-Build Alternative.

Table 1-15. Design Year (2045) PM Peak Hour Travel Time

Direction	Location	No-Build Alternative		Build Alternative 2 (Locally Preferred Alternative)		Build Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:30	56	3:14	60	3:17	59
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:40	53	3:46	52	3:47	52

Source: California Department of Transportation 2019a

PM Peak Hour (2045)

During the PM peak hour, the eastbound I-10 travel time and speed decrease and increase, respectively, as a result of the addition of the auxiliary lane between Monroe Street and Jackson Street. In the westbound direction, increases in travel time and reduction in speed under both Build Alternatives is a result of the increased volume served in the Design Year (2045). Under Build Alternative 2, travel time increases by 6 seconds while speed is reduced by 1 mile per hour. Build Alternative 4 increases travel time by 7 seconds and decreases speed by 1 mile per hour.

Traffic Analysis Conclusions

The traffic operations analysis was conducted for the project alternatives, including the No-Build Alternative, under both Opening Year (2025) and Design Year (2045). Under Existing (2018) conditions, all study facilities on I-10 were found to operate acceptably at LOS C or better during both the AM and PM peak hours. All study intersections along the Monroe Street corridor also operate at LOS C or better during the AM and PM peak hours.

Under Design Year (2045), eastbound I-10 study facilities would operate acceptably under the No-Build Alternative. Westbound I-10 would have insufficient capacity for the 2045 traffic demand and, consequently, would result in deficient operations of LOS F and LOS E at the Jackson Street on-ramp and Monroe Street off-ramp, respectively, during the AM and PM peak hours. These findings are consistent with the I-10 Transportation Concept Report prepared by Caltrans in 2017, which found that I-10 would operate deficiently by 2040 in the Monroe Street study area without widening I-10. For the purpose of this project, I-10 is assumed to remain as in the existing condition under the No-Build Alternative because no improvements are programmed along the study corridor in accordance with the 2016 SCAG RTP. In addition, under the No-Build Alternative, all study intersections along Monroe Street operate unacceptably during the AM and PM peak hours except for the Monroe Street/Oleander Avenue intersection, which would operate unacceptably during the AM peak hour.

During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 2 (Tight Diamond) would improve all freeway facilities to acceptable operations with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Four study intersections

along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 would also serve 6,140 more vehicles (or 14 percent), reduce vehicle hours of delay by 19 percent, and reduce delay per vehicle by 24 percent. While travel time on I-10 in the westbound direction is increased slightly, by 6 seconds, speeds are maintained when compared to the No-Build Alternative. In the eastbound direction the travel time is decreased by 16 seconds with a 4 mile per hour increase in speed. Both ramp terminal intersections would be improved from LOS F to LOS B with an increase in volume served of approximately 25 percent.

Under Design Year (2045), during the AM peak hour, Build Alternative 4 (Diverging Diamond) would improve all freeway facilities to acceptable operations with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Six study intersections along Monroe Street would also be improved from unacceptable to acceptable. The number of vehicles served would increase by 4,840 vehicles (or 12 percent), while vehicle hours of delay would decrease by 31 percent and travel times decrease by 1 second in both the eastbound and westbound direction. At the ramp terminal intersections, LOS would be improved from LOS F to LOS B for both intersections, while demand served at the intersections is improved by 23 percent.

During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 4 (Diverging Diamond) would improve all freeway facilities to acceptable operations with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 would also serve 5,840 more vehicles (or 13 percent) and reduce vehicle hours of delay by 13 percent. While travel time on I-10 in the westbound direction is increased slightly, by 7 seconds, speeds are maintained when compared to the No-Build Alternative during the PM peak period. In the eastbound direction, travel time is decreased by 13 seconds while speed is increased by 3 miles per hour. At the ramp terminal intersections, the I-10 eastbound ramp terminal intersection would be improved from LOS F to LOS C, with an increase in demand served of 24 percent, while the I-10 westbound ramp terminal intersection would be improved from LOS F to LOS B with a 27 percent increase in demand served.

1.3.3 Roadway Deficiencies

The Monroe Street at I-10 interchange was constructed in 1972, and several geometric and cross-sectional deficiencies exist within the interchange area. These deficiencies include the following:

- Insufficient shoulder widths on Monroe Street and entrance and exit ramps.
- Insufficient pedestrian sidewalk widths and multi-modal facilities (no bike or low-speed electric vehicle [LSEV], alternative vehicle use facilities).
- Existing bridge structures require seismic retrofit to meet current standards and will be over 50 years old by the project's estimated opening year (2025).
- The existing CVSC bridge foundations are susceptible to scour and require extensive measures to protect the existing foundations.
- Existing bridge structures do not include protective screening over I-10.

- Entrance and exit ramps do not have a contrasting surface treatment beyond the gore pavement area.
- Existing ramps are single lane and exceed 1,000 feet without ramp metering.
- Intersection spacing is less than the preferred minimum 500 feet.
- Non-standard compound curves and superelevations.

The Build Alternatives propose to demolish, reconstruct, and widen Monroe Street, including the associated bridge structures and interchange ramps, to provide additional traffic capacity and to address seismic, geometric, and multi-modal deficiencies. The project would widen and reconstruct Monroe Street from two to four lanes and improve existing facilities with standard lane widths, turning radii, pedestrian facilities, and a shared LSEV/bike lane. A Class II bikeway for bikes and LSEV users would be provided in both directions of travel for each Build Alternative. The eastbound and westbound ramp termini would be re-aligned perpendicular to the intersection to eliminate skew angles and improve sight lines. Acceleration and deceleration lanes at the westbound on- and off-ramps and a deceleration lane at the eastbound off-ramp would be provided to improve traffic operations and to meet the Department's ramp metering requirements. Ramp metering would be provided on both the I-10 westbound and eastbound on-ramps. On- and off-ramps would be widened from one to two and three lanes up to the ramp termini. All design features would be designed in accordance with the latest Department Standard Plans and Specifications, and design exceptions would be approved by the Department prior to implementation.

1.3.4 Social Demands or Economic Development

According to SCAG's 2016-2040 RTP/SCS, population, housing unit, and employment growth in the City of Indio will dramatically increase in the next 20 years. More specifically, the City's population is projected to increase from 78,800 people in 2012, to 123,300 in 2040. Overall, the County's population is expected to increase from its current 2.2 million people to approximately 3.2 million in 2040, an increase of almost 50 percent.

The project area contains existing transportation uses, including I-10 and Monroe Street, as well as land designated by the *Indio General Plan 2020* (City of Indio 1994) north of the proposed project as "Mixed Use, Development Agreement (MU [DA])," and areas south of the project as "Open Space OS," "Community Commercial CC," "Low Density Residential RL," and "Manufacturing M" (Figure 2-2 shows the General Plan land use for the project area). Please see Section 2.1.1 (Land Use) for more detailed discussion regarding existing and planned land use in the project area and vicinity. Table 2-1 of Section 2.1.1, Land Use, identifies and describes recently constructed and planned development and infrastructure projects within the project vicinity.

1.3.5 Modal Interrelationships and System Linkages

I-10 provides regional access in the project area as a four-lane freeway facility, traversing the state of California in a west-east orientation. I-10 originates in Santa Monica, California and extends eastward to its terminus in Jacksonville, Florida. As an interstate facility, I-10 serves as a

major corridor for goods movement through the project area and areas west and east via the freeway.

The I-10/Monroe Street interchange is a connecting link in the local and regional transportation system. In the immediate vicinity of the interchange, Monroe Street provides access to existing commercial, industrial, and residential areas north and south of the interchange. Regionally, and south of the existing interchange, Monroe Street provides access to the City of La Quinta as well as a direct connection to State Route 111, which provides access to communities east, west, and south of the I-10/Monroe Street interchange.

The project would also include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. The project includes bicycle lanes and sidewalks and would accommodate LSEVs along Monroe Street through the interchange. It also includes a future alignment of the planned Coachella Valley Link (CV Link) project. CV Link is a 50-mile multi-modal transportation pathway proposed by the Coachella Valley Association of Governments (CVAG) that would extend from the City of Palm Springs on the west to the City of Coachella on the east. The route is generally proposed along the levees of the CVSC and on local streets. CV Link is designed to accommodate the widest possible range of users, including pedestrians, bicyclists, LSEVs, and mobility device users (wheelchairs and electric scooters). LSEVs include golf carts and neighborhood electric vehicles. The project would accommodate a segment of the CV Link project along the south levee of the CVSC within the project limits. Access points to the planned future CV Link from Monroe Street would be consistent with the access point locations identified in the CV Link Conceptual Master Plan.

The City operates various bus routes through SunLine Transit, with Route 80 operating through the Monroe Street interchange. Route 80 has two stops near the project: Stop 19, on Monroe Street at Oleander Avenue, and Stop 20, on Showcase Parkway at Monroe Street.

The I-10/Monroe Street Interchange Improvement Project is approximately two miles east of the Bermuda Dunes Airport. The privately owned airport is situated in the Coachella Valley and is a major point of general aviation access to the surrounding desert communities of eastern Riverside County. The airport caters to corporate-type, twin engine propeller aircraft and small business jets.

No future plans for rail development are planned in the project vicinity.

1.3.6 Air Quality Improvements

The project includes bicycle lanes and sidewalks and would accommodate LSEVs along Monroe Street through the interchange (refer to Section 1.4 below for detail regarding design features of the Build Alternatives).

1.3.7 Independent Utility and Logical Termini

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

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and 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 IS/EA assesses the proposed project area, which extends north to south along Monroe Street from Avenue 42 to Oleander Avenue. Avenue 42 is approximately 0.3 mile north of the I-10/Monroe westbound ramp intersection, and Oleander Avenue is approximately 0.4 mile south of the I-10/Monroe eastbound ramp intersection. The study area extends west to east from Madison Street, approximately 1 mile west of the interchange, to I-10/Jackson Street, approximately 1 mile to the east. Advanced signs are planned approximately two miles east and west of Monroe Street. Included in the study area are the I-10 overcrossing and Channel Bridge structures. 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-10 and its facilities within the study area, without any additional transportation improvements being made in the area. As such, the proposed project is considered a project with independent utility.

1.4 Project Description

The City, in cooperation with the Department and the County, proposes to reconstruct and widen Monroe Street at I-10 to improve the operational performance of the Monroe Street interchange. The Monroe Street interchange is on I-10 at PM R54.7, between PM R53.9 (at the Jefferson Street interchange) and PM R55.5 (at the Jackson Street interchange). The current I-10/Monroe Street interchange configuration is a diamond-type interchange, with signal control at the on- and off-ramp termini. The project proposes to reconstruct Monroe Street at the interchange, including the existing on- and off-ramps, the Monroe Street I-10 overcrossing, and the bridge over the CVSC. The project proposes to add an auxiliary lane in the eastbound direction between the Monroe Street and Jackson Street interchange, acceleration/deceleration lanes at the westbound Monroe Street on- and off-ramps, and a deceleration lane at the eastbound Monroe Street off-ramp. The Monroe Street interchange is a major access point for existing development at the interchange area.

1.5 Alternatives

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 Alternative 1: No-Build Alternative; Build Alternative 2 (Locally

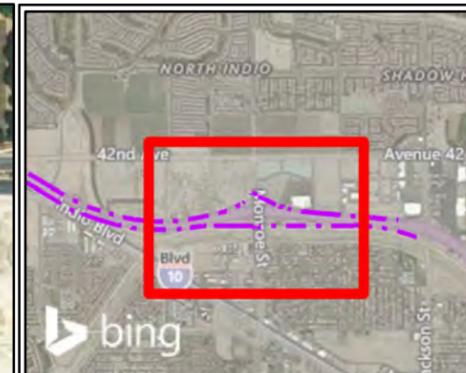
Preferred Alternative): Tight Diamond Interchange; and Build Alternative 4: Diverging Diamond Interchange, respectively.

1.5.1 Project Alternatives

Alternatives accounted for the proximity of the existing I-10/Jackson Street and I-10/Jefferson Street interchanges to the east and west, respectively, in the context of the Department's minimum spacing requirements between interchanges; the existing CVSC located immediately south of the I-10/Monroe Street interchange; and the planned CV Link multi-use trail that is planned to be constructed by CVAG along the southern bank of the CVSC within the area of improvements associated with the proposed project. These factors affected design considerations with respect to development of the proposed alternatives. Two Build Alternatives and a No-Build Alternative were studied for the proposed project.

- Alternative 1: No-Build Alternative (refer to Figure 1-5).
- Build Alternative 2 (Locally Preferred Alternative): Tight Diamond Interchange (refer to Figures 1-6A through 1-6F).
- Build Alternative 4: Diverging Diamond Interchange (refer to Figures 1-7A through 1-7F).

Additionally, Figure 1-8, Figure 1-9a, and Figure 1-9b follow, which are cross-sections of Monroe Street as it relates to the two respective Build Alternatives. Figure 1-8 pertains to Alternative 2, and Figure 1-9a and Figure 1-9b pertain to Alternative 4. For reference, please note on Figures 1-8 and 1-9 that "SDWK" means sidewalk, "R/W" means right of way, and "LSEV" means low-speed electric vehicle.



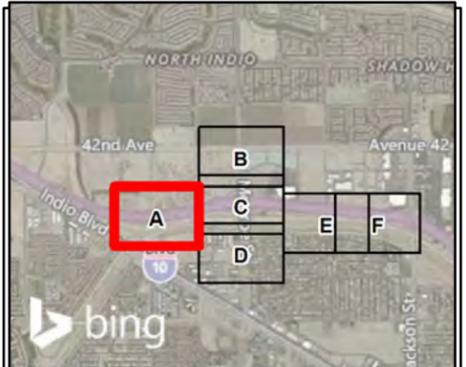
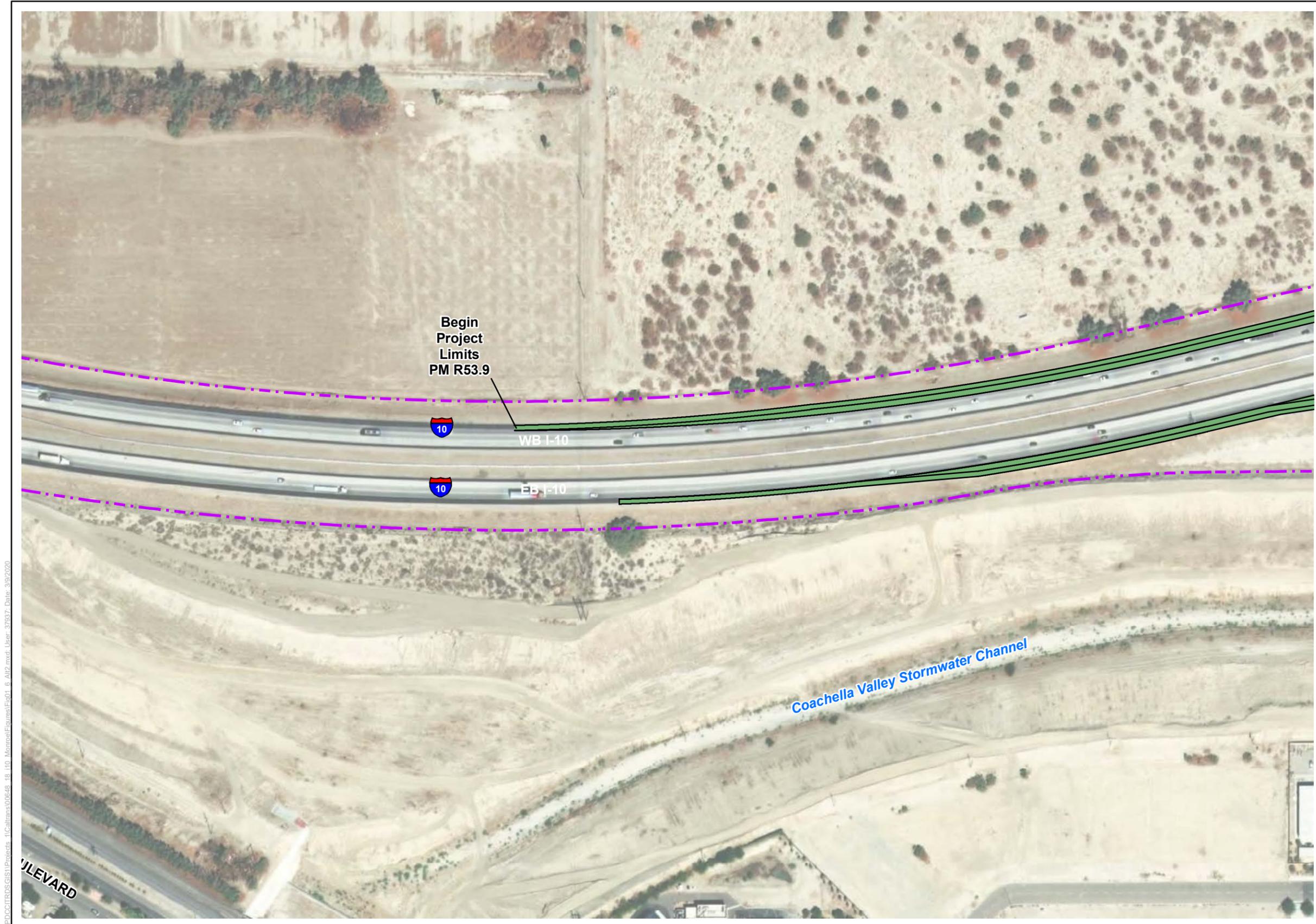
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Figure 1-5
Alternative 1 (No Build)

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- Project Improvements
 - - - Proposed Retaining Walls
 - - - Proposed City Right of Way
 - - - Proposed State Right of Way
 - - - Proposed Bridge Improvements
 - - - Proposed Roadway Improvements
 - ▭ CV Link Improvements
 - - - Existing City Right of Way
 - - - Existing State Right of Way

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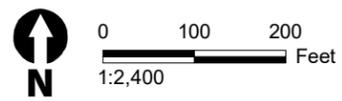


Figure 1-6A
Alternative 2 (Locally Preferred Alternative)

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- Legend**
- Project Improvements
 - Proposed Retaining Walls
 - Proposed City Right of Way
 - Proposed State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way

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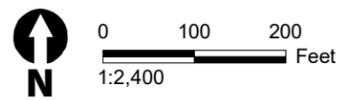
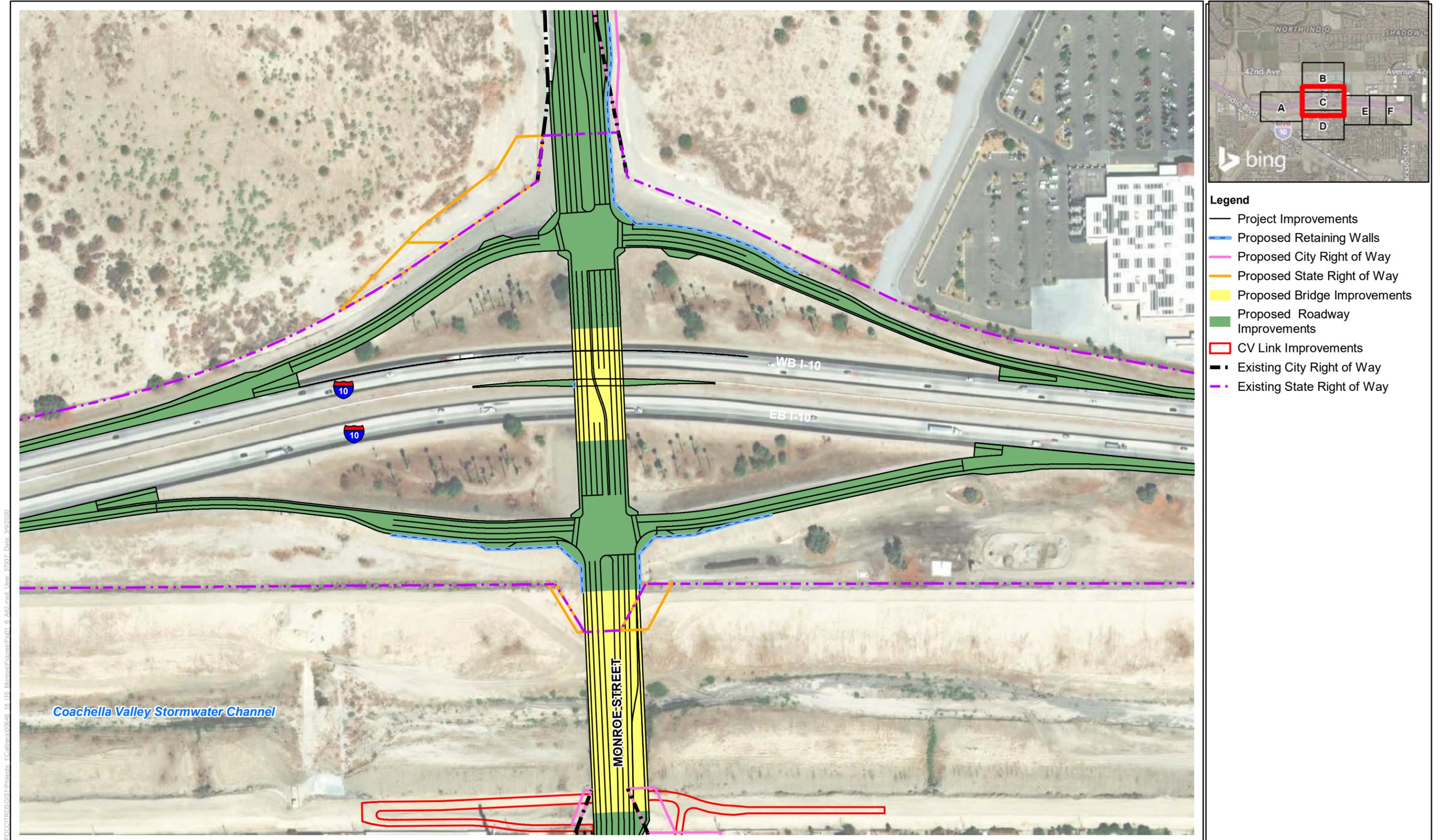


Figure 1-6B
Alternative 2 (Locally Preferred Alternative)

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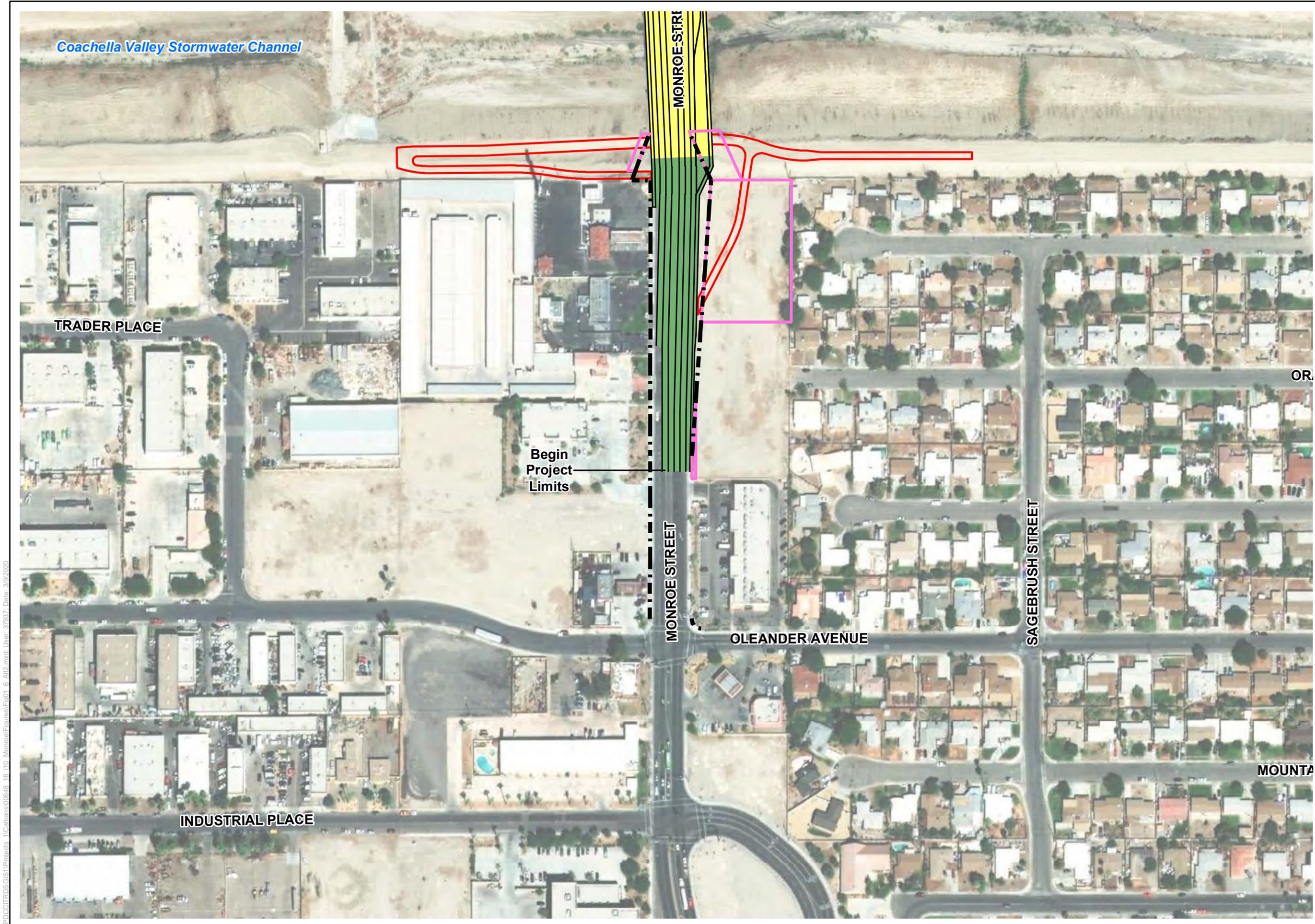
- Legend**
- Project Improvements
 - Proposed Retaining Walls
 - Proposed City Right of Way
 - Proposed State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way

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Figure 1-6C
Alternative 2 (Locally Preferred Alternative)

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- Legend**
- Project Improvements
 - Proposed Retaining Walls
 - Proposed City Right of Way
 - Proposed State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements
 - CV Link Improvements
 - - Existing City Right of Way
 - - Existing State Right of Way

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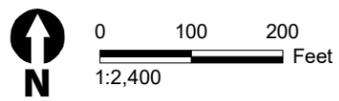
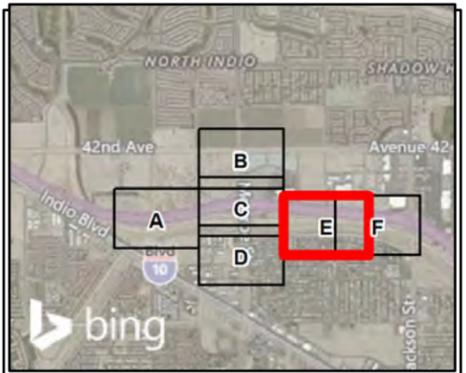
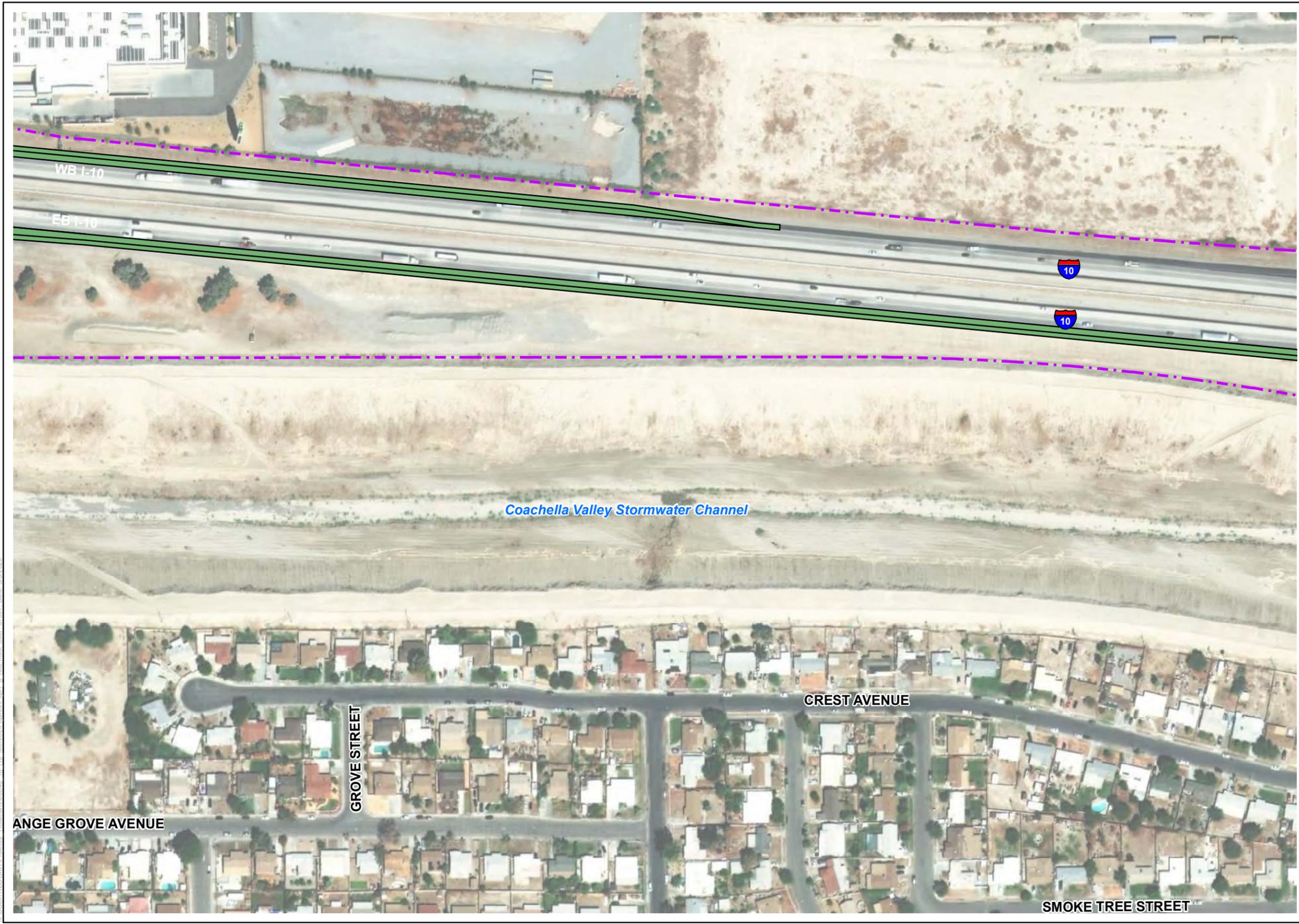


Figure 1-6D
Alternative 2 (Locally Preferred Alternative)

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- Legend**
- Project Improvements
 - Proposed Retaining Walls
 - Proposed City Right of Way
 - Proposed State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way

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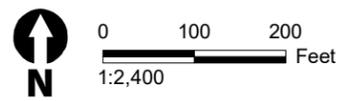
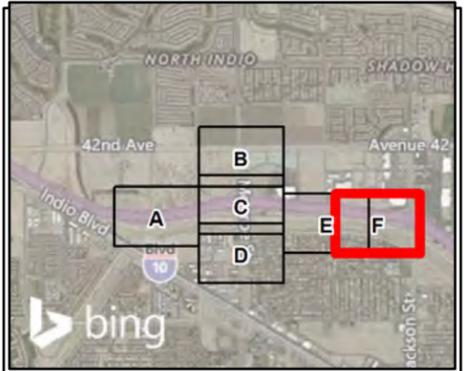
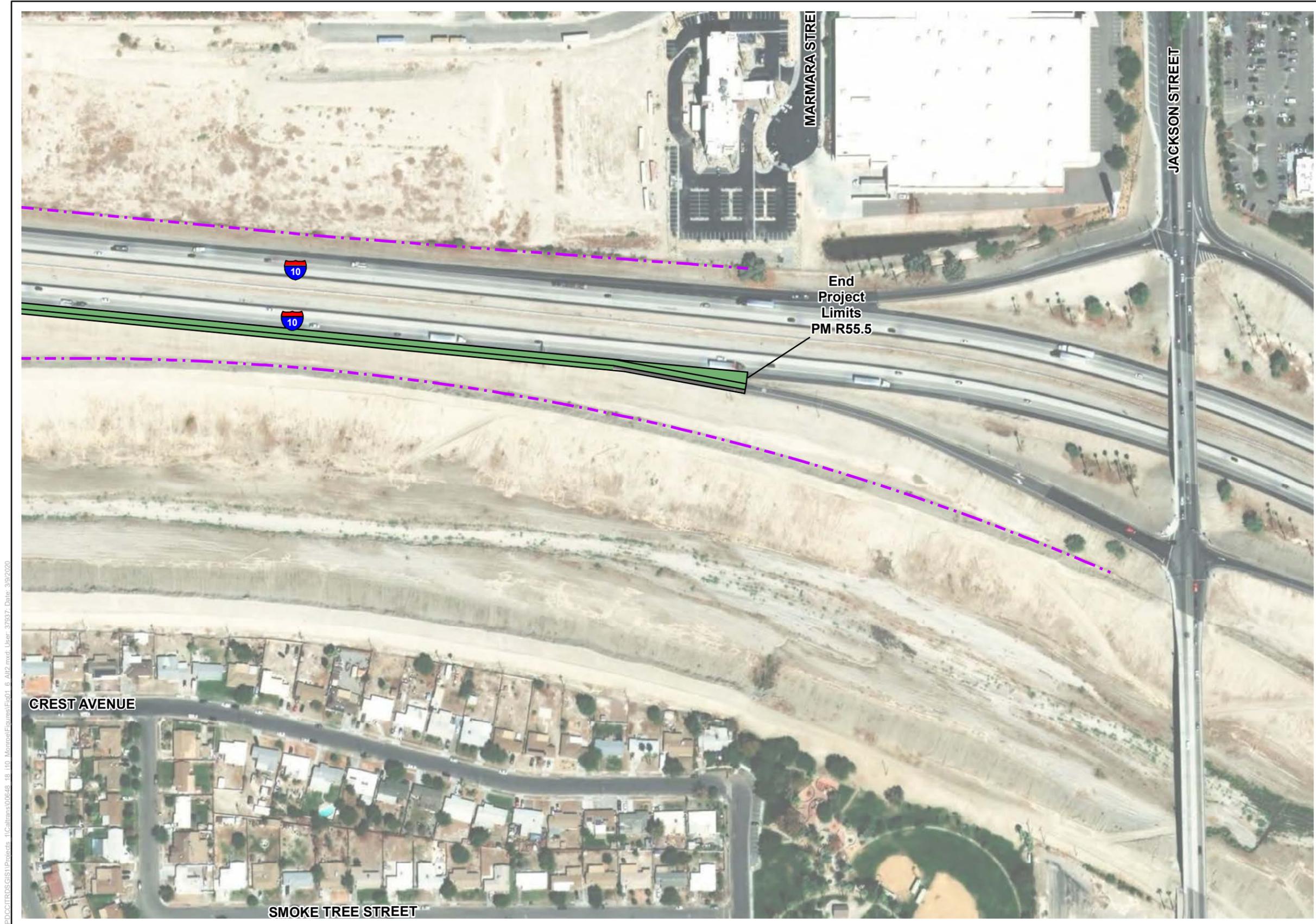


Figure 1-6E
Alternative 2 (Locally Preferred Alternative)

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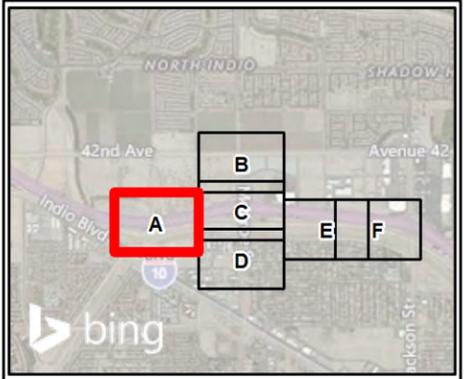
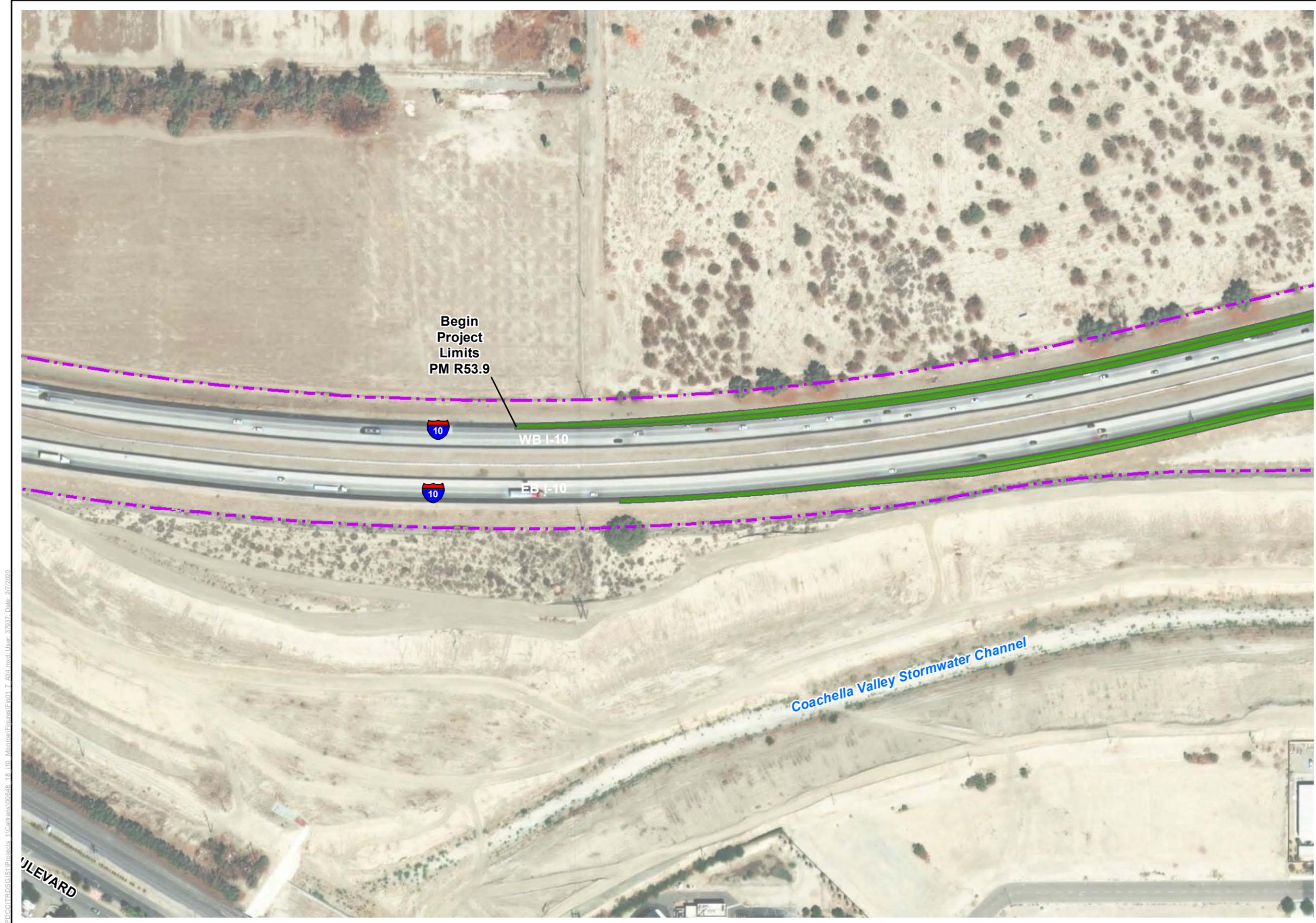
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- Project Improvements
 - Proposed Retaining Walls
 - Proposed City Right of Way
 - Proposed State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way

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Figure 1-6F
Alternative 2 (Locally Preferred Alternative)

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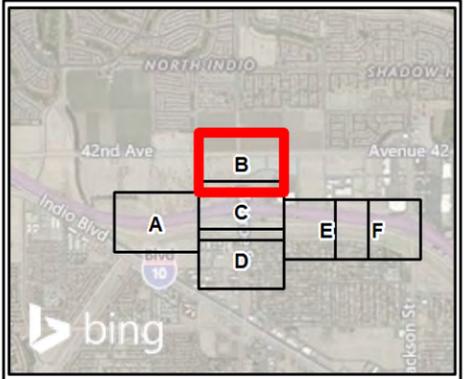
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 - Proposed State Right of Way
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 - Existing City Right of Way
 - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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Figure 1-7A
Alternative 4

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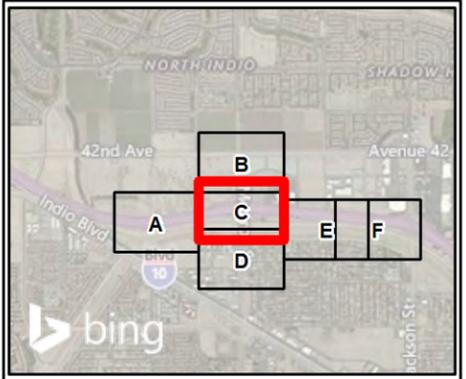
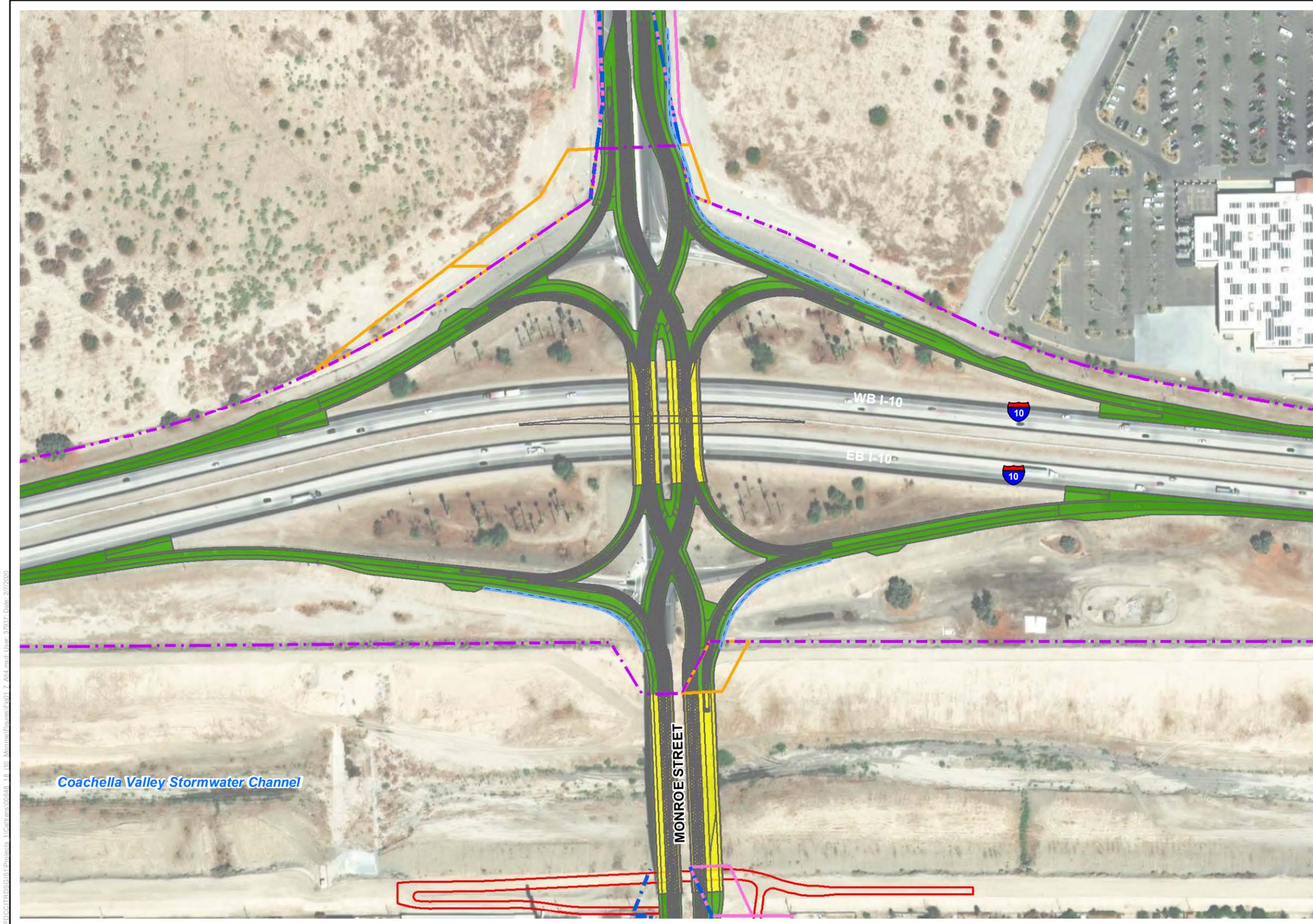
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- Project Improvements
 - Proposed Retaining Wall
 - Proposed City Right of Way
 - Proposed State Right of Way
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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Figure 1-7B
Alternative 4

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- Legend**
- Project Improvements
 - Proposed Retaining Wall
 - Proposed City Right of Way
 - Proposed State Right of Way
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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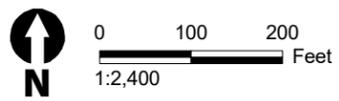
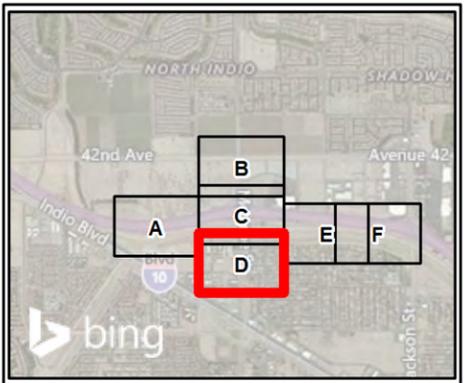
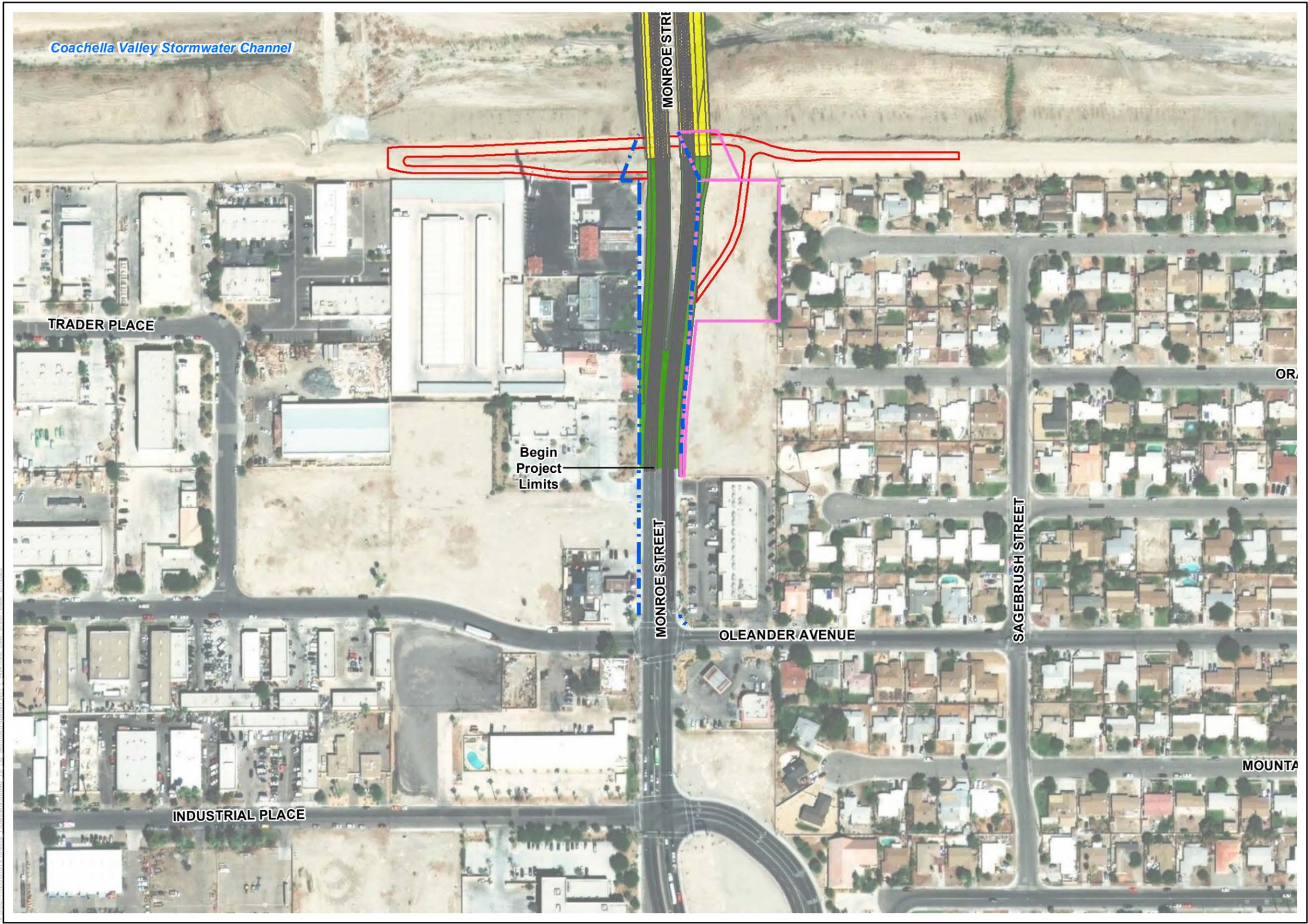


Figure 1-7C
Alternative 4

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- Legend**
- Project Improvements
 - Proposed Retaining Wall
 - Proposed City Right of Way
 - Proposed State Right of Way
 - CV Link Improvements
 - - Existing City Right of Way
 - - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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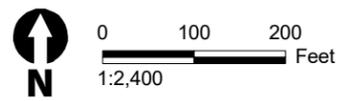
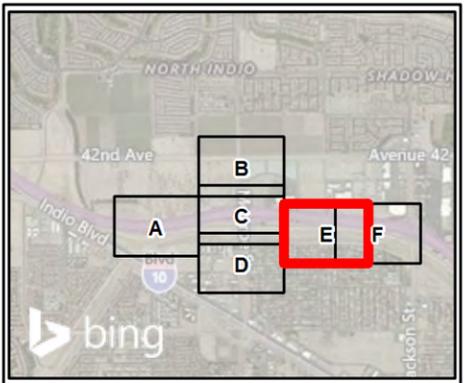
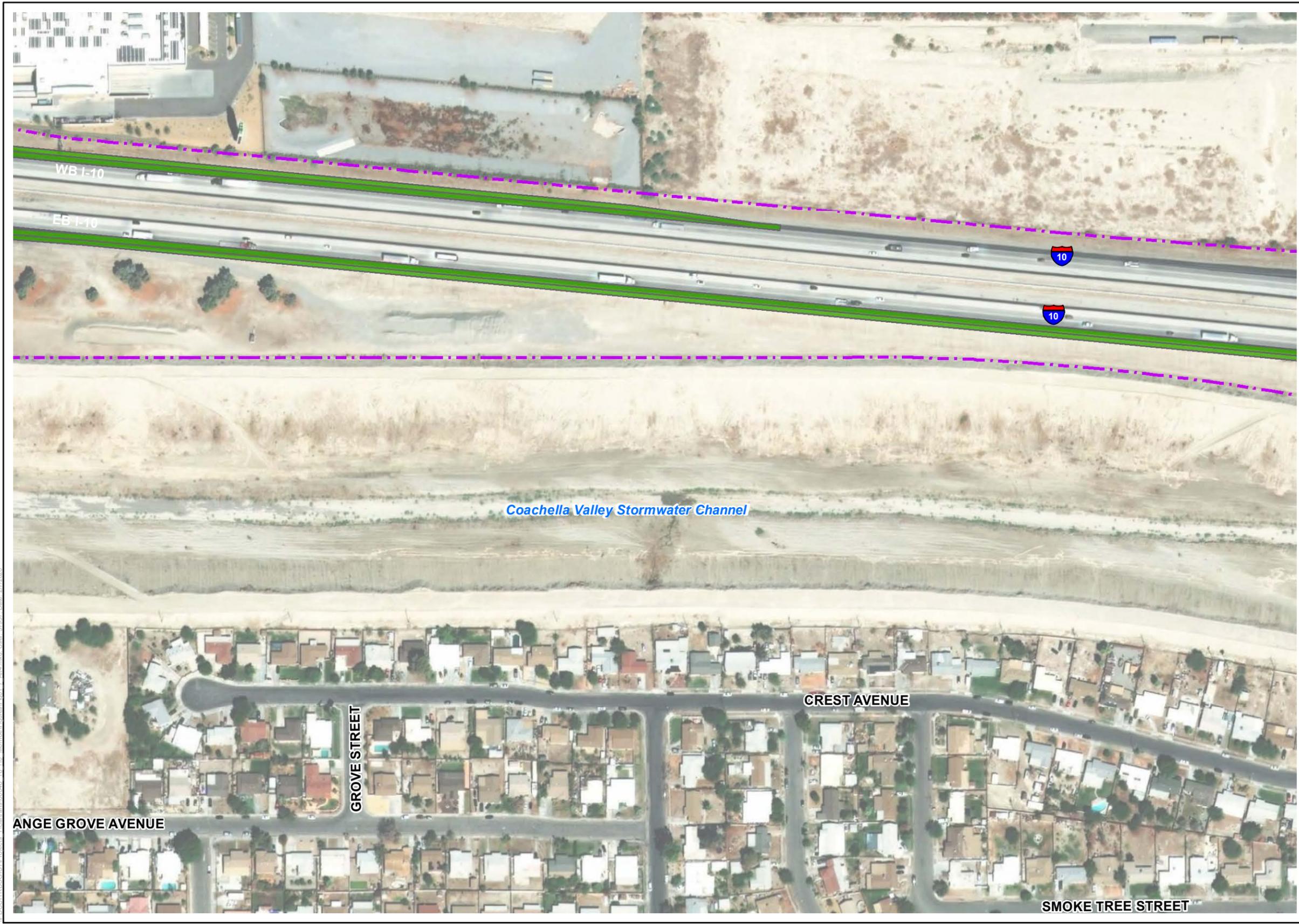


Figure 1-7D
Alternative 4

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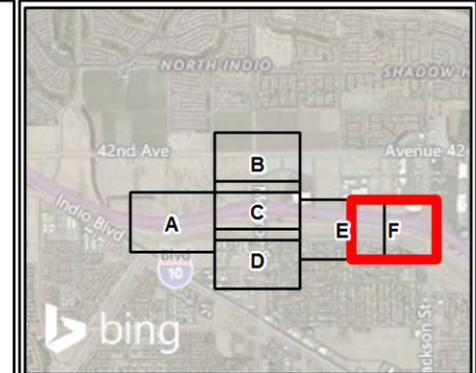
- Legend**
- Project Improvements
 - Proposed Retaining Wall
 - Proposed City Right of Way
 - Proposed State Right of Way
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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**Figure 1-7E
Alternative 4**

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- Legend**
- Project Improvements
 - Proposed Retaining Wall
 - Proposed City Right of Way
 - Proposed State Right of Way
 - CV Link Improvements
 - Existing City Right of Way
 - Existing State Right of Way
 - Proposed Bridge Improvements
 - Proposed Roadway Improvements

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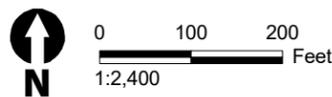
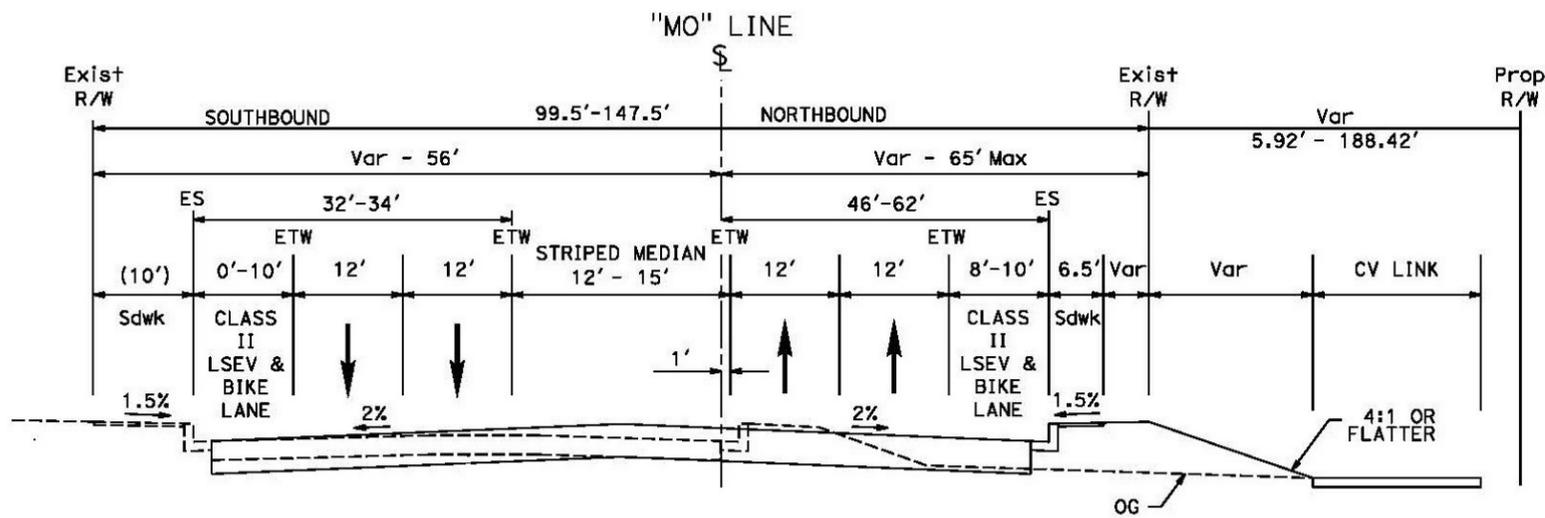


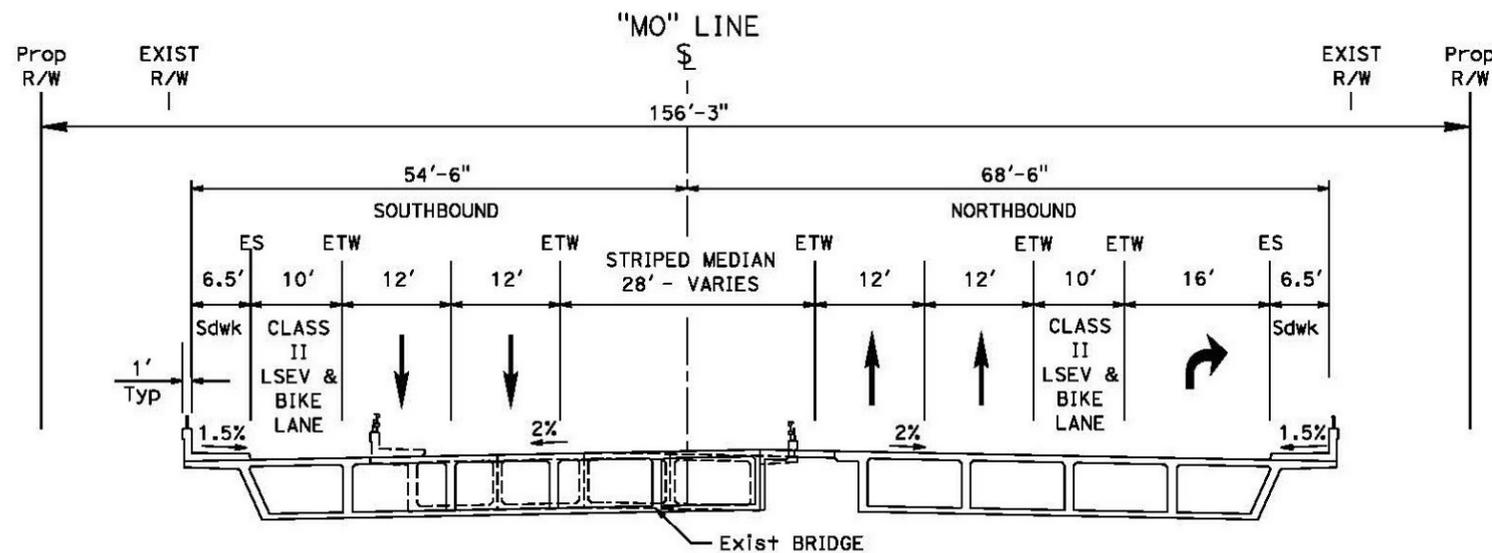
Figure 1-7F
Alternative 4

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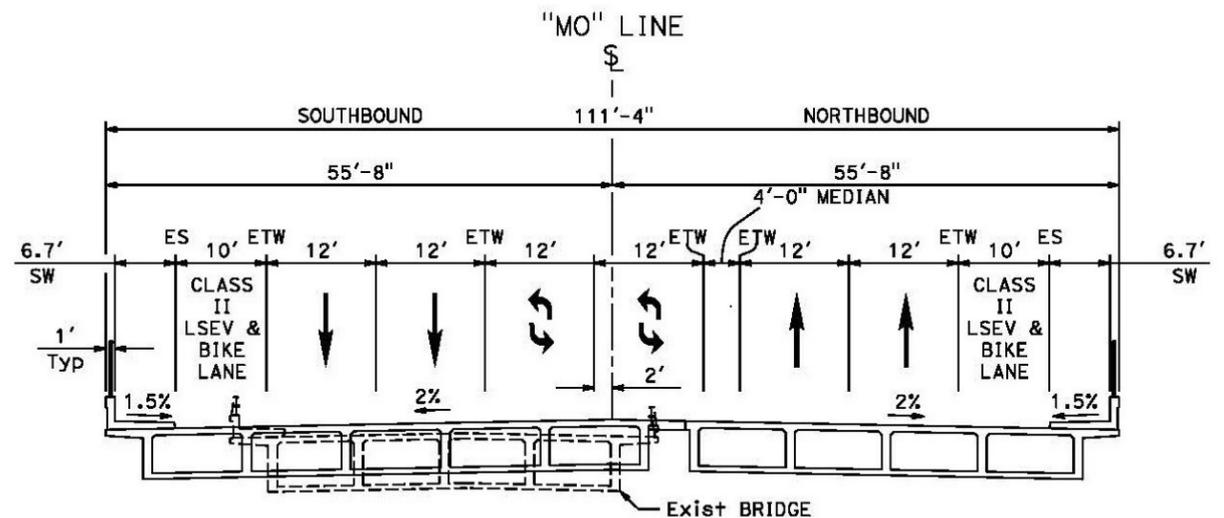
MONROE STREET

Sta 30+75.00 TO 37+00.00



MONROE CHANNEL BRIDGE

Sta 37+00.00 TO 42+00.00

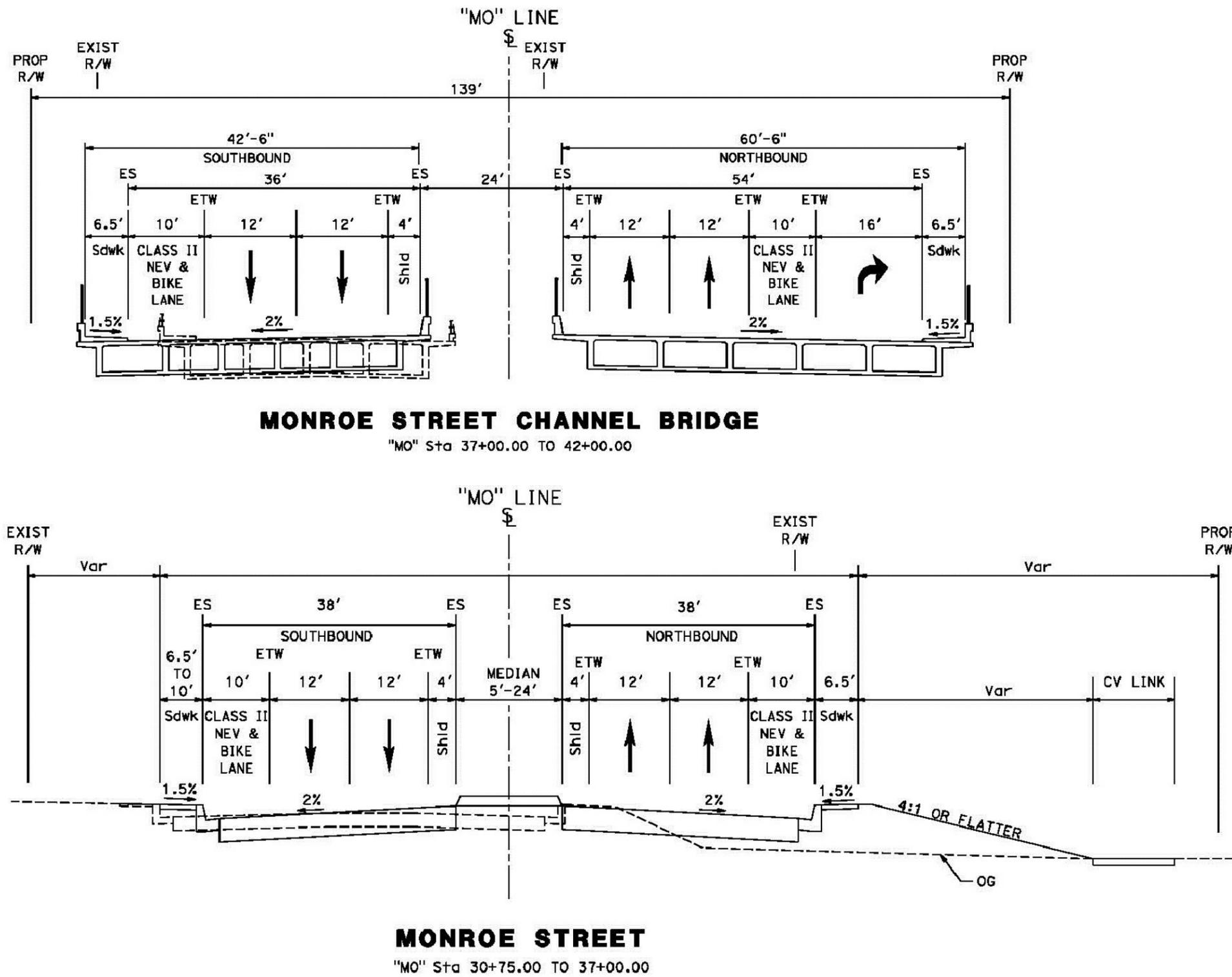


MONROE STREET OVERCROSSING (I-10)

Sta 44+00.00 TO 49+00.00

Figure 1-8
 Typical Cross Section, Build Alternative 2 (Locally Preferred Alternative)
 Interstate 10/Monroe Street Interchange Improvement Project

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MONROE STREET CHANNEL BRIDGE

"MO" Sta 37+00.00 TO 42+00.00

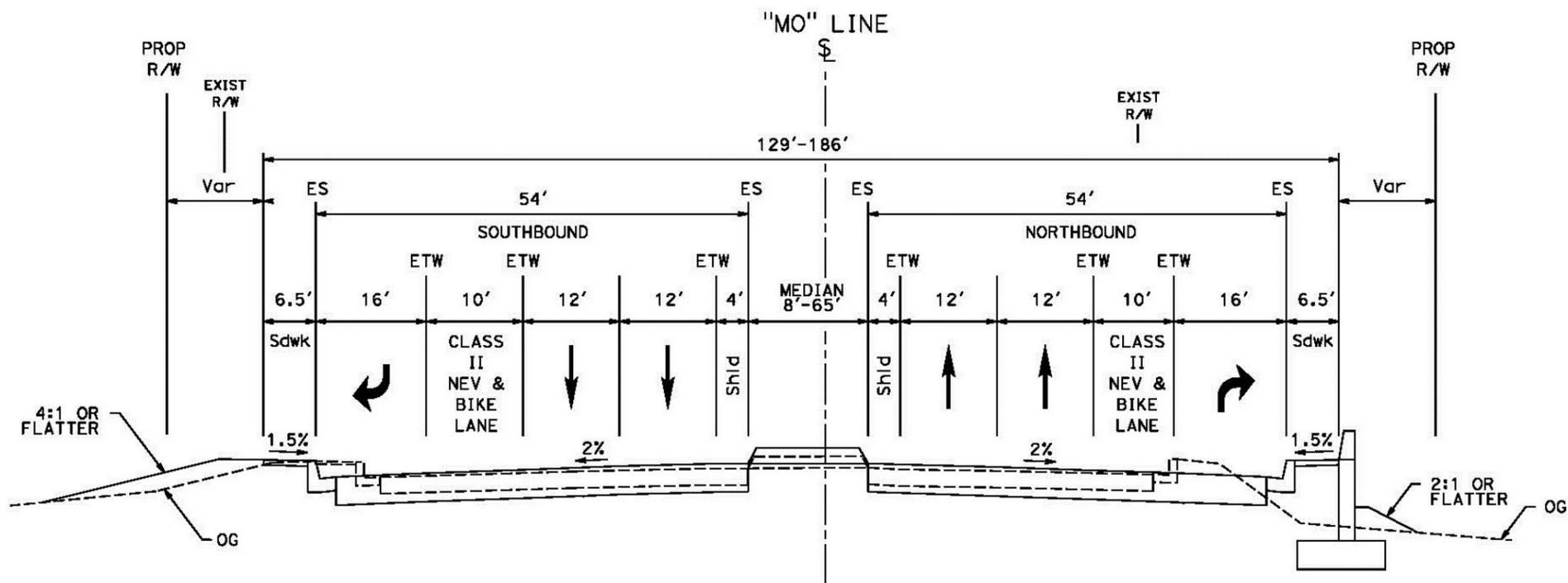
MONROE STREET

"MO" Sta 30+75.00 TO 37+00.00

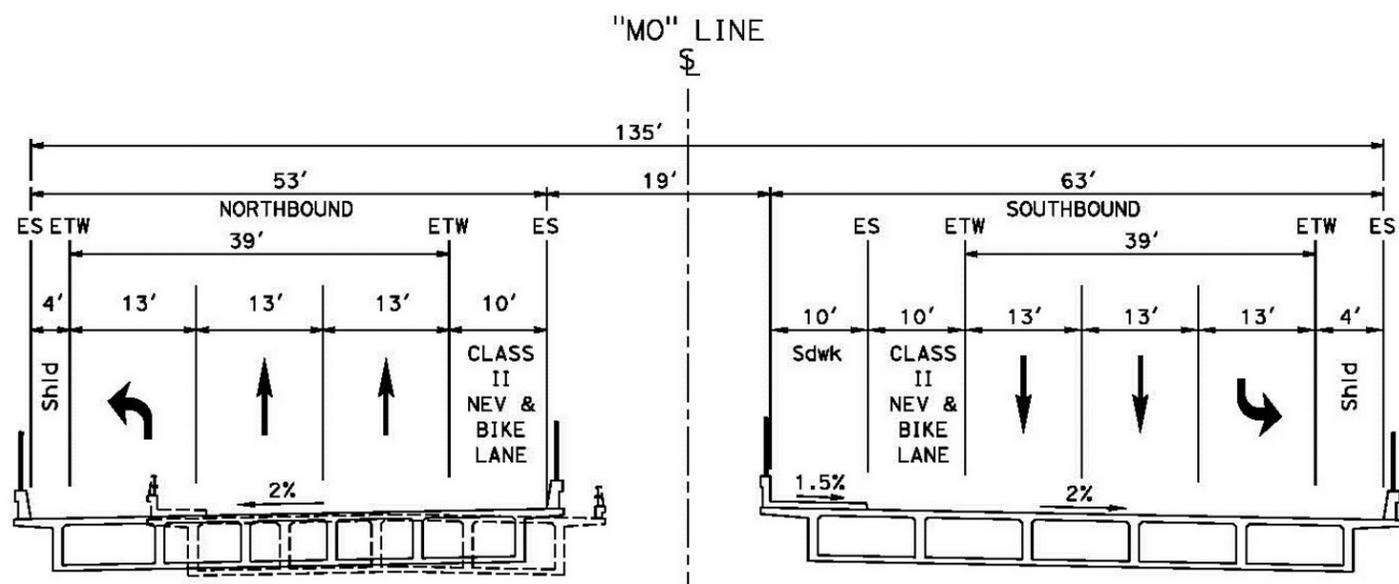
Figure 1-9a
 Typical Cross Section, Build Alternative 4
 Interstate 10/Monroe Street Interchange Improvement Project

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MONROE STREET
 "MO" Sta 52+00.00 TO 55+00.00



MONROE STREET OVERCROSSING (I-10)
 "MO" Sta 45+20.00 TO 47+70.00

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Figure 1-9b
 Typical Cross Section, Build Alternative 4
 Interstate 10/Monroe Street Interchange Improvement Project

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1.5.2 Common Design Features of the Build Alternatives

The two Build Alternatives have the following design elements in common:

- Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 include acceleration and deceleration lanes at the westbound on- and off-ramps and a deceleration lane at the eastbound off-ramp to improve traffic operations and to meet the Department's ramp metering requirements. From the ramp convergence point along I-10, the westbound Monroe Street on-ramp acceleration lane length is 1,000-feet long parallel to I-10. From the ramp divergence point east, the westbound Monroe Street off-ramp deceleration lane length is 1,300-feet long parallel to I-10. From the ramp divergence point west, the eastbound Monroe Street off-ramp deceleration lane length is 600-feet long parallel to I-10.
- Alternative 2 and 4 include an auxiliary lane in the eastbound direction between the Monroe Street on-ramp and the Jackson Street off-ramp. The auxiliary lane is approximately 2,650-feet long as measured from the on- and off-ramp convergent and divergent points parallel to I-10. The auxiliary lane is composed of one 12-foot wide lane with one 10-foot wide shoulder.
- According to the Department's *2018 Ramp Metering Development Plan* (Department 2018a), only the westbound I-10 on-ramp is planned for ramp metering. The project proposal includes ramp metering on both the I-10 westbound and eastbound on-ramps with two general purpose lanes per the Caltrans Ramp Metering Development Plan, without High Occupancy Vehicle Preferential Lane.
- Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would require realignment of CVAG's planned CV Link multi-use trail within the project limits to accommodate the widening of Monroe Street and provide the minimum vertical undercrossing clearance.
- Utilities anticipated to be affected by widening Monroe Street include relocating two SoCal Gas high-pressure gas lines, adjusting two Ventura Sanitary District manhole structures to grade, relocating Imperial Irrigation District underground electric distribution lines, and relocating a 12-inch-diameter Indio Water Authority water line.
- Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 include retaining walls at the northwest, southwest, and southeast interchange quadrants.
- Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 include crosswalks for all north and south crossing maneuvers.
- Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 include maximum 4:1 graded slopes.

1.5.2.1 Design Exceptions

Table 1-16 summarizes the nonstandard design features that would be constructed under both Build Alternatives.

Table 1-16. Design Exceptions Common to Build Alternatives

Design Standard	Justification for Nonstandard Feature (Exception)
202.2 (1) – Standards for Superelevation	To provide standard superelevation, right of way would be required to raise the Monroe Street profile and realign the on- and off-ramps beyond the ramp termini widening. At ramp termini, at a minimum, comfort speed would be provided to transition to Monroe Street, provide positive drainage, and avoid a see-saw effect up to the intersection where vehicles would slow down.
202.5 (1) – Superelevation Transition	To provide standard superelevation transitions, right of way would be required to lengthen and realign the existing on- and off-ramps beyond the proposed improvements. The project would maintain the existing ramp gore points to minimize impacts and at a minimum provide comfort speed and 6/100 superelevation transition rates.
202.5 (2) – Superelevation Runoff	To provide standard superelevation runoff lengths, right of way would be required to lengthen and realign the existing on- and off-ramps beyond the proposed improvements. The project would maintain the existing ramp gore points to minimize impacts and at a minimum provide comfort speed and 6/100 superelevation transition rates.
202.6 – Superelevation of Compound Curves	Compound curves are an existing condition at the westbound and eastbound on-ramps. To eliminate the compound curves, on- ramp gore points need to be relocated and extended beyond their existing locations. The project would maintain the existing gore points to minimize impacts and maintain interchange spacing between the Monroe Street and Jackson Street interchanges.
203.5 – Compound Curves	Compound curves are an existing condition at the westbound and eastbound on-ramps. To eliminate the compound curves, on- ramp gore points need to be relocated and extended beyond their existing locations. The project would maintain the existing gore points to minimize impacts and maintain interchange spacing between the Monroe Street and Jackson Street interchanges.
Comm	Existing freeway gradients are flatter than the minimum 0.3% grade required. To provide the minimum gradient, the I-10 superelevation /cross-slope would need to be adjusted significantly, increasing impacts and the project scope and cost. The project proposes no I-10 mainline improvements and the existing condition would be maintained.
504.3 (3) - Distance Between Ramp Intersection and Local Road Intersection	To provide the preferred 500-foot intersection spacing, Showcase Parkway, the local intersection north of the westbound ramp terminal intersection, would need to be shifted approximately 60 feet north, which would affect the newly constructed Showcase Parkway and surrounding planned development. The proposed project would improve the existing intersection spacing from 439 feet to 467 feet (westbound off-ramp). In addition, queuing analysis shows the Build Alternatives would operate acceptably.
Source: California Department of Transportation 2020a	

Geotechnical Investigations

Geotechnical investigations would be required during final design of the I-10 overcrossing and Channel Bridge interchange improvements. It is anticipated that approximately 50 borings would be required during final design. Infiltration basins are proposed in the undeveloped areas between the on- and off-ramps and I-10. A separate environmental clearance would be provided prior to any geotechnical investigations during Phase 1 (design). The depth of borings will be approximately 10 to 20 feet below existing ground surface for street and ramps and 70 to 80 feet below ground surface for pile foundation, respectively. Relatively undisturbed ring samples, Standard Penetration Tests, and disturbed bulk samples of the subsurface materials will be

obtained from the borings at selected intervals for the purpose of laboratory testing and characterization of subsurface soils.

1.5.3 Unique Features of the Build Alternatives

1.5.3.1 Alternative 1 – No-Build

Under this alternative, no reconstruction or improvements would be made to the existing I-10/Monroe Street interchange other than routine maintenance.

1.5.3.2 Build Alternative 2 – Tight Diamond Interchange (Locally Preferred Alternative)

This alternative would reconstruct the existing interchange in a tight diamond configuration. Improvements include widening Monroe Street, the I-10 overcrossing, the Channel Bridge, and the I-10 ramps. Monroe Street at the I-10 overcrossing and Channel Bridge would accommodate two through lanes in each direction and would include two left-turn lanes at each ramp intersection for access to I-10.

Alternative 2 includes the construction of a 6.5-foot-wide sidewalk and 10-foot-wide Class II, on-street bike/LSEV path located on both sides of Monroe Street along the limits of improvement. The sidewalk and the Class II bike/LSEV path vary in width at the southern and northern join locations.

Table 1-17 describes the nonstandard design features that are unique to Build Alternative 2 (Locally Preferred Alternative).

Table 1-17. Design Exceptions Unique to Build Alternative 2 (Locally Preferred Alternative)

Design Standard	Justification for Nonstandard Feature (Exception)
203.2 – Standards for Curvature – Minimum Radius	To provide standard curve radii, right of way would be required to lengthen and realign the existing on- and off-ramps beyond the proposed improvements. The project would maintain the existing ramp gore points to minimize impacts and at a minimum would provide comfort speed and 6/100 superelevation transition rates.
203.6 – Reversing Curves Transition Length	To provide a tangent between the westbound on-ramp reversing curves, additional right of way would be required to lengthen and realign the existing ramp. Alternatively, a tangent may be provided if the ramp skew angle is made less than 90 degrees. The project proposes to provide a 90-degree intersection angle for improved intersection alignment and to maintain the existing gore point to minimize impacts. Additionally, because the reversing curve is located at the ramp termini/intersection departure, vehicle speeds would be lower.
504.3 (3) – Ramp Terminals and Grade	To provide the required 4% intersection gradient, the Monroe Street profile would need to be flattened, which would require additional right of way and would increase impacts beyond the newly improved Showcase Parkway. The project proposes to maintain the existing profile grades to minimize right of way and construction impacts.
504.3 (3) - Distance Between Ramp Intersection and Local Road Intersection	The proposed intersection spacing is 315 feet, measured curb return to curb return from the westbound on-ramp, which is less than the required 400-foot minimum. Queuing analysis shows the Diverging Diamond Interchange to operate acceptably at Showcase Parkway and the westbound ramp terminal intersections.

Source: California Department of Transportation 2020a

The estimated right of way and construction cost for Build Alternative 2 (Locally Preferred Alternative) is \$49,150,000. The estimated structure cost is \$20,000,000. Including right of way and support costs, the total estimated cost of Build Alternative 2 (Locally Preferred Alternative) is \$81,700,000. Alternative 2 (Locally Preferred Alternative) would result in the potential permanent right of way acquisition of 1.48 acres. Planned property acquisitions would affect currently vacant lands (see Table 2-10 in Section 2.1.6).

1.5.3.3 Build Alternative 4 – Diverging Diamond Interchange

This alternative would reconstruct the existing interchange in a diverging diamond interchange configuration. In a diverging diamond interchange, the northbound and southbound direction of travel cross to opposite sides between signalized crossover intersections. The diverging diamond interchange allows for two-phase operations at both signalized crossover intersections. The configuration of the interchange contributes to a safer intersection by reducing vehicle speeds and reducing the number of vehicle conflict points. Improvements include widening Monroe Street, the I-10 overcrossing, the Channel Bridge, and the I-10 ramps. Separate bridge structures would be constructed for each direction of travel for the I-10 overcrossing and the Channel Bridge. Monroe Street at the I-10 overcrossing and Channel Bridge would accommodate two through lanes in each direction.

Alternative 4 includes construction of a 6.5-foot-wide sidewalk on both sides of Monroe Street along the limits of improvement. As the directions of travel cross over, pedestrians will cross to the inside of the interchange, and will be accommodated on a single 10-foot-wide path between the I-10 ramps. A 10-foot-wide, on-street Class II bike/LSEV is proposed on both sides of Monroe Street. LSEV and bike users also cross at the signalized crossover intersections and remain separated for each direction of travel.

Table 1-18 describes the nonstandard design features that are unique to Build Alternative 4.

Table 1-18. Design Exception Unique to Build Alternative 4

Design Standard	Justification for Nonstandard Feature (Exception)
504.3 (3) - Distance Between Ramp Intersection and Local Road Intersection	The proposed intersection spacing is 315 feet, measured curb return to curb return from the westbound on-ramp, which is less than the required 400-foot minimum. Queuing analysis shows Build Alternative 4 would operate acceptably at Showcase Parkway and the westbound ramp terminal intersections.

Source: California Department of Transportation 2020a

The estimated right of way and construction cost for Build Alternative 4 is \$50,300,000. The estimated structure cost is \$19,300,000. Including right of way and support costs, the total estimated cost of Build Alternative 4 is \$82,200,000. Build Alternative 4 would result in the potential permanent right of way acquisition of 2.71 acres. The affected parcels are all vacant or part of the CVSC; therefore, no relocations would occur (see Table 2-10 in Section 2.1.6).

1.6 Project Features

This project contains a number of standardized project measures that are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental

impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2. Moreover, these measures represent Best Management Practices and measures included in the Standard Plans and Specifications or Standard Special Provisions to address air quality, biological and cultural resources, hazardous waste/materials, water quality, management of traffic during construction, noise, erosion control, and landscaping.

1.7 Transportation System Management (TSM) and Transportation Demand Management (TDM) 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. TSM also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit.

Although the TSM measures alone could not satisfy the purpose and need of the project, the following TSM measures have been incorporated into the Build Alternatives for this project:

- A 6.5-foot-wide sidewalk that extends on both sides of Monroe Street for the limits of the project.
- A shared 10-foot-wide path for LSEVs and bikes on both sides of Monroe Street for the limits of the project.
- All interchange freeway entrance ramps will be metered and widened to two lanes.

1.8 Value Analysis

A Value Analysis (VA) Study was conducted between May 21 and May 24, 2018. The VA study team included representation from the County, the Department, and consultant team members. The VA Study included the following goals:

- Evaluate the “value” of three Build Alternatives (Alternative 2 [Tight-Diamond Interchange], Alternative 3 [Single-Point Interchange], and Alternative 4 [Diverging Diamond Interchange]), and rank and reject the lowest value-added build alternative.
- Evaluate the feasibility of widening the existing I-10 overcrossing bridge and the Channel Bridge.

The study team members developed key performance attributes to assess the cost, performance, time, and risk (value) of each viable alternative and their variations.

The VA team recommended further study of variants of Build Alternative 2 and Build Alternative 4. The VA team ranked Build Alternative 2 and Build Alternative 4 as having the

highest in value-index. In addition, the VA team recommended rejection of Build Alternative 3 due to its larger footprint, higher costs, and longer estimated construction times.

The VA team did not recommend a specific bridge strategy but noted the following:

- The existing bridges need to be seismically retrofitted if saved and widened. Widening options provide the greatest value in Build Alternatives 2 and 4.
- For Build Alternative 2, asymmetrical widening provides greater value by reducing the number of construction stages as opposed to symmetrical widening.
- Seismic retrofitting does not reset the existing bridge service life. The existing bridge service life was estimated to be 30 years, after which the existing retrofitted bridges may need to be replaced at potentially higher future costs.
- Full reconstruction would reset the bridge(s) service life and bring the bridge structures to current seismic and the Department’s design codes.

A Draft Preliminary VA Study Report was prepared and submitted to the Department and the County for review and record on July 7, 2018. Subsequently, a VA Study Implementation Meeting was held on September 6, 2018 to validate the Draft Preliminary VA Study Report findings and to prepare a Final VA Study Report. The City, County, and the Department’s staff agreed to implement the Draft Preliminary VA Study Report recommendations of rejecting Build Alternative 3 and proceeding with evaluation of Build Alternative 2 and Build Alternative 4 during the PA&ED phase. The project team selected full bridge reconstruction to extend bridge service life and to bring the bridges to current seismic code and the Department’s standards. A Final VA Study Report was prepared based on the above VA Implementation Meeting results and submitted to the County and District on September 26, 2018 for record.

1.9 Comparison of Alternatives

Build Alternatives 2 and 4 satisfy the project purpose and need. Design facilities would be fully accessible, as described in the Department’s Design Information Bulletin 82-03 “Pedestrian Accessibility Guidelines for Highway Projects” and would allow Americans with Disabilities Act (ADA)–compatible crossings. Build Alternatives 3 and 4 offer similar efficiencies at all study intersections, with the exception of the eastbound loop on-ramp in Build Alternative 3, which would lengthen the merging point to eastbound I-10.

Table 1-19 provides a summary comparison between the two Build Alternatives and the No-Build Alternative, which have been studied in conjunction with development of the proposed new interchange project.

Table 1-19. I-10/Monroe Street Interchange – Comparison of Project Alternatives

	Build Alternative 2 (Locally Preferred Alternative)	Build Alternative 4	Alternative 1 (No-Build)
Environmental Impacts	Similar impacts related to air quality, biological resources, cultural resources, hazardous waste/materials, hydrology and floodplain, noise, paleontology, Section 4(f) resources, and visual/aesthetics.		None
	<u>Regulated Waters of the U.S. and State</u> <ul style="list-style-type: none"> 0.20 acre of permanent impacts and 1.83 acres of temporary impacts on USACE/RWQCB jurisdiction. 1.21 acres of permanent impacts and 10.26 acres of temporary impacts on CDFW jurisdiction. 	<u>Regulated Waters of the U.S. and State</u> <ul style="list-style-type: none"> 0.19 acre of permanent impacts and 1.80 acres of temporary impacts on USACE/RWQCB jurisdiction. 1.03 acres of permanent impacts and 10.20 acres of temporary impacts on CDFW jurisdiction. 	None
	<u>Water Quality</u> <ul style="list-style-type: none"> 4.88 acres of net new impervious surface. 	<u>Water Quality</u> <ul style="list-style-type: none"> 4.83 acres of net new impervious surface. 	None
Engineering	Similar impacts related to LSEV users, utilities, Transportation System Management strategies, pavement strategies, and drainage.		None
	<u>Right of Way Acquisition</u> <ul style="list-style-type: none"> 1.48 acres 	<u>Right of Way Acquisition</u> <ul style="list-style-type: none"> 2.71 acres 	None
	<u>Structures</u> <ul style="list-style-type: none"> One structure over I-10 approximately 253 feet by 111 feet One structure over the CVSC approximately 489 feet by 125 feet 	<u>Structures</u> <ul style="list-style-type: none"> Two structures over I-10 approximately 250 feet by 56 feet and 65 feet Two structures over CVSC approximately 489 feet by 47 feet and 63 feet 	None
	<u>Multi-Modal Users</u> <ul style="list-style-type: none"> 4 pedestrian/bike/LSEV crossing points 	<u>Multi-Modal Users</u> <ul style="list-style-type: none"> 8 pedestrian/bike/LSEV crossing points Free-turn vehicle movements encourage higher speeds and increases the severity of conflicts with bike, LSEV, and pedestrian users 	N/A
Traffic Operations (Year 2045)	Similar operational improvements related to peak hour LOS for both the mainline and intersection analysis.		None
	<u>Compared to No Build (Alternative 1):</u> <ul style="list-style-type: none"> 44% improvement in AM average vehicle delay 24% improvement in PM average vehicle delay 4 seconds increased travel time on westbound I-10 (AM) 6 seconds increased travel time on westbound I-10 (PM) 1 second less travel time on eastbound I-10 (AM) 16 seconds less travel time on eastbound I-10 (PM) 	<u>Compared to No Build (Alternative 1):</u> <ul style="list-style-type: none"> 34% improvement in AM average vehicle delay 18% improvement in PM average vehicle delay 1 second increased travel time on westbound I-10 (AM) 7 seconds increased travel time on westbound I-10 (PM) 1 second less travel time on eastbound I-10 (AM) 13 seconds less travel time on eastbound I-10 (PM) 	None

Table 1-19. I-10/Monroe Street Interchange – Comparison of Project Alternatives

	Build Alternative 2 (Locally Preferred Alternative)	Build Alternative 4	Alternative 1 (No-Build)
	<ul style="list-style-type: none"> • 1 mph faster speed on westbound I-10 (AM) • 1 mph slower speed on westbound I-10 (PM) • 1 mph slower speed on eastbound I-10 (AM) • 4 mph faster speed on eastbound I-10 (PM) 	<ul style="list-style-type: none"> • 1 mph faster speed on westbound I-10 (AM) • 1 mph slower speed on westbound I-10 (PM) • 1 mph slower speed on eastbound I-10 (AM) • 3 mph faster speed on eastbound I-10 (PM) 	
Project Cost	\$81,700,000	\$82,200,000	None
Source: California Department of Transportation 2019a, Caltrans 2019h, 2019i, 2020a			

1.10 Criteria for Selection of the Preferred Alternative

Factors considered in conjunction with identification of the preferred alternative include project-related improvement to roadway operations and environmental impacts.

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

1.11 Locally Preferred Alternative

The City has identified Build Alternative 2 as their locally preferred alternative because this alternative provides the highest operational efficiency of the alternatives evaluated and also fully meets the purpose and need for the proposed project. More specifically, Build Alternative 2 was identified as the locally preferred alternative based on the following considerations:

- Build Alternative 2 maintains the existing configuration and facilitates driver familiarity.
- Build Alternative 2 provides fewer conflict points for pedestrian, bicycle, and multi-modal users.
- Build Alternative 2 is more adaptable to accommodate future widening, ramp configurations, updated design standards, and other unknown future uses.
- All other impacts and operational performance measures are similar between the two Build Alternatives.

During a regularly scheduled Project Development Team (PDT) meeting conducted on March 28, 2019, the PDT—composed of representatives from the Department, the City, and the

County—identified Build Alternative 2 as the locally preferred alternative. Subsequently, the City Council selected Build Alternative 2 as the locally preferred alternative at its July 17, 2019, City Council meeting (refer to Chapter 4 of this IS/EA for more detail regarding the proceedings at the referenced City Council meeting regarding selection of Build Alternative 2 as the locally preferred alternative).

1.12 Alternatives Considered but Eliminated from Further Discussion

1.12.1 Alternatives Eliminated during Project Initiation Document Phase

Partial cloverleaf and roundabout alternatives were studied and documented in the Department-approved Project Study Report-Project Development Support Report approved by the Department on December 30, 2016. The partial cloverleaf and roundabout alternatives failed traffic LOS thresholds and/or did not achieve the proposed project's purpose and need.

1.12.2 Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that the Department or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). However, reversible lanes were not considered for the I-10/Monroe Street Interchange Improvement Project because it is 100 percent locally funded and was programmed prior to January 1, 2017.

1.12.3 Build Alternative 3 – Single-Point Interchange

Build Alternative 3, from the approved Project Study Report-Project Development Support Report, proposed to reconstruct and widen the existing interchange in a Single-Point Interchange configuration. The Single-Point Interchange type controls all at-grade traffic movements through one signalized intersection. Left turns from the exit ramps are typically 45 to 60 degrees with 150- to 200-foot radii. Alternative improvements included reconstructing and widening Monroe Street, the I-10 bridge overcrossing, the Channel Bridge, and the I-10 ramps. Monroe Street at the I-10 bridge and CVSC bridge overcrossings would have accommodated two through lanes in each direction and would have included two left-turn lanes at each ramp intersection for access to I-10.

On June 28, 2018, the PDT elected to eliminate Build Alternative 3 from further study and to proceed in PA&ED with Build Alternative 2 and Build Alternative 4. The decision resulted from input from the City, the Draft Preliminary VA Study Report, and an Alternative Screening Analysis. The Alternative Screening Analysis assessed the project alternatives on four qualitative and quantitative categories: Traffic Operations and Performance, Multi-Modal Safety, Corridor Impacts, and Community Expectations. Build Alternative 3 (Single-Point Interchange) ranked lowest in the screening, the results of which were documented in the June 2018 PDT meeting minutes.

1.13 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications listed in Table 1-20 would be required for project construction.

Table 1-20. Required Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
State Water Resources Control Board	NPDES Permit	The current NPDES General Construction Permit would be applied for prior to project construction.
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Application for permit will be submitted to CDFW after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
Colorado River Regional Water Quality Control Board	Porter-Cologne Act and CWA Section 401 Water Quality Certification	Application for permit will be submitted to RWQCB after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
U.S. Army Corps of Engineers	Clean Water Act (CWA) Section 404 Nationwide Permit	Application for permit will be submitted to USACE after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
U.S. Army Corps of Engineers	Section 408 Permit	Application for permit will be submitted to USACE after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
Federal Highway Administration	Air Quality Conformity Determination	FHWA's air quality conformity analysis determination letter will be obtained prior to approval of the final Environmental Document for the project.
Coachella Valley Water District (CVWD)	Encroachment Permit	Permit will be acquired prior to completion of final design.
Freeway Agreement	City of Indio, California Department of Transportation	Permit will be acquired prior to completion of final design.

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

Topics Considered but Determined Not To Be Relevant

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

- **Coastal Zone:** The proposed project is not in the vicinity of a coastal zone.
- **National Oceanic and Atmospheric Administration (NOAA) Fisheries Service Jurisdiction:** This project is outside of NOAA Fisheries Service jurisdiction; therefore, a NOAA species list is not required and no effects on NOAA species are anticipated.
- **Wild and Scenic Rivers:** The proposed project is not in the vicinity of a designated Wild and Scenic River.
- **Timberlands:** There are no timberlands or timber harvesting uses in the project area. The proposed project would have no effect on timberlands.
- **Wildfire:** The closest fire hazard zone is approximately 8 miles southwest of the project site. Therefore, the project site is not located in a designated high or very high fire hazard zone.

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2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Affected Environment

The project site is at the existing Interstate 10 (I-10)/Monroe Street interchange in the City of Indio (City) within the central portion of the County of Riverside (County). According to the *City of Indio 2040 Draft General Plan Update*, Indio is the largest and most populated city in the Coachella Valley. According to the U.S. Census, Indio had an estimated population of 88,000 in 2018. Between 2010 and 2018, it was the 10th fastest growing city in California. The City is expected to continue to experience significant growth in the future. According to the Southern California Association of Governments (SCAG), Indio is expected to reach a population of approximately 123,000 by 2040, an increase of approximately 39.2 percent (City of Indio 2018a). In addition to its permanent residents, thousands of people reside in the City during the winter months and festivals. Other special events attract nearly 1.4 million visitors annually to the City (City of Indio 2018a).

Existing and Future Land Use

Existing Land Use

The Monroe Street interchange is on I-10 at Post Mile (Post Mile) Revised (R) 54.7, between PM R53.9, at the Jefferson Street interchange and PM R55.5, at the Jackson Street interchange. The current I-10/Monroe Street interchange configuration is a diamond-type interchange, with signal control at the on- and off-ramp termini. The Monroe Street interchange is a major access point for existing residential and commercial development at the interchange area. The Coachella Valley Stormwater Channel (CVSC; Whitewater River) is located within project's limits of disturbance and traverses Monroe Street to the south of the interchange in an east-west direction.

The CVSC, also known as Whitewater River, is a 50-mile storm channel that runs from the Whitewater area north of Palm Springs to the Salton Sea, channeling waters from surrounding mountain areas. The trapezoidal, earthen channel is under the Coachella Valley Water District (CVWD) jurisdiction. Along the southern bank, which is within the limits of the project, the Coachella Valley Association of Governments (CVAG) is currently in the final design phase of a planned 50-mile-long multi-use trail, known as Coachella Valley Link (CV Link). CV Link will connect cities within the Coachella Valley for use of low speed electric vehicles (LSEV), bicycles, and pedestrian users. CV Link will allow for egress and ingress to Monroe Street. Construction of CV Link within the I-10/Monroe Street Interchange Improvement Project area is planned to begin in early 2020, prior to construction of the I-10/Monroe Street Interchange Improvement Project, and is planned to be completed and in operation in early 2021.

I-10 is a major east-west transportation route that connects the City to Los Angeles County to the west and the California/Arizona state border to the east. The route is functionally classified as an "Urbanized Freeway" and is a part of the "State Freeway and Express" System. The segment of I-10 from State Route 60 (SR-60) to the California/Arizona State Line is included in the State Interregional Road System, which further classifies the route as a "High Emphasis" and "Gateway" route. In addition, the length of I-10 within the County (District 8) is included in the

National Highway System, the Rural and Single Interstate Routing System, and the Strategic Highway Corridor Network. It is also a Surface Transportation Assistance Act route for use by oversized trucks. Within the project limits, I-10 is six lanes wide, with three mixed flow lanes in each direction and a metal-beam center divider; it does not have High Occupancy Vehicle lanes.

Monroe Street is a north-south, two-lane divided arterial in Indio. The *City of Indio 2040 Draft General Plan Update* classifies Monroe Street as a four- to six-lane arterial with a posted 40-mile-per-hour (mph) speed limit through the project limits. Within the project limits, the road cross-section includes curb and gutter, a striped and curbed median, sidewalk in the southbound direction only, the I-10 overcrossing, and Channel Bridge structures. The I-10 overcrossing (Bridge Number 56C-0611) structure is a two-span pre-stressed concrete box girder bridge constructed in 1972. The bridge is approximately 249 feet long and 47 feet wide, and it spans six lanes of traffic over I-10. The Channel Bridge (Bridge Number 56C-0083) structure is a five-span reinforced concrete box girder bridge also constructed in 1972. The bridge is approximately 490 feet long and 47 feet wide, and it spans the full length of the CVSC.

Vacant undeveloped lands make up the predominant land uses in the northwest and northeast project quadrants. There are commercial and retail land uses (Walmart Super Center, Starbucks Drive Thru, Circle K, and T Mobile) and more vacant lots; however, these are all outside of the northeast project quadrant. The land uses in the southwest project quadrant include the CVSC and retail/commercial (76 gas station, Mobil gas station, Coachella Auto Collision, StorAmerica Self Storage, Dollar General, and Universal Brakes & Alignment). The land uses in the southeast project quadrant include the CVSC, vacant land, and retail/commercial (Aftermath Insurance Services, Subway, Carniceria Baja 2 Market Liquor, Desert Vapors, and El Mexicali Café II). There are residential subdivisions north and south of the project limits. Figure 2-1 shows the existing land uses in the project area.

Future Land Use

As roadway facilities, the onsite roadways and interchange do not have a land use or zoning designation based on the City's Land Use Map and Zoning Map, respectively. According to the City of Indio Circulation Element Roadway Classification, Monroe Street is designated as "Arterial (four to six lanes)" and I-10 is labeled "Freeway" (City of Indio 1994). According to the Indio General Plan 2020, Volume I (November 1994), the City designated the parcels north of the proposed project as "Mixed Use, Development Agreement (MU [DA])," and the parcels to the south of the project as "Open Space OS," "Community Commercial CC," "Low Density Residential RL," and "Manufacturing M." Figure 2-2 shows the general plan land uses in the project area.

According to the City's Zoning Map, I-10 and Monroe Street are Roads/Right of Way. The areas north of the interchange have a zoning designation of Mixed Use Development Agreement. The areas south of the interchange have the following zoning designations: Coachella Valley Stormwater Channel, Residential-Low, Community Commercial, and Manufacturing (City of Indio 2009).

Other approved land development and transportation infrastructure projects under consideration by the City in the vicinity of the project are listed in Table 2-1 and identified in Figure 2-3.

Table 2-1. Recent and Planned Area Development

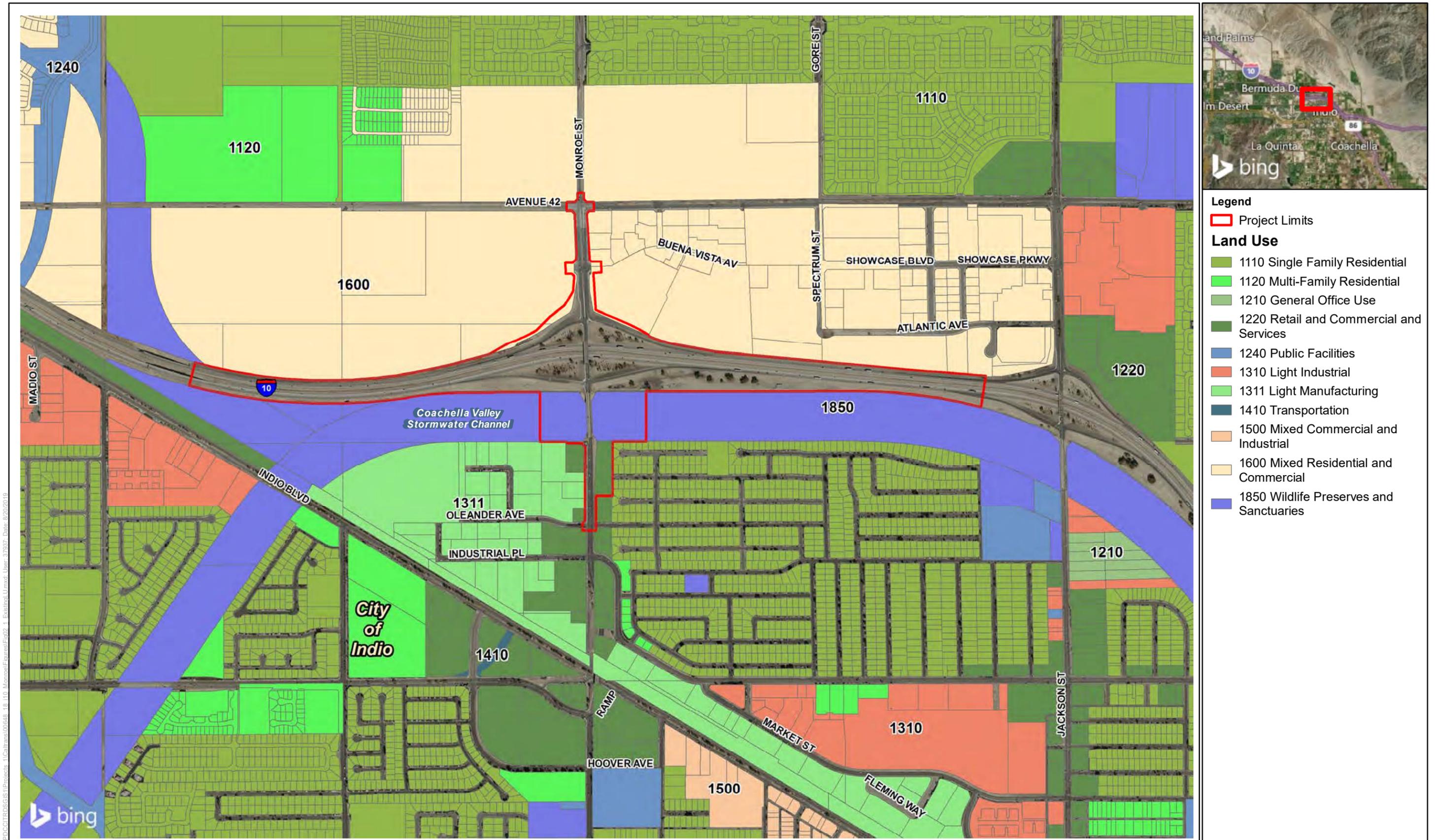
ID#*	Project Name	Location	Project Description	Jurisdiction	Status
1	Hampton Inn & Suites	610-330-022 2.13 acres	To allow a four-story hotel consisting of 93 rooms; 59,290 square feet.	City of Indio	Under construction.
2	Maya Cinema at the Palms Shopping Center	Parcel 19 of PM 36716. The site is generally located at the southeast corner of Monroe Street and Avenue 42, north of I-10 and west of Spectrum Street.	14-plex movie screen; 70,000 square feet with 1594 stadium seating.	City of Indio	In plan check.
3	Marshalls	42400 Jackson Street	22,153 square feet retail.	City of Indio	Under construction.
4	Burlington Coat Factory	42500 Jackson Street	40,000 square feet retail.	City of Indio	Under tenant improvement.
5	Ulta	42300 Jackson Street	10,000 square feet retail.	City of Indio	Under construction.
6	Five Below	42450 Jackson Street	7,500 square feet retail.	City of Indio	Under construction.
7	Retail Store	42450 Jackson Street	7,000 square feet retail.	City of Indio	Under construction.
8	Tractor Supply Factory	42625 #100 Jackson Street	31,784 square feet.	City of Indio	Under tenant improvement.
9	Golden Corral	610-080-064	11,300 square feet.	City of Indio	Approved by the Planning Commission on January 24, 2019.
10	Clinton Freeway Business Park Project Master Plan	610-020-012, 610-020-013 (22 acres)	323,920 square feet of retail and light industrial.	City of Indio	Approved by Planning Commission and City Council in 2008. No activity since 2008.
11	Alfresco Project Master Plan	Approved TM 32401 and TTM 37447 (43.87 acres) 691-150-008 and 692-010-012	Development of 284 single family detached homes.	City of Indio	Approved by the Planning Commission on April 24, 2019, and approved by the City Council on May 15, 2019.
12	CV Link RIV131005 / RTP ID: 3NL04	Within the limits of the project; along the southern bank of the CVSC (Whitewater River)	50-mile long multi-use trail that connects cities within Coachella Valley for use of low speed electric vehicles, bicycles, and pedestrian users. This CV Link path will allow for egress and ingress to Monroe Street.	Coachella Valley Association of Governments	Currently in the final design and construction phase. In the area of the I-10/Monroe Project, construction is anticipated to begin in the summer 2019 and to be completed in the summer 2020.

Table 2-1. Recent and Planned Area Development

ID#*	Project Name	Location	Project Description	Jurisdiction	Status
13	I-10/Jackson Street Interchange Project FTIP ID: RIV071252 RTP ID 3A07020	I-10/Jackson Street Interchange Project (PM 55.575)	Reconstruction and widening of Jackson Street from two to six lanes, including the bridge over Whitewater River Channel from Showcase Parkway to south of Whitewater River Channel, reconstruction and widening of interchange ramps from one to two lanes, and modification of traffic signals.	Riverside County Transportation Department, Caltrans, City of Indio	Currently in the PA&ED phase. Environmental clearance anticipated in spring 2020. Final design anticipated in summer 2022 and construction is anticipated to be completed in 2025.
14	Jackson Street Improvements: Roadway RTP ID 3A01CV110B	On Jackson Street between I-10 Interchange and Avenue 44, and I-10 Interchange and Avenue 41	Widening from four to six lanes between I-10 Interchange and Avenue 44, and I-10 Interchange and Ave 41.	City of Indio	To be completed in 2024.
15	Monroe Street Improvements: roadway widening from two to six lanes between Avenue 41 and Avenue 42. RTP 3A07030	On Monroe Street between Avenue 41 and Avenue 42	Widening from two to six lanes between Avenue 41 and Avenue 42.	City of Indio	To be completed in 2022.
16	Avenue 42 Improvements: Roadway RTP ID 3A07064	On Avenue 42 between Monroe Street and Jackson Street	Widening from four to six lanes from Monroe Street to Jackson Street.	City of Indio	To be completed in 2022.
17	Indio Boulevard Bridge over Whitewater River Seismic Retrofit (BR0801).	Indio Boulevard Bridge over Whitewater River	Seismic retrofit of Indio Boulevard Bridge over Whitewater River.	City of Indio	Currently in right of way/PS&E phase; construction expected to begin in 2020.
18	City CIP Project ST1708 Avenue 44 Road Diet	Avenue 44 between Monroe Street to just east of East Circle Drive	The project involves the repair of several roadway areas on Avenue 44 between Monroe Street to just east of East Circle Drive.	City of Indio	Project plans are complete. The project specifications are about 80-percent complete.
19	Indio Festival Row	Southwest corner of Monroe Street and Avenue 42, north of I-10	Mixed-use facility under 100 acres that includes commercial, retail, offices, and residential	City of Indio	Project is under preliminary review.

* ID# corresponds to Figure 2-3, Recent and Planned Area Development.

Source: Email correspondences with Leila Namvar, Assistant Planner at the City of Indio, December 4, 2018.



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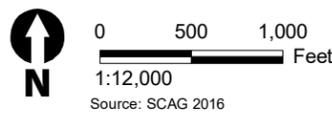
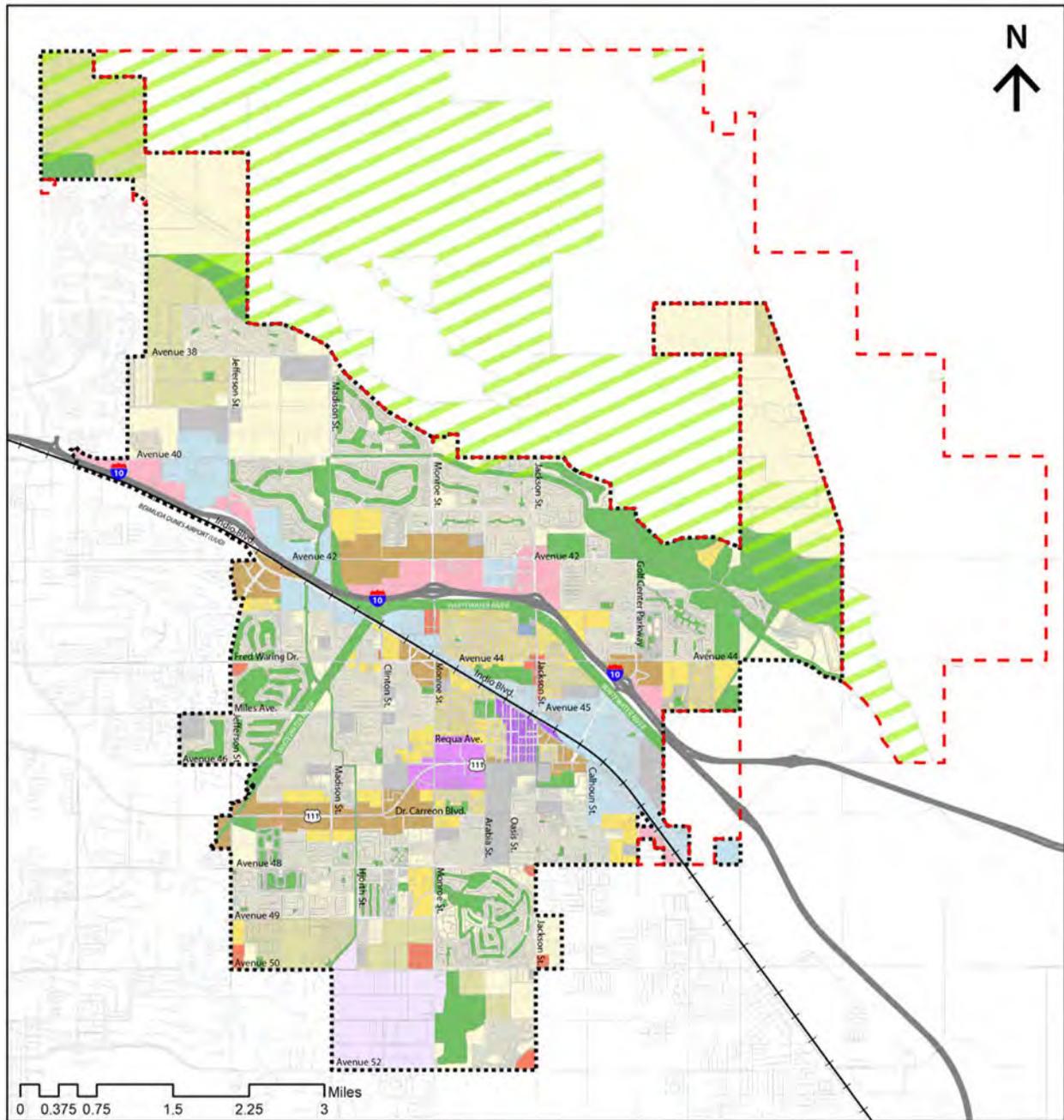


Figure 2-1
Existing Land Uses
 Interstate 10/Monroe Avenue Interchange Improvement Project

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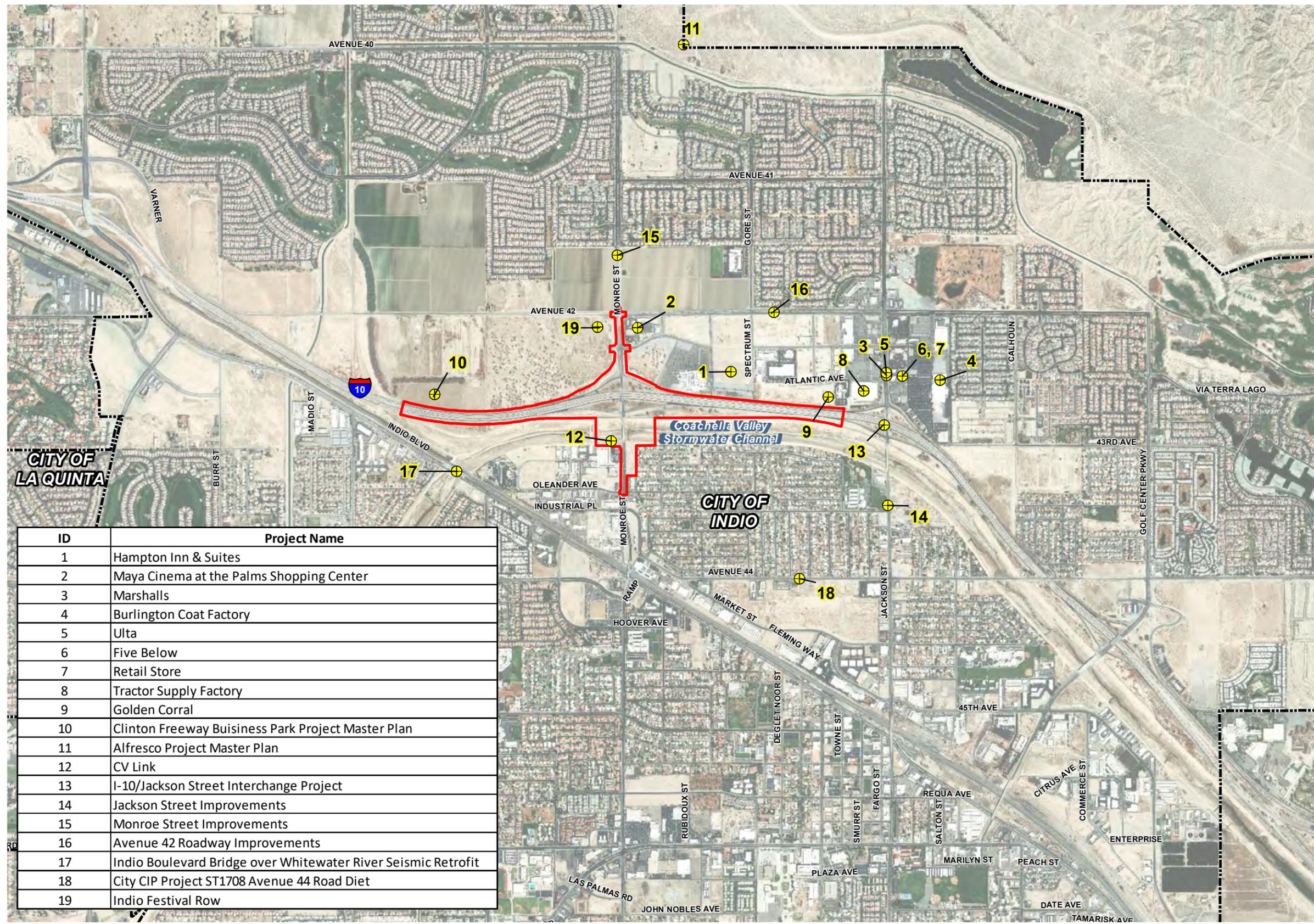
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|---------------------|----------------------------|-------------------------------|
| City Boundary | Desert Estate Neighborhood | Regional Commercial |
| SOI Boundary | Suburban Neighborhood | Mid-Town |
| Highway | Connected Neighborhood | Downtown |
| Railroad | Mixed Use Neighborhood | Festival District |
| Road | Neighborhood Center | Public and Institutional |
| CVMSHP Conservation | Parks and Open Space | Workplace Employment District |

Source: City of Indio, 2018.

Figure 2-2
City of Indio General Plan Land Use Types
Interstate 10/Monroe Street Interchange Project

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- Legend**
- Recent and Planned Area Development
 - Project Limits
 - City Boundary

ID	Project Name
1	Hampton Inn & Suites
2	Maya Cinema at the Palms Shopping Center
3	Marshalls
4	Burlington Coat Factory
5	Ulta
6	Five Below
7	Retail Store
8	Tractor Supply Factory
9	Golden Corral
10	Clinton Freeway Business Park Project Master Plan
11	Alfresco Project Master Plan
12	CV Link
13	I-10/Jackson Street Interchange Project
14	Jackson Street Improvements
15	Monroe Street Improvements
16	Avenue 42 Roadway Improvements
17	Indio Boulevard Bridge over Whitewater River Seismic Retrofit
18	City CIP Project ST1708 Avenue 44 Road Diet
19	Indio Festival Row

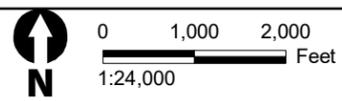


Figure 2-3
Recent and Planned Area Development
Interstate 10/Monroe Avenue Interchange Improvement Project

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Consistency with State, Regional, and Local Plans and Programs

Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life, Final Amendment #3

The 2016-2040 RTP/SCS, Final Amendment #3 provides a vision for transportation investments throughout the region. Federal and state regulations require SCAG, as the Regional Transportation Planning Agency and Metropolitan Planning Organization, to develop an RTP every four years in order for the region's transportation projects to qualify for federal and state funding. On September 6, 2018, SCAG's Regional Council adopted the 2016 RTP/SCS, Final Amendment #3, including the associated transportation conformity determination that serves as a consistency amendment to the 2019 Federal Transportation Improvement Program (FTIP).

The project is fully funded and included in SCAG's 2016-2040 RTP/SCS, Final Amendment #3 (as RTP ID 3A07022).

Southern California Association of Governments 2019 Federal Transportation Improvement Program

The FTIP, formerly referred to as the Regional Transportation Improvement Program, is a capital listing of all transportation projects proposed over a six-year period for the SCAG region. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps, etc. The FTIP is prepared to implement projects and programs listed in the RTP and developed in compliance with state and federal requirements. The 2019 FTIP was adopted by SCAG's Regional Council on September 6, 2018, and FHWA and FTA provided conformity determination concurrence related to the 2019 FTIP on December 17, 2018. The project is listed in SCAG's 2019 FTIP as a State Highway Project (FTIP ID RIV071254), and \$47,000,000 is programmed for the project. The project scope of work described in the most current version of the 2019 FTIP states:

ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES (EA: 0K730K).

In the forthcoming amendment to the 2019 FTIP, the entry for the project is planned to include the following updates: opening year/completion date of 2025, total anticipated project cost of \$85,000,000, and added project improvement components. The description of the proposed project in the amendment will also be changed as follows:

“ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 4 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN ON-RAMPS TERMINI 1 TO 2 LANES AND OFF-RAMP TERMINI 1 TO 3 LANES. CONSTRUCT EB AUX LANE B/T MONROE AND

JACKSON STREET AND EXTEND RAMPS WITH ACCELERATION/
DECELERATION LANES (EA: 0K730K).”

Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) is a comprehensive, multi-jurisdictional habitat conservation plan focusing on preservation of species and their associated habitats within the Coachella Valley region of Riverside County. The primary goal of the CVMSHCP is to maintain and enhance biological diversity and ecosystem processes within the region while allowing the opportunity for future economic growth. The CVMSHCP protects 240,000 acres of open space and covers 27 sensitive plant and wildlife species (“covered species”) as well as 27 natural communities. Covered species include both listed and non-listed species that are sufficiently conserved by the CVMSHCP. The overall provisions for the plan are subdivided according to specific resource conservation goals that have been organized based on geographic areas defined as Conservation Areas. These areas are identified as Core, Essential, or Other Conserved Habitat for sensitive plant, invertebrate, amphibian, reptile, bird, and mammal species; Essential Ecological Process Areas; and Biological Corridors and Linkages. Each Conservation Area has specific Conservation Objectives that must be satisfied.

The CVMSHCP was prepared for the entire Coachella Valley and surrounding mountains to address current and potential future California Endangered Species Act (CESA) and Federal Endangered Species Act (FESA) issues in the plan area. A Memorandum of Understanding (“Planning Agreement”) was developed to govern the preparation of the CVMSHCP. In late 1995 and early 1996, under the auspices of the Coachella Valley Association of Governments (CVAG), the Cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; the County of Riverside; U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Wildlife (CDFW); Bureau of Land Management; U.S. Forest Service; and National Park Service signed the Planning Agreement to initiate the planning effort. Subsequently, Caltrans, Coachella Valley Water District (CVWD), Imperial Irrigation District, Riverside County Flood Control and Water Conservation District (County Flood Control), Riverside County Regional Park and Open Space District, Riverside County Waste Resources Management District, California Department of Parks and Recreation, and Coachella Valley Mountains Conservancy decided to participate in the CVMSHCP. Local permittees would be required to ensure future development is consistent with the MSHCP.

The CVMSHCP balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws. The CVMSHCP is intended to satisfy the legal requirements for the issuance of permits that will allow the take of species covered by the plan in the course of otherwise lawful activities. The CVMSHCP will, to the maximum extent practicable, minimize and mitigate the impacts of “take” and provide for conservation of the Covered Species. Implementation of the MSHCP will be overseen and administered by the Coachella Valley Conservation Commission (CVCC), a joint powers authority formed by the local permittees pursuant to the requirements of the California Government Code and other appropriate legal authorities. Each participating permittee or local jurisdiction within the Coachella Valley region will impose a development mitigation fee for new development projects within its jurisdiction. With payment of the mitigation fee and

compliance with the requirements of the CVMSHCP, full mitigation compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and FESA will be granted.

The CDFW issued the Natural Community Conservation Plan permit for the CVMSHCP on September 9, 2008, and the USFWS issued the final permit for the CVMSHCP on October 1, 2008. The MSHCP “balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws” (CVAG 2016). It currently covers 27 species; a Reserve System will be established within 21 Conservation Areas based on occurrences of 27 natural communities that provide habitat for the Covered Species. The proposed project is listed as a covered project. The Biological Study Area associated with the I-10/Monroe Street Project is in the CVMSHCP Area, but is outside of all associated Conservation Areas.

Riverside County Airport Land Use Compatibility Plan

The project is located within the Riverside County Airport Land Use Compatibility Plan (County of Riverside 2004) and within the boundaries of the Airport Influence Area of the Bermuda Dunes Airport. The privately owned airport is situated in the Coachella Valley and is a major point of general aviation access to the surrounding desert communities of eastern Riverside County. The airport caters to corporate-type, twin engine propeller aircraft and small business jets. Activity is seasonal in character. Development proposals within the Airport Influence Area boundary, including the I-10/Monroe Street Interchange Improvement Project, are subject to review by the Riverside County Airport Land Use Commission (RCALUC), and conditions of development as set forth in the Riverside County Airport Land Use Compatibility Plan.

Bermuda Dunes Airport Land Use Compatibility Plan

The area west of Monroe and north and south of I-10 is within the Riverside County Airport Land Use Capability Plan (CLUP) for the Bermuda Dunes Airport. The airport is a privately owned, public-use general aviation airport along the central, western edge of Indio (City of Indio 2018a). The Bermuda Dunes Airport Land Use Compatibility Plan does not provide additional compatibility policies or criteria beyond those set forth in the Riverside County Airport Land Use Compatibility Plan. Pursuant to Map BD-1 (Compatibility Map) included in the Bermuda Dunes Airport Land Use Compatibility Plan, the project is within Airport Compatibility Zone E as identified in the Riverside County Airport Land Use Compatibility Plan. Pursuant to Table 2A of the Airport Land Use Compatibility Plan, physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations are prohibited uses within every compatibility zone. In addition, airspace review by RCALUC is required for objects taller than 100 feet in height in Compatibility Zone E (County of Riverside 2004). Preliminary design indicates that at its highest point the proposed project would be less than 100 feet above the existing ground surface in Compatibility Zone E; therefore, the proposed I-10/Monroe Street Interchange Improvement Project is not subject to airspace review by RCALUC.

Indio General Plan 2020

As roadway facilities, the onsite roadways and interchange do not have a land use or zoning designation based on the City’s Draft General Plan Land Use Map and Zoning Map, respectively. According to the City of Indio Circulation Element Roadway Classification, Monroe Street is designated as “Arterial (four to six lanes),” and I-10 is labeled “Freeway” (City

of Indio 1994). According to the Indio General Plan 2020, Volume I (November 1994), the City designated the parcels north of the proposed project as “Mixed Use, Development Agreement (MU [DA]),” and the parcels to the south of the project as “Open Space OS,” “Community Commercial CC,” “Low Density Residential RL,” and “Manufacturing M.” Figure 2-2 shows the General Plan land use for the project area.

Circulation Element

Goals and policies excerpted from the Circulation Element of the City’s General Plan include the following:

- **Goal CIR-1:** Provide a circulation system to serve the internal circulation needs of the City while also addressing the intercommunity through-travel needs.
 - **Policy CIR-1-2 Roadway Standards.** Establish roadway cross-sections and standards that are adequate to ensure traffic safety.
 - **Policy CIR-1-5 Pedestrian-Friendly Systems.** Establish street sections in residential neighborhoods and certain commercial areas that, while accommodating vehicular traffic, give preference to pedestrian users.
- **Goal CIR-2:** Accommodate alternatives to private automobile transportation that meet the needs of all City residents.
 - **Policy CIR-2.2 Bike Lane and Trails.** Provide a circulation network that accommodates the safe and efficient movement of cyclists on bike lanes and bike trails.
- **Goal CIR-3:** Promote a regional transportation system that serves existing and future travel between Indio and other populations and employments centers within the region.
 - **Policy CIR-3-1 Regional Transportation Facilities.** Interface with appropriate jurisdictions and agencies to encourage the timely improvement of roadway and transit facilities which address areawide and regional travel needs.

2.1.1.2 Environmental Consequences

Alternative 1 (No Build)

Under the No-Build Alternative, the I-10/Monroe Street interchange and nearby roadway facilities would remain in their current state. However, the No-Build Alternative is not consistent with the goals of the City’s General Plan, particularly those excerpted above, or the other above-referenced plans. Furthermore, the No-Build Alternative does not address the purpose and need of the project.

Build Alternatives 2 and 4

The project footprints for Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar. The discussion below is combined into a single Build Alternatives discussion because implementation of either Build Alternative would result in similar impacts.

2016-2040 RTP/SCS, Amendment #3

The project is included in SCAG's 2016-2040 RTP/SCS, Amendment #3 as RTP ID 3A07022. The 2020 RTP is being tracked through the Project Approval and Environmental Document (PA&ED) process and will be updated for consistency prior to final project approval.

2019 FTIP

The project is currently listed in SCAG's 2019 FTIP for fiscal years 2018/19–2023/24 as a State Highway Project (FTIP ID RIV071254) and is consistent with the project description in the 2019 FTIP. The 2020 RTP is being tracked through the PA&ED process and will be updated for consistency prior to final project approval.

CVMSHCP

The proposed project is in the City of Indio, and the City is a permittee under the CVMSHCP and is required to comply with the requirements set forth in the plan. Therefore, the proposed project was analyzed for its consistency with the CVMSHCP. The proposed project is identified as a Covered Activity under the CVMSHCP. In developing the conservation goals and objectives of the CVMSHCP, the proposed project was identified as a facility to be developed. As such, the proposed project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The proposed project is within the boundaries of the CVMSHCP, but it is not within any CVMSHCP-designated Conservation Areas (Exhibit 7, CVMSHCP Conservation Areas). As a Covered Activity outside designated Conservation Areas, no further avoidance, minimization, and mitigation measures are required other than those in Section 2.3, Biological Environment. See Section 2.3, Biological Environment, in this chapter of this Environmental Document for more detailed discussion regarding the project's consistency with the CVMSHCP.

Bermuda Dunes Airport Land Use Compatibility Plan

Pursuant to Map BD-1 (Compatibility Map) included in the Bermuda Dunes Airport Land Use Compatibility Plan, the proposed project is located within Airport Compatibility Zone E as identified in the Riverside County Airport Land Use Compatibility Plan. Pursuant to Table 2A of the Airport Land Use Compatibility Plan, physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations are prohibited uses within every compatibility zone. In addition, airspace review by RCALUC is required for objects taller than 100 feet in height in Compatibility Zone E. Preliminary design indicates that at its highest point the proposed project would be less than 100 feet above the existing ground surface in Compatibility Zone E; therefore, the proposed I-10/Monroe Street Interchange Improvement Project is not subject to airspace review by RCALUC.

Indio General Plan 2020

Through its General Plan, the City has developed draft goals and policies to guide development and to avoid land use conflicts and environmental hazards. The Build Alternatives would meet the project purpose and need, which is to increase capacity at the I-10/Monroe Street interchange to accommodate the forecast travel demand for the 2045 design year within the City, to accommodate multimodal travel consistent with the City's General Plan and regional plans, and to improve existing interchange geometric deficiencies. Project improvements include widening Monroe Street, the I-10 overcrossing, the Channel Bridge, and the I-10 ramps. Monroe Street at the I-10 overcrossing and Channel Bridge would accommodate two through lanes in each direction and would include two left-turn lanes at each ramp intersection for access to I-10. The

project also includes new travel lanes on Monroe Street, sidewalks, LSEV path, and bike lanes on both the west and east side shoulders of Monroe Street. These proposed improvements are consistent with General Plan Goals CIR-1 (Provide a circulation system to serve the internal circulation needs of the City while also addressing the intercommunity through-travel needs), Goal CIR-2 (accommodate alternatives to private automobile transportation that meet the needs of all City residents), and Goal CIR-3 (promote a regional transportation system that serves existing and future travel between Indio and other populations and employments centers within the region).

Based on the above discussion and analysis, the proposed Build Alternatives would result in less-than-significant land use impacts under CEQA and no adverse effects under NEPA.

2.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, no measures are required.

2.1.2 Parks and Recreational Facilities

2.1.2.1 Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.1.2.2 Affected Environment

Public parks and recreational facilities within 0.5 mile of the project site are presented in Table 2-2. The planned CV Link trail, which will be owned and operated by the CVAG, is within the project area; this is the only recreational facility in the project area. CV Link is a proposed 50-mile alternative transportation corridor for bicycles, pedestrians, and low-speed (up to 25 miles per hour) electric vehicles. The purpose of the trail is to connect Palm Springs to Coachella, with future connections to reach the Desert Hot Springs and the Salton Sea. The path will allow for pedestrians, bicyclists, and persons using LSEVs to connect to parks, shopping areas, and schools. Restrooms, drinking fountains, benches, and electric vehicle charging stations will be available throughout the 50-mile route. The path will comply with the 1990 Americans with Disabilities Act (ADA), will use solar lighting and drought-tolerant landscaping, and will allow for public art spaces and future event space for activities such as organized walks and races. The trail in the project location crosses the proposed project on its southern limits. The project would alter the Monroe Street Bridge, which crosses over the trail. CVAG is in the final design phase and construction (in the area of the I-10/Monroe) is anticipated to begin in the early 2020 and be completed and in operation in early 2021.

Table 2-2. Parks, Trails, and Recreational Facilities within 0.5 mile of the Project Limits

Facility Type	Name	Address	Distance from Project (miles)
Planned multi-use trail	CV Link – This will be a publicly owned recreational facility used for bicycles, pedestrians, and LSEVs	CVSC	Within the project's southern limits along the CVSC
Park	Yucca Park – playground equipment, shaded areas with tables, and barbecue areas	43605 Yucca Street , Indio	0.23
Park	North Jackson Park – playground equipment, softball fields, tennis courts, basketball courts, walking paths, shaded areas with tables, and barbecue areas	43200 Towne Street, Indio	0.15
City-owned public golf course	The Lights at Indio Golf Course	83040 Avenue 42, Indio	0.45

Sources: The Lights at Indio Golf Course 2018; City of Indio 2018b.

Section 4(f) Resources

Section 4(f) of the U.S. 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.”

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project “requiring the use of the publicly owned land of a park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials with jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

Section 4(f) further requires consultation with the Department of the Interior, as appropriate, and the involved offices of the Department of Agriculture and Department of Housing and Urban Development, as appropriate, in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

There are four properties within 0.5 mile of the project corridor that qualify as Section 4(f) resources: Yucca Park, North Jackson Park, The Lights at Indio Golf Course, and the planned CV Link multi-use trail. The planned CV Link trail is the only recreational facility in the proposed project area, and it is planned to be located along the southern bank of the CVSC. The CV Link trail is anticipated to be in operation in early 2021, which is approximately the same timeframe that the proposed I-10/Monroe Street Interchange Improvement Project is planned to be in operation. Due to the new bridge structure over the CVSC, CV Link would need to be reconstructed (shifted) approximately 300 linear feet on both sides of Monroe Street. CV Link would be reconstructed to accommodate the new bridge deck depth and a minimum 10-foot-high vertical clearance between the CV Link trail and the soffit of the new bridge over the CVSC. Additionally, on the east side of Monroe Street, the CV Link access ramp would be shifted approximately 200 feet to accommodate widening of Monroe Street associated with the proposed interchange improvements. The proposed I-10/Monroe Street Interchange Improvement Project would improve CV Link connectivity by improving pedestrian, bike, and LSEV access to and from the trail to Monroe Street.

2.1.2.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, construction activities associated with the proposed project would not occur. Therefore, no existing or planned parks or recreational facilities in the area would be temporarily be affected, and no direct or indirect adverse short-term impacts on recreational and Section 4(f) resources would occur.

Build Alternatives 2 and 4

The proposed project would not acquire public parkland for non-parkland use; therefore, the California Public Park Preservation Act of 1971 would not apply. Construction activities would result in temporary, localized, site-specific disruptions to the community in the immediate vicinity of the project's limits of disturbance. No temporary easements or temporary closures would be required at any community facilities, including the two parks, elementary school, or public golf course. No temporary impacts on these facilities are anticipated.

Section 4(f) Properties

The publicly owned parks and recreational areas within 0.5 mile of the project area, identified in Table 2-2, were evaluated with respect to the requirements of Section 4(f) (see Appendix A).

The planned CV Link trail is the only Section 4(f) resource within the interchange improvement project area. Full closures of CV Link are not anticipated to occur during construction of the I-10/Monroe Street Interchange Improvement Project. Construction is anticipated to last approximately 24 to 28 months. During this time, the CV Link would require temporary detours. The bridge and CV Link construction activities are integrated, and CV Link realignment is anticipated to be accomplished over 18 to 24 months. Detours for CV Link users would be provided to maintain mobility. Such detours would temporarily divert trail users to and across Monroe Street, as needed, during construction of the new bridge structure over the CVSC. No adverse effects on this resource are anticipated because the trail would not be closed during construction and the uses of the trail that qualify this resource for protection under Section 4(f) would not be adversely affected during construction. However, during construction, trail users would be exposed to indirect construction activities, such as increased noise through the project area, visual changes from construction equipment, and potential increases in dust and air quality concerns. These indirect impacts on the trail are temporary in nature, lasting only through the duration of construction, and would not constitute a use under Section 4(f) of the USDOT Act. As mentioned previously, temporary construction impacts would be minimized with implementation of measure **CI-1** (refer to Section 2.1.5.2), measures **AQ 1** through **AQ-14** (refer to Section 2.2.6.4), and measures **NOI-1** through **NOI-3** (refer to Section 2.2.7.4).

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, the project improvements would not be carried out. Therefore, no existing or planned parks or recreational facilities in the area would be affected, and no direct or indirect adverse long-term impacts on recreational and Section 4(f) resources would occur.

Build Alternatives 2 and 4

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would not result in permanent impacts on any of the parks listed in Table 2-2. However, the CV Link trail is planned to be constructed along the southern bank of the CVSC within the limits of the proposed interchange improvements. This CV Link path will allow for egress and ingress to Monroe Street. The proposed project would be designed to be consistent with the CV Link project and would help accommodate multimodal travel (pedestrian, bicycle, and LSEV) consistent with the City's General Plan. No permanent impacts under CEQA or adverse effects under NEPA would occur.

Section 4(f) Properties

The County of Riverside and City of Indio have been coordinating with CVAG to ensure that the design of the I-10/Monroe Street Interchange Improvement Project is compatible with the CV Link project. The team met on April 17, 2018, to discuss the proposed Jackson and Monroe Street Interchange improvements and to acknowledge that the Jackson and Monroe Street Interchange improvements would need to be coordinated with the CV Link project team. CVAG, the City, and the County understood that the CV Link designed ramps and undercrossing may need to be adjusted as the interchange improvements are further developed. Discussion involved the minimum undercrossing vertical clearance, project schedule for the proposed I-10/Monroe Street interchange improvements and the CV Link project, and the proposed Class II shared bike/neighborhood electric vehicle lane(s) associated with the I-10/Monroe Street Interchange Improvement Project. Representatives of the I-10/Monroe Street Interchange Improvement Project met again with CVAG on December 11, 2018, to discuss the preliminary engineering associated with widening Monroe Street at the interface of CV Link. The projects' schedules were also discussed during this meeting. A copy of the meetings notes can be found in Section 4.2, Agency Coordination Documentation.

As a result of the proposed new bridge structure over the CVSC, CV Link would need to be reconstructed (shifted) approximately 300 linear feet on both sides of Monroe Street. CV Link would be reconstructed to accommodate the new bridge deck depth and a minimum 10-foot vertical clearance between the CV Link trail and the soffit of the new bridge structure over the CVSC. In addition, an access ramp on the east side of Monroe Street, providing access to and from CV Link, would be shifted approximately 200 feet to accommodate the widening of Monroe Street associated with the proposed interchange improvements. Refer to Figure 2-4 and Figure 2-5, which illustrate the alignment of CV Link alignment prior to implementation of the I-10/Monroe Street Interchange Improvement Project and also the adjustments to the CV Link alignment that would result from Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, respectively.

**COACHELLA VALLEY
STORMWATER CHANNEL**

MONROE STREET

LEGEND

- MONROE STREET IMPROVEMENTS
- CV LINK ALIGNMENT WITH INTERCHANGE IMPROVEMENTS
- CV LINK ALIGNMENT WITHOUT INTERCHANGE IMPROVEMENTS



FIGURE 2-4

CV LINK ALIGNMENT WITH AND WITHOUT INTERCHANGE IMPROVEMENTS, ALTERNATIVE 2 (LOCALLY PREFERRED ALTERNATIVE)

I-10 / MONROE STREET INTERCHANGE IMPROVEMENT PROJECT

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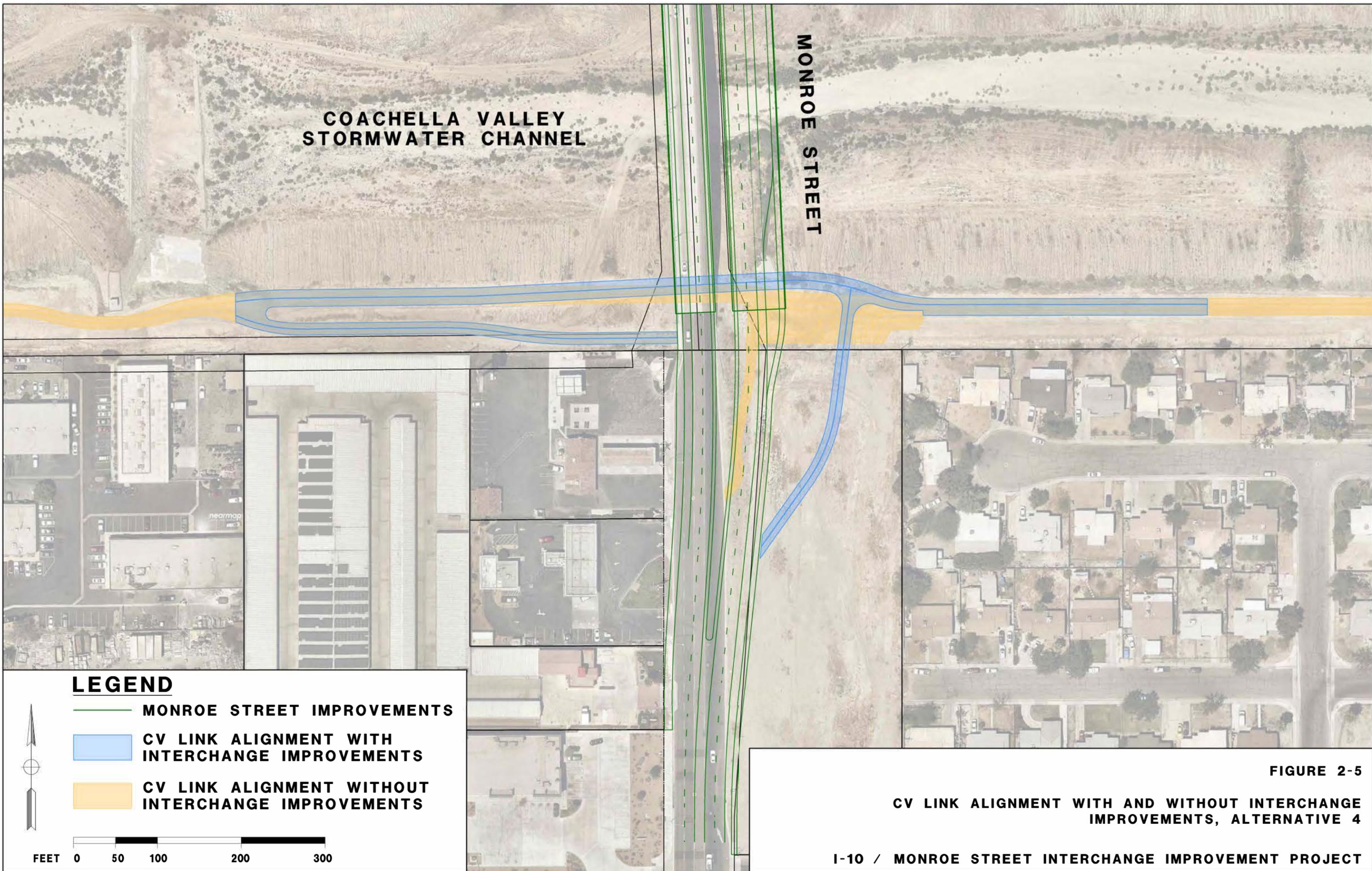


FIGURE 2-5

CV LINK ALIGNMENT WITH AND WITHOUT INTERCHANGE IMPROVEMENTS, ALTERNATIVE 4

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The I-10/Monroe Street Interchange Improvement Project would improve CV Link connectivity by improving pedestrian, bike, and LSEV access on Monroe Street. Access to the trail, including to and from Monroe Street, would be maintained after the interchange improvements are completed (i.e., there would be no change in access when comparing trail conditions prior to and after the proposed I-10/Monroe Street Interchange Improvement Project is completed and in operation). The reconstruction of CV Link resulting from the planned interchange improvements would not result in a net decrease in the area of the trail.

According to the Federal Highway Administration (FHWA) guidance provided in the Environmental Review Toolkit for Section 4(f) Evaluations, to be considered a *de minimis* impact, the amount of land to be acquired from any Section 4(f) site must not exceed 10 percent of the site. Because the project would not result in a net decrease in the area of the planned CV Link trail, and because the proposed interchange improvements would not adversely affect the activities, features, or attributes that afford CV Link protection under Section 4(f) of the DOT Act, impacts on the proposed CV Link trail are considered to be *de minimis*.

Please refer to Appendix A of this IS/EA for an evaluation of the impacts on resources subject to protection under Section 4(f) of the USDOT Act.

2.1.2.4 Avoidance, Minimization, and/or Mitigation Measures

No additional measures are required. Temporary construction impacts would be minimized with implementation of the Traffic Management Plan (TMP) (refer to measure **CI-1** in Section 2.1.5.2), **AQ-1** through **AQ-14** (refer to Section 2.2.6.4), and **NOI-1** through **NOI-3** (refer to Section 2.2.7.4).

2.1.3 Farmlands

2.1.3.1 Regulatory Setting

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

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

2.1.3.2 Affected Environment

Information used in this section is based on the *Interstate 10/Monroe Street Interchange Project Farmlands Technical Memorandum* (Caltrans 2019b). Based on California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP), lands within and adjacent to the study area are designated as follows:

- **Prime Farmland:** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Local Importance:** Farmland that is either currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.
- **Urban and Built-Up Land:** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land:** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow

pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

No land in the study area is currently being used for agricultural production, and there are no properties in the study area that are subject to a Williamson Act Contract.

Table 2-3 summarizes the proposed right of way acquisitions and their respective FMMP designations, and Figure 2-6 illustrates the FMMP designations in the project area.

Table 2-3. Farmland Acquisition & Land Use Summary

Assessor Parcel Number (APN)	Acres	New State Right of Way (Acres)	New City Right of Way (Acres)	New Permanent Easement (Acres)	Percentage of Affected Acreage	FMMP Designation	Existing Land Use
Alternative 2 (Locally Preferred Alternative)							
610-330-027	13.52	--	0.27	--	2%	Farmland of Local Importance	Vacant
610-020-036	53.09	0.55	--	0.44	2%	Farmland of Local Importance	Vacant
610-020-034	4.62	0.17	--	0.10	6%	Farmland of Local Importance	Vacant
610-020-015	34.43	0.04	0.03	0.13	1%	Other Lands	Vacant
610-080-009	65	0.14	0.14	0.5	1%	Other Lands	Vacant
610-093-037	2.52	--	1.14	--	45%	Urban & Built Up Lands	Vacant
Alternative 4							
610-330-027	13.52	0.07	0.27	--	3%	Farmland of Local Importance	Vacant
610-020-036	53.09	0.49	0.03	0.43	2%	Farmland of Local Importance	Vacant
610-020-034	4.62	0.28	--	0.18	10%	Farmland of Local Importance	Vacant
610-020-015	34.43	--	--	--	0%	Other Lands	Vacant
610-080-009	65	0.18	0.19	0.65	2%	Other Lands	Vacant
610-093-037	2.52	--	1.20	--	48%	Urban & Built Up Lands	Vacant
Source: California Department of Transportation 2019b							

Conversions of agricultural lands to non-agricultural uses have been increasing in this eastern region of the County. According to the 1984-2016 Land Use Summary for Riverside County, the net acreage change for agricultural lands totaled 173,436 acres in that 32-year period, with an average annual acreage change of 5,420 acres per year. Urban development growth has extended

further east in the County. Land use planning for Indio, as well as other communities in the nearby vicinity, has been developed to accommodate regional growth in population, housing, and employment. According to SCAG, the City experienced a population growth rate of 79.3 percent from 2000 to 2016, which is higher than the County rate of 51.9 percent.

2.1.3.3 Environmental Consequences

Alternative 1 (No Build)

Alternative 1 (No-Build) would not construct the proposed improvements at the I-10/Monroe Street Interchange and would not require property acquisitions of the farmlands-designated parcels. Therefore, no impacts on farmlands would occur.

Build Alternative 2 (Locally Preferred Alternative)

Build Alternative 2 (Locally Preferred Alternative) would affect six parcels, including three parcels designated as “Farmlands of Local Importance.” No Williamson Act lands would be affected by Build Alternative 2 (Locally Preferred Alternative). Permanent partial acquisition of less than one acre for each of the three parcels would be required for implementation of Build Alternative 2 (Locally Preferred Alternative). These three parcels are designated as “Mixed Use, Development Agreement (MU [DA])” by the City, and they are planned for future development of mixed residential and commercial uses. Currently, these farmland-designated parcels are undeveloped and are not used for agricultural production.

Build Alternative 2 (Locally Preferred Alternative) would require the permanent acquisition of 3.65 acres of land for right of way purposes, including 1.53 acres of farmland-designated land. Impacts on these farmland-designated parcels represent less than one percent of all farmlands countywide, which represents an inconsequential impact. Furthermore, the affected parcels are not currently used for agricultural production.

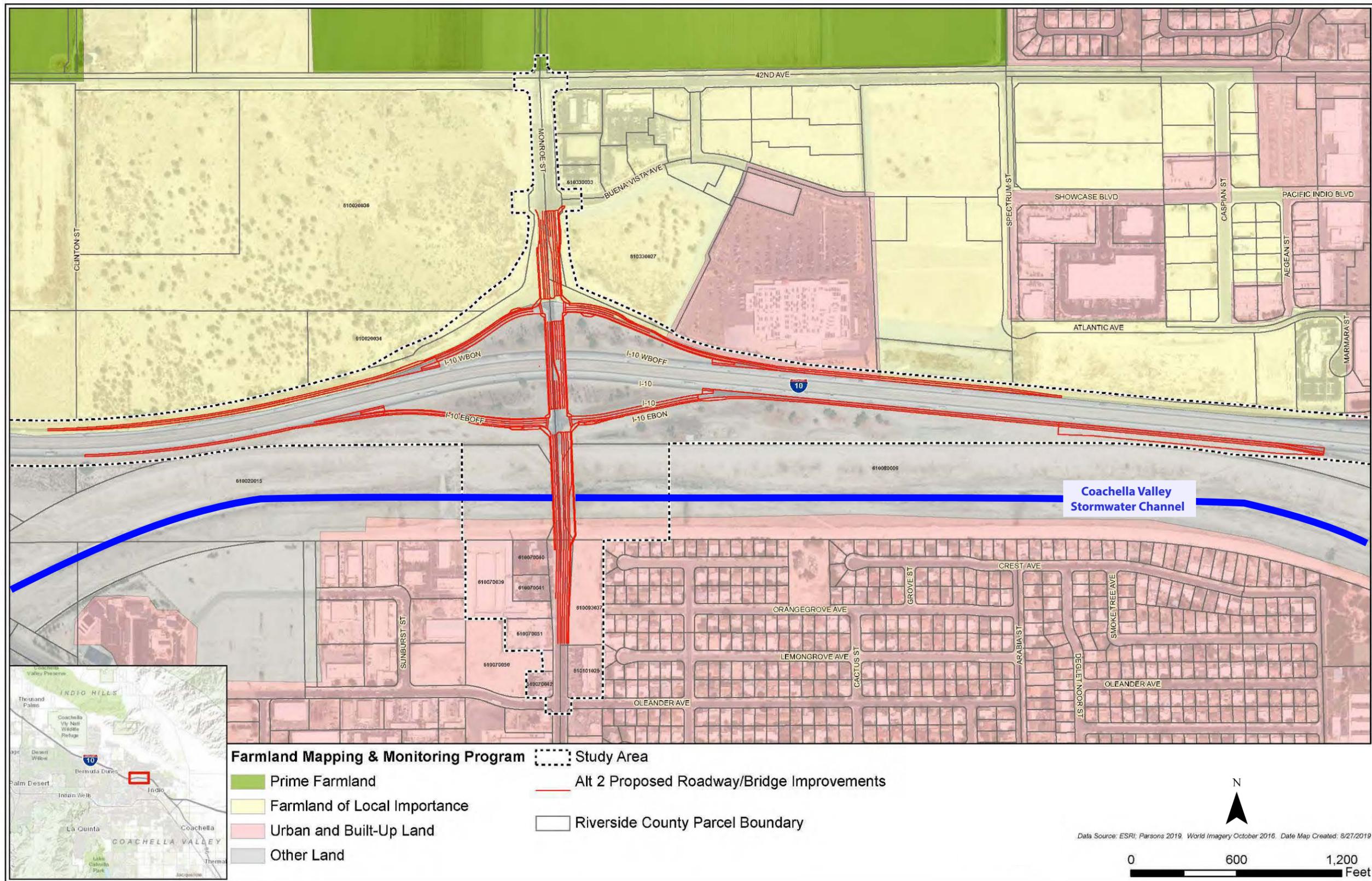


Figure 2-6A
Farmland Monitoring and Mitigation Program (FMMP) Designations
Alternative 2 (Locally Preferred Alternative)
I-10/Monroe Street Interchange Improvement Project

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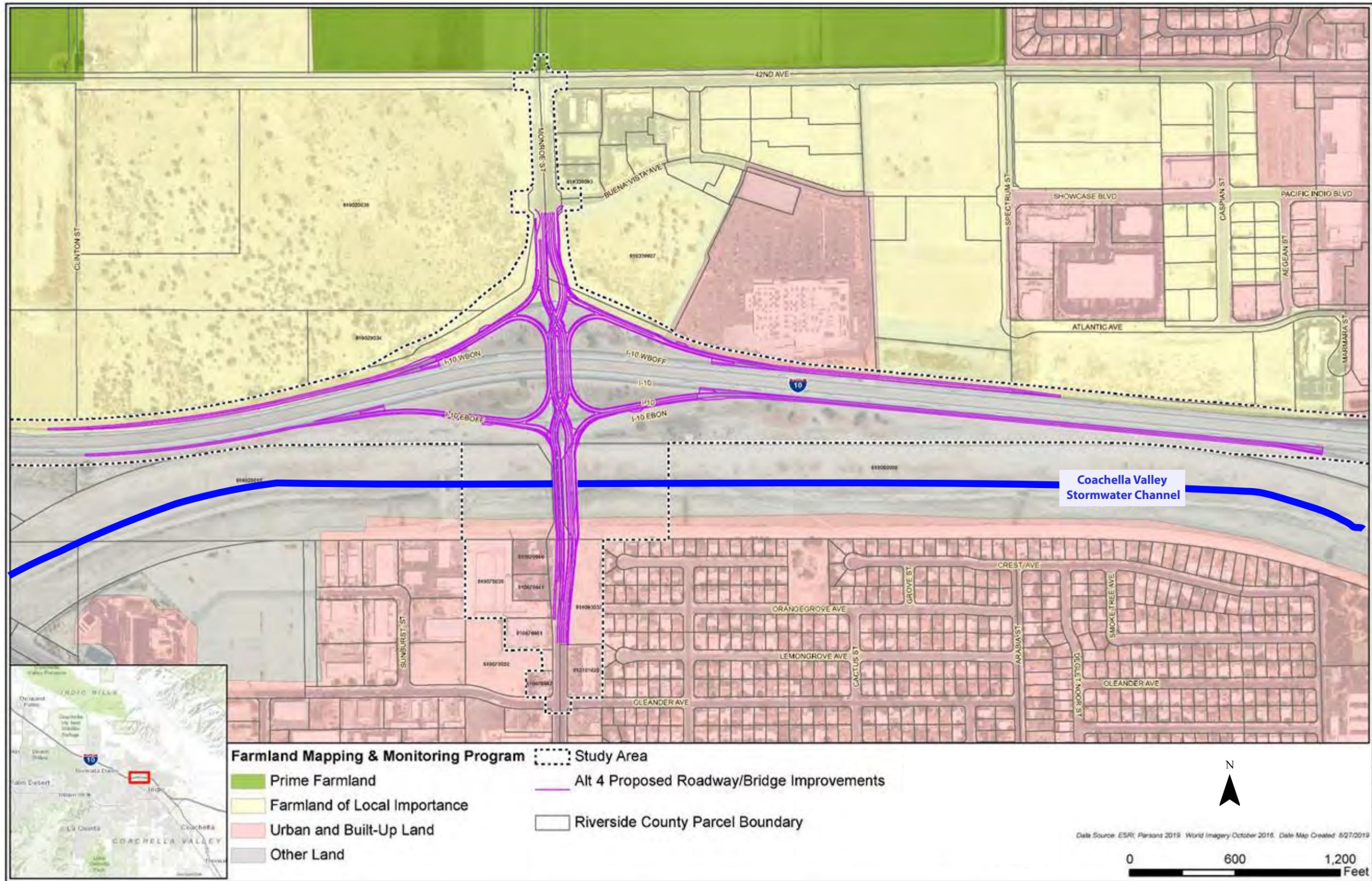


Figure 2-6B
Farmland Monitoring and Mitigation Program (FMMP) Designations
Alternative 4
I-10/Monroe Street Interchange Improvement Project

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In order to determine farmland conversion impacts for Build Alternative 2 (Locally Preferred Alternative), a U.S. Department of Agriculture Farmland Conversion Impact Rating (Form AD 1006) was completed, including the points distribution in Part VI (Site Assessment Criteria) of Form AD 1006. The scoring for the site assessment enables an agency to identify the effects of a project on farmland and to determine the suitability of farmland protection (pursuant to 7 CFR 658.5). As shown in Table 2-4, the Farmland Conversion Impact Rating for Build Alternative 2 (Locally Preferred Alternative) is 24, well below the maximum total points impact rating of 160. As stated in Caltrans' Standard Environmental Reference, Environmental Handbook Volume 1 (General), Chapter 23 (Farmlands), in cases where it is obvious that no farmland is present or when the score in Part VI of Form AD-1006 is less than 60 points for each alternative, the Form AD-1006 need not be submitted to the NRCS. In these cases, the completed form should be retained in the project file and the environmental document should summarize the steps taken to identify and evaluate farmland impacts.

Table 2-4. Farmland Conversions by Build Alternative

Alternatives	Land Converted (acres)	Farmland of Local Importance (acres)	Percent of Farmland in County	Percent of Farmland in State	Farmland Conversion Impact Rating
Alternative 2 (Locally Preferred Alternative)	3.65	1.53	0.000003	0.00000005	24
Alternative 4	3.97	1.75	0.000003	0.00000006	24

Source: Form AD 1006 (Farmland Conversion Impact Rating), see Appendix A.

Build Alternative 4

Build Alternative 4 would affect five parcels, including three parcels designated as "Farmlands of Local Importance." No Williamson Act lands would be affected by Build Alternative 4. Partial acquisition of less than one acre for each of the three parcels would be required for implementation of Build Alternative 4. These three parcels are designated as "Mixed Use, Development Agreement (MU [DA])" by the City, and they are planned for future development of mixed residential and commercial uses. Currently, these farmland-designated parcels are undeveloped and are not used for agricultural production.

Build Alternative 4 would require the acquisition of 3.97 acres of land for right of way purposes, including 1.75 acres of farmland-designated land. Impacts on these farmland-designated parcels represent less than one percent of all farmlands countywide, which represents an inconsequential impact. Furthermore, the affected parcels are not currently used for purposes of agricultural production.

As shown in Table 2-4, the Farmland Conversion Impact Rating for Build Alternative 4 is 24, well below the maximum total points impact rating of 160. As stated in Caltrans' Standard Environmental Reference, Environmental Handbook Volume 1 (General), Chapter 23 (Farmlands), in cases where it is obvious that no farmland is present or when the score in Part VI of Form AD-1006 is less than 60 points for each alternative, the Form AD-1006 need not be

submitted to the NRCS. In these cases, the completed form should be retained in the project file and the environmental document should summarize the steps taken to identify and evaluate farmland impacts.

Based on the above discussion and analysis, the proposed Build Alternatives would not result in farmland impacts under CEQA or adverse effects under NEPA.

2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.4 Growth

2.1.4.1 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..."

Methodology

A "first-cut" screening was conducted pursuant to Caltrans' Guidance for Preparers of Growth related, Indirect Impact Analyses to assess what influence implementation of the I-10/Monroe Street Interchange Project might have on growth and development in the area. The following is based on the above referenced guidance.

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

Construction of the project would not result in long-term changes to travel times, travel cost, or accessibility to employment and services in the project vicinity. In addition, during construction of the project, no vacant lands that are currently inaccessible would become permanently accessible and therefore more likely to be developed following construction of the I-10/Monroe Street Interchange Project.

Workforce requirements associated with the construction of the project are expected to result in an influx of workers to the local area. However, the workforce influx would be temporary in nature and would cease upon completion of project construction.

The project is in a semi-urban desert region with an expanding population and a relatively high influx of seasonal residents and tourists; the project is immediately adjacent to an existing population center of the City. Vacant undeveloped lands make up the predominant land uses adjacent to northwest quadrant of the existing interchange. The land uses adjacent to the northeast quadrant are also vacant with some retail/commercial (Walmart Super Center, Starbucks Drive Thru, Circle K, and T Mobile). The land uses south of the interchange include the CVSC and also retail/commercial (76 gas station, Coachella Auto Collision, StorAmerica Self Storage, Dollar General, and Universal Brakes & Alignment). There are also residential

subdivisions north and south of the project limits. The parcels within the project limits from which right of way is anticipated to potentially be acquired are currently undeveloped.

Although the project would improve traffic operations at the interchange area, the project would not create new opportunities for access to areas that are not already afforded access under the existing conditions at the interchange; therefore, while traffic operations at the I-10/Monroe Street interchange would be improved with implementation of the project, the project would not substantially change accessibility to adjacent and nearby properties.

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

The project involves the reconstruction of the existing I-10/Monroe Street interchange. The existing interchange plays a key role for tourists and commercial traffic (e.g., goods movement) along the larger I-10 transportation corridor. The existing interchange also serves local and regional traffic accessing residential, retail, and industrial facilities in relative proximity to the interchange.

Continued growth in the region is anticipated, and further development of residential, commercial/retail, and industrial uses will create an even greater need for improvement of the operation (e.g., LOS) of the interchange. Forecast increased traffic volumes, in conjunction with the current capacity of the existing interchange, are expected to result in the interchange ramps and associated intersections operating at unacceptable levels of service by the year 2045. Under Design Year (2045), eastbound I-10 study facilities would operate acceptably under the No-Build Alternative. Westbound I-10 would have insufficient capacity for the 2045 traffic demand, consequently resulting in deficient operations of LOS F and LOS E at the Jackson Street On-Ramp and Monroe Street Off-Ramp, respectively, during the AM and PM peak hours. These findings are consistent with the I-10 Transportation Concept Report prepared by the Department in 2017, which found that I-10 would operate under deficiency by 2040 in the Monroe Street study area.

Under Design Year (2045), Build Alternative 2 (Locally Preferred Alternative) during the AM peak hour would improve the Monroe Street off-ramp to acceptable operations with the addition of the deceleration lane in the westbound direction. All eastbound freeway segments would continue to operate acceptably under Build Alternative 2 (Locally Preferred Alternative). Six study intersections along Monroe Street would also be improved from unacceptable to acceptable during the AM peak hour. The number of vehicles served would increase by 4,510 vehicles (or 11 percent), while VHD would decrease by 32 percent and travel times would increase slightly, with a correlating decrease in speeds along the I-10 corridor, specifically in the westbound direction during the AM peak period. During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative) would improve the Monroe Street off-ramp and on-ramp to better than No-Build conditions with the addition of the acceleration and deceleration lane in the westbound direction. In the eastbound directions all freeway segments would continue to operate acceptably. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 (Locally Preferred Alternative) would serve 5,810 more vehicles (or 13 percent) and would reduce VHD by 11 percent. While travel time on I-10 in the westbound direction

would increase slightly, by six seconds, speeds would be maintained when compared to the No-Build Alternative.

Under Design Year (2045), during the AM peak hour, Build Alternative 4 would improve the Monroe Street off-ramp to acceptable operations with the addition of the deceleration lane in the westbound direction. All freeway segments would continue to operate acceptably in the eastbound direction. Six study intersections along Monroe Street would also be improved from unacceptable to acceptable. The number of vehicles served would increase by 4,540 vehicles (or 11 percent), while VHD would decrease by 37 percent and travel times would increase slightly. There would be a correlating decrease in speeds along the I-10 corridor, specifically in the westbound direction during the AM peak period. During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 4 would improve the Monroe Street off-ramp and on-ramp to better than No-Build conditions with the addition of the acceleration and deceleration lane. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 4 would serve 5,490 more vehicles (or 12 percent) and would reduce VHD by 7 percent. While travel time on I-10 in the westbound direction would increase slightly, by five seconds, speeds would be maintained when compared to the No-Build Alternative during the PM peak period.

While the project, under either Build Alternative 2 (Locally Preferred Alternative) or Build Alternative 4, would improve traffic operations at the interchange, it is not expected that the degree of improvement in traffic operations would result in a change in traffic patterns or travel behavior such that it would result in development seeking to locate (or relocate) in the immediate vicinity of the interchange as compared to the existing interchange conditions.

The growth pressure within the project area is considered to be high when existing and future land uses are taken into consideration. The City of Indio Draft General Plan Update Place Types Map identifies the future intended use of land on every parcel in the City (City of Indio 2018a). The figure also identifies the locations where growth and development are expected (or desired) to occur and locations that should be protected from future development. The areas north of the interchange are designated as “Transformation/Major Change,” which is defined as an “area where the community wants to actively facilitate significant change in the short to middle term and these areas may look very different in a short period of time and these are areas where the City of Indio may want to prioritize staff and financial resources or actively encourage new private development.” The areas south of the interchange are designated as “Preserve/Minor Change,” which are defined as “areas of the City where the general character of the area will remain the same but improvement is desired in limited ways.”

The project is on an existing interstate facility near existing roadways, providing access to existing and already planned development. The project has been designed to accommodate present and projected increases in traffic volumes expected as a result of previously implemented and planned development in the area; therefore, project-related growth is not anticipated as a result of the project.

Is project-related growth reasonably foreseeable under NEPA?

Under NEPA, reasonably foreseeable events are those that are likely to occur or are probable, rather than those that are merely possible. Development in the I-10/Monroe Street Interchange area is governed by the City's General Plan. Although the project would provide operational improvements to local access, it is not expected that the project would affect growth at the local or regional level.

If there is project-related growth, how, if at all, will that impact resources of concern?

The project is not expected to accelerate or otherwise influence growth beyond what is already expected in the project area.

Based on the above, no further analysis with respect to growth is required for this project.

2.1.5 Community Impacts

2.1.5.1 Community Character and Cohesion

Regulatory Setting

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

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

Affected Environment

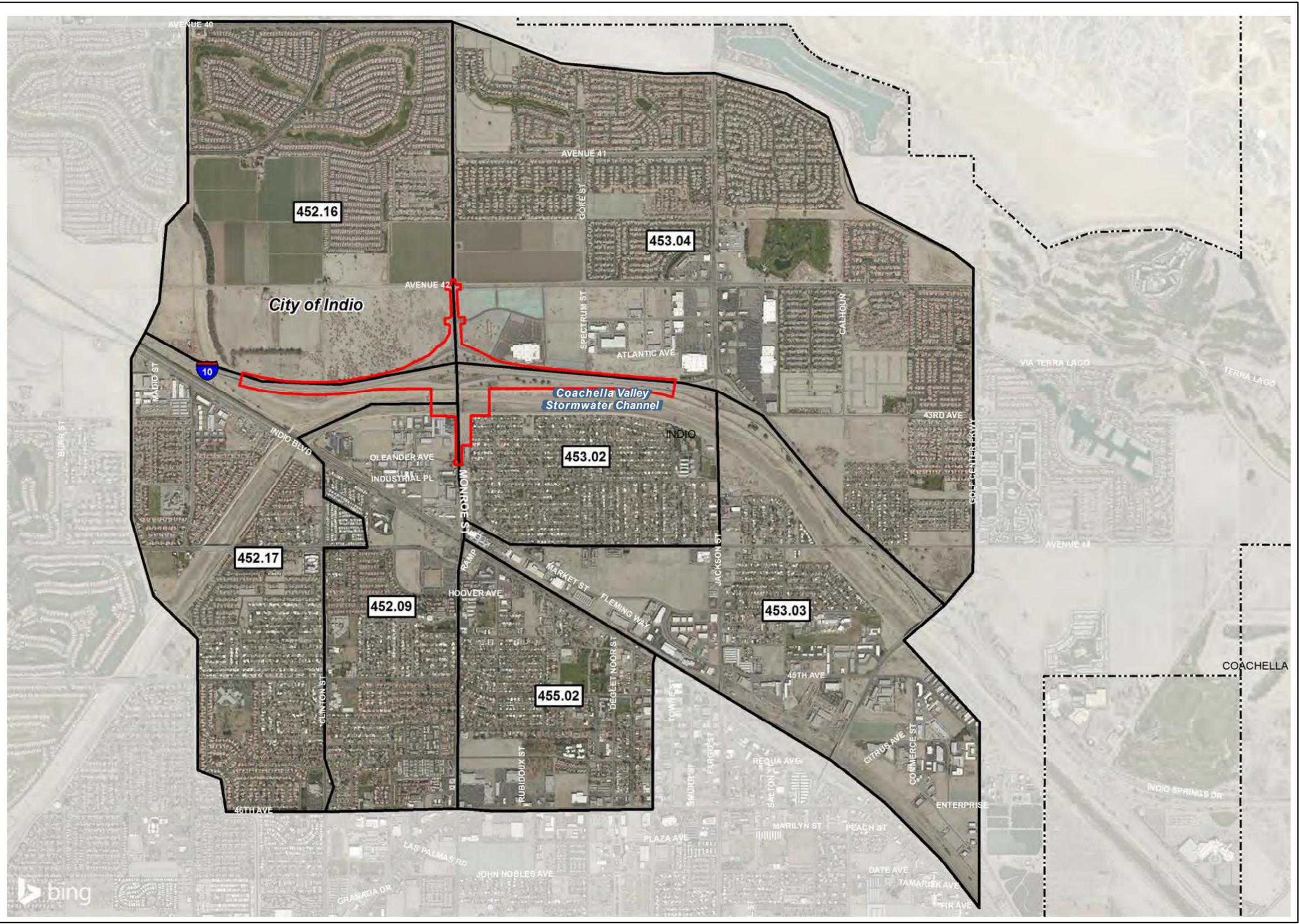
The study area for the proposed project includes the populations and communities that are most likely to experience adverse effects from physical improvements associated with the proposed project. The study area for the proposed project includes Census Tracts 452.16, 452.17, 452.09, 453.02, 453.03, 453.04, and 455.02 located within the City (refer to Figure 2-7, Community Study Area).

Race and Ethnicity

Within the study area, land uses are a combination of vacant land, manufacturing/light industrial, residential, commercial, public, open space, existing roadway/highway facilities, and the CVSC. Persons identifying as Hispanic/Latino make up the largest ethnic group in the study area (73 percent), the City (68 percent), and the County (45 percent). As such, the percentage of Hispanic/Latino persons in the study area is comparable to that in the City and higher than the percentages in the County, indicating a predominantly minority community. Non-Hispanic whites are the next largest racial/ethnic group in the study area, accounting for 23 percent of the population, compared with 27 percent in the City and 40 percent in the County. Race and ethnicity information for the study area, the City, and the County is provided in Table 2-5.

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- Legend**
- Census Tracts
 - Project Limits
 - City Boundary

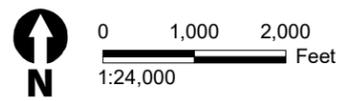


Figure 2-7
Community Study Area
Interstate 10/Monroe Avenue Interchange Improvement Project

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Table 2-5. Race and Ethnicity

	Total Population	Hispanic/Latino (%)	White (%)	Black or African American (%)	Native American (%)	Asian (%)	Native Hawaiian/Pacific Islander (%)	Other Race (%)	Two or More Races (%)
County of Riverside	2,189,641	45	40	6	>1	6	>1	>1	2
City of Indio	76,036	68	27	2	>1	2	>1	>1	1
Census Tract 452.17	6,225	79	17	2	>1	2	>1	>1	>1
Census Tract 452.16	1,804	16	78	3	>1	2	0	>1	1
Census Tract 453.04	8,675	58	33	2	1	4	>1	>1	2
Census Tract 453.03	3,035	94	4	1	>1	>1	>1	>1	>1
Census Tract 453.02	4,459	91	7	1	>1	>1	>1	>1	>1
Census Tract 452.09	5,441	86	11	1	>1	1	>1	>1	1
Census Tract 455.02	3,656	86	10	1	>1	1	>1	>1	1
Study Area*	33,295	73	23	2	>1	1	>1	>1	>1

* Study area includes Census Tract 455.02, 452.16, 452.17, 452.09, 453.02, 453.03, and 453.04.
Source: U.S. Census Bureau 2010a.

Housing

Housing prices in California are higher than the national averages, according to the 2013–2017 American Community Survey 5-Year Estimates conducted by the U.S. Census Bureau. The median value for owner-occupied homes in the United States was \$193,500, versus California’s median value of \$443,400 (U.S. Census Bureau 2018a). Housing prices are relatively lower in Riverside County, with median home values at \$304,500, and even lower in Indio at \$247,900. Housing in Indio has remained relatively affordable compared to most other cities in the region, especially following the real estate boom of the early 2000s, during which the Coachella Valley was one of the fastest growing regions in California. Housing costs play a major role in people’s choice of residential location. A lack of affordable housing opportunities can influence the need for commuters to travel long distances to work. Housing prices in the City are very low compared to other areas in the region, which is a contributor to the growth conditions that currently exist—and are expected to continue in the future—in the City.

The average household size in the study area is 3.50 persons. This is comparable to the average household size for the City (3.21 persons) and the County (3.14 persons). The occupancy and vacancy rates of the study area are comparable to those of the County; however, the study area has a slightly higher percentage of occupied housing units (88.1 percent) compared with the City (80.7 percent) and lower percentage of vacant housing units (11.9 percent) compared to the City (19.3 percent). The study area has a lower percentage of owner-occupied housing units (60.7 percent) than the City (65.3 percent) and County (67.4 percent). The study area has a higher percentage of renter occupied units (39.3 percent) than the City (34.7 percent) and slightly higher than the County (32.6 percent). The housing characteristics of the study area, City, and County are listed in Table 2-6.

Table 2-6. Housing Characteristics

	Total Households	Average Household Size	Total Housing Units	Housing Units		Occupied Housing Units	
				Occupied	Vacant	Owner-Occupied	Renter-Occupied
County of Riverside	686,260	3.14	800,707	85.7%	14.3%	67.4%	32.6%
City of Indio	23,378	3.21	28,971	80.7%	19.3%	65.3%	34.7%
Census Tract 452.17	1,649	3.78	1,818	90.7%	9.3%	68.4%	31.6%
Census Tract 452.16	875	2.06	1,197	73.1%	26.9%	90.6%	9.4%
Census Tract 453.04	2,460	3.52	2,839	86.7%	13.3%	82.4%	17.6%
Census Tract 453.03	716	4.24	807	88.7%	11.3%	37.4%	62.6%
Census Tract 453.02	1,050	4.25	1,094	96%	4%	73.7%	26.3%
Census Tract 452.09	1,598	3.40	1,714	93.2%	6.8%	40%	60%
Census Tract 455.02	1,107	3.22	1,253	88.3%	11.7%	32.4%	67.6%
Study Area*	9,455	3.5	10,722	88.1	11.9%	60.7%	39.3%

* Study area includes Census Tract 455.02, 452.16, 452.17, 452.09, 453.02, 453.03, and 453.04.
Source: U.S. Census Bureau 2010b.

Income and Poverty

According to the U.S. Census Bureau, the labor force for the study area is 7,513 persons, the labor force for the City is 39,482 persons, and the labor force for the County is 1,067,758 persons. The unemployment rate in the study area is 13.5 percent, slightly higher than the unemployment rate in the City (11.8 percent) and the County (11.3 percent). This trend also corresponds to the poverty level data for the study area, City, and County. The percentage of all people below the poverty level is 21.8 percent in the study area, 18.9 percent in the City, and 16.5 percent in the County. The study area has a slightly lower median household income (\$46,144) than the City (\$49,551) and County (\$57,972). The median incomes for the study area, City, and County are higher than the 2018 federal annual income poverty guideline threshold of \$25,100 for a household of four, as identified by the U.S. Department of Health and Human Services (U.S. Department of Health and Human Services 2018). The economic data are summarized in Table 2-7.

Table 2-7. Economic and Income

	Total in Civilian Labor Force	Unemployment Rate	Median Household Income	Persons below Poverty Level
County of Riverside	1,067,758	11.3%	\$57,972	16.5%
City of Indio	39,482	11.8%	\$49,551	18.9%
Census Tract 452.17	4,013	13.3%	\$51,360	20.6%
Census Tract 452.16	502	16.5%	\$61,389	12.1%
Census Tract 453.04	4,606	5.1%	\$86,387	11.2%
Census Tract 453.03	1,945	18.9%	\$23,884	30%
Census Tract 453.02	1,942	15.1%	\$44,031	26.6%
Census Tract 452.09	2,713	18.2%	\$28,983	30.8%
Census Tract 455.02	2,813	7.7%	\$26,979	21.1
Study Area*	7,513	13.5%	\$46,144	21.8%

* Study area includes Census Tract 455.02, 452.16, 452.17, 452.09, 453.02, 453.03, and 453.04.
Sources: U.S. Census Bureau 2018b, 2018c, 2018d.

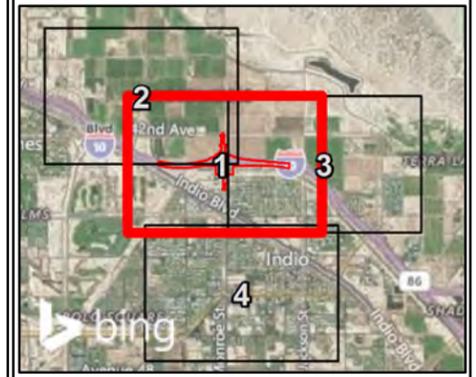
Community Services

Community services and facilities are an important aspect of neighborhood identity and can be critical resources for the community. Occasionally, transportation projects may affect community services, either positively or negatively, thereby affecting the character and cohesion of a community, either temporarily or permanently. The community facilities and services near the project site are listed in Table 2-8 and shown on Figure 2-8, Community Facilities and Services.

Table 2-8. Community Facilities and Services

Type	Map ID	Name	Address	Distance from Project (miles)
Fire/EMS	1	Indio Station #5	42-900 Golf Center Parkway, Indio	1
	2	Indio Station #4	81-025 Avenue 40, Indio	1.35
Police/Sheriff	3	City of Indio Police Department	46800 Jackson Street, Indio	2
Schools	4	Richard R. Oliphant Elementary School 3	41633 Gore Street, Indio	0.40
	5	Carrillo Ranch Elementary School	43775 Madison Street, Indio	0.40
	6	Andrew Jackson Elementary School	82850 Kenner Avenue, Indio	0.20
	7	Herbert Hoover Elementary School	44300 Monroe Street, Indio	.50
	8	Lyndon B. Johnson Elementary School	44640 Clinton Street, Indio	.75
	9	Indio Middle School	81195 Miles Avenue, Indio	1.20
	10	Amistad High School	83501 Dillon Avenue, Indio	1.5
Parks	11	Yucca Park	43605 Yucca Street, Indio	0.23
	12	North Jackson Park	43200 Towne Street, Indio	0.15
	13	The Lights at Indio Golf Course	83040 Avenue 42, Indio	0.45
Community Centers	14	Senior Center	45700 Aladdin Street, Indio	1.2
	15	Teen Center	81-678 Avenue 46, Indio	1.50
Places of Worship	16	Destiny Church	82625 Showcase Pkwy # A, Indio	0.40
	17	Trinity Baptist Church	44550 Monroe Street, Indio	0.64
	18	Indio Spanish Church	44800 Clinton Street, Indio	0.85
	19	Trinity Child Lutheran Church	81500 Miles Avenue, Indio	0.90
Library	20	Indio Library	200 Civic Center Mall	1.32
Transportation Centers	21	Amtrak Bus Stop	82120 Highway 111, Indio	1.35
	22	Indio Greyhound Bus Station	83100 Indio Boulevard	1.45
Sources: Desert Sands Unified School District 2018; City of Indio Police Department 2018; City of Indio Fire Department 2018; City of Indio Community Services 2018; Amtrak 2018; Greyhound 2018. Map ID Corresponds to Figure 2-8.				

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- Legend**
- Project Limits
 - City Boundary
 - Community Facilities and Services**
 - Community Centers
 - Fire/EMS
 - Hospital
 - Library
 - Parks
 - Places of Worship
 - ▲ Police/Sheriff
 - ▲ Schools
 - ▲ Transportation Centers

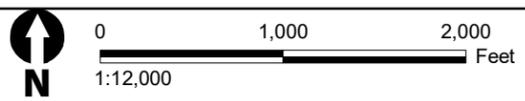
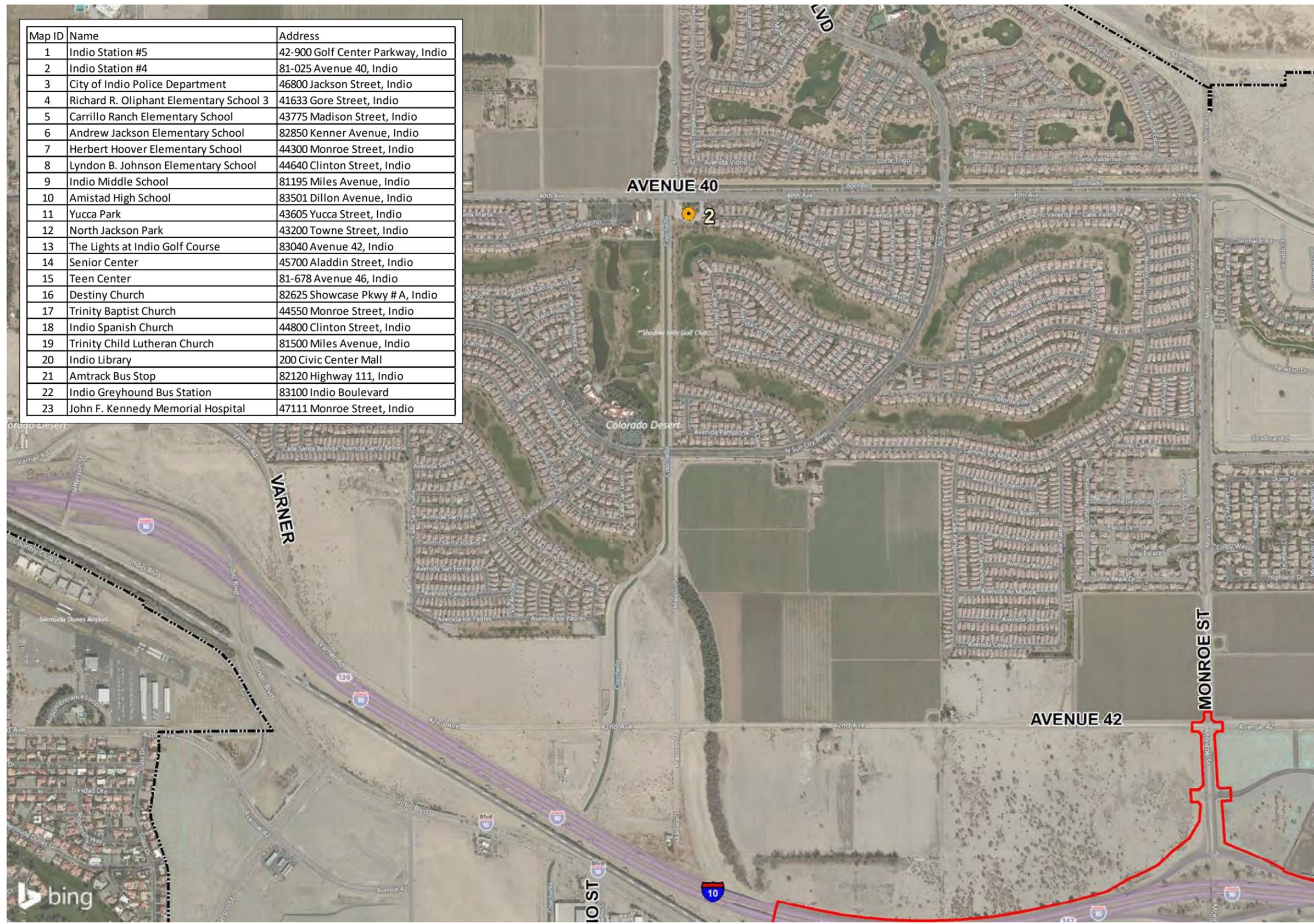


Figure 2-8, Sheet 1 of 4
Community Facilities and Services
Interstate 10/Monroe Avenue Interchange Improvement Project

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Map ID	Name	Address
1	Indio Station #5	42-900 Golf Center Parkway, Indio
2	Indio Station #4	81-025 Avenue 40, Indio
3	City of Indio Police Department	46800 Jackson Street, Indio
4	Richard R. Oliphant Elementary School 3	41633 Gore Street, Indio
5	Carrillo Ranch Elementary School	43775 Madison Street, Indio
6	Andrew Jackson Elementary School	82850 Kenner Avenue, Indio
7	Herbert Hoover Elementary School	44300 Monroe Street, Indio
8	Lyndon B. Johnson Elementary School	44640 Clinton Street, Indio
9	Indio Middle School	81195 Miles Avenue, Indio
10	Amistad High School	83501 Dillon Avenue, Indio
11	Yucca Park	43605 Yucca Street, Indio
12	North Jackson Park	43200 Towne Street, Indio
13	The Lights at Indio Golf Course	83040 Avenue 42, Indio
14	Senior Center	45700 Aladdin Street, Indio
15	Teen Center	81-678 Avenue 46, Indio
16	Destiny Church	82625 Showcase Pkwy # A, Indio
17	Trinity Baptist Church	44550 Monroe Street, Indio
18	Indio Spanish Church	44800 Clinton Street, Indio
19	Trinity Child Lutheran Church	81500 Miles Avenue, Indio
20	Indio Library	200 Civic Center Mall
21	Amtrak Bus Stop	82120 Highway 111, Indio
22	Indio Greyhound Bus Station	83100 Indio Boulevard
23	John F. Kennedy Memorial Hospital	47111 Monroe Street, Indio



- Legend**
- Project Limits
 - City Boundary
- Community Facilities and Services**
- Community Centers
 - Fire/EMS
 - Hospital
 - Library
 - Parks
 - Places of Worship
 - ▲ Police/Sheriff
 - ▲ Schools
 - ▲ Transportation Centers

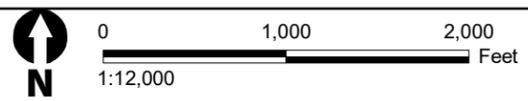
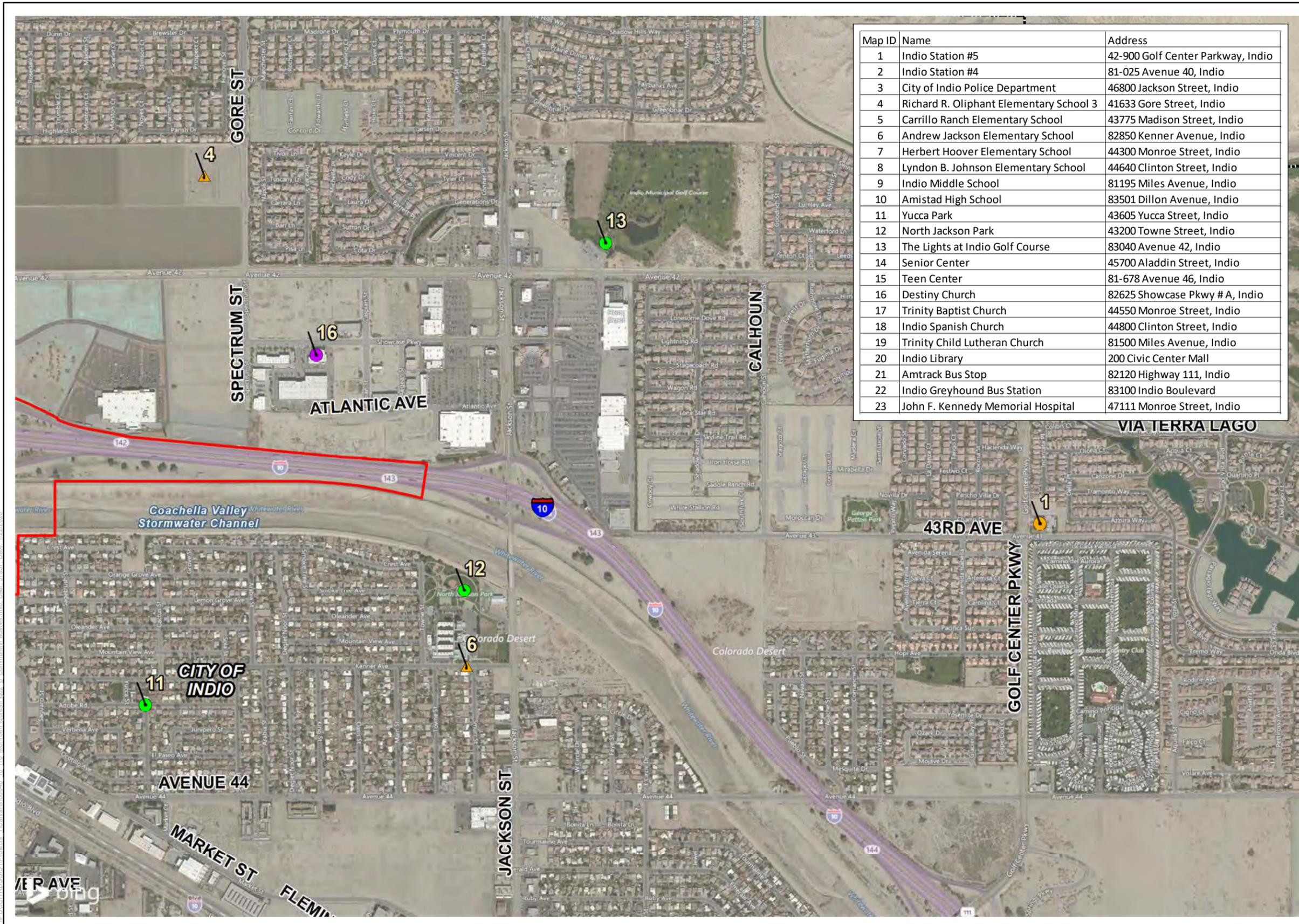


Figure 2-8, Sheet 2 of 4
Community Facilities and Services
Interstate 10/Monroe Avenue Interchange Improvement Project

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Map ID	Name	Address
1	Indio Station #5	42-900 Golf Center Parkway, Indio
2	Indio Station #4	81-025 Avenue 40, Indio
3	City of Indio Police Department	46800 Jackson Street, Indio
4	Richard R. Oliphant Elementary School 3	41633 Gore Street, Indio
5	Carrillo Ranch Elementary School	43775 Madison Street, Indio
6	Andrew Jackson Elementary School	82850 Kenner Avenue, Indio
7	Herbert Hoover Elementary School	44300 Monroe Street, Indio
8	Lyndon B. Johnson Elementary School	44640 Clinton Street, Indio
9	Indio Middle School	81195 Miles Avenue, Indio
10	Amistad High School	83501 Dillon Avenue, Indio
11	Yucca Park	43605 Yucca Street, Indio
12	North Jackson Park	43200 Towne Street, Indio
13	The Lights at Indio Golf Course	83040 Avenue 42, Indio
14	Senior Center	45700 Aladdin Street, Indio
15	Teen Center	81-678 Avenue 46, Indio
16	Destiny Church	82625 Showcase Pkwy # A, Indio
17	Trinity Baptist Church	44550 Monroe Street, Indio
18	Indio Spanish Church	44800 Clinton Street, Indio
19	Trinity Child Lutheran Church	81500 Miles Avenue, Indio
20	Indio Library	200 Civic Center Mall
21	Amtrak Bus Stop	82120 Highway 111, Indio
22	Indio Greyhound Bus Station	83100 Indio Boulevard
23	John F. Kennedy Memorial Hospital	47111 Monroe Street, Indio



- Legend**
- Project Limits
 - City Boundary
 - Community Facilities and Services**
 - Community Centers
 - Fire/EMS
 - Hospital
 - Library
 - Parks
 - Places of Worship
 - ▲ Police/Sheriff
 - ▲ Schools
 - ▲ Transportation Centers

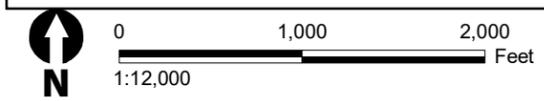
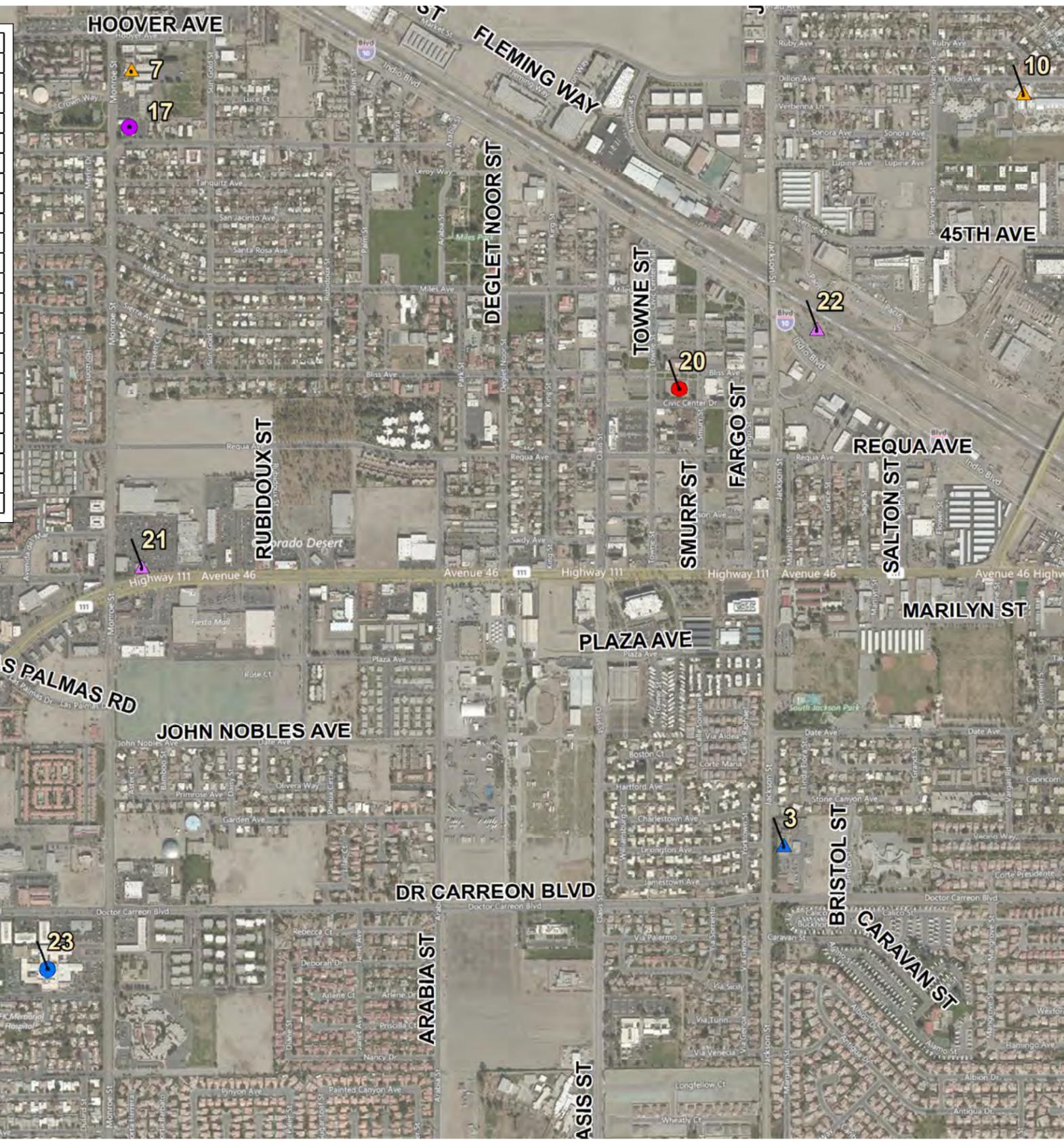


Figure 2-8, Sheet 3 of 4
Community Facilities and Services
Interstate 10/Monroe Avenue Interchange Improvement Project

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Map ID	Name	Address
1	Indio Station #5	42-900 Golf Center Parkway, Indio
2	Indio Station #4	81-025 Avenue 40, Indio
3	City of Indio Police Department	46800 Jackson Street, Indio
4	Richard R. Oliphant Elementary School 3	41633 Gore Street, Indio
5	Carrillo Ranch Elementary School	43775 Madison Street, Indio
6	Andrew Jackson Elementary School	82850 Kenner Avenue, Indio
7	Herbert Hoover Elementary School	44300 Monroe Street, Indio
8	Lyndon B. Johnson Elementary School	44640 Clinton Street, Indio
9	Indio Middle School	81195 Miles Avenue, Indio
10	Amistad High School	83501 Dillon Avenue, Indio
11	Yucca Park	43605 Yucca Street, Indio
12	North Jackson Park	43200 Towne Street, Indio
13	The Lights at Indio Golf Course	83040 Avenue 42, Indio
14	Senior Center	45700 Aladdin Street, Indio
15	Teen Center	81-678 Avenue 46, Indio
16	Destiny Church	82625 Showcase Pkwy # A, Indio
17	Trinity Baptist Church	44550 Monroe Street, Indio
18	Indio Spanish Church	44800 Clinton Street, Indio
19	Trinity Child Lutheran Church	81500 Miles Avenue, Indio
20	Indio Library	200 Civic Center Mall
21	Amtrack Bus Stop	82120 Highway 111, Indio
22	Indio Greyhound Bus Station	83100 Indio Boulevard
23	John F. Kennedy Memorial Hospital	47111 Monroe Street, Indio



- Legend**
- Project Limits
 - City Boundary
 - Community Facilities and Services**
 - Community Centers
 - Fire/EMS
 - Hospital
 - Library
 - Parks
 - Places of Worship
 - ▲ Police/Sheriff
 - ▲ Schools
 - ▲ Transportation Centers

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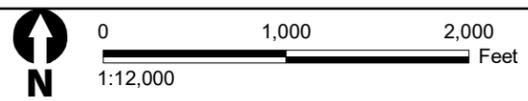


Figure 2-8, Sheet 4 of 4
Community Facilities and Services
Interstate 10/Monroe Avenue Interchange Improvement Project

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Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, the project improvements would not occur; therefore, there would be no short-term direct or indirect adverse impacts on community character or cohesion under this alternative.

Build Alternatives 2 and 4

Emergency Service Providers (Fire/EMS/Police/Sheriff)

As described in Table 2-8, the nearest emergency service provider (i.e., Indio Station #5) is approximately one mile from the Build Alternatives. No adverse indirect short-term impacts on emergency service providers are anticipated during construction of the Build Alternatives. A TMP (refer to measure **CI-1** in Section 2.1.5.2) will be implemented to ensure that emergency service providers are provided adequate access through the project area during construction of the I-10/Monroe Street Interchange Project.

Schools

Five schools are within one mile of the Build Alternatives, with the closest school (Andrew Jackson Elementary School) approximately 0.20 mile from the proposed project area (refer to Table 2-8). While construction of the I-10/Monroe Street Interchange Improvement Project may result in temporary, intermittent impacts associated with a construction zone, no adverse indirect short-term impacts on schools are anticipated during construction of the Build Alternatives. Construction-related impacts would be minimized through implementation of the TMP (refer to measure **CI-1**).

Parks/Community Centers/Libraries

As described in Table 2-8, there are three parks within 0.50 mile of the Build Alternatives, with the closest park (North Jackson Park) approximately 0.15 mile from the proposed project area. The nearest community center and library are over one mile from the Build Alternatives. While construction of the I-10/Monroe Street Interchange Improvement Project may result in temporary, intermittent impacts on parks, community centers, and libraries associated with a construction zone, no adverse indirect short-term impacts on such facilities are anticipated during construction of the Build Alternatives. Construction-related impacts would be minimized through implementation of the TMP (refer to measure **CI-1**).

Places of Worship

There are four places of worship within one mile of the Build Alternatives, with the closest (Destiny Church) less than 0.50 mile from the proposed project area. Construction of the I-10/Monroe Street Interchange Improvement Project may result in temporary, intermittent impacts on places of worship associated with a construction zone; however, no adverse indirect short-term impacts on such community facilities are anticipated during construction. Construction-related impacts would be minimized through implementation of the TMP (refer to measure **CI-1**).

Transportation Centers

Two transportation centers, the Amtrak Bus Stop and Indio Greyhound Bus Station, are over one mile from the Build Alternatives (refer to Table 2-8). Construction of the I-10/Monroe Street Interchange Improvement Project may result in temporary, intermittent impacts on the referenced transportation centers during construction; however, no adverse indirect short-term impacts on such facilities are anticipated. Construction-related impacts would be minimized through implementation of the TMP (refer to measure **CI-1**).

Short-term noise and air quality impacts on some local neighborhoods and community services/facilities may occur during the construction of the I-10/Monroe Street Interchange Improvement Project. However, these indirect construction-related impacts would be minimized with implementation of measure **AQ-1** through **AQ-14**, referenced in Section 2.2.6.4, and measures **NOI-1** through **NOI-3**, referenced in Section 2.2.7.4. Therefore, no adverse indirect short-term impacts on established residences and businesses in the project area are anticipated during construction of the Build Alternatives.

Transportation Routes

Sunline Transit Agency provides bus service within the project area. The service is available seven days a week. In addition, they provide weekly service to the local middle and high schools in the City of Indio.

The Desert Sands Unified School District provides bus transportation to schools located in the vicinity of the proposed project (refer to Table 2-8 and Figure 2-8). The school district operates buses Monday through Friday between 6:30 a.m. and 7:55 a.m., and between 1:00 p.m. and 3:10 p.m. (Desert Sands Unified School District 2020).

Construction of the I-10/Monroe Street Interchange Improvement Project may result in temporary, intermittent impacts on the traveling public through the project corridor that are typically associated with a construction zone; however, no adverse, indirect, short-term impacts on the traveling public are anticipated during construction. Public transportation service would be maintained during construction through the project area. Construction-related impacts would be minimized through implementation of the TMP (refer to measure **CI-1**).

Permanent***Alternative 1 (No Build)***

Under the No-Build Alternative, the project improvements would not occur; therefore, there would be no long-term direct or indirect adverse impacts on community character or cohesion under this alternative.

Build Alternatives 2 and 4**Emergency Service Providers (Fire/EMS/Police/Sheriff)**

The Build Alternatives would not directly affect emergency service facilities (whether through property acquisition or otherwise); therefore, there would be no adverse impact in this regard. The I-10/Monroe Street Interchange Improvement Project would improve traffic operations in the project area and thus provide a benefit to emergency services.

Schools

The I-10/Monroe Street Interchange Improvement Project would not directly affect schools; therefore, there would be no adverse impact in this regard. The Build Alternatives would improve traffic operations in the project area and thus provide a benefit.

Parks/Community Centers/Libraries

The Build Alternatives would not directly affect any parks, community centers, or libraries; therefore, there would be no adverse impact in this regard. The I-10/Monroe Street Interchange Improvement Project would improve traffic operations in the project area and thus provide a benefit to such facilities.

Places of Worship

The I-10/Monroe Street Interchange Improvement Project would not directly affect places of worship; therefore, there would be no adverse impact in this regard. The Build Alternatives would improve traffic operations in the project area and thus provide a benefit.

Transportation Centers

The Build Alternatives would not directly affect any transportation centers; therefore, there would be no adverse impact in this regard. The I-10/Monroe Street Interchange Improvement Project would improve traffic operations in the project area and thus provide a benefit to such facilities.

Transportation Routes

As further detailed in Section 2.1.9 (Traffic and Transportation/Pedestrian and Bicycle Facilities) of this IS/EA, the I-10/Monroe Street Interchange Improvement Project would improve traffic operations in the project area and thus provide an operational benefit to transportation services in the area. Therefore, there would be no adverse impact in this regard.

Community Character and Cohesion

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would not directly or indirectly result in the construction of new housing that would cause a direct change in population or community composition, nor would they directly or indirectly have an adverse impact on population characteristics, housing mixture, economic conditions, or supporting community services within the study area. Any potential changes to the communities that comprise the study area would result from planned county and city growth and would occur with or without the Build Alternatives.

Implementation of the Build Alternatives would not adversely directly or indirectly affect community cohesion because the freeway facilities already exist and the nearby residential uses are mixed with commercial, industrial, and other land use types. The improvements associated with the Build Alternatives would reduce existing and projected future traffic congestion along I-10 within the project limits and would provide improved mobility within the existing neighborhoods.

The project would not divide neighborhoods, separate residents from community facilities, directly encourage or discourage growth, create negative changes to existing quality of life, or increase urbanization or isolation. Therefore, no long-term direct or indirect adverse effects on community cohesion would occur with the implementation of the Build Alternatives.

2.1.5.2 Avoidance, Minimization, and/or Mitigation Measures

Construction activities associated with the Build Alternatives would result in indirect short-term impacts related to noise to surrounding neighborhoods. To minimize potential short-term adverse impacts, measure **AQ-1** through **AQ-14**, referenced in Section 2.2.6.4; measures **NOI-1** through **NOI-3** in Section 2.2.7.4; and implementation of the TMP (measure **CI-1**) would be implemented during the construction of the Build Alternatives.

CI-1 A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic impacts during construction. The primary objective of the TMP is to maintain safe movement through the construction zone, as well as minimize traffic delays during the construction period. The TMP will include, but not be limited to: public information communications; information for motorists from changeable message signs or temporary signs; incident management plan that would define parameters and responsibilities to respond to incidents on and adjacent to the construction corridor; construction strategies, such as traffic plans; information regarding construction staging and lane modifications (e.g., reduced lane widths or lane closures); demand management plan to remove traffic from existing routes by using things such as expanded park-and-ride lots, transit service, or transit and ride-share incentives; and the use of alternate routes/detours. In particular, the TMP will ensure that emergency responders have adequate access during all phases of construction.

2.1.6 Relocations and Real Property Acquisition

2.1.6.1 Regulatory Setting

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

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

2.1.6.2 Affected Environment

The current I-10/Monroe Street interchange configuration is a diamond-type interchange, with signal control at the on- and off-ramp termini. The project would reconstruct or widen Monroe Street at the interchange, including the existing on- and off-ramps, the Monroe Street I-10 overcrossing, and the bridge over the CVSC. Existing land uses within the project limits of disturbance consists primarily of transportation uses, including the existing I-10/Monroe Street interchange, Monroe Street, vacant land, open space (Whitewater Channel), and more vacant lots and commercial/retail businesses.

Vacant undeveloped lands make up the predominant land uses in the northwest and northeast project quadrants. There are commercial and retail land uses (Walmart Super Center, Starbucks Drive Thru, Circle K, and T Mobile) and more vacant lots; however, these are all outside of the northeast project quadrant. The land uses in the southwest project quadrant include the CVSC and retail/commercial (76 gas station, Mobil gas station, Coachella Auto Collision, StorAmerica Self Storage, Dollar General, and Universal Brakes & Alignment). The land uses in the southeast quadrant include the CVSC, vacant land, and retail/commercial (Aftermath Insurance Services, Subway, Carniceria Baja 2 Market Liquor, Desert Vapors, and El Mexicali Café II). There are also residential subdivisions north and south of the project limits.

2.1.6.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, the project would not be constructed and would not affect adjacent properties during the construction period.

Build Alternatives 2 and 4

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would have temporary impacts on vacant land in the northwest, northeast, and southwest quadrants. Temporary construction easements (TCEs) would be required during the construction period to facilitate access to construction work areas. Most of these TCEs would occur on vacant land;

however, TCEs would be needed at vacant lots, two gas stations (76 Oil and Mobil), commercial/retail properties along Monroe Street south of the existing interchange, and vacant lots north of the existing interchange. A summary of TCEs is provided below in Table 2-9. A total of 13 parcels would require TCEs under the proposed project. Access to these properties would be maintained. Because these would be temporary and the portions of the parcels required during construction would be restored and returned to their owners following construction, impacts are considered less than significant under CEQA and not adverse under NEPA.

Table 2-9. Potential Temporary Construction Easements

Parcel Number	Address	Existing Land Use	Alternative 2 (Locally Preferred Alternative)	Alternative 4
003-330-610	No property address found	Vacant	X	
610-330-033	No property address found	Vacant		X
610-020-034	No property address found	Vacant	X	X
610-020-036	No property address found	Vacant	X	X
610-020-015	No property address found	Vacant	X	X
610-080-009	No property address found	Vacant	X	X
610-070-040	43401 Monroe Street	76 Gas Station	X	X
610-070-041	43411 Monroe Street	Mobil Gas Station	X	X
610-070-039	43421 Monroe Street	StorAmerica Self Storage, Mobil Mart	X	X
610-070-051	43-423 Monroe Street	Dollar General	X	X
610-070-042	43441 Monroe Street	Universal Brakes & Alignment	X	X
610-037-093	No property address found	Vacant	X	X
610-101-025	43-430 Monroe Street	Aftermath Insurance Services, Subway, Carniceria Baja 2 Market Liquor, Desert Vapors, and El Mexicali Café II	X	X

Source: California Department of Transportation 2019c

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, the existing interchange facility would be maintained. No acquisition of developed or undeveloped property would occur.

Build Alternatives 2 and 4

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would result in impacts on vacant land north of the interchange along both sides of Monroe Street from the westbound I-10 ramps to Showcase Parkway. Impacts would also occur in the southeast quadrant, south of the CVSC. Permanent right of way impacts are anticipated north and south of the existing interchange. Planned property acquisitions would affect currently vacant lands (see Table 2-10 below). The CVSC would also require right of way impacts due to new bridge

construction, pier protection construction, and channel lining. Coordination with the CVWD would be required throughout the project. The potential permanent right of way acquisition anticipated for the proposed project would not result in the displacement or relocation of existing residents, businesses, farms, non-profits, or government services in the project area. Impacts would be considered less than significant under CEQA and not adverse under NEPA.

Table 2-10. Potential Permanent Right of Way Acquisitions

Number	Address	Alternative 2 (Locally Preferred Alternative) Partial or Full Take	Alternative 4 Partial or Full Take	Current Property Owner	Current Land Use
610-330-027	No address reported	Partial acquisition of 0.27 acre	Partial acquisition of 0.34 acre	Lowes HIW Inc.	Vacant land
610-080-009	No address reported	Partial acquisition of 0.28 acre	Partial acquisition of 0.37 acre	CVWD	CVSC
610-093-037	No address reported	Partial acquisition of 0.14 acre	Partial acquisition of 1.20 acre	Patel Jayanti P & Bhagvati J/Patel Amrut & Sita	Vacant land
610-020-015	No address reported	Partial acquisition of 0.07 acre	No acquisition	CVWD	CVSC
610-020-034	42501 Monroe Street	Partial acquisition of 0.17 acre	Partial acquisition of 0.28 acre	B H Indio Land	Vacant land
610-020-036	No address reported	Partial acquisition of 0.55 acre	Partial acquisition of 0.52 acre	B H Indio Land	Vacant land
Total		1.48 acres	2.71 acres		

Source: California Department of Transportation 2019c.

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are not expected to result in relocations; however, minor property acquisitions would be required. The affected parcels are all vacant or part of the CVSC; therefore, no relocations would occur and no impacts are anticipated.

2.1.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.7 Environmental Justice

2.1.7.1 Regulatory Setting

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

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

2.1.7.2 Affected Environment

To determine if environmental justice populations exist within the study area, the demographic profile of the study area was developed to identify the low-income and minority populations. For the purposes of this analysis, a census tract was considered to contain an environmental justice population if either of the following was true:

- The total minority population of the census tract block group(s) is more than 50 percent of the total population or disproportionately higher than that of the city and county.
- The proportion of the census tract block group population that is below the federal poverty level exceeds that of the city where it is located.

As stated in Section 2.1.6, Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would result in impacts on vacant land north of the interchange along both sides of Monroe Street from the westbound I-10 ramps to Showcase Parkway. Impacts would also occur in the southeast quadrant, south of the CVSC. Permanent right of way impacts are anticipated north and south of the existing interchange. Planned property acquisitions would affect currently vacant lands, as shown in Table 2-10.

The study area for the proposed project included Census Tracts 455.02, 452.16, 452.17, 452.09, 453.02, and 453.04 in Indio (refer to Figure 2-7, Community Study Area), which also includes the area of right of way acquisitions. As shown in Table 2-5, the proportion of the population composed of minority populations in the study area is approximately 78 percent (73 percent Hispanic, two percent African American, one percent Asian, one percent two or more races, and less than one percent for Native American and Native Hawaiian/Pacific Islander) compared with approximately 60 percent in the County (45 percent Hispanic, six percent African American, six percent Asian, two percent two or more races, and less than one percent for Native American and Native Hawaiian/Pacific Islander) and approximately 73 percent in the City (68 percent Hispanic, two percent African American, two percent Asian, one percent

two or more races, and less than one percent for less than one percent for Native American and Native Hawaiian/Pacific Islander). As such, the population within the study area, and therefore the area where right of way will be required, includes environmental justice populations.

As shown in Table 2-7, the study area's median household income of \$46,144 is greater than the 2018 federal annual income poverty guideline of \$25,100 for a household of four, as identified by the U.S. Department of Health and Human Services (U.S. Department of Health and Human Services 2018).

Certain characteristics of the residential neighborhoods and commercial centers near the project site—including their apparent longevity, physical and spatial attributes, community facilities, and demographic profile—are indicative of an established, cohesive community. Most homes outside of the southeast project quadrant are more than 30 years old, which suggests that some aspects of cohesiveness and neighborhood character have developed over time among long-term residents. In addition, the residential areas are relatively dense and surrounded by commercial properties or roadways, thereby contributing to a sense of community through spatial proximity. There are also seven community facilities (e.g., schools, parks, churches, libraries, transportation centers) within 0.5 mile of the project site, as shown above in Table 2-8. This indicates a variety of community facilities that residents can walk to, which could indicate a stronger sense of community. Finally, the demographic data for the study area where the proposed project would be located contains a population that is 73 percent Hispanic or Latino, which could indicate a high degree of cohesiveness in the community. To the extent that demographic and physical characteristics have enabled a shared sense of stability to develop, some degree of community cohesion very likely exists in this neighborhood.

2.1.7.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, no construction would occur. Therefore, no direct or indirect adverse short-term impacts would occur that could adversely affect environmental justice populations in the study area.

Build Alternatives 2 and 4

The environmental justice analysis considers the following factors: (1) the similarity of impacts on minority and/or low-income populations compared to the general population, (2) the generally equivalent efficacy of proposed minimization measures and project enhancements, and (3) the offsetting benefits of the transportation facility.

Adverse Effects on General Population

The technical analyses conducted for the project regarding air quality, traffic, and noise and vibration indicate that no substantial adverse effects related to the areas of study are expected as a result of the proposed project. However, these analyses do indicate that some potential temporary effects are expected. The impacts identified in these analyses, as well as the measures to avoid or reduce them, are outlined below.

Air Quality

During construction, short-term degradation of air quality may occur because of the release of particulate emissions (fugitive dust), which would be generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are anticipated, including carbon monoxide (CO), oxides of nitrogen (NO_x), reactive organic gases (ROGs), directly emitted particulate matter (particulate matter less than 10 microns [PM₁₀] and particulate matter less than 2.5 microns [PM_{2.5}]), and toxic air contaminants (TACs) (also known as mobile-source air toxics [MSATs]), such as diesel exhaust particulate matter. Construction-related effects on air quality from most highway/bridge projects are greatest during the site preparation phase because most emissions from heavy construction equipment are associated with excavating, handling, and transporting soils to and from the site.

Project emissions were compared to the project-specific local significance threshold values in Table 2-47 to determine the significance of project impacts. Table 2-47 shows that emissions from construction of the proposed project would not exceed any applicable local significance threshold, and, therefore, could not result in a violation of an air quality standard. Air quality impacts resulting from construction of the proposed project would be less than significant, so no mitigation measures or further analysis are required. However, Caltrans' Standard Specifications pertaining to dust control and dust palliative requirement are required to be part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans' Standard Specifications, Section 7-1.0F "Air Pollution Control" and Section 10 "Dust Control" require the contractor to comply with South Coast Air Quality Management District (SCAQMD) rules, ordinances, and regulations. SCAQMD Rule 403 (Fugitive Dust) specifies actions or control measures to prevent, reduce, or minimize PM emissions generated from construction, demolition, excavation, extraction, and other earth-moving activities. In addition, measures **AQ-1** through **AQ-14** would be incorporated into the project to avoid and minimize construction air quality impacts (refer to Section 2.2.6.4).

The proposed project would not create new sources of motor vehicle traffic but could induce some motorists to alter their existing routes. Air pollutant emissions would not increase overall due to operation of the proposed project, and they could decrease if proposed project improvements resulted in more efficient traffic operations. However, they could be marginally higher along Monroe Street if vehicle volumes increase. Operational impacts would be negligible, and no mitigation measures or further analysis are required.

Noise and Vibration

Construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Noise associated with construction is controlled by Caltrans' Standard Specifications, Section 14-8.02 (Noise Control). No substantial adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans' Standard Specifications, Section 14.8-02 (measure **NOI-3**). In addition, measures **NOI-1** and **NOI-2** would be incorporated into the project to avoid and minimize construction noise impacts (see Section 2.2.7.4).

Traffic and Transportation

During construction, temporary impacts, such as lane closures, nighttime construction, and flagging, could occur. Construction is estimated to last approximately 30 months. A two-stage construction for both Build Alternatives is planned in order to minimize closures on Monroe Street. Monroe Street would remain open while the new bridge structure/overcrossing is constructed, generally to the east of the existing street. Traffic would be flipped to the newly constructed side once completed and the old bridge structure/overcrossing is demolished and reconstructed. Full freeway closures on I-10 would be required for the construction of bridge falsework over the freeway. Ramps would require closures at intersections with local roads. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or will be allowed. Proposed ramp closures will be identified during the project's final design phase. Traffic-handling plans and stage-construction plans will be developed to minimize queuing on the I-10 mainline. These efforts will include off-peak hour construction hours—primarily in the late night, early morning, and weekends—and clearly marked detours near the closures.

Vehicle detours would affect equally both environmental justice populations within the study area as well as the general population within a few miles of the bridge. Generally pedestrian detours are more likely to affect environmental justice populations and those who rely on non-motorized travel within the study area. Pedestrian detours are not anticipated on Monroe Street as the bridge is expected to remain open while the new bridge is constructed. Implementation of the TMP would be incorporated into the project to avoid and minimize construction traffic impacts (refer to measure **CI-1** in Section 2.1.5.2).

As described earlier, construction air quality, noise, and traffic impacts would be avoided with implementation of minimization and avoidance measures. However, for all other impacts, (1) the community, in general, would be similarly affected; (2) the effects of the project on environmental justice populations would not be more severe compared with the effects on non-environmental justice populations; and (3) the impacts on environmental justice populations would be similar to those on the general population.

Disproportionately High and Adverse Effects on Minority and Low-Income Populations

Environmental justice considerations require an assessment of whether the effects of the proposed project on minority and low-income groups could be considered disproportionately high and adverse, taking into consideration the minimization measures that have been recommended in the technical studies, the impact avoidance and minimization efforts that have occurred during the project planning and development process, and the potential benefits that would accrue within the community.

Efficacy of Minimization Efforts – Adverse Effects

Of the temporary noise, air quality, and traffic construction effects identified in the technical analyses, none are characterized as adverse effects. All temporary impacts could be avoided or substantially minimized with implementation of the avoidance and minimization measures included in the project. Refer to the TMP (refer to measure **CI-1** in Section 2.1.5.2), **AQ-1** through **AQ-14** (Section 2.2.6.4), and **NOI-1** and **NOI-2** (Section 2.2.7.4).

Project Benefits

Implementation of the proposed project would have offsetting benefits that would accrue within the community. Once the project is completed, the operational performance of the I-10/Monroe Street interchange is expected to improve, resulting in a beneficial impact. A critical interchange in the local and regional circulation system would be restored, which would be beneficial to the community.

Potential Disproportionately High and Adverse Effects

The determination of whether or not the effects of the proposed project are disproportionately high and adverse depends on whether (1) the effects of the project are borne predominantly by a minority or low-income population or (2) the effects of the project are appreciably more severe or greater in magnitude on minority or low-income populations compared with the effects on non-minority or non-low-income populations (see the Federal Highway Administration's *Western Resource Center Interim Guidance – Addressing Environmental Justice in the EA/EIS* [1999]).

Although the effects of the proposed project would occur within an area with a population that is predominantly minority, these effects cannot reasonably be considered disproportionately high and adverse under the circumstances. The census tracts in the project study area are composed of substantial proportions of minority populations. The proportion of these groups, however, is not determinative of whether there is a disproportionately high and adverse effect. Instead, it is more appropriate to conclude that, even though these groups could bear a large part of the burden associated with the proposed project, primarily due to their proximity to short-term construction activities, the community in general would be similarly affected. The interchange is an important part of both the local and regional circulation system. Consequently, local motorists and pedestrians from the immediate project area, as well as those traveling to and from the project area from elsewhere, would all be inconvenienced by traffic delays and other disruptions during the project construction period.

The proposed project would also comply with applicable federal requirements promulgated in accordance with Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency (August 11, 2000), which requires federal programs and activities to be accessible to persons with limited English language proficiency.

The proposed project would be developed in accordance with Title VI of the Civil Rights Act of 1964, which provides that no person in the United States shall, on the grounds 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 that receives federal financial assistance. In addition, the proposed project would be developed in conformity with related statutes and regulations that mandate that no person in the State of California shall—on grounds of race, color, sex, age, national origin, or disabling condition—be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity administered by or on the behalf of Caltrans.

Permanent**Alternative 1 (No Build)**

Under the No-Build Alternative, no construction would occur. Therefore, no direct or indirect adverse permanent impacts would occur that could adversely affect environmental justice populations in the study area.

Build Alternatives 2 and 4**Adverse Effects on General Population**

The technical analyses has concluded that no adverse effects are expected as a result of the proposed project.

Disproportionately High and Adverse Effects on Minority and Low-Income Populations

Environmental justice considerations require an assessment of whether the effects of the proposed project on minority and low-income groups could be considered disproportionately high and adverse, taking into consideration the minimization measures that have been recommended in the technical studies, the impact avoidance and minimization efforts that have occurred during the project planning and development process, and the potential benefits that would accrue within the community.

Efficacy of Minimization Efforts – Adverse Effects

Of the permanent effects identified in the environmental analysis within this IS/EA, none are considered adverse effects. Therefore, the proposed project would not result in an adverse effect on minority and low-income populations.

Project Benefits

Implementation of the proposed project would have offsetting benefits that would accrue within the community. The proposed project would reduce traffic congestion, improve mobility, and improve traffic operations in the study area, which would benefit residents, businesses, and visitors. The proposed project would increase capacity at the I-10/Monroe Street interchange directly associated with the forecast travel demand for the 2045 design year within the City, would accommodate multimodal travel (nonvehicular and pedestrian access improvements that would connect to the CV Link), and would improve existing interchange geometric deficiencies.

Potential Disproportionately High and Adverse Effects

The determination of whether or not the effects of the proposed project are disproportionately high and adverse depends on whether (1) the effects of the project are borne predominantly by a minority or low-income population or (2) the effects of the project are appreciably more severe or greater in magnitude on minority or low-income populations compared with the effects on non-minority or non-low-income populations (see the Federal Highway Administration's *Western Resource Center Interim Guidance – Addressing Environmental Justice in the EA/EIS* [1999]). Of the permanent effects identified in the environmental analysis within this IS/EA, none are considered disproportionately high or adverse. Therefore, the proposed project would not result in an adverse effect.

Implementation of the proposed project would have offsetting benefits that would accrue within the community. The proposed project would reduce traffic congestion, improve mobility, and improve traffic operations in the study area, which would benefit residents, businesses, and

visitors since the existing I-10/Monroe Street interchange is a major access point for existing development at the interchange area.

2.1.7.4 Avoidance, Minimization, and/or Mitigation Measures

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

No avoidance, minimization, and/or mitigation measures are required.

2.1.8 Utilities/Emergency Services

2.1.8.1 Affected Environment

Utilities

Table 2-11 lists the utilities that are found within the project limits. The utilities are also shown on Figure 2-9, Existing Utilities in the Study Area.

Table 2-11. Utilities within the Project Limits of Disturbance

Utility Company/Owner	Utility Type	Agreement Required	Notes
SoCal Gas	6-inch gas lines	Yes	Relocate two existing gas lines from existing bridge to new bridge.
Ventura Sanitary District	8-inch sewer line	Yes	Adjust existing manholes to grade.
Imperial Irrigation District	Overhead line	No	Protect in place.
Imperial Irrigation District	Electric line	Yes	Relocate existing Imperial Irrigation District service structures.
Indio Water Authority	12-inch water line	Yes	Relocate one existing water line from existing bridge to new bridge.

Source: California Department of Transportation 2020a

There are also storm drain facilities, traffic signal equipment, and water lines (Coachella Valley Water District) within Monroe Street and the I-10 overcrossing and Channel Bridge structures.

Emergency Services

Fire

The City provides an all-risk, full-service fire department with 56 full-time personnel (City of Indio Fire Department 2018). Fire services are delivered from four fire stations strategically located throughout the City to provide timely responses and services. The nearest fire station is the City of Indio Station #5 at 42-900 Golf Center Parkway, Indio. It is approximately one mile east of the project limits (refer to Figure 2-8).

Police

The City of Indio Police Department is located at 46800 Jackson Street located two miles from the project site (refer to Figure 2-8). The police department currently has a staff of approximately 80 employees (City of Indio Police Department 2018). It is approximately one mile east of the project limits. The police department is divided up into five policing beats. The Field Services Division is responsible for crime control and public safety issues in its assigned patrol beats. The project site is within Beats 2 and 5.

The California Highway Patrol has patrol jurisdiction over all California highways and can act as the state police. It also has jurisdiction over city roads and may conduct law enforcement procedures there as well. The California Highway Patrol cooperates with both county and city police departments and provides secondary support services when needed.

Hospitals

The nearest hospital to the project site is John F. Kennedy Memorial at 47111 Monroe Street. The hospital is 1.9 miles south of the project site in the City of Indio. It is a 145-bed acute-care hospital with 24/7 emergency care (Desert Care Network 2019).

2.1.8.2 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, no construction would occur; therefore, temporary construction impacts on utilities and emergency service providers would not occur.

Build Alternatives 2 and 4

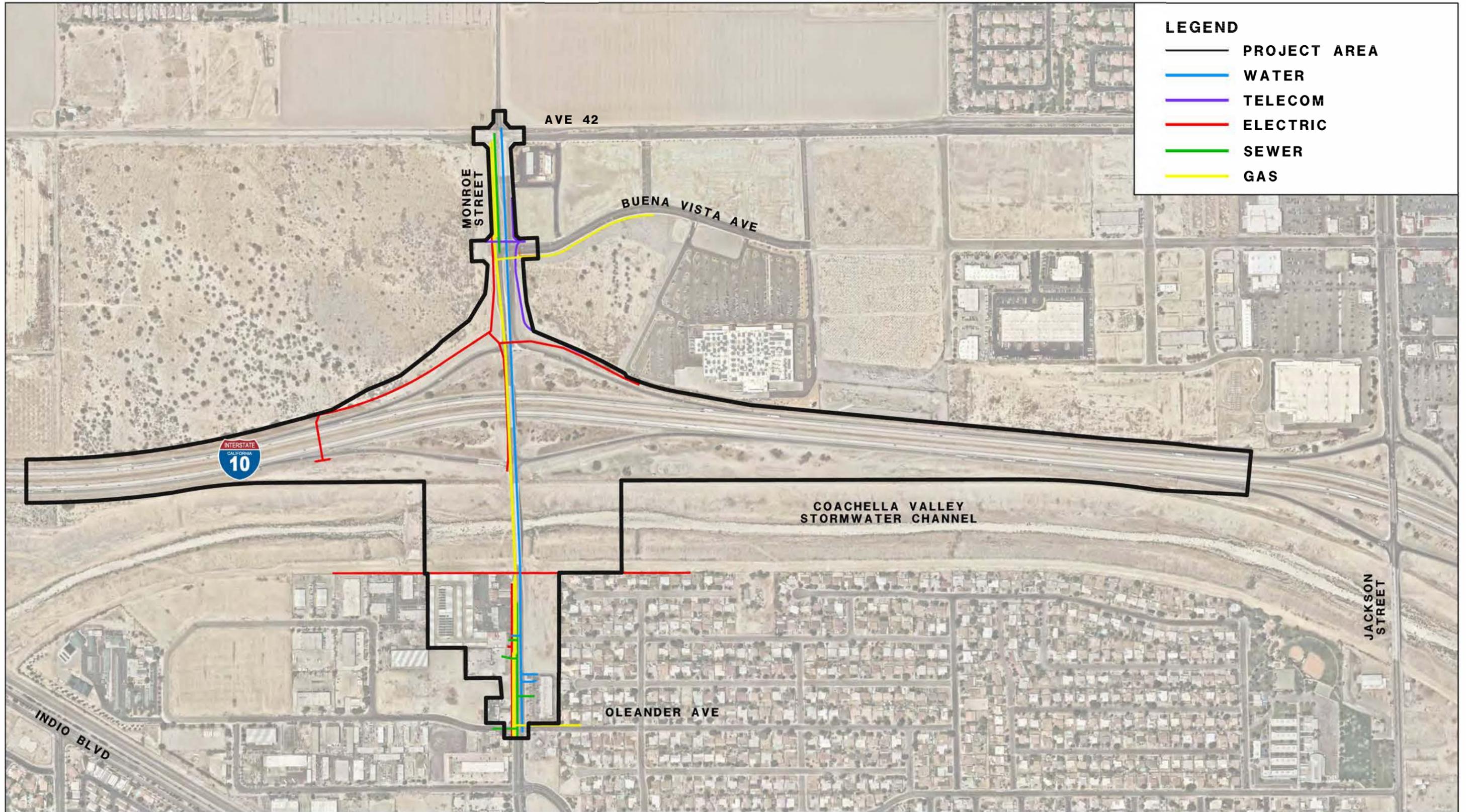
Utilities

Widening Monroe Street would require relocating two SoCal Gas high-pressure gas lines; adjusting two Ventura Sanitary District manhole structures to grade; relocating Imperial Irrigation District underground electric distribution lines; and relocating a 12-inch-diameter Indio Water Authority water line. Utilities within the bridge structure will be relocated to the new adjacent bridge structure (approximately 10-20 feet parallel from the old location) as part of a two-stage construction process. It is anticipated that existing service lines will remain in place while new service lines are installed in the adjacent structure. Service will most likely be interrupted when the connection is made from new to old lines outside the interchange. Service interruptions would apply to the SoCal Gas line and 12-inch Indio Water Authority water lines. The Imperial Irrigation District line at the north end of the interchange provides power to the ramps, street lights, and signal lights and does not provide power to adjacent residences or businesses. Impacts on homes or businesses are not anticipated; however, further discussion with the utility companies will be had to fully understand potential short-term power interruptions. It is anticipated that any service interruptions would be short-term.

For any utilities affected, all required coordination will be completed to establish exact procedures and specifications for addressing facilities affected by the project. Measures are provided below to ensure that disruption to services and impacts on the facilities are minimized or avoided during the construction phase. In addition, if relocation of any utilities requires use of area(s) beyond the construction footprint associated with the current proposed project, studies will be reviewed or performed as appropriate and applicable measures will be implemented.

Emergency Services

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 could result in short-term construction impacts on emergency access due to traffic delays associated with a construction zone; however, such delays would be for a short period of time and would cease upon completion of project construction. Construction is estimated to last 30 months.



LEGEND

-  PROJECT AREA
-  WATER
-  TELECOM
-  ELECTRIC
-  SEWER
-  GAS



SOURCE: COUNTY OF RIVERSIDE, FEBRUARY 2018

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A two-stage construction for both Build Alternatives is planned in order to minimize closures on Monroe Street. Monroe Street would remain open while the new bridge structure/overcrossing is constructed, generally to the east of the existing street. Traffic will be flipped to the newly constructed side once completed and the old bridge structure/overcrossing is demolished and reconstructed. Full freeway closures on I-10 would be required for the construction of bridge falsework over the freeway. Ramps would require closures at intersections with local roads. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or will be allowed. Proposed ramp closures will be identified during the project PS&E phase. Traffic-handling plans and stage-construction plans will be developed to minimize queuing on the I-10 mainline. These efforts will include off-peak hour construction hours—primarily in the late night, early morning, and weekends—and clearly marked detours near the closures.

Emergency service response times would be temporarily affected during the 30-month construction period. Construction impacts would be addressed with implementation of a TMP (refer to measure **CI-1** in Section 2.1.5.2), which would minimize disruption to emergency services.

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, I-10, Monroe Street and the surrounding transportation network would be maintained; therefore, no changes to operation of I-10 and Monroe Street in the project area would occur. No long-term impacts on utilities or emergency service providers would occur under the No-Build Alternative.

Build Alternatives 2 and 4

Utilities

As mentioned earlier, widening Monroe Street would require relocating two SoCal Gas high-pressure gas lines; adjusting two Ventura Sanitary District manhole structures to grade; relocating Imperial Irrigation District underground electric distribution lines; and relocating a 12-inch-diameter Indio Water Authority water line. Decisions regarding relocation of utilities would occur during final design. Prior to the final design, coordination with the affected utility providers in the vicinity of the improvements would be completed to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed to establish exact procedures and specifications for addressing facilities affected by the project. As necessary, additional analysis would be completed, and any measures identified in conjunction with the analysis would be implemented. Any required relocations of utilities would be completed prior to any project-related construction.

Emergency Services

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would improve the operational performance of the I-10/Monroe Street Interchange and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area. This would in turn improve the delivery of public services (police, fire protection, and emergency medical response) in the area that otherwise would not occur under the No-Build Alternative.

2.1.8.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance or mitigation measures are required. Temporary construction impacts on emergency service providers would be addressed with implementation of a TMP (refer to measure **CI-1** in Section 2.1.5.2), which would minimize disruption to emergency services.

2.1.9 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.9.1 Regulatory Setting

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

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

2.1.9.2 Affected Environment

The following section is based on traffic information included in the *I-10/Monroe Street Interchange Project Traffic Operations Analysis Report* (August 2019), which was prepared for the proposed project (California Department of Transportation 2019a). A Traffic Volume Report was prepared to present the existing traffic volumes and future year (2025 and 2045) traffic forecasts to be used for the traffic operations analysis. The *Final Traffic Volume Report Interstate 10/Monroe Street Interchange Project* (contained within Appendix B of the Draft Traffic Operations Report) and its contained traffic volumes and future year traffic forecasts were reviewed and approved by the Department in October 2018.

For the purpose of this project, project alternatives, including the No-Build Alternative, were analyzed under both Opening Year 2025 and Design Year 2045 conditions. The study scenarios for traffic operations analysis include the following:

- Existing (2018) Conditions
- Opening Year (2025) No-Build Alternative
- Opening Year (2025) Build Alternative 2 (Locally Preferred Alternative) – Tight Diamond
- Opening Year (2025) Build Alternative 4 – Diverging Diamond
- Design Year (2045) No-Build Alternative
- Design Year (2045) Build Alternative 2 (Locally Preferred Alternative) – Tight Diamond
- Design Year (2045) Build Alternative 4 – Diverging Diamond

Study Area

The study corridor is shown on Figure 2-10 and extends north to south along Monroe Street from Avenue 42 to Oleander Avenue. Avenue 42 is approximately 0.3 mile north of the I-10/Monroe westbound ramp intersection, and Oleander Avenue is approximately 0.4 mile south of the I-10/Monroe eastbound ramp intersection. The study area extends west to east from Madison Street, approximately one mile west of the interchange, to I-10/Jackson Street, approximately one mile to the east. Specific facilities analyzed as part of the operations assessment, including intersections and freeway facilities, are documented below:

- Monroe Street/Avenue 42
- Monroe Street/Showcase Parkway
- Monroe Street/I-10 westbound ramps
- Monroe Street/I-10 eastbound ramps
- Monroe Street/Oleander Avenue
- Monroe Street/Avenue 44
- Jackson Street/I-10 westbound ramps
- Jackson Street/I-10 eastbound ramps
- Jefferson Street/I-10 westbound ramps
- Jefferson Street/I-10 eastbound ramps

In addition to the study intersections noted above, traffic counts were also collected at the driveways for the Union 76 gas station, Mobile gas station, the self-storage facility, Dollar General, Universal Brakes, and the Mercado de Monroe shopping center. These driveways are included to ensure volume balancing throughout the study area.

Freeway

- Eastbound direction
 - I-10 merge from Jefferson Street
 - I-10 mainline between Jefferson Street and Monroe Street
 - I-10 diverge to Monroe Street
 - I-10 merge from Monroe Street
 - I-10 mainline between Monroe Street and Jackson Street
 - I-10 diverge to Jackson Street



Figure 2-10
Study Corridor
Interstate 10/Monroe Street Interchange Project

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- Westbound direction
 - I-10 merge from Jackson Street
 - I-10 mainline between Jackson Street and Monroe Street
 - I-10 diverge to Monroe Street
 - I-10 merge from Monroe Street
 - I-10 mainline between Monroe Street and Jefferson Street
 - I-10 diverge to Jefferson Street

Freeway Analysis Methodology

Freeway mainline and ramp junctions were analyzed using the VISSIM 10 microscopic multi-modal traffic flow simulation software package developed by PTV Group. All components of freeway operations (i.e., mainline, on-ramp merge, off-ramp diverge, and weaving sections) operate as a single integrated system with congestion and queues affecting both upstream and downstream traffic operations. VISSIM was used for this operations analysis to capture the effects between all the freeway components and the system-wide measures of effectiveness. The freeway segments were analyzed using the *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis* (HCM), and the methodologies contained in VISSIM are consistent with the procedures and methodologies of HCM.

The level of service (LOS) was calculated for each study facility to evaluate traffic operations using an HCM-consistent post-processor developed for VISSIM outputs. The freeway LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 2-12 describes the LOS thresholds for freeway sections identified in the HCM.

Table 2-12. Freeway Mainline and Ramp Junction/Weave Section Level of Service Threshold

Level of Service	Description	Density (vplpm) ¹	
		Mainline (Basic)	Ramp ¹
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11	< 10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18	> 10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26	> 20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35	> 28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45	> 35 ²
F	Represents a breakdown in flow.	> 45	> 45 ²

Notes:
¹ Density is reported in vehicles per lane per mile (vplpm).
² The maximum density for ramp junctions at LOS E is not defined in the HCM.
 Source: Transportation Research Board 2016.

The intersection LOS was calculated for each study facility based on average intersection delay. Table 2-13 describes the LOS thresholds for the study intersections identified in the HCM.

Table 2-13. Level of Service Definitions for Signalized and Unsignalized Intersections (6th Edition Highway Capacity Operations Method)

Level of Service	Unsignalized Delay	Signalized Intersections	Description
	Average Control Delay (seconds/vehicle)	Average Stopped Delay per Vehicle (seconds)	
A	<10.0	<10.0	Operations with very low delay occurring with favorable progression and/or short cycle length.
B	>10.0 to 15.0	>10.0 to 20.0	Operations with low delay occurring with good progression and/or short cycle lengths.
C	>15.0 to 25.0	>20.0 to 35.0	Operations with average delays resulting from fair progression and or/longer cycle lengths. Individual cycle failures begin to appear.
D	>25.0 to 35.0	>35.0 to 55.0	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.
E	>35.0 to 50.0	>55.0 to 80.0	Operations with high delay values indicating poor progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.
F	>50.0	>80.0	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.

Note: Volume over capacity greater than or equal to one ($V/C \geq 1$) will be considered LOS F.
Source: Transportation Research Board 2016.

The peak-hour density calculations are consistent with the definitions from the HCM, which defines four freeway section types: merge, diverge, weave, and basic. Merge and diverge sections, which refer to the freeway ramp junctions, are defined as the section of the freeway 1,500 feet downstream of an on-ramp and upstream of an off-ramp, respectively. The density is measured over the two outside freeway through lanes plus any auxiliary lanes. A weaving section occurs between a successive on-ramp and off-ramp pair connected by an auxiliary lane, and the maximum weaving distance between the ramps is no longer a fixed distance but determined by the weaving/total volumes and number of weaving lanes in the HCM. Basic freeway sections include all other freeway sections that are not included in a merge, diverge, or weaving section. The densities at weaving and basic sections are measured across all mixed-flow freeway lanes (including both through lanes and auxiliary lanes).

Analysis Evaluation Criteria

The Department's (2002) *Guide for the Preparation of Traffic Impact Studies* (Department 2002) states "Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." For the purpose of this study, LOS D is assumed to be the criteria for I-10 mainline segments, on- and off-ramps, and ramp terminal intersections.

The City's General Plan has established that the LOS should be LOS D or better for major intersections in the City. Therefore, LOS D is considered as the criteria for acceptable operations for the purpose of this project.

Existing Traffic Volumes

Freeway Operations Analysis

Table 2-14 summarizes the AM and PM peak hour density and LOS for the study freeway mainline segments and ramp junctions on eastbound and westbound I-10, respectively. As shown, all freeway facilities operate acceptably at LOS B or LOS C under Existing (2018) conditions.

Table 2-14. Existing (2018) I-10 Operations Summary

Segment	Facility Type	AM Peak Hour		PM Peak Hour		
		Density ¹	LOS ²	Density ¹	LOS ²	
Eastbound						
1	Merge from Jefferson Street	Merge	14	B	17	B
2	Mainline between Jefferson Street and Monroe Street	Basic	14	B	17	B
3	Diverge to Monroe Street	Diverge	16	B	18	B
4	Merge from Monroe Street	Merge	14	B	14	B
5	Mainline between Monroe Street and Jackson Street	Basic ³	14	B	14	B
6	Diverge to Jackson Street	Diverge	15	B	15	B
Westbound						
7	Merge from Jackson Street	Merge	17	B	13	B
8	Mainline between Jackson Street and Monroe Street	Basic ³	17	B	15	B
9	Diverge to Monroe Street	Diverge	17	B	15	B
10	Merge from Monroe Street	Merge	0	B	14	B
11	Mainline between Monroe Street and Jefferson Street	Basic	19	C	16	B
12	Diverge to Jefferson Street	Diverge	20	C	17	B
Notes:						
¹ Density is reported vehicles per lane per mile.						
² Estimated average grade for the analysis segment.						
³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).						
Source: California Department of Transportation 2019a.						

Intersections Operations Analysis

Table 2-15 summarizes the AM and PM peak hour delay and LOS for the study intersections. As shown, all intersections operate acceptably under Existing (2018) conditions. Under Existing (2018) conditions, the westbound ramp terminal intersection operates at LOS B during both the AM and PM peak hours. The eastbound ramp terminal intersection operates at LOS C during both the AM peak hour and LOS D during the PM peak hour.

Table 2-15. Existing (2018) Intersections Operations

Study Intersections		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1	Monroe Street/Avenue 42	30	C	25	C
2	Monroe Street/Showcase Parkway	7	A	7	A
3	Monroe Street/I-10 westbound ramps	14	B	11	B
4	Monroe Street/I-10 eastbound ramps	26	C	35	D
5	Monroe Street/Oleander Avenue	11	B	13	B
6	Monroe Street/Avenue 44	17	B	22	C
7	Jefferson Street/I-10 Westbound Ramps	6	A	5	A
8	Jefferson Street/I-10 Eastbound Ramps	9	A	12	B
9	Jackson Street/I-10 Westbound Ramps	7	A	5	A
10	Jackson Street/I-10 Eastbound Ramps	13	B	21	C

Notes: Bold font indicates unacceptable operations.
Source: California Department of Transportation 2019a.

Queueing Analysis

The maximum queue by movement is shown for all movements at the ramp terminal intersections. Movement, available storage, and maximum queue for each movement are shown in Table 2-16 below. Under Existing (2018) conditions, the following locations were found to exceed capacity during the AM peak hour:

- Northbound left-turn (westbound ramps/Monroe Street)
- Southbound right-turn (westbound ramps/Monroe Street)
- Southbound left-turn (eastbound ramps/Monroe Street).

Table 2-16. Existing (2018) Queueing Summary

Intersection	Movement	Storage (feet)	AM Peak Hour	PM Peak Hour
			Max Queue (feet)	Max Queue (feet)
Showcase Parkway/Monroe Street	NBT	510	99	110
	NBR	260	50	78
	SBT	530	188	108
I-10 westbound ramps/Monroe Street	NBL	190	259	180
	NBT	540	48	95
	SBT	505	386	215
	SBR	150	261	82
	WBL	1,320	200	315
	WBR	285	0	0
I-10 eastbound ramps/Monroe Street	NBT	1,510	1,197	1,495
	NBR	-	826	1,498
	SBL	90	91	79
	SBT	540	279	223
	EBL	1,315	141	226
	EBR	385	248	330
Oleander Avenue/Monroe Street	NBT	270	88	155
	SBT	1,510	175	175

¹ Dedicated storage is not provided.
Bold text indicates queue exceeds storage capacity.
NBL = northbound left-turn, NBT = northbound through, SBT = southbound through, SBR = southbound right-turn, SBL = southbound left, EBL = eastbound left, EBR = eastbound right, WBL = westbound left, WBR = westbound right
Source: California Department of Transportation 2019a.

System-wide Performance

While LOS is a typical indicator of transportation facility performance, the system-wide performance metrics have become effective measurements in evaluating transportation system performance and have been applied in many transportation projects. The system-wide performance measures used for this project include travel time, travel speeds, number of vehicle served by the study network, and vehicle-hours delay (VHD). Table 2-17 shows the AM and PM peak hour travel time and speeds for the I-10 corridor. As indicated in Table 2-17 and confirmed by field visits, during the AM and PM peak hours, travel conditions on I-10 in the eastbound and westbound direction are currently free-flow.

Table 2-17. Existing (2018) Peak Hour Travel Time

Direction	Location	AM Peak Hour		PM Peak Hour	
		Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:04	64	3:04	64
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:05	64	3:05	64

Source: California Department of Transportation 2019a.

In addition, other system-wide traffic metrics (number of vehicles served by the network, VHD, and average delay per vehicle) were reported for both the AM and PM peak periods. Those metrics are shown in Table 2-18.

Table 2-18. Existing (2018) System-Wide Metrics

Performance Measure	AM Peak Period	PM Peak Period
Number of Vehicles Served	29,700	34,160
VHD (vehicle hours)	251	328
Delay per Vehicle (sec/veh)	30	34
Source: California Department of Transportation 2019a.		

2.1.9.3 Environmental Consequences

Temporary

Alternative 1 (No-Build)

Under the No-Build Alternative, no construction would occur; therefore, temporary impacts—such as lane closures, nighttime construction, and flagging—would not occur.

Build Alternatives 2 and 4

During construction, temporary impacts—such as lane closures, nighttime construction, and flagging—could occur. Construction is estimated to last approximately 30 months. A two-stage construction for both Build Alternatives is planned in order to minimize closures on Monroe Street. Monroe Street would remain open while the new bridge structure/overcrossing is constructed, generally to the east of the existing street. Traffic will be flipped to the newly constructed side once completed and the old bridge structure/overcrossing is demolished and reconstructed. Full freeway closures on I-10 would be required for the construction of bridge falsework over the freeway. Ramps would require closures at intersections with local roads. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or will be allowed. Proposed ramp closures will be identified during the project PS&E phase. Traffic-handling plans and stage-construction plans will be developed to minimize queueing on the I-10 mainline. These efforts will include off-peak hour construction hours—primarily in the late night, early morning, and weekends—and clearly marked detours near the closures.

The proposed project would include preparation and implementation of a TMP (refer to measure **CI-1** in Section 2.1.5.2). The purpose of the TMP is to describe the location and discuss various strategies and alternatives that would be employed during construction to alleviate work-related traffic delays. The goal and objectives of the TMP are to maintain traffic flow throughout the I-10 corridor, provide a safe environment for both the workforce and motorists, and minimize impacts on local businesses and residences. 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; incident management plan that would define parameters and responsibilities to respond to incidents on and adjacent to the construction corridor; construction strategies, such as traffic plans; information regarding construction staging and lane modifications (e.g., reduced lane widths or lane closures); demand

management plan to remove traffic from existing routes by using things such as expanded park-and-ride lots, transit service, or transit and ride-share incentives; and the use of alternate routes/detours. Construction impacts would be short-term, lasting only the length of construction (30 months), and would cease upon completion of the project. Once the project is completed, the operational performance of the I-10/Monroe Street interchange is expected to improve, resulting in a beneficial impact.

Permanent

Opening Year (2025) Conditions

For each alternative, traffic operations are evaluated using peak-hour density/LOS for freeway mainline and ramps, delay/LOS for intersections, travel times/speeds, and other system-wide performance measures.

The detailed traffic forecasting methodology is contained in the *Interstate 10/Monroe Street Interchange Project Traffic Volume Report* (Appendix B of the Traffic Operations Report) approved by the Department in June 2018. The Opening Year (2025) traffic forecasts were also presented in the Final Traffic Volume Report and approved by the Department prior to the operations analysis.

The only roadway network improvement considered in this study scenario outside project improvements is the widening of Monroe Street from two to four lanes between Avenue 41 and Avenue 42.

Freeway Operations Analysis

Table 2-19 and Table 2-20 show the Opening Year (2025) AM and PM peak hour density and LOS for the study freeway mainline segments and ramp junctions under the No-Build and Build Alternatives on eastbound and westbound I-10, respectively. As shown in Table 2-19, during the AM peak hour all freeway facilities would operate acceptably under the No-Build Alternative and both Build Alternatives. The addition of the deceleration lane at the Monroe Street off-ramp and auxiliary lane between the Monroe Street on-ramp and Jackson Street off-ramp results in decreased density for segments 3 through 6 in the eastbound direction under both Build Alternatives. In the westbound direction, the density at the Monroe Street off-ramp (segment 9) is decreased under both Build Alternatives with the extended deceleration lane. For segment 10, the Monroe Street on-ramp is the same as the No-Build Alternative under Alternative 2 (Locally Preferred Alternative) while density decreases under Alternative 4 with the addition of the acceleration lane.

Table 2-19. Opening Year (2025) AM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build		Alternative 2 (Locally Preferred Alternative) (Tight Diamond)		Alternative 4 (Diverging Diamond Interchange)		
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	
Eastbound								
1	Merge from Jefferson Street	Merge	18	B	18	B	18	B
2	Mainline between Jefferson Street and Monroe Street	Basic	18	B	19	B	19	B
3	Diverge to Monroe Street	Diverge	20	B	17	B	17	B
4	Merge from Monroe Street	Merge ⁴	18	B	14	B	14	B
5	Mainline between Monroe Street and Jackson Street	Basic ^{3,4}	18	B	14	B	14	B
6	Diverge to Jackson Street	Diverge ⁴	18	B	14	B	14	B
Westbound								
7	Merge from Jackson Street	Merge	21	C	21	C	21	C
8	Mainline between Jackson Street and Monroe Street	Basic ³	21	C	18	B	18	B
9	Diverge to Monroe Street	Diverge	21	C	18	B	18	B
10	Merge from Monroe Street	Merge	23	C	23	C	21	C
11	Mainline between Monroe Street and Jefferson Street	Basic	23	C	23	C	23	C
12	Diverge to Jefferson Street	Diverge	24	C	24	C	24	C
Notes: ¹ Density is reported vehicles per lane per mile. Bold font indicates LOS E or F conditions. ² Estimated average grade for the analysis segment. ³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet under the No-Build Alternative). ⁴ Segment is part of a weave under both Build Alternatives. Source: California Department of Transportation 2019a.								

As shown in Table 2-20 below, during the PM peak hour, all eastbound and westbound study segments would operate acceptably at LOS B or LOS C under the No-Build Alternative and both Build Alternatives. The addition of the deceleration lane at the Monroe Street off-ramp and auxiliary lane between the Monroe Street on-ramp and Jackson Street off-ramp results in decreased density for segments 3 through 6 in the eastbound direction under both Build Alternatives. In the westbound direction, the density at the Monroe Street off-ramp (segment 9) is decreased under both Build Alternatives with the extended deceleration lane. For segment 10, the Monroe Street on-ramp also has decreased density with the addition of the acceleration lane.

Table 2-20. Opening Year (2025) PM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build		Alternative 2 (Locally Preferred Alternative) (Tight Diamond)		Alternative 4 (Diverging Diamond Interchange)		
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	
Eastbound								
1	Merge from Jefferson Street	Merge	22	C	22	C	22	C
2	Mainline between Jefferson Street and Monroe Street	Basic	22	C	22	C	22	C
3	Diverge to Monroe Street	Diverge	24	C	20	B	20	B
4	Merge from Monroe Street	Merge ⁴	22	C	16	B	16	B
5	Mainline between Monroe Street and Jackson Street	Basic ^{3,4}	22	C	16	B	16	B
6	Diverge to Jackson Street	Diverge ⁴	22	C	16	B	16	B
Westbound								
7	Merge from Jackson Street	Merge	22	C	22	C	22	C
8	Mainline between Jackson Street and Monroe Street	Basic ³	22	C	16	B	19	B
9	Diverge to Monroe Street	Diverge	22	C	16	B	19	B
10	Merge from Monroe Street	Merge	21	C	21	C	19	B
11	Mainline between Monroe Street and Jefferson Street	Basic	21	C	22	C	23	C
12	Diverge to Jefferson Street	Diverge	22	C	22	C	22	C
Notes: ¹ Density is reported vehicles per lane per mile. ² Estimated average grade for the analysis segment. ³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet) under the No-Build Alternative. ⁴ Segment is part of a weave under both Build Alternatives Source: California Department of Transportation 2019a.								

Intersection Operations Analysis

Table 2-21 and Table 2-22 show the Opening Year (2025) AM and PM peak hour delay and LOS for the study intersections under the No-Build and Build Alternatives, respectively. Under the No-Build Alternative, all study intersections would operate at LOS C or better, except for the westbound ramp terminal intersection and Showcase Parkway/Monroe Street, which operates at LOS D. Under Build Alternative 2 (Locally Preferred Alternative), all study intersections operate

acceptably at LOS D or better. The eastbound I-10/Monroe Street intersection would have a similar delay as the No-Build Alternative, while the westbound I-10/Monroe Street intersection is improved to LOS B. Under Build Alternative 4, all study intersections continue to operate acceptably at LOS D or better. The westbound I-10/Monroe Street intersection continues to operate at LOS C, while the eastbound ramp terminal intersection shows a slight increase in delay due to longer cycle length and improved volume served under the Build Alternative.

Table 2-21. Opening Year (2025) AM Peak Hour Intersections Operations

Study Intersection		No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Delay	LOS	Delay	LOS	Delay	LOS
1	Monroe Street/Avenue 42	29	C	29	C	28	C
2	Monroe Street/Showcase Parkway	36	D	8	A	8	A
3	Monroe Street/I-10 westbound ramps	41	D	18	B	15	B
4	Monroe Street/I-10 eastbound ramps	18	B	14	B	23	C
5	Monroe Street/Oleander Avenue	12	B	12	B	14	B
6	Monroe Street/Avenue 44	21	C	20	B	23	C
7	Jackson Street/I-10 westbound ramps ¹	6	A	6	A	5	A
8	Jackson Street/I-10 eastbound ramps ¹	9	A	9	A	9	A
9	Jefferson Street/I-10 westbound ramps ¹	9	A	9	A	8	A
10	Jefferson Street/I-10 eastbound ramps ¹	21	C	20	B	20	C

Notes:
¹ No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Alternative 4.
 Source: California Department of Transportation 2019a.

Two study intersections would operate at LOS F during the PM peak hour under the No-Build Alternative: the Monroe Street/Avenue 44 and the Jackson Street/I-10 eastbound ramps intersections. Under this alternative, the westbound ramp terminal intersection on Monroe Street would operate at LOS B, while the eastbound ramp terminal intersection would operate at LOS D.

Under Build Alternative 2 (Locally Preferred Alternative), the westbound ramp terminal would continue to operate at LOS B, while the eastbound ramp terminal intersection would improve to LOS B. The Monroe Street/Avenue 44 intersection would also improve to LOS C from LOS F.

Under Build Alternative 4, the westbound ramp terminal intersection would continue to operate at LOS B, while operations at the eastbound ramp terminal intersection would improve from LOS D to LOS A. The Monroe Street/Avenue 44 intersection would also improve from LOS F to LOS C under Build Alternative 4.

Table 2-22. Opening Year (2025) PM Peak Hour Intersections Operations

Study Intersection		No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Delay	LOS ¹	Delay	LOS ¹	Delay	LOS ¹
1	Monroe Street/Avenue 42	25	C	26	C	25	C
2	Monroe Street/Showcase Parkway	9	A	9	A	8	A
3	Monroe Street/I-10 westbound ramps	19	B	17	B	10	B
4	Monroe Street/I-10 eastbound ramps	40	D	15	B	9	A
5	Monroe Street/Oleander Avenue	34	C	14	B	14	B
6	Monroe Street/Avenue 44	87	F	31	C	29	C
7	Jefferson Street/I-10 Westbound Ramps ²	5	A	5	A	5	A
8	Jefferson Street/I-10 Eastbound Ramps ²	12	B	12	B	12	B
9	Jackson Street/I-10 Westbound Ramps ²	6	A	6	A	6	A
10	Jackson Street/I-10 Eastbound Ramps ²	94	F	90	F	80	E

Notes:
¹ Bold font indicates unacceptable operations.
² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Alternative 4.
Source: California Department of Transportation 2019a.

Queueing Analysis

The maximum queue for all movements at the Monroe Street ramp terminal intersections is shown in Table 2-23 and Table 2-24 for the AM and PM peak hours, respectively. Available storage and maximum queue are shown for each alternative.

Under the No-Build Alternative, the following movements were found to exceed storage:

- Northbound left-turn (Monroe Street/I-10 westbound ramps)
- Southbound through (Monroe Street/I-10 westbound ramps)
- Southbound right-turn (Monroe Street/I-10 westbound ramps)
- Southbound left-turn (Monroe Street/I-10 eastbound ramps)
- Eastbound right-turn (Monroe Street/I-10 eastbound ramps)

Under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, queueing would improve at all movements such that no movements would exceed the storage capacity.

Table 2-23. Opening Year (2025) AM Peak Hour Queueing Summary

Intersection	Movement	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)
Showcase Parkway/Monroe Street	NBT	510	117	450	106	560	154
	NBR	260	67	260	73	260	80
	SBT	530	225	530	181	530	178
I-10 westbound ramps/Monroe Street	NBL	190	565	320	200	500	139
	NBT	540	321	540	33	560	285
	SBT	505	635	505	207	505	319
	SBR	150	646	300	238	330	0
	WBL	1,320	218	1,320	112	1,320	0
	WBR	285	0	330	119	590	94
I-10 eastbound ramps/Monroe Street	NBT	1,510	704	1,510	335	1,510	398
	NBR	-	-	380	153	380	0
	SBL	90	217	200	58	480	258
	SBT	540	535	540	203	560	366
	EBL	1,315	166	1,315	131	1,420	0
	EBR	385	386	390	138	895	239
Oleander Avenue/Monroe Street	NBT	270	134	270	126	270	92
	SBT	1,510	191	1,410	264	1,420	316

¹ Dedicated storage is not provided.
² Access to pocket likely to be blocked by through movement queue.
Bold text indicates queue exceeds storage capacity.
NBL = northbound left-turn, NBT = northbound through, SBT = southbound through, SBR = southbound right-turn, SBL = southbound left, EBL = eastbound left, EBR = eastbound right, WBL = westbound left, WBR = westbound right

Source: California Department of Transportation 2019a.

Under the No-Build Alternative, no movements at the I-10 westbound ramps/Monroe Street intersection the following movements were found to exceed storage capacity:

- Northbound left-turn
- Southbound through
- Southbound right-turn

At the I-10 eastbound ramps/Monroe Street intersection, only the northbound through and southbound left-turn were found to exceed capacity. The northbound through movement at the Monroe Street/Oleander intersection also exceeds capacity under the No-Build Alternative.

Under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, queueing would improve at all movements such that no movements would exceed the storage capacity.

Table 2-24. Opening Year (2025) PM Peak Hour Queueing Summary

Intersecti on	Movement	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)
Showcase Parkway/M onroe Street	NBT	510	141	460	156	560	154
	NBR	260	104	260	102	260	102
	SBT	530	117	530	113	530	110
I-10 westbound ramps/ Monroe Street	NBL	190	208	320	184	500	183
	NBT	540	290	540	60	560	174
	SBT	505	509	505	198	505	207
	SBR	150	323	300	122	330	0
	WBL	1,320	259	1,320	139	1,320	0
	WBR	285	0	330	142	590	121
I-10 eastbound ramps/ Monroe Street	NBT	1,510	1,632	1,510	389	1,510	341
	NBR	-	-	380	174	380	0
	SBL	90	176	200	61	480	110
	SBT	540	561	540	196	560	133
	EBL	1,315	234	1,315	136	1,420	0
	EBR	385	657	390	144	895	247
Oleander Avenue/ Monroe Street	NBT	270	333	270	128	270	139
	SBT	1,510	284	1,410	292	1,420	257

¹ Dedicated storage is not provided.
² Access to pocket likely to be blocked by through movement queue.
Bold text indicates queue exceeds storage capacity.
Source: California Department of Transportation 2019a.

System-wide Performance

The system-wide performance measures applied for the Opening Year (2025) analysis include travel time, travel speeds, number of vehicle served by the study network, and VHD. Table 2-25, Table 2-26, Table 2-27, and Table 2-28 show the Opening Year (2025) AM and PM peak hour travel time and speeds for the I-10 corridor under the No-Build and Build Alternatives, respectively.

Both travel time and average speed along the I-10 corridor remain consistent under all alternatives during the AM and PM peak hour. These metrics, along with the freeway analysis presented earlier in the chapter, indicate that I-10 corridor would operate at free-flow conditions and congestion would not occur during either peak hour under Opening Year (2025) conditions.

Table 2-25. Opening Year (2025) AM Peak Hour Travel Times

Direction	Location	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:05	63	3:05	63	3:05	63
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:06	63	3:06	63	3:06	63

Source: California Department of Transportation 2019a.

Table 2-26. Opening Year (2025) PM Peak Hour Travel Times

Direction	Location	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:06	63	3:06	63	3:06	62
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:06	63	3:06	63	3:08	62

Source: California Department of Transportation 2019a.

In addition, other system-wide traffic metrics (number of vehicles served by the network, VHD, and average delay per vehicle) were reported for both the AM and PM peak periods under the No-Build and Build Alternatives in the Opening Year (2025), which is shown in Table 2-27 and Table 2-28.

During the AM peak period, the number of vehicles served was found to be similar under all three alternatives. VHD would decrease by 33 hours or 10 percent under Build Alternative 2 (Locally Preferred Alternative). VHD would remain decrease by 18 hours, or five percent under Build Alternative 4. Similar trends would occur for delay per vehicle, which would be reduced by four seconds or ten percent under Build Alternative 2 (Locally Preferred Alternative) and two seconds, or five percent, under Build Alternative 4.

Table 2-27. Opening Year (2025) AM Peak Hour System-Wide Measures of Effectiveness

Performance Measure	No-Build	Alternative 2 (Locally Preferred Alternative) (Tight Diamond)	Alternative 4 (Diverging Diamond Interchange)
Number of Vehicles Served	35,410	35,430	35,410
VHD (vehicle hours)	343	310	325
Delay per Vehicle (sec/veh)	35	31	33

Source: California Department of Transportation 2019a.

During the PM peak period, both Build Alternatives would serve about 600 more vehicles than the No-Build Alternative. Under Build Alternative 2 (Locally Preferred Alternative) (Tight Diamond), VHD would be reduced by 235 hours and delay per vehicle would decrease by 20 seconds; this is a 33-percent decrease compared to the No-Build Alternative for both metrics. Under Build Alternative 4 (Diverging Diamond), VHD would decrease by 259 hours and delay per vehicle would be reduced by 22 seconds, an approximately 35 percent decrease for both metrics when compared to the No-Build Alternative.

Table 2-28. Opening Year (2025) PM Peak Hour System-Wide Measures of Effectiveness

Performance Measure	No-Build	Alternative 2 (Locally Preferred Alternative) (Tight Diamond)	Alternative 4 (Diverging Diamond Interchange)
Number of Vehicles Served	38,970	39,520	39,570
VHD (vehicle hours)	715	481	456
Delay per Vehicle (sec/veh)	61	41	39

Source: California Department of Transportation 2019a.

Design Year (2045) Conditions

For each alternative, traffic operations are evaluated using peak-hour density/LOS for freeway mainline and ramps, delay/LOS for intersections, travel times/speeds, and other system-wide performance measures. The Design Year (2045) traffic forecasts were also presented in the Final Traffic Volume Report and approved by the Department prior to the operations analysis.

Several roadway network improvements were considered in this study scenario outside project improvements, including the widening of Monroe Street from two to four lanes between Avenue 41 and Avenue 42 as identified in the 2016 RTP.

In addition to the RTP-identified improvement, improvements have been assumed in the Design Year (2045) scenario at the Monroe Street/Avenue 44 intersection. These improvements were identified as being needed as part of this technical assessment and, if not implemented, metered traffic to/from the interchange. Therefore, in order to ensure that the interchange was properly designed and to not underestimate needs at the interchange, the improvements were identified, reviewed, and approved by the City prior to incorporation into the assessment. These, or other necessary improvements, would be evaluated by the City or future development as a separate project when needed.

The identified improvements consist of the following:

- Add a dedicated northbound right-turn lane.
- Restripe the westbound approach to include dual left-turn lanes and a shared through-right-turn lane.
- Restripe the eastbound approach to include a dedicated left-turn lane and a shared through-right-tune lane.
- Update intersection phasing to provide protected left-turn phases for the eastbound and westbound approach.

Only the northbound right-turn lane would require physical improvements to the intersection. Currently the land adjacent to the intersection is a vacant lot.

Freeway Operations Analysis

Table 2-29 and Table 2-30 show the Design Year (2045) AM and PM peak hour density and LOS for the study freeway mainline segments and ramp junctions under the No-Build and Build Alternatives on eastbound and westbound I-10, respectively. Under the No-Build Alternative, two freeway segments would operate unacceptably at LOS E:

- Westbound Merge from Jackson Street
- Westbound Diverge to Monroe Street

Under Build Alternative 2 (Locally Preferred Alternative), with the addition of a deceleration and acceleration lane in the westbound direction at the Monroe Street interchange, Monroe Street off-ramp would improve to LOS D. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp and an auxiliary lane between Monroe Street and Jackson Street results in decreased density for segments 3 through 6.

Under Alternative 4, similar improvements would occur at the Monroe Street off-ramp, which would improve from LOS E to LOS D with the extension of the deceleration lane. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp and an auxiliary lane between Monroe Street and Jackson Street results in decreased density for segments 3 through 6.

Table 2-29. Design Year (2045) AM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4		
		Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}	Density ¹	LOS ^{2,3}	
Eastbound								
1	Merge from Jefferson Street	Merge	30	D	30	D	30	D
2	Mainline between Jefferson Street and Monroe Street	Basic	30	D	30	D	30	D
3	Diverge to Monroe Street	Diverge	32	D	28	D	25	C
4	Merge from Monroe Street	Merge ⁵	30	D	22	C	22	C
5	Mainline between Monroe Street and Jackson Street	Basic ^{4, 5}	30	D	22	C	22	C
6	Diverge to Jackson Street	Diverge ⁵	31	D	22	C	22	C
Westbound								
7	Merge from Jackson Street	Merge	37	E	36	E	35	E
8	Mainline between Jackson Street and Monroe Street	Basic ⁴	36	E	28	C	28	C
9	Diverge to Monroe Street	Diverge	36	E	28	C	28	C
10	Merge from Monroe Street	Merge	32	D	26	C	30	D
11	Mainline between Monroe Street and Jefferson Street	Basic	32	D	29	D	34	D
12	Diverge to Jefferson Street	Diverge	33	D	30	D	35	D
Notes:								
¹ Density is reported vehicles per lane per mile. Bold font indicates LOS E or F conditions.								
² Estimated average grade for the analysis segment.								
³ Bold font indicates unacceptable LOS E or F conditions.								
⁴ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet).								
⁵ A maximum density of 45 vehicles per lane per mile for LOS E is assumed for ramp segments.								
Source: California Department of Transportation 2019a.								

Under the No-Build Alternative, four freeway segments were found to operate unacceptably at LOS E and LOS F. Those segments are:

- Westbound merge from Jackson Street
- Westbound diverge to Monroe Street
- Westbound merge from Monroe Street
- Eastbound diverge to Monroe Street

As shown in Table 2-30, Under Build Alternative 2 (Locally Preferred Alternative), the addition of westbound deceleration/acceleration lanes at the Monroe Street interchange would improve operation at both the Monroe Street off-ramp and on-ramp in the westbound direction to LOS D. In the eastbound direction, the addition of a deceleration lane at the Monroe Street off-ramp

improves operations to LOS E. The addition of an auxiliary lane also improves LOS from D to C between the Monroe Street on-ramp and Jackson Street off-ramp in the eastbound direction.

Under Build Alternative 4, the addition of westbound deceleration/acceleration lanes at the Monroe Street interchange improves operation at both the Monroe Street off-ramp and on-ramp in the westbound direction to LOS D. In the eastbound direction the addition of a deceleration lane at the Monroe Street off-ramp improves operations to LOS E. The addition of an auxiliary lane also improves LOS from D to C between the Monroe Street on-ramp and Jackson Street off-ramp in the eastbound direction.

Table 2-30. Design Year (2045) PM Peak Hour I-10 Operations Summary

Segment	Facility Type	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4		
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	
Eastbound								
1	Merge from Jefferson Street	Merge	32	D	34	D	34	D
2	Mainline between Jefferson Street and Monroe Street	Basic	34	D	34	D	34	D
3	Diverge to Monroe Street	Diverge	37	E	30	D	30	D
4	Merge from Monroe Street	Merge ⁵	32	D	25	C	28	C
5	Mainline between Monroe Street and Jackson Street	Basic ^{3, 5}	33	D	25	C	28	C
6	Diverge to Jackson Street	Diverge ⁵	33	D	25	C	28	C
Westbound								
7	Merge from Jackson Street	Merge	62	F	59	F	61	F
8	Mainline between Jackson Street and Monroe Street	Basic ³	41	E	32	D	32	D
9	Diverge to Monroe Street	Diverge	41	E	32	D	32	D
10	Merge from Monroe Street	Merge	41	E	29	D	30	D
11	Mainline between Monroe Street and Jefferson Street	Basic	31	D	32	D	32	D
12	Diverge to Jefferson Street	Diverge	31	D	32	D	32	D
Notes: Bold font indicates unacceptable LOS E or F conditions. Density is reported vehicles per lane per mile. Bold and underline font indicate LOS E or F conditions. ¹ Estimated average grade for the analysis segment. ² Bold font indicates unacceptable LOS E or F conditions. ³ Results for this location are not consistent with HCM methodology due to interchange spacing (less than 3,000 feet). ⁴ A maximum density of 45 vehicles per lane per mile for LOS E is assumed for ramp segments. ⁵ Segment is part of a weaving segment under Build Alternative 2 (Locally Preferred Alternative) and 4. Source: California Department of Transportation 2019a.								

Intersection Operations Analysis

Table 2-31 and Table 2-32 show the Design Year (2045) AM and PM peak hour delay and LOS for the study intersections under the No-Build and Build Alternatives, respectively.

Under the No-Build Alternative, all study intersections on Monroe Street would operate unacceptably at LOS E or LOS F. The westbound and eastbound ramp terminal intersections would operate at LOS F.

Under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, all study locations on Monroe Street would improve to acceptable operations. Both ramp terminal intersections would improve to LOS B with the Build Alternatives in place.

Table 2-31. Design Year (2045) AM Peak Hour Intersections Operations

Study Intersection		No-Build ¹		Alternative 2 (Locally Preferred Alternative) ¹		Alternative 4 ¹	
		Delay	LOS	Delay	LOS	Delay	LOS
1	Monroe Street/Avenue 42	256	F	31	C	30	C
2	Monroe Street/Showcase Parkway	119	F	12	B	12	B
3	Monroe Street/I-10 westbound ramps	164	F	19	B	12	B
4	Monroe Street/I-10 eastbound ramps	121	F	17	B	11	B
5	Monroe Street/Oleander Avenue	80	E	21	C	21	C
6	Monroe Street/Avenue 44	125	F	25	C	26	C
7	Jackson Street/I-10 westbound ramps ²	11	B	6	A	6	A
8	Jackson Street/I-10 eastbound ramps ²	10	A	9	A	9	A
9	Jefferson Street/I-10 westbound ramps ²	45	D	45	D	42	D
10	Jefferson Street/I-10 eastbound ramps ²	87	F	82	F	78	E

Notes:
¹ **Bold** font indicates unacceptable operations.
² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Alternative 4.
Source: California Department of Transportation 2019a.

As shown in Table 2-32, all study intersections on Monroe Street would operate unacceptably, except for the Monroe Street/Oleander intersection, which would operate at LOS D. Both ramp terminal intersections would operate at LOS F under the No-Build Alternative.

Under Build Alternative 2 (Locally Preferred Alternative), the majority of intersections along the Monroe Street corridor would improve to acceptable operations. The Monroe Street/Avenue 44 intersection would still operate at over-capacity LOS F conditions; however, this intersection would anticipate significant operational improvements by reducing overall delay by 90 seconds. Both ramp terminal intersections would operate at LOS B under Build Alternative 2 (Locally Preferred Alternative).

Under Build Alternative 4, intersection operations along the Monroe Street corridor would improve to acceptable operations, with the exception of the Monroe Street/Avenue 44 intersection, even though delay would decrease significantly by 90 seconds. Under Build Alternative 4 the Monroe Street/I-10 westbound ramps intersection would operate at LOS B, while the Monroe Street/I-10 eastbound ramps would improve to LOS C.

Table 2-32. Design Year (2045) PM Peak Hour Intersections Operations

Study Intersection		No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹
1	Monroe Street/Avenue 42	234	F	33	C	35	C
2	Monroe Street/Showcase Parkway	117	F	11	B	11	B
3	Monroe Street/I-10 westbound ramps	181	F	17	B	17	B
4	Monroe Street/I-10 eastbound ramps	166	F	19	B	31	C
5	Monroe Street/Oleander Avenue	51	D	18	B	19	B
6	Monroe Street/Avenue 44	196	F	100	F	103	F
7	Jackson Street/I-10 westbound ramps ²	5	A	5	A	5	A
8	Jackson Street/I-10 eastbound ramps ²	14	B	13	B	13	B
9	Jefferson Street/I-10 westbound ramps ²	95	F	91	F	86	F
10	Jefferson Street/I-10 eastbound ramps ²	215	F	204	F	208	F

Notes:
¹ **Bold** font indicates unacceptable operations.
² No improvements proposed to corridor under Build Alternative 2 (Locally Preferred Alternative) and Alternative 4.
Source: California Department of Transportation 2019a.

Queueing Analysis

The maximum queue for all movements at the Monroe Street ramp terminal intersections is shown in Table 2-33 and Table 2-34 for the AM and PM peak hours, respectively. Available storage and maximum queue are shown for each alternative.

Under the No-Build Alternative, the following movements would exceed storage during the AM peak hour:

- Monroe Street/I-10 westbound ramp terminal intersection:
 - Northbound left-turn
 - Southbound through
 - Southbound right-turn
- Monroe Street/I-10 eastbound ramp terminal intersection:
 - Northbound through
 - southbound left-turn
 - eastbound right-turn
 - Southbound through

Other movements exceeding storage include the southbound through movement at Showcase Parkway and the northbound through movement at the Oleander Avenue intersection.

Under Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, queueing would improve at all locations such that storage would not be exceeded for any movements,

except for the northbound through movement at Oleander Avenue, which is improved compared to the No-Build Alternative.

Table 2-33. Design Year (2045) AM Peak Hour Queueing Summary

Intersection	Movement	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)
Showcase Parkway/ Monroe Street	NBT	510	173	460	188	560	207
	NBR	260	97	260	108	260	104
	SBT	530	609	530	201	530	207
I-10 westbound ramps/Monroe Street	NBL	190	576	320	308	500	158
	NBT	540	299	540	201	560	196
	SBT	505	669	505	341	505	292
	SBR	150	692	300	265	330	0
	WBL	1,320	425	1,320	190	1,320	0
	WBR	285	0	330	130	590	153
I-10 eastbound ramps/Monroe Street	NBT	1,510	1,632	1,510	502	1,510	408
	NBR	-	1,686	380	334	380	0
	SBL	90	207	200	127	480	119
	SBT	540	688	540	171	560	160
	EBL	1,315	151	1315	161	1420	0
	EBR	385	511	490	169	895	309
Oleander Avenue/ Monroe Street	NBT	270	375	270	370	270	367
	SBT	1,510	379	1,410	567	1,420	536

¹ Dedicated storage is not provided.
² Access to pocket likely to be blocked by through movement queue.
Bold text indicates queue exceeds storage capacity.
Source: California Department of Transportation 2019a.

As shown in Table 2-34, under the No-Build Alternative, the following movements would exceed storage during the PM peak hour:

- Monroe Street/I-10 westbound ramp terminal intersection:
 - Southbound through
 - Southbound right-turn
- Monroe Street/I-10 eastbound ramp terminal intersection:
 - Northbound through
 - Southbound left-turn
 - Southbound through

In addition, the southbound through movement at the Showcase Parkway intersection and northbound through movement at the Oleander Parkway intersection were found to exceed capacity under the No-Build Alternative.

As shown in Table 2-34, under Build Alternative 2 (Locally Preferred Alternative), no queuing was found to exceed storage capacity, except for the northbound through movement at Oleander Avenue, which would exceed capacity under all alternatives. Under Build Alternative 4, no queuing would exceed storage capacity, except for the northbound through movement at Oleander Avenue, which would exceed capacity under all alternatives.

Table 2-34. Design Year (2045) PM Peak Hour Queuing Summary

Intersection	Movement	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)	Storage (feet)	Max Queue (feet)
Showcase Parkway/ Monroe Street	NBT	510	193	460	241	560	248
	NBR	260	149	260	207	260	217
	SBT	530	672	530	144	530	154
I-10 westbound ramps/Monroe Street	NBL	190	170	320	214	500	207
	NBT	540	127	540	79	560	98
	SBT	505	677	505	271	505	379
	SBR	150	693	300	126	330	0
	WBL	1,320	905	1,320	261	1,320	42
	WBR	285	0	330	233	590	251
I-10 eastbound ramps/Monroe Street	NBT	1,510	1,631	1,510	501	1,510	822
	NBR	-	1,685	380	361	380	0
	SBL	90	605	200	128	480	390
	SBT	540	688	540	178	560	498
	EBL	1,315	268	1,315	199	1,420	0
	EBR	385	381	490	207	895	588
Oleander Avenue/Monroe Street	NBT	270	380	270	380	270	380
	SBT	1,510	374	1,410	536	1,420	544

¹ Dedicated storage is not provided.
² Access to pocket likely to be blocked by through movement queue.
Bold text indicates queue exceeds storage capacity.
Source: California Department of Transportation 2019a.

System-wide Performance

The system-wide performance measures applied for the Design Year (2045) analysis include travel time, travel speeds, number of vehicle served by the study network, and VHD. Table 2-35 and Table 2-36 summarize the Design Year (2045) AM and PM peak hour travel time and speeds for the I-10 corridor under the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative), and Build Alternative 4. During the AM peak hour, travel time and average speed along the corridor would be similar for the No-Build Alternative and two Build Alternatives in the eastbound direction. In the westbound direction, travel time and speeds under both Build Alternatives would remain similar to the No-Build Alternative.

Table 2-35. Design Year (2045) AM Peak Hour Travel Times

Direction	Location	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:09	62	3:08	62	3:08	62
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:14	60	3:10	61	3:13	61

Source: California Department of Transportation 2019a.

During the PM peak hour, the eastbound I-10 travel time and speed decrease and increase, respectively, as a result of the addition of the auxiliary lane between Monroe Street and Jackson Street. In the westbound direction, increases in travel time and reduction in speed under both Build Alternatives is a result of the increased volume served in the Design Year (2045). Under Build Alternative 2 (Locally Preferred Alternative), travel time would increase by six seconds while speed would be reduced by one mile per hour. Build Alternative 4 would increase travel time by seven seconds and decrease speed by one mile per hour.

Table 2-36. Design Year (2045) PM Peak Hour Travel Times

Direction	Location	No-Build		Alternative 2 (Locally Preferred Alternative)		Alternative 4	
		Travel Time	Speed	Travel Time	Speed	Travel Time	Speed
		(min:sec)	(mph)	(min:sec)	(mph)	(min:sec)	(mph)
Eastbound I-10	Jefferson Street overcrossing to Jackson Street overcrossing	3:30	56	3:14	60	3:17	59
Westbound I-10	Jackson Street overcrossing to Jefferson Street overcrossing	3:40	53	3:46	52	3:47	52

Source: California Department of Transportation 2019a.

In addition, other system-wide traffic metrics (number of vehicles served by the network, VHD, and average delay per vehicle) were reported for both the AM and PM peak periods under the No-Build and Build Alternatives in the Design Year (2045), which are shown in Table 2-37 and Table 2-38.

During the AM peak hour, Build Alternative 2 (Locally Preferred Alternative) would serve 4,840 more vehicles (or 12 percent) than the No-Build Alternative. Under Build Alternative 2 (Locally

Preferred Alternative), VHD would decrease by 629 hours (42 percent) and delay per vehicle would decrease by 51 seconds (44 percent).

Similar decreases would occur under Build Alternative 4. Under this alternative, 4,840 more vehicles (or 12 percent) would be served by the study area, while VHD would decrease by 68 (31 percent). Delay per vehicle would also significantly decrease by 39 seconds (34 percent).

Table 2-37. Design Year (2045) AM Peak Hour System-Wide Measures of Effectiveness

Performance Measure	No-Build	Alternative 2 (Locally Preferred Alternative) (Tight Diamond)	Alternative 4 (Diverging Diamond Interchange)
Number of Vehicles Served	40,700	45,540	45,540
VHD (vehicle hours)	1,509	880	1,041
Delay per Vehicle (sec/veh)	114	64	75
Source: California Department of Transportation 2019a.			

As shown in Table 2-38, during the PM peak hour, when compared to the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative) 6,140 vehicles (or 14 percent) would be served by the study area, while VHD would decrease 676 hours (19 percent). Delay per vehicle would also decrease by 55 seconds, (24 percent).

Similar decreases would occur under Build Alternative 4. Under this alternative, 5,840 more vehicles (or 13 percent) would be served, while VHD would decrease 460 hours (13 percent). Delay per vehicle would decrease by 41 seconds (18 percent).

Table 2-38. Design Year (2045) PM Peak Hour System-Wide Measures of Effectiveness

Performance Measure	No-Build	Alternative 2 (Locally Preferred Alternative) (Tight Diamond)	Alternative 4 (Diverging Diamond Interchange)
Number of Vehicles Served	43,370	49,510	49,210
VHD (vehicle hours)	3,492	2,817	3,033
Delay per Vehicle (sec/veh)	226	171	184
Source: California Department of Transportation 2019a.			

Study Conclusions

The traffic operations analysis was conducted for the project alternatives, including the No-Build Alternative, under both Opening Year (2025) and Design Year (2045). Findings for each scenario are also summarized below.

Existing (2018)

Under Existing Conditions (2018), all study facilities on I-10 were found to operate acceptably at LOS C or better during both the AM and PM peak hours. All study intersections along the Monroe Street corridor also operate at LOS C or better during the AM and PM peak hours.

Opening Year (2025)

Under Opening Year (2025), Build Alternative 2 (Locally Preferred Alternative) (Tight Diamond) would result in similar operational performance as the No-Build Alternative during the AM peak period, as all study intersections and freeway facilities would have adequate capacity and would continue to operate acceptably. Project improvements result in decreased density from the Monroe Street off-ramp to the Jackson Street off-ramp in the eastbound direction and at both Monroe Street ramps in the westbound direction. During the PM peak period, Build Alternative 2 (Locally Preferred Alternative) (Tight Diamond) would improve one study intersection from unacceptable to acceptable operations. All freeway facilities operate acceptably under the No-Build Alternative; however, Alternative 2 (Locally Preferred Alternative) decreases density from the Monroe Street off-ramp to the Jackson Street off-ramp in the eastbound direction and at both Monroe Street ramps in the westbound direction. Compared to the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative) would serve 550 (or one percent) more vehicles through the study area, reduce VHD by 33 percent, and maintain similar travel time and speeds along the I-10 corridor during the PM peak period.

Under Opening Year (2025), Build Alternative 4 (Diverging Diamond) would result in similar operational performance as the No-Build Alternative during the AM peak period as all study intersections and freeway facilities would have adequate capacity and would continue to operate acceptably. Project improvements result in decreased density from the Monroe Street off-ramp to the Jackson Street off-ramp in the eastbound direction and at both Monroe Street ramps in the westbound direction. During the PM peak period, Build Alternative 4 (Diverging Diamond) would improve one study intersection from unacceptable operations to acceptable operations, while all freeway facilities would continue to operate acceptably. Project improvements result in decreased density at all Monroe Street ramps and the eastbound Jackson Street off-ramp. Compared to the No-Build Alternative, Build Alternative 4 (Diverging Diamond) would serve 600 (or two percent) more vehicles, reduce VHD by 36 percent, and maintain similar travel time and speeds along the I-10 corridor during the PM peak period.

Design Year (2045)

Under Design Year (2045), eastbound I-10 study facilities would operate acceptably under the No-Build Alternative. The westbound I-10 would have insufficient capacity for the 2045 traffic demand, and would consequently result in deficient operations of LOS F and LOS E at the Jackson Street on-ramp and Monroe Street off-ramp, respectively, during the AM and PM peak hours. These findings are consistent with the I-10 Transportation Concept Report prepared by the Department in 2017, which found that I-10 would operate under deficiency by 2040 in the Monroe Street study area without widening I-10. For the purpose of this project, the I-10 mainline is assumed to remain the same as existing conditions under the No-Build Alternative since no improvements are programmed along the study corridor in accordance with the 2016 SCAG RTP. In addition, under the No-Build Alternative, all study intersections along Monroe Street would operate unacceptably during the AM and PM peak hours, except for the Monroe

Street/Oleander Avenue intersection, which would operate unacceptably during the AM peak hour.

Build Alternative 2 (Locally Preferred Alternative)

Under Design Year (2045), Build Alternative 2 (Locally Preferred Alternative) during the AM peak hour would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Build Alternative 2 (Locally Preferred Alternative). Six study intersections along Monroe Street would also be improved from unacceptable to acceptable during the AM peak hour. The number of vehicles served would increase by 4,840 vehicles (or 12 percent), while VHD would decrease by 42 percent and travel times increase slightly, with a correlating decrease in speeds along the I-10 corridor, specifically in the westbound direction during the AM peak period. At the ramp terminal intersections, LOS would be improved from LOS F to LOS B for both intersections, while demand served at the intersections is improved by 23 percent.

During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 2 (Locally Preferred Alternative) would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 (Locally Preferred Alternative) would also serve 6,140 more vehicles (or 14 percent), reduce VHD by 19 percent, and reduce delay per vehicle by 24 percent. While travel time on I-10 in the westbound direction is increased slightly, by six seconds, speeds are maintained when compared to the No-Build Alternative. In the eastbound direction the travel time is decreased by 16 seconds with a four mile per hour increase in speed. Both ramp terminal intersections would be improved from LOS F to LOS B with an increase in volume served of approximately 25 percent.

Build Alternative 4

Under Design Year (2045), during the AM peak hour, Build Alternative 4 would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Six study intersections along Monroe Street would also be improved from unacceptable to acceptable. The number of vehicles served would increase by 4,840 vehicles (or 12 percent), while VHD would decrease by 31 percent and travel times decreases by one second in both the eastbound and westbound direction. At the ramp terminal intersections LOS would be improved from LOS F to LOS B for both intersections, while demand served at the intersections is improved by 23 percent.

During the PM peak hour, when compared to the No-Build Alternative, Build Alternative 4 would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No-Build Alternative and is not degraded further under Alternative 4. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 (Locally Preferred Alternative) would also serve 5,840 more vehicles (or 13 percent) and reduce VHD by 13 percent. While travel time on I-10 in the westbound direction is

increased slightly, by seven seconds, speeds are maintained when compared to the No-Build Alternative during the PM peak period. In the eastbound direction travel time is decreased by 13 seconds while speed is increased by three miles per hour. At the ramp terminal intersections, the I-10 eastbound ramp terminal intersection would be improved from LOS F to LOS C, with an increase in demand served of 24 percent, while the I-10 westbound ramp terminal intersection would be improved from LOS F to LOS B with a 27 percent increase in demand served.

Pedestrian and Bicycle Facilities

Safe and efficient accommodations for future pedestrians and bicyclists are being considered as part of the planning, design, and construction of this project. Build Alternative 2 (Locally Preferred Alternative) includes the construction of nonvehicular and pedestrian access improvements. These include a 6.5-foot-wide sidewalk and 10-foot Class II, on-street bike/LSEV path located on both sides of Monroe Street along the limits of improvement. The sidewalk and the Class II bike/LSEV path vary in width at the southern and northern join locations.

Alternative 4 includes the construction of a 6.5-foot-wide sidewalk on both the west and east sides of Monroe Street along the limits of ultimate improvements. As the directions of travel cross over, pedestrians would cross to the inside of the interchange, and would be accommodated on a single 10-foot-wide path between the I-10 ramps. A shared 10-foot-wide path for LSEVs and bikes is proposed on both the west and east side shoulders of Monroe Street. The LSEVs and bikes would also cross at the signalized crossover intersections and would remain separated for each direction of travel.

Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would require realignment of CVAG's planned CV Link multi-use trail within the project limits to accommodate the widening of Monroe Street and provide the minimum vertical undercrossing clearance.

Design facilities for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would be fully accessible in accordance with Caltrans' Design Information Bulletin 82-05 "Pedestrian Accessibility Guidelines for Highway Projects." They would also be consistent with all applicable ADA-compatible crossing requirements. No long-term impacts on pedestrian and bicycle facilities are anticipated.

2.1.9.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.10 Visual/Aesthetics

2.1.10.1 Regulatory Setting

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

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

California Streets and Highways Code Section 92.3 directs Caltrans to use drought-resistant landscaping and recycled water when feasible, and to incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.1.10.2 Affected Environment

Information in this section is based on the *Scenic Resources Evaluation and Visual Impact Assessment Memorandum* dated August 2019 (California Department of Transportation 2019d) prepared for the proposed project.

The proposed project is along I-10 in the northern/central portion of the City of Indio, within the central portion of Riverside County. The existing visual character of the project site consists of transportation uses (I-10 and Monroe Street), and the surrounding area is composed of vacant land and commercial uses to the north, transportation uses (I-10, Monroe Street, and Jackson Street) to the east and west, and the CVSC, as well as commercial and residential uses, to the south. There are no designated State Scenic Highways in the vicinity of the project site. However, the *Indio General Plan 2020* (City of Indio 1994) contains goals and policies to protect the scenic beauty of prominent natural features within the Planning Area, including the Indio Hills to the north of the project site (Goal OS-2 and Policy OS-2.1). In addition to public views along I-10 and Monroe Street, residential uses to the south would have views of the project site and the Indio Hills.

2.1.10.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, no new bridge or other improvements would be constructed at the project site; therefore, neither temporary nor construction-related effects on the existing visual setting or aesthetic condition would occur.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Construction impacts could result from staging areas, warning signage, equipment storage, and night-time construction that would require additional lighting. These construction activities may temporarily obscure views. Construction of the proposed improvements is expected to start in January 2022 and to be completed within 30 months. Project construction would occur year-round. In addition, the potential exists for some nighttime construction to occur. This would create the need for high-intensity lighting. However, such lighting would not result in adverse impacts at most locations because sensitive residential receptors would be some distance away from or not within sight of the construction area. Furthermore, roadway travelers would be exposed to such lighting very briefly as they pass by. However, if construction activities occur at night in locations that are directly adjacent to residences, then this lighting could shine into residences and disturb residents in their homes. Implementation of avoidance and minimization measures **AES-1** and **AES-2** would ensure that nighttime construction would not occur directly adjacent to residences and that the construction contractor would minimize project-related light and glare to the maximum extent feasible during nighttime construction activities.

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, no new improvements would be made at the project site; therefore, no long-term visual effects on the existing visual setting or aesthetic condition would occur.

Build Alternatives 2 and 4

The project proposes to reconstruct and widen Monroe Street at I-10 to improve the operational performance of the Monroe Street interchange. The project would reconstruct or widen Monroe Street at the interchange, including the existing on- and off-ramps, the Monroe Street I-10 overcrossing, and the bridge over the CVSC. Noticeable improvements as seen by local residents, local motorists, pedestrians, and highway motorists (along I-10) would include reconstruction of the I-10 overcrossing structure and CVSC bridge, widened roadway with sidewalks, and new retaining walls. Both Build Alternatives would include similar improvements to the I-10/Monroe Street interchange, although Alternative 4 would encompass a wider right of way and would construct separate I-10 overcrossing and Channel Bridge structures for each direction of travel.

Upon project completion, the site's graded elevation would be similar to existing conditions. For this reason, the project would not obstruct public views toward the Indio Hills or other visual resources. As such, the project would not have a substantial adverse effect on a scenic view or vista.

Review of the project site and project plans indicate that the project would not result in substantial adverse impacts on the visual environment, as the reconstructed I-10 overcrossing

and Channel Bridge structures, retaining walls, eastbound I-10 auxiliary lane, acceleration/deceleration lanes at the westbound Monroe Street on- and off-ramps, deceleration lane at the eastbound Monroe Street off-ramp, and other physical features would appear similar in mass and scale to the existing transportation infrastructure in the project vicinity. An investigation on architectural treatments for retaining walls, bridge structures, and other project features will be conducted in consultation with the City, County, and the Department's District Landscape Architect before and during the PS&E phase to ensure the visual character of these structural elements are consistent with the existing architectural character in the project area (see measure **AES-3**). In addition, landscape palettes and concept plans will be implemented in consultation with the City, County, and the Department's District Landscape Architect before and during the PS&E phase and be consistent with guidelines presented in the Interstate 10 Corridor Master Plan, County of Riverside, prepared by Caltrans, dated August 2013 (see measure **AES-3**).

While the proposed project would slightly alter the existing visual character of the site through grading activities, it would not substantially degrade the visual character of the site or its surroundings. Although the project would result in two new bridge structures (replacing the existing I-10 overcrossing and Channel Bridge structures), these structures would be similar in height, mass, and scale compared to the existing I-10 overcrossing and Channel Bridge structures. Although the eastbound I-10 auxiliary lane and acceleration/deceleration lanes at the westbound Monroe Street on- and off-ramps and deceleration lane at the eastbound Monroe Street off-ramp would introduce additional hardscapes, the visual character and quality of the site would generally appear similar to existing conditions (transportation uses). The project would not impede views of the Indio Hills to the north, or any other visual resources in the surrounding area. As such, the character of the site would remain similar to that of the surrounding area.

This review conducted as part of the Scenic Resource Evaluation and Visual Assessment Memorandum indicates that the project would not adversely affect any "Designated Scenic Resource" as defined by the Department's policy.

2.1.10.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following measure would avoid or minimize visual impacts:

- AES-1 Limit Construction Directly Adjacent to Residences to Daylight Hours.** Construction activities that are directly adjacent to residences will not take place before or past daylight hours (which vary according to season). This would reduce the amount of construction experienced by residential viewers because most construction activities would occur during business hours (when most residents are at work), and would eliminate the need to introduce high-wattage lighting sources to operate in the dark near residences during construction.
- AES-2 Minimize Fugitive Light from Portable Sources Used for Construction.** The construction contractor will minimize project-related light and glare to the maximum extent feasible, given safety considerations. Color-corrected halide lights will be used. Portable lights will be operated at the lowest allowable wattage and height. For construction occurring on the ground, portable lights will be raised to a height no greater

than 20 feet. All lights will be screened and directed downward, toward work activities, and away from the night sky and nearby residents to the maximum extent possible. The number of nighttime lights used will be minimized to the greatest extent possible.

- AES-3** Landscape palettes and concept plans will be implemented in consultation with the City, County, and the Department's District Landscape Architect before and during the PS&E phase and will be consistent with guidelines presented in the Interstate 10 Corridor Master Plan, County of Riverside, which was prepared by the Department and dated August 2013.

2.1.11 Cultural Resources

2.1.11.1 Regulatory Setting

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

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

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

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Include the following sentence as applicable. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible

for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

2.1.11.2 Affected Environment

Information from this section is based on the *Historic Property Survey Report (HPSR)* (California Department of Transportation 2019e) prepared for this project, which included an *Archaeological Survey Report (ASR)* (California Department of Transportation 2019f).

Area of Potential Effect

In accordance with the Section 106 Programmatic Agreement, Stipulation VIII.A, the Area of Potential Effect (APE) for the project was established in consultation with Ashley Bowman, Principal Investigator, Prehistoric Archaeology, the Department's Professional Qualified Staff (PQS); and Martha Santana, Project Manager, on March 19, 2019. The APE maps are Exhibit 3 in Attachment A of the HPSR.

The APE was established from the project footprint and includes all construction areas, TCEs, construction signage, and staging areas (i.e., Area of Direct Impact), plus a buffer to include potential indirect effects that may develop as a result of this undertaking. In total, the Area of Direct Impact covers 79.04 acres, and the overall APE encompasses approximately 183.5 acres.

In regard to the vertical limits of the APE, the depth of ground disturbance for the proposed project will be limited to the upper two feet for the reconstruction of Monroe Street and the new I-10 access ramps, which includes the construction of the roadway, driveways, and sidewalks. Excavations associated with bridge construction will extend up to 75 feet in depth. Finally, maximum height of the bridge structure, including lighting, is anticipated to be approximately 68 to 70 feet.

Geological and archaeological data indicate that undisturbed sediments within the project APE are characterized by lacustrine and floodplain deposits that have a moderate to high sensitivity for buried archaeological resources. In order to determine if the proposed undertaking will affect these undisturbed sediments, the existing level of ground disturbance within the APE was evaluated. Specific project elements were then examined to assess whether the proposed components would result in any additional disturbances to intact native sediments. The findings of this analysis indicate that construction activities within the present roadway alignments are not expected to extend into undisturbed sediments. However, reconstruction of the I-10 overcrossing and the Coachella Valley Stormwater Channel Bridge has the potential of encountering intact subsurface cultural deposits within the APE.

Native American Consultation

A request to the Native American Heritage Commission (NAHC) was made on February 10, 2018, to elicit pertinent cultural resource information available in the Sacred Lands File. The NAHC responded on February 28, 2018, that the Sacred Lands File search for the project was

completed with negative results. The NAHC provided a list of 31 Native American contacts within the region. In accordance with Section 106 of the NHPA, and as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52), the Department consulted with pertinent Native American contacts to identify potential resources within the APE.

Section 4.1.3 (Native American Coordination) of Chapter 4 (Comments and Coordination) of this IS/EA includes a summary of consultation efforts conducted with pertinent Native American contacts to satisfy the requirements of Section 106 of the NHPA, California Public Resources Code 21080.3.1, and Chapter 532 Statutes of 2014 (i.e., AB 52). In addition, a complete record of Native American consultation is included in Attachment D to the HPSR.

Local Historical Society / Historic Preservation Group

The Coachella Valley Historical Society and Museum in Indio was mailed a letter on May 2, 2018, regarding the proposed project. The first round of follow-up consultation was conducted via email on August 31, 2018. On September 5, 2018, Karen Hawkesworth with the Coachella Valley Historical Society and Museum responded via email. Ms. Hawkesworth noted that the museum has no record of historical resources of a sensitive nature within the project area.

Archaeological Resources

The following sources were consulted during Phase I (cultural resource identification) studies, prior to the archaeological field survey:

- NRHP
- CRHR
- National Historic Landmark (NHL)
- California Historical Landmarks (CHL)
- California Points of Historical Interest (CPHI)
- Sacred Lands File of the NAHC
- California Historical Resources Information System files maintained at the Eastern Information Center, University of California, Riverside

The results of these records searches were negative insofar as no archaeological resources listed in the NRHP, CRHR, NHL, CHL, or CPHI had been previously identified within the APE. Furthermore, the Phase I field surveys conducted on May 1, 2018 within the project's APE did not identify the presence of archaeological resources.

Other Cultural Resources

While the HPSR (California Department of Transportation 2019e) did not identify archaeological sites within the project's APE, it did, as further documented in the project's

HPSR, identify other cultural resources within the area of the undertaking. Historical background research included examination of published sources of local and regional history. Historical maps consulted include the Indio Special 30-minute map of 1904; the Coachella 15-minute map of 1941, 1943 and 1956; and the Indio 7.5-minute map of 1956, 1972, and 1975. The Historical Resources Evaluation Report included a records search at the branch of the California Historical Resources Information System files maintained at the Eastern Information Center and the Office of Historic Preservation's Historic Property Data File. Those who prepared the HPSR also consulted the NRHP, CRHR, NHL, CHL, and CPHI (see Archaeological Resources section above). In addition, the Coachella Valley Historical Society and Museum was contacted regarding any potential cultural resources in the project APE. Furthermore, a pedestrian-level field investigation was performed on May 1, 2018 by Architectural Historian Annie McCausland.

The results of the research and survey conducted of the project APE for built environment resources, as documented in the project's HPSR, revealed the following resources:

- Monroe Street overcrossing at I-10 (Department Bridge No. 56C-0611): listed in the Department's Historic Bridge Inventory as Category 5 bridge; not eligible for the NRHP.
- Monroe Street bridge over Whitewater River (Department Bridge No. 56C 0083): listed in the Department's Historic Bridge Inventory as Category 5 bridge; not eligible for the NRHP.
- 33-017259: This recorded segment of the CVSC measures approximately 100 feet long and 475 feet wide and is largely beneath the Monroe Street overpass between Avenue 43 and the eastbound on/off-ramps for I-10 in Indio, CA. This segment of the channel is defined by two parallel earthen levees, each topped by a dirt access road that runs the entire length of the segment and beyond. As part of a separate and unrelated undertaking, this segment of the CVSC within the proposed project's APE was previously evaluated and determined not eligible for inclusion in the NRHP. A copy of SHPO's concurrence in this regard is included as Attachment F to the project's HPSR.
- Monroe Street (segment): This segment of Monroe Street recorded herein traverses the CVSC south of I-10 in Indio. The road segment measures 3,572 linear feet, extending from Avenue 42 on the north to Oleander Avenue on the south. This segment is a two-lane asphalt-concrete paved road that measures 40 feet wide to accommodate two lanes of traffic and street-side parking. Monroe Street is not directly associated with any historical events that have made a significant contribution to the broad patterns of our history (Criterion A/1). The street is not directly associated with the productive life of any persons significant in our past (Criterion B/2). The street is of a simple and common design and does not appear to embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, (Criteria C/3). Under Criterion D/4, this street has not yielded, nor does it have the potential to yield information important to the study of local, state, or national history. In conclusion, Monroe Street is not eligible for listing in the NRHP or the CRHR and is not a historical resource for the purpose of CEQA.

Based on the HPSR (California Department of Transportation 2019e), no NRHP- or CRHR-listed historic properties are located within the project APE, and there are no properties previously determined eligible for the NRHP or CRHR within the APE.

Because there are no historic resources or archaeological resources on or eligible for the NRHP, there are no such resources within the APE that are subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

2.1.11.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

The No-Build Alternative would not result in project construction; therefore, no construction-related impacts on cultural resources would occur under the No-Build Alternative.

Build Alternatives 2 and 4

Two built-environment resources were identified within the project APE as a result of the architectural survey efforts. These resources include a segment of the CVSC (33-017259) and a segment of Monroe Street. These built-environment resources were formally evaluated and recommended as not eligible for listing in the NRHP. No historic properties would be affected by the proposed project.

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

If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Andrew Walters, District Environmental Branch Chief ([909] 383-2647) or Gary Jones, District Native American Coordinator ([909] 383-7505), so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Since construction staging areas would not be permitted outside of the APE, no other temporary effects on historic properties are anticipated.

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, historic properties and archaeological resources would not be affected because no ground disturbance would take place.

Build Alternatives 2 and 4

As stated above, no archaeological resources were identified within the project APE; therefore, no impacts on such resources would occur as a result of the proposed project.

Two built-environment resources were identified within the project APE as a result of the architectural survey efforts. These resources include a segment of the CVSC (33-017259) and a segment of Monroe Street. These built-environment resources were formally evaluated by in the Historical Resources Evaluation Report and recommended as not eligible for listing in the NRHP or the CRHR. The segment of the CVSC and the segment of Monroe Street within the APE lack significance and integrity. Therefore, implementation of Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 would not affect or result in impacts on any historic properties or significant historical resources.

2.1.11.4 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 be discovered during construction, would be avoided.

- CR-1** If buried cultural resources are encountered during project activities, it is Caltrans' policy that all work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.
- CR-2** In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendant (MLD). The person who discovered the remains will contact the District 8 Division of Environmental Planning; Andrew Walters, DEBC: (909)383-2647 and Gary Jones, DNAC: (909)383-7505. Further provisions of PRC 5097.98 are to be followed as applicable.

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2.2 Physical Environment

2.2.1 Hydrology and Floodplain

2.2.1.1 Regulatory Setting

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

To comply, the following must be analyzed:

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

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

2.2.1.2 Affected Environment

The primary source used in the preparation of this section is the *I-10/Monroe Street Interchange Improvement Project Location Hydraulic Study* dated September 2019 (California Department of Transportation 2019g).

The project is within the Whitewater Hydraulic Unit, Hydrologic Unit Code 81002010705. The watershed has its headwaters in the San Bernardino Mountains and is tributary to the Salton Sea. The project is within the Coachella hydrologic area and the Indio Hydrologic Subarea, Hydrologic Subarea number 719.47.

The project crosses the Coachella Valley Stormwater Channel (CVSC). The CVSC is a trapezoidal earthen channel. Historical Google Earth aerial photographs show that the walls of the channel are cleared of plants likely as part of maintenance operations by CVWD. This channel is tributary to the Salton Sea. No other stream crossings exist within the project limits for both Build Alternatives. The CVSC contains the Whitewater River, which originates north of I-10 at the base of the San Bernardino Mountains. From its origin, the Whitewater River flows southeasterly via natural channel and improved channels of various heights and widths.

The Federal Emergency Management Agency (FEMA) website was reviewed for flood data for the project area. Based on Flood Insurance Rate Map No. 06065C2251H, FEMA Flood

Insurance Rate Map (FIRM) Panel, the one percent annual-chance flood event, Zone AE, is contained within the CVSC at the Monroe Street bridge. All remaining portions of the project location are outside the one percent and 0.2 percent annual-chance flood event. Refer to Figure 2-11.

Natural and beneficial floodplain values include, but are not limited to fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, natural moderation of floods, water quality maintenance, and ground water recharge. The CVSC contributes to groundwater recharge through unlined channel walls and invert. Engineered groundwater recharge facilities are not present within the project limits, and there is no change in channel lining so there are no risks to the groundwater recharge beneficial use. The Colorado River Regional Water Quality Control Board does not consider groundwater recharge as one of the CVSC's beneficial uses.

2.2.1.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, there would be no short-term impacts on hydrology or floodplains.

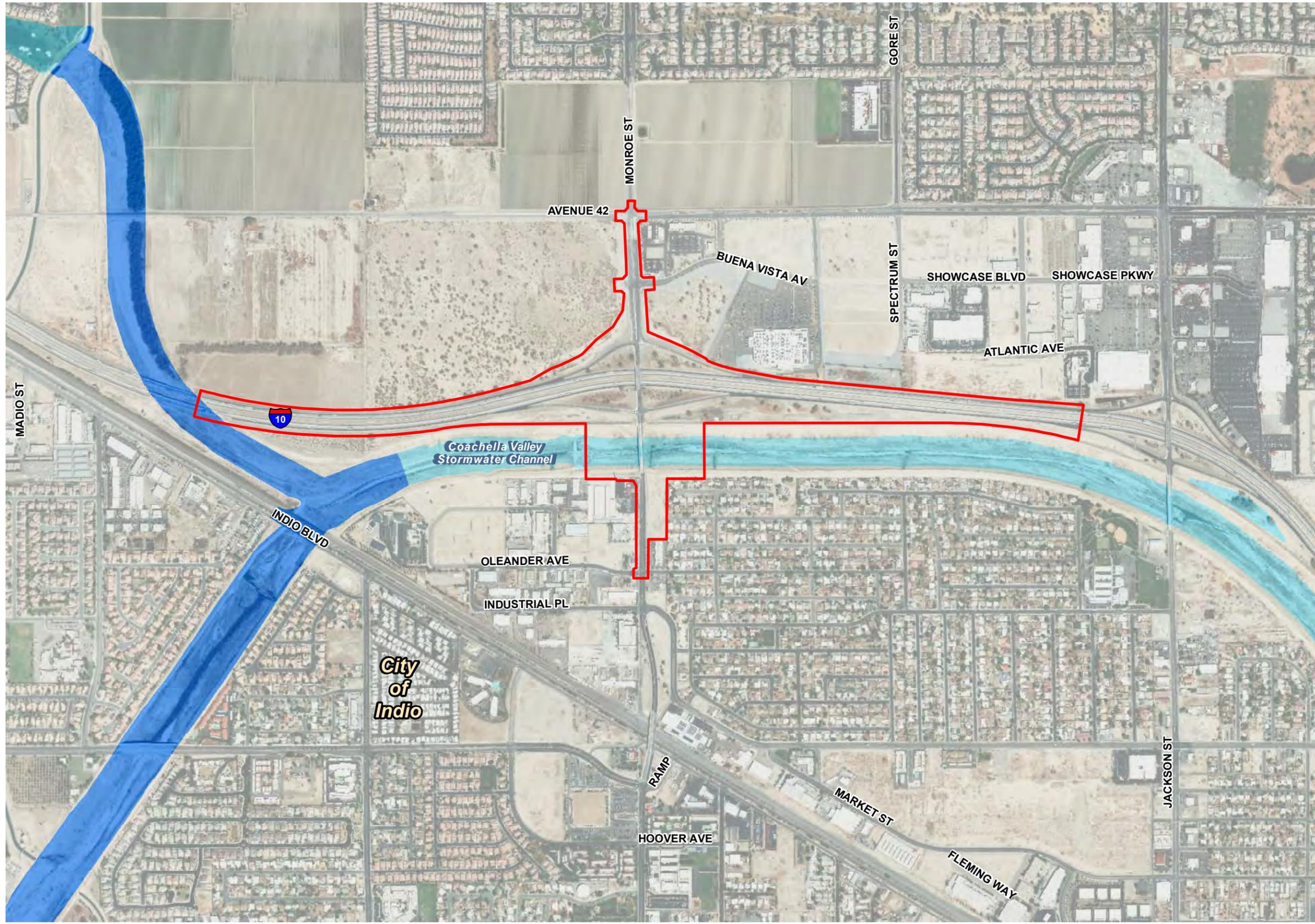
Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion of Build Alternatives 2 and 4 below is combined into a single discussion, because implementation of either would result in similar impacts.

The proposed project lies within a Zone AE floodplain. According to the *Location Hydraulic Study*, the flood hazard and flood depths in the CVSC would be minimally impacted as a result of the proposed project. The work in this area is limited to improvements on an existing bridge. There is low risk to open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge in agriculture due to this project. During construction, temporary measures that would be taken to minimize impacts on Contact Water Recreation (REC1) and Non-contact Water Recreation (REC2) include staging and work windows. Staging consists of implementing a plan to provide safe and efficient construction operations as well as to minimize community impacts during construction. These measures include appropriate signage, detours, and public notices that will be implemented as part of the TMP (refer to measure **CI-1** in Section 2.1.5.2).

Temporary impacts on Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD) and Rare, Threatened, or Endangered Species (RARE) during construction would be minimized through implementing the avoidance and minimization efforts/compensatory measures **BIO-1** through **BIO-10** identified in Section 2.3, Biological Environment.

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Legend

Project Limits

Flood Zone

- Zone A - An area inundated by 100-year flooding, for which no BFEs have been determined
- Zone AE - Areas that have a 1% probability of flooding every year
- Zone X - An area that is determined to be outside the 100- and 500-year floodplains

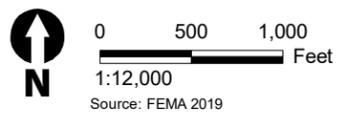


Figure 2-11
FEMA Flood Zones
 Interstate 10/Monroe Avenue Interchange Improvement Project

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The CVSC contributes to groundwater recharge through unlined channel walls and invert. Engineered groundwater recharge facilities are not present within the project limits, and the project proposes no changes in channel lining; therefore, there would be no risks to the groundwater recharge beneficial use.

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, there would be no long-term impacts on hydrology or floodplains.

Build Alternatives 2 and 4

The hazards assessed in the *Location Hydraulic Study* are changes to the water surface within the CVSC, resulting from the new bridge, bridge piers, and trail/maintenance undercrossing. The flood hazard and flood depths in the Coachella Valley Stormwater Channel will be minimally impacted as a result of the proposed I-10/Monroe Street Interchange Improvement Project.

According to the *Location Hydraulic Study*, the engineering assessment of the proposed project improvements in these areas reveal that the project would not introduce additional risk for traffic disruptions or loss of life and property. The potential risk to life and property would remain unchanged as a result of the proposed project improvements. The difference between the existing water surface elevation and proposed water surface elevation is less than one foot. Therefore, no changes to the FEMA FIRM would be required. The proposed project does not support incompatible floodplain development; the area is not fully developed, but the City is participating in the National Flood Insurance Program (NFIP). There are no permanent impacts due to the proposed improvements; therefore, no permanent mitigation measures are necessary.

The proposed project would not result in a significant encroachment into a floodplain as defined in 23 CFR 650.105.

2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2.2 Water Quality and Storm Water Runoff

2.2.2.1 Regulatory Setting

Federal Requirements

Clean Water Act

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

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

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is

no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements

Porter-Cologne Water Quality Control Act

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

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

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 responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

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

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

The Department’s MS4 Permit has three basic requirements:

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

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

As per Attachment IV of the Caltrans MS4 permit (NPDES No. CAS000003) the project limits are within the CVSC Drainage Area, a watershed in which SWRCB has designated Caltrans a stakeholder in a Bacteria Indicator TMDL. This requires the installation of treatment BMPs to mitigate the specific pollutant. The treatment BMP must treat the water quality volume of the new impervious areas. It is encouraged that additional treatment above the requirement cited above be done. The additional treated drainage areas will be counted as “compliance units” and counted as part of a yearly requirement of compliance units required of Caltrans.

Construction General Permit

The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity

where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

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

Local Agency Construction Activity Permitting

This project is located within the Whitewater Hydrologic Unit of the Coachella Valley Basin, under the jurisdiction of the Colorado River RWQCB (Region 7). As such, it would be subject to water quality controls that pertain to the Whitewater River and tributaries to Whitewater River. Multiple beneficial uses have been identified in the Water Quality Control Plan for Colorado River Basin Region 7, prepared by the State Water Resources Control Board in August 2017 (hereafter referred to as "the Basin Plan").

All projects within the Whitewater River region are subject to the requirements of the Colorado River RWQCB. The Colorado River RWQCB has prepared the Basin Plan to help preserve and enhance water quality and to protect the beneficial uses of State waters. The Basin Plan designates beneficial uses for surface and ground waters, and it sets qualitative and quantitative objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy. The Basin Plan also describes implementation programs to protect the beneficial uses of all waters in the region, as well as surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

Municipal Separate Storm Sewer System Permit

The Colorado River RWQCB has issued a Whitewater River MS4 NPDES permit to the Riverside County Flood Control and Water Conservation District (RCFCD), County of Riverside, CVWD, and Coachella Valley cities to prohibit urban runoff storm water discharges, to reduce pollutants in discharges to the Maximum Extent Practicable (MEP) and to maintain and/or attain WQOs that are protective to the beneficial uses or receiving waters (Order No. R7-2008-0001, NPDES No. CAS617002, as amended by Order No. R7-2013-0011). RCFCD and the County of Riverside are principal permittees of the permit and CVWD and Coachella Valley cities including Banning, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage are co-permittees. As permittees, these entities have established authority to control discharges into the MS4s that they own, operate, and/or regulate; therefore, any development within their right of way would have to comply with

criteria and conditions related to the new development or redevelopment standards identified in the MS4 permit.

Flood Protection

The proposed project is located within the jurisdiction of RCFCD. In accordance with Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06065C1650G, CVSC is the only water body designated as a flood hazard area within the proposed project limits. Since Whitewater River is a CVWD facility and the proposed project is making changes to the river crossing and connections, a floodplain encroachment permit is needed for this project.

Section 401 Permitting

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

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

2.2.2.2 Affected Environment

The primary source used in the preparation of this section is the *Water Quality Assessment Report Prepared for the I-10/Monroe Street Interchange Improvement Project* dated September 2019 (California Department of Transportation 2019i) and the *Natural Environment Study/Minimal Impacts Prepared for the I-10/Monroe Street Interchange Improvement Project* dated September 2019 (California Department of Transportation 2019h).

The project is located within the Whitewater Hydrologic Unit, the Coachella Hydrologic Area, and Indio Hydrologic subarea (HSA) 719.47. This subarea covers approximately 540,000 acres. Receiving water bodies within the project boundaries include the CVSC, which eventually discharges to the Salton Sea about 25 miles downstream.

The project site rests above the Coachella Valley Groundwater Basin, which is a sub-basin to the Colorado River Hydrologic Region. The Colorado River Hydrologic Region covers approximately 13 million acres in Southeastern California and includes all Imperial County, as well as parts of San Bernardino, Riverside and San Diego Counties. This region is under the jurisdiction of the California RWQCB, Colorado River Basin Region (Region 7). Significant geographic features within the region include the Salton Trough, which contains the Salton Sea and the Coachella and Imperial Valleys, which are separated by the Salton Sea.

According to the California Department of Pesticide Regulation (DPR) website, there are no wellhead protection areas near the proposed project site.

The Colorado River is the main water supply to the region and elsewhere. Drainage to the Colorado River comes from the East Colorado River Basin, which is a 200-mile-long strip that ranges from 7 to 40 miles wide. The Colorado River water is diverted by several dams, including Parker Dam, Palo Verde Diversion Dam, and Imperial Dam. Drainage waters that come from Colorado River and do not return drain into the West Colorado River Basin. The northern portion of this basin drains into sinks or playas, while the southern part drains to the Salton Sea. The Salton Sea is a reservoir that stores agricultural drainage and seepage waters, and is also purposed as a recreational and wildlife habitat area. Imperial Valley and Coachella Valley contain drains that transport irrigation return flows and storm water, and canals that import and distribute Colorado River Water. The project area is located within the Coachella Valley Planning Area.

Coachella Valley Planning Area is located mostly in Riverside County and spans 1,920 square miles. The area is bounded by the San Bernardino and Little San Bernardino mountain ranges in the North, San Jacinto and Santa Rosa mountain ranges in the West, and Salton Sea in the South. The proposed project is in the Middle Whitewater River watershed, which drains to Whitewater River. Whitewater River begins in the San Bernardino Mountains and flows southeast towards the Salton Sea and Sonoran Desert. The river also receives imported flow from the Colorado River through the All-American Canal at Imperial Dam

Discharge from the project site drains to the CVSC, which is an unlined, engineered extension of Whitewater River. This channel runs from Whitewater area north of Palm Springs down to the Salton Sea and protects the area from flooding. The CVSC conveys irrigation return flows, treated community wastewater, and stormwater runoff. Major components in the local drainage network within the project limits include an existing 72-inch corrugated metal pipe (CMP) and 48-inch reinforced concrete pipe (RCP) that direct flow southeasterly within the project limits and ultimately discharge storm water runoff to the CVSC. The four gore areas along the I-10 ramps are also utilized as Treatment BMPs to collect runoff and discharge to the CVSC.

Surface Waters

Within the Coachella Valley planning area in Indio, average annual precipitation varies from less than 3 inches in the lower points of the valley to 40 inches in higher elevations of the San Bernardino Mountains. Most surface water comes from seasonal snowfall in the mountains while summer thunderstorms provide most of the surface water in the valleys. The main source of groundwater replenishment is from rain and snowmelt in the mountains. Perennial streams in the planning area include the upstream areas of the San Gorgonio and Whitewater Rivers, as well as Palm Canyon, Tahquitz, Snow, Deep Canyon, Chino, and Andreas Creeks. Whitewater River and the downstream extension CVSC are a major drainage course for surface water and are tributary to the Salton Sea. There is also one storage reservoir within the area called Lake Cahuilla that regulates irrigation water demands and is used for recreational purposes.

Surface Water Objectives and Beneficial Uses

General water quality objectives (WQOs) for surface water in the Colorado River Basin address aesthetic qualities, tainting substances, toxicity, temperature, pH, Dissolved Oxygen (DO), Suspended Solids and Settleable Solids, Total Dissolved Solids (TDS), bacteria, biostimulatory substances, sediment, turbidity, radioactivity, chemical constituents, and pesticide wastes. Specific objectives are listed for the Colorado River, New River, Salton Sea, and Irrigation Supply Canals. Objectives for the Salton Sea and Irrigation Canals apply to the proposed project area.

From the Basin Plan, beneficial uses of surface waters in the CVSC include freshwater (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), and wildlife habitat (WILD). CVSC has numerical objectives for E. coli in REC-1 and REC-2 beneficial use areas.

Beneficial uses for Salton Sea include aquaculture; potential for Industrial Service Supply; REC-1; REC-2; WARM; WILD; and Preservation of Rare, Threatened, or Endangered Species. The Salton Sea has numerical objectives for TDS and selenium. Other objectives include coordination with the County of Agricultural Commissioners, California Department of Fish and Wildlife, and California Department of Health Services for herbicide spraying in irrigation canals. Objectives in domestic supply canals require that no herbicides be applied in concentrations toxic to human and aquatic species, unless they only affect a targeted species.

Groundwater Hydrology

The project site is in the Coachella Valley Basin and specifically in the East Whitewater River sub-basin, which is managed by CVWD, Coachella Water Authority and IWA. Whitewater River sub-basin provides domestic water use within the region and covers approximately 400 square miles. Groundwater flows follow surface water flows to Clark Lake and Borrego Sink, and eventually reaches the Salton Sea. Principal concerns for groundwater quality in the basin are for high concentrations of Chromium-6 and Arsenic.

Groundwater flows within the basin are impacted by well pumping and existing faults. Due to the increase in pumping to serve urban, rural, and agricultural development, groundwater overdraft is occurring in the basin. Because more water is pumped out of the aquifer than percolates in, groundwater recharge measures are required. Wells for pumping groundwater are approximately 1,200 feet deep and, storage capacity of the basin is around seven million acre-feet. The depth to standing groundwater is generally expected to be deeper than 50 feet below ground surface.

Sources of Groundwater Recharge

CVWD and the Desert Water Agency (DWA) work together on groundwater replenishment efforts. Groundwater recharge is partially funded by Replenishment Assessment Recharge (RAC) and includes three replenishment facilities within East Whitewater River sub-basin, West Whitewater River sub-basin, and Mission Creek sub-basin. The agencies also import water from the Sacramento Bay Delta and Colorado River, as well as entitlements to captured snowmelt from the San Geronio Mountains. Colorado River water artificially replenishes the aquifer at four different sites within Coachella Valley, including Thomas E. Levy Groundwater

Replenishment Facility, Whitewater Recharge Facility, Martinez Canyon Pilot Recharge Facility, and Groundwater Recharge Facility in Indio.

Groundwater Objectives and Beneficial Uses

There are no listed beneficial uses of groundwater for the Whitewater Hydrologic Unit. There are no numerical objectives for groundwater currently in place for Colorado River Basin due to limited historical data and complexity of the groundwater in this area. The goal of the RWQCB is to maintain the existing water quality of all groundwater basins that are not degraded and minimize the number of contaminants going into any groundwater basin. General groundwater objectives pertain to taste and odors, bacteriological quality, chemical and physical quality, brines, radioactivity, and groundwater overdraft.

Municipal Water Supply

The proposed project is in the City of Indio within the Coachella Valley. Five water agencies within the valley have formed the Coachella Valley Regional Water Management Group along with the Valley Sanitation District, to implement a regional water management plan. These agencies include IWA, CVWD, City of Coachella, DWA, and Mission Springs Water District (MSWD).

Drinking water in Indio is currently supplied by groundwater from the Whitewater sub-basin. IWA, CVWD, and the Coachella Water Authority provide potable water for the City, with most of the supply coming from IWA. Colorado River water is imported through the Coachella Canal via the All-American Canal. CVWD has agreements with the State Water Project (SWP) and Metropolitan Water District (MWD) for Colorado River water, although it is currently being used for irrigation and groundwater recharge purposes.

IWA is owned by the City of Indio and Redevelopment Agency, and delivers water to Indio residents for municipal water programs and services. In 2015, they supplied 18,208 Acre Feet (AF) of drinking water to 22,560 accounts for businesses and residents. Potable water demands include use for residential, commercial, industrial, landscape and others. IWA's pressurized distribution system includes 10 active wells and 326 miles of pipes. They also have emergency intertie connections with CVWD and the City of Coachella.

2.2.2.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, no construction-related impacts to water quality would occur.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined because implementation of either Build Alternative would result in similar impacts.

During the construction phase, soil disturbance activities would include earth-moving activities such as excavation and trenching, soil compaction, cut and fill activities, and grading. The

temporary disturbed surface area (DSA) is 45.61 acres for Build Alternative 2 (Locally Preferred Alternative) and 46.09 acres for Build Alternative 4. The DSAs are defined by the Department as being areas of exposed, erodible soil that are within the construction limits and that result from construction activity. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport via storm water runoff from the proposed project area. Because the project's total DSA exceeds one acre, pursuant to the NPDES permit requirements, a SWPPP would be prepared prior to construction to identify BMPs to be implemented during construction activities (refer to the water quality measures in Section 2.2.2.4). The SWPPP, which would identify BMPs to mitigate water quality effects on receiving waters resulting from surface water runoff from the project site, would be required as part of the General Permit from the SWRCB. Short-term construction effects associated with soil erosion and discharge of other construction-related pollutants into surface waters can be avoided or minimized through the implementation of BMPs for erosion control in compliance with the NPDES permit requirements.

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), 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), and concrete-related waste may be spilled or leaked, and have the potential to be transported via storm runoff into receiving waters.

Dewatering is not anticipated during construction as a deeper groundwater level is expected based on historical data and preliminary investigations. However, actual groundwater level at the project site will be determined once subsurface investigations are conducted in the plan, specification and estimate (PS&E) phases of the project. If dewatering is determined to be required during PS&E for the preferred alternative, the contractor will be required to conform to the requirements specified in the General Waste Discharge requirements for Discharges to Surface Water which Pose an Insignificant (*De Minimus*) Threat to Water Quality, from the Colorado River RWQCB (refer to measure **WQ-3** in Section 2.2.2.4). A Section 404 permit, pursuant to the federal CWA, would be required for the discharge of dredged or fill material into waters of the U.S. (refer to measure **WQ-4** in Section 2.2.2.4). In addition, a Section 401 Water Quality Certification from the RWQCB is most frequently required in tandem with a Section 404 permit; therefore, a 401 Water Quality Certification would be required to ensure that the discharge to waters regulated by the State would comply with applicable effluent limitations and water quality standards (refer to measure **WQ-4** in Section 2.2.2.4). Furthermore, a Section 1602 Streambed Alteration Agreement from CDFW for impacts on State-regulated jurisdictional areas would be required for the proposed project (refer to measure **WQ-4** in Section 2.2.2.4).

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, no increase in runoff flow velocities, volumes, or peak flow rates would occur. The No-Build Alternative would not increase impervious area or change land use in the project area. Therefore, drainages and surface runoff would remain consistent with current conditions, and roadway runoff in this area would remain unchanged from existing conditions.

This alternative would not result in an increase in 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 facility or incorporate drainage enhancements.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts. The proposed project has the potential to affect water quality during the operation phase. Potential pollutant sources associated with operations include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care.

Widening, along with construction of structures (i.e., bridges and retaining walls) for the proposed project, would result in an increase in impervious surface area, which would increase storm water runoff. The approximate acreage of net new impervious surface area as a result of the proposed project for Build Alternative 2 (Locally Preferred Alternative) is approximately 27.48 acres and for Build Alternative 4 is approximately 27.37 acres, a difference of 0.11 acre between the two alternatives. Table 2-39 compares the existing and proposed impervious surface area for each of the Build Alternatives. Build Alternative 2 (Locally Preferred Alternative) has the highest percentage of additional new impervious surface area.

Table 2-39. Comparison of Existing and Proposed Impervious Surface Area per Build Alternative

Alternatives	Existing Impervious Surface Area (acres)	Proposed Additional Impervious Surface Area (acres)	Total Impervious Surface Area (acres)	Percentage of Additional Impervious Surface Area
2	22.60	4.88	27.48	21.59
4	22.54	4.83	27.37	21.43

Source: California Department of Transportation 2019i

It is not anticipated that either of the Build Alternatives would cause a change to sedimentation in receiving water bodies within the proposed project area because the proposed project would result in a very minor increase in runoff compared to the entire hydrologic area. The proposed slopes within the proposed project would be stabilized with incorporation of the Department's standard Design Pollution Prevention (DPP) BMPs, and Treatment BMPs. These BMPs would be implemented to improve stormwater quality during the operation of the transportation facility to minimize potential stormwater and non-stormwater impacts on water quality. The Department's Statewide Storm Water Management Plan (SWMP) describes how the Department would comply with their Statewide National Pollutant Discharge Elimination System Permit. The SWMP characterizes the program that the Department would implement to minimize the discharge of pollutants associated with storm drainage systems that serve highway, highway related properties, facilities, and activities.

Existing drainage within the vicinity of the project generally flows from the northwest to the southeast. Offsite flow northwest of the interchange is collected and conveyed within an existing 72-inch CMP pipe west of Monroe Street that discharges to the CVSC. Existing flows along Monroe Street and the eastbound and westbound on and off ramps are collected by existing drainage inlets and overside drains that discharge to the gore areas or existing swales adjacent to the ramps and eventually are conveyed to the CVSC. Proposed drainage design will follow existing drainage patterns with the incorporation of treatment BMPs. Changes to onsite watersheds due to the proposed improvements are insignificant compared to the offsite watershed area. As such, it is anticipated that the proposed improvements will have a negligible impact on the flow capacity of the offsite systems.

The project site discharges to the CVSC, which eventually discharges to Salton Sea about 20 miles downstream. Primary water quality concerns for the CVSC are impairments by pathogens of unknown sources, which is a threat to public health and impairs beneficial uses of the waterway, including Water Contact Recreation (REC-1) and Non-contact Water Recreation (REC-2) uses. Primary water quality concerns for the Salton Sea include increasing salinity and selenium concentrations, which come from agricultural drainages. There are also groundwater quality issues in the Coachella Valley Groundwater Basin, which are outlined in the Urban Water Management Plans for IWA and CVWD. Groundwater quality issues include high concentrations of Arsenic and Chromium-6 in some wells operated by these and other agencies within the basin area. With the implementation of standard Department Treatment BMPs, Design DPP BMPs, and Maintenance BMPs, the impact on water quality associated with operation of the proposed project would be minimized.

The portion of the CVSC in the project vicinity is dry throughout the year, except for storm water discharges. However, the CVSC discharges downstream to the Salton Sea, so impacts on temperature and oxygen depletion must be considered. Trash and debris are pollutants of concern for both Build Alternatives. The buildup of trash and debris in a water body will deplete oxygen levels and increase ambient water temperatures. When trash and debris build up in a water body, sunlight is blocked from reaching plants, and photosynthesis is reduced. A reduction in photosynthesis results in decreased oxygen levels in the water. Trash and debris also absorb more heat than water, which means that ambient temperatures will also increase. The contractor will take the necessary measures to reduce the amount of trash and debris that could end up in the CVSC during the construction of this project.

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

The following standard measures would be implemented to minimize potential water quality and hydrological impacts associated with construction and operation:

- WQ-1** The project will comply with Caltrans Standard Specifications for construction site Best Management Practices (BMPs), including complying with U.S. Environmental Protection Agency's (U.S. EPA's) Construction General Permit, discharges of stormwater from the job site, compliance with permits issued by Regional Water Quality Control Board (RWQCB) for National Pollutant Discharge Elimination System (NPDES) Permit, and permits governing stormwater and non-stormwater discharges resulting from construction activities at the job site.

- WQ-2** The project will comply with Caltrans Standard Specifications related to complying with the provisions of the current NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, and any subsequent permit, as they relate to construction activities for the project. This will include submission of the permit registration documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) at least 14 days prior to the start of construction activity. The SWPPP will (1) meet the requirements of the Construction General Permit and identify potential pollutant sources associated with construction activities; (2) identify non-stormwater discharges; and (3) identify, implement, and maintain BMPs to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during the project construction. A Notice of Termination will be submitted to SWRCB upon completion of construction and the stabilization of the site.
- WQ-3** The project will comply with Caltrans Standard Specifications related to complying with the provisions of the current General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (*De Minimis*) Threat to Water Quality as they relate to discharge of non-storm water dewatering wastes for the project. This will include submitting to the Colorado River RWQCB an NOI at least 60 days prior to the start of construction, and notification of discharge at least five days prior to any planned discharges.
- WQ-4** The project will comply with Caltrans Standard Specifications related to complying with the provisions of the Section 401 Water Quality Certification from the Colorado River RWQCB, a Section 404 permit from the U.S. Army Corps of Engineers (USACE), and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife will be obtained prior to impacts within identified jurisdictional areas.
- WQ-5** Specifications related to complying with the provisions of the Department's current Statewide NPDES Permit, effective July 1, 2013 (known as the Department's MS4 permit). Project-specific BMPs and any applicable hydromodification features will be incorporated into final design. The BMPs will be properly designed and maintained to target pollutants of concern and reduce runoff from the project site.
- WQ-6** The project will implement design pollution prevention BMPs as required under the Department's MS4 Permit for areas within the state right of way that focus on reducing or eliminating runoff and controlling sources of pollutants.
- WQ-7** The project will implement design pollution prevention BMPs—as required under the County of Riverside Whitewater River Watershed MS4 Permit for areas outside of State right of way that focus on reducing or eliminating runoff and controlling sources of pollutants—as part of the project.

2.2.3 Geology/Soils/Seismicity/Topography

2.2.3.1 Regulatory Setting

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

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

2.2.3.2 Affected Environment

The primary source used in the preparation of this section is the *Interstate 10/Monroe Street Interchange Improvement Project Preliminary Geotechnical Design Report*, dated November 2018 (California Department of Transportation 2018c), *Interstate 10 & Monroe Street Interchange Improvements Structure Preliminary Geotechnical Report (SPGR)* dated October 2018 (California Department of Transportation 2018d) and the *Phase I Initial Site Assessment for the I-10/Monroe Street Interchange Project* dated September 2019 (California Department of Transportation 2019c).

Regional Geology

The project area is located in the Coachella Valley, which is part of the broader Salton Trough within the Colorado Desert geomorphic province of California. The Salton Trough is a northwest-southeast trending depression that extends from the Gulf of California to the Banning Pass near Palm Springs, California; the Little San Bernardino Mountains and Chocolate Mountains form the northeastern boundary of the Coachella Valley; and the Santa Rosa Mountains form the southwest boundary. Structurally, the Salton Trough is dominated by several northwest-southeast trending faults, the most notable of which are the San Andreas Fault and the San Jacinto Fault.

A thick sequence of predominantly non-marine sedimentary material has been deposited in the Coachella Valley from Miocene time to the present. The mountains surrounding the Coachella Valley are comprised predominantly of Precambrian Metamorphic and Miocene granitic rocks. Local surficial geologic units consist of varying thicknesses of Quaternary eolian sand and alluvial deposits.

Local Geology

Onsite soils consist of Quaternary alluvial deposits. Upper units are probably overbank and flood deposits of the Whitewater River. These deposits primarily consist of alluvial sand and clay. Deeper sediments may be part of ancient Lake Cahuilla deposits. These deposits primarily consist of clay with some micaceous silt. The Whitewater River is controlled by permanent levees on both banks, which form the Coachella Valley Storm Channel. The channel bottom and levee sides are unlined.

Subsurface Soil Conditions

According to the log of test boring (LOTB) sheets provided by the Department, 11 borings were performed in February 1967 during a field investigation by the Department's Bridge Department near Monroe Street and the bridge crossing areas. These borings were advanced to depths ranging from approximately 45 to 65 feet below ground surface (bgs). The LOTB provided by the Department for the Monroe Street overcrossing describes a "slightly compact to compact light gray interbedded micaceous very fine to fine sand and laminated clayey silt" to a maximum depth explored of 60 feet bgs.

Based on LOTB of Whitewater River bridge near Monroe Street, the upper 5 to 10 feet bgs soils are light gray gravelly sand (fill). It describes the soil as "slightly compact to compact light gray micaceous very fine to fine sand with clayey silt interbeds or laminated clay silt" between 10 and 40 feet bgs. Below 40 feet bgs, the soil is described as dense to very dense light gray micaceous very fine to fine sand and laminated clayey silt or silty clay to a maximum depth explored of 65 feet bgs.

The subsurface soils at the site are expected to consist of engineered fill underlain by alluvial soils. The engineered fill is expected to consist of fine to coarse silty sand, and the alluvial soil is expected to consist of interbedded micaceous very fine to fine sand and laminated clayey silt.

Faulting

The site is not within a recognized State of California or Riverside County Earthquake Fault Zone. The site location relative to regional faults is shown on Figure 2-12.

Seismicity

The Coachella Segment (Fault ID 372) of the San Andreas Fault with a Maximum Considered Earthquake (MCE) of 7.9 is the controlling fault for the site. The San Andreas Fault is a right-lateral transform fault separating the Pacific and North American plates. The fault is approximately 1.9 miles from the project site at its closest point and trends northwest-southeast. The estimated peak ground acceleration resulting from this earthquake is 0.912 g.

The Southern Segment of the San Andreas Fault is also the closest active fault as specified by the Alquist-Priolo Earthquake Fault Zoning Act. Because the project site is not within the confines of the fault zone, the risk of surface rupture at the site is considered low.

Available site information and the site review performed in support of the *Preliminary Geotechnical Design Report* did not indicate significant geologic hazards such as landsliding, ground settlement, embankment failures, very soft soils, severe erosion, etc. within the project area.

The project area is shown relative to the nearest mapped seismic hazards in Figure 2-13. The seismic hazards are described as follows.

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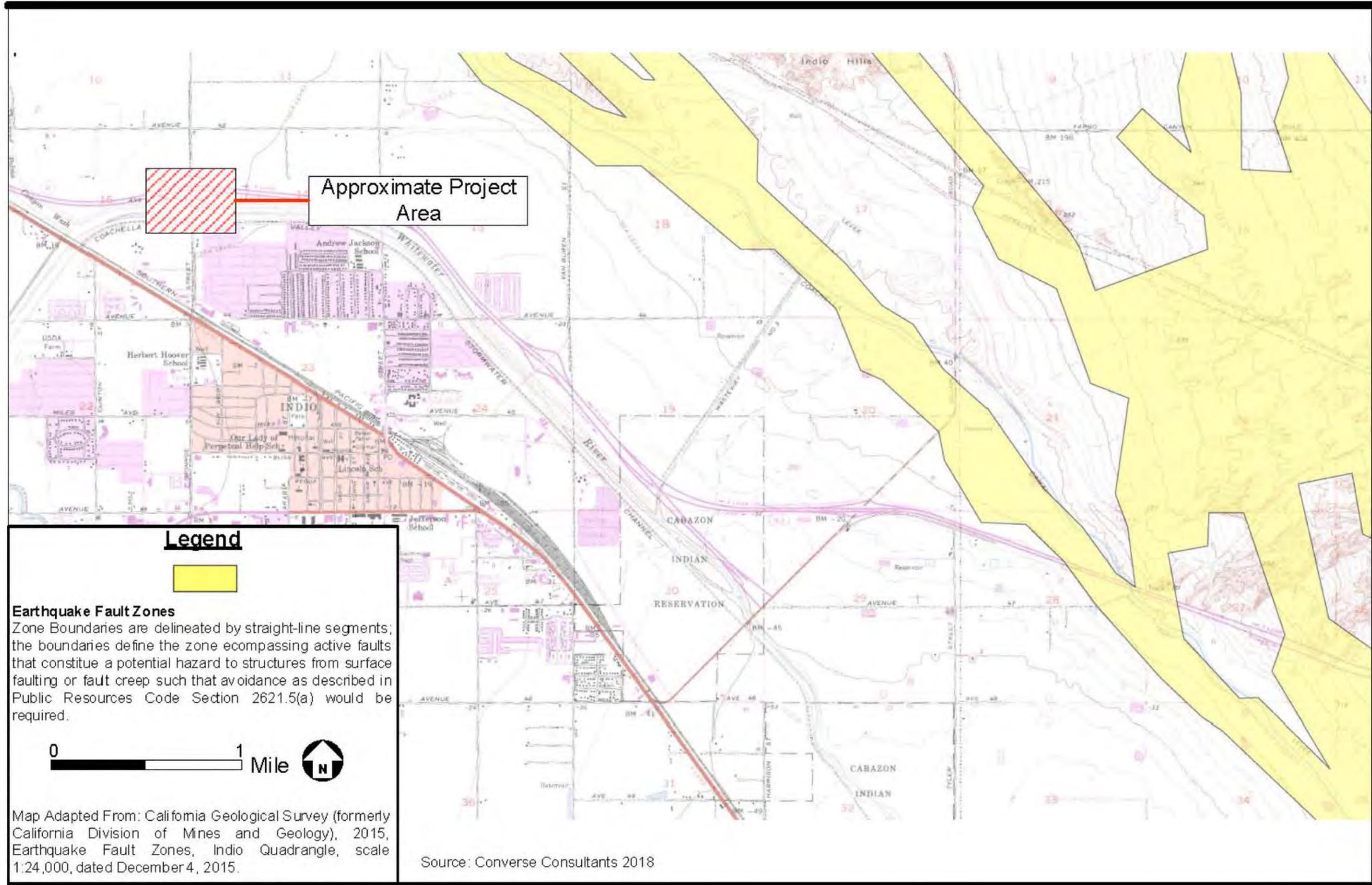


Figure 2-13
Seismic Hazard Zone Map
Interstate 10/Monroe Street Interchange Project

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Liquefaction Potential

Liquefaction is defined as the phenomenon in which a cohesionless soil mass within the upper 50 feet of the ground surface suffers a substantial reduction in its shear strength, due to the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction.

Soil liquefaction generally occurs in submerged granular soils and non-plastic silts during or after strong ground shaking. There are several general requirements for liquefaction to occur. They are as follows.

- Soils must be submerged.
- Soils must be primarily granular.
- Soils must be loose to medium-dense.
- Ground motion must be intense.
- Duration of shaking must be sufficient for the soils to lose shear resistance.

The Monroe Street overcrossing and Whitewater River bridge are located within a Riverside County-designated area of moderate liquefaction potential. This designation generally requires a site-specific liquefaction potential evaluation as a condition of construction permit approval. Phreatophytic plants were observed in localized areas in the Whitewater River channel, suggesting possible shallow groundwater conditions that may affect liquefaction potential.

Seismic Settlement

Seismic settlement may occur in areas where there are relatively loose, dry, granular soils, or where liquefaction occurs. The potential seismic settlement should be evaluated during the PS&E using site-specific soil borings.

Fault Rupture

The site is not within a currently designated State of California or San Bernardino County Earthquake Fault Zone. There are no known active faults projecting toward or extending across the project site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

The proposed site is situated in a seismically active region. As is the case for most areas of Southern California, ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the project site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site.

Seismic Slope Stability

The project area is composed of relatively flat terrain. The slopes near the existing Whitewater River bridge and the I-10 Crossing embankments have a slope gradient of approximately 2H:1V or flatter and appear to be grossly stable under static conditions and are assumed to also be stable under seismic loading.

Geologic Structure

The LOTB indicates that the project site is underlain by alluvium to a depth of at least 60 feet bgs. The depth to bedrock is not known.

Other Geologic Hazards

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. Based on the inland location of the project site, tsunamis do not pose a hazard to this site. Seiching is possible within the Whitewater River Channel if a large earthquake coincides with a high flow level event.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the Earth's crust. Radon is an invisible, odorless, inert gas that emits alpha particles, known to cause lung cancer. Radon levels are highest in basements (areas in proximity to the soil) that are poorly ventilated. A radon survey was not included within the scope of this investigation. According to the "U.S. EPA Map of Radon Zones," the County of Riverside is located within Zone 2, which has a predicted average indoor radon screening level between 2 to 4 picocuries per liter (pCi/L). U.S. EPA recommends remedial actions when radon levels are greater than 4.0 pCi/L.

Surface Water

The principal stream in the Coachella Valley area is the CVSC, which flows southeasterly from the San Bernardino Mountains to the Salton Sea. The CVSC is generally dry or has very low flow throughout much of the year. However, in the winter and the springtime when snow melts in the San Bernardino Mountains the river can have substantial flow. In the southern Coachella Valley area the river is no longer a natural feature. The CVWD has made improvements in the channel including realignment, widening, and deepening of the natural channel to provide protection from a 500-year flood. The Whitewater River now resides in an engineered channel that is mostly unlined and built from and into natural materials.

Erosion

Embankment slopes within the channel and the project interchange as well as areas disrupted by grading are susceptible to erosion from surface runoff. Cut and fill slopes will require erosion control, such as vegetation, and control of surface runoff.

Landslides

Available site information and the site review performed in support of the *Preliminary Geotechnical Design Report* did not indicate landslide hazards within the project limits.

Groundwater

At the time of field investigation (1972), groundwater was encountered at approximately 20.0 feet below the original ground surface. During our 2018 site reconnaissance, phreatophytic plants were observed in localized areas in the Whitewater River channel, suggesting possible shallow perched groundwater conditions. The State Water Resources Control Board's GeoTracker

Database was accessed in May 2018 to establish historic groundwater levels. The following sites contained groundwater data in the vicinity of the bridge crossing.

- The depth to groundwater in seven monitoring wells associated with the Global ID T0606500661 was measured between 35 and 45 feet bgs between January 1991 and April 1995. This site is approximately 200 feet south of the Monroe Street bridge over Whitewater River.
- The depth to groundwater in one completed well log associated with the Global ID T0606500671 was measured at 37 feet bgs in May 1991. This site is approximately 2,000 feet southwest and five feet higher in elevation than the Monroe Street bridges.
- The depth to groundwater in five monitoring wells associated with the Global ID T10000001757 was measured between 60 and 79 feet bgs between November 2003 and November 2011. This site is approximately 1.5 miles south and approximately five feet higher in elevation than the Monroe Street bridges.

Historical high groundwater at the project site is not known with certainty; however, groundwater would be expected near the channel floor during periods of high flow in the Whitewater River Channel. The groundwater level is expected to vary significantly with the level of flow and distance from the channel. The current depth to standing groundwater is generally expected to be deeper than 50 feet bgs. It should be noted that the groundwater level could vary depending upon the seasonal precipitation and possible groundwater pumping activity in the site vicinity. Shallow perched groundwater may be present locally, particularly following precipitation or irrigation events.

Subsidence and Settlement

Subsidence is defined as the settlement of native materials from the equipment load applied during grading and could occur depending on the construction methods including type of equipment utilized. Subsidence also occurs as a result of subsurface fluid extraction (e.g., groundwater, petroleum) or compression of soft, geologically young sediments. Groundwater extraction for high volume municipal and agricultural use has the potential to cause future ground subsidence in the project region. Information regarding subsurface fluid extraction is not available for the project site.

Settlement can also occur quickly when soil is loaded by a structure or by the placement of fill on top of soil, and it can also occur gradually when soil pore pressures, increased by vertical loading, gradually dissipate over time.

2.2.3.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, no project construction would occur; therefore, no impacts on geology, soils, seismicity, or topography would occur. The No-Build Alternative would not expose construction workers or the traveling public to risks associated with seismic ground shaking.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

During construction of the Build Alternatives, 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. Potential temporary impacts on the geological environment are expected to occur as a result of cut and fill operations, which include soil erosion and siltation. Embankment slopes within the channel and the project interchange as well as areas disrupted by grading are susceptible to erosion from surface runoff. Cut and fill slopes are frequently constructed in roadway projects. Where new cut slopes are anticipated for the proposed improvements, proper design and analysis would be required. Cut and fill slopes will require erosion control, such as vegetation, and control of surface runoff. 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.

Most cuts and cut slopes within the project limits are expected to occur within engineered fill placed for the existing improvements, and within older alluvial sediments that consist of medium dense to dense, very fine to fine sand with laminated or interbedded clayey silt or silty clay. According to the SPGR, it is expected that cut slopes will be stable at slopes of 2H:1V or flatter within native soils and engineered fills. Areas of potentially surficial loose soils and slope movement within the existing slope face were not observed during the field reconnaissance.

Implementation of erosion control measures as required by the Department and adherence to all requirements set forth in the NPDES permit required for construction activities would address any potential construction-related erosion and siltation impacts. With implementation of these standardized measures, no short-term direct or indirect adverse impacts related to soil compaction or erosion would occur during project construction.

The proposed project could expose construction workers and the traveling public to potential impacts associated with seismic ground shaking. Compliance with the most current Department procedures regarding seismic design, which is standard practice on all Department projects, is anticipated to prevent any adverse effects related to seismic ground shaking. Conformance with the California Building Code (CBC) as well as adherence to standard engineering practices and the Department's design criteria, would reduce the effects of seismic ground shaking. Therefore, the proposed project would not result in or contribute to seismic related hazards to the degree that would result in a significant impact on construction workers or the traveling public.

Permanent

Alternative 1 (No Build)

Under the No-Build Alternative, construction of the proposed project would not occur. The existing topography and soils would not be affected by construction activities; however, sedimentation and erosion of existing embankment slopes and exposure to seismic activity and ground shaking could continue.

Build Alternatives 2 and 4

Fault-Induced Ground Rupture

The site is not located within a currently designated State of California or San Bernardino County Earthquake Fault Zone. There are no known active faults projecting toward or extending across the project site. The potential for surface rupture resulting from the movement of nearby major faults is not known with certainty but is considered low.

The proposed site is situated in a seismically active region. As is the case for most areas of Southern California, ground shaking resulting from earthquakes associated with nearby and more distant faults may occur at the project site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site.

Seismic-related Ground Shaking

The proposed project site is within an area where strong seismic shaking occurs given its proximity to the San Andreas Fault Zone; either Build Alternative would be equally affected. The project would require the construction of a new overcrossing and interchange ramps. Geologic and seismic hazards associated with a potential earthquake occurrence include strong ground shaking and seismically induced settlement. Due to the proximity of the San Andreas Fault (refer to Figure 2-12), there is the potential that ground shaking from seismic activity could impact the site, causing surface shaking and potentially surface displacement of soils. Conformance with the CBC, as well as adherence to standard engineering practices and the Department's design criteria, would reduce the effects of seismic ground shaking.

Liquefaction and Seismically Induced Settlement

The Monroe Street overcrossing and Whitewater River bridge are within a Riverside County-designated area of moderate liquefaction potential (Riverside County 2018). This designation generally requires a site-specific liquefaction potential evaluation as a condition of construction permit approval. The current depth to groundwater is expected to be deeper than 50 feet bgs. Liquefaction potential is considered to be low due to an absence of shallow groundwater; however, this will need to be confirmed using site-specific soil borings to be performed during the PS&E phase. The project would follow the Department's latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With incorporation of the standard project measures listed in Section 2.2.3.4, no direct or indirect, adverse, long-term impacts would occur as a result of the proposed project.

Tsunami/Seiches

Based on the inland location of the project site, tsunamis do not pose a hazard to this site. Seiching is possible within the Whitewater River Channel if a large earthquake coincides with a high flow level event.

Landslides

Available site information and the site review performed in support of the *Preliminary Geotechnical Design Report* did not indicate landslide hazards within the project limits. No impacts are anticipated.

Subsidence and Settlement

There is the potential for subsidence to occur depending on the methods and type of equipment utilized during the construction period. Settlement can occur quickly when soil is loaded by a structure or by the placement of fill on top of soil, and it can also occur gradually when soil pore pressures, increased by vertical loading, gradually dissipate over time. The potential impact and hazards of consolidation settlement due to embankment loading and subsidence will be determined in the PS&E phase. The project would follow the Department's latest design requirements (refer to Section 2.2.3.4) to minimize any potential effects related to subsidence and settlement.

Soil Expansion Potential

The subsurface soils at the site are expected to consist of engineered fill underlain by alluvial soils. The engineered fill is expected to consist of fine to coarse silty sand, and the alluvial soil is expected to consist of interbedded micaceous very fine to fine sand and laminated clayey silt. Coarse grained soils (sandy soils) are generally anticipated to be non-expansive or have a very low expansion potential. Fine grained soils (silts and clays) are usually susceptible to medium to high expansion potential. Soil expansion potential will be evaluated during the PS&E phase. If the expansion potential is very low (expansion index <20), no mitigation is necessary. If low, medium, or high expansion potential is observed, mitigation will be implemented to reduce the potential for uplift and distress due to soil expansion. With incorporation of the standard project measures listed in Section 2.2.3.4, impacts would be minimized to an acceptable level.

Soils

Temporary and permanent cuts and excavations are anticipated for the proposed project. It is anticipated the project will require the placement of embankment fill. It is also expected that most of the slopes will be stable at slopes of 2H:1V or flatter within native soils and engineered fills unless adverse conditions are encountered, such as weak or adverse bedding planes, clay lenses, or existing landslides. Slope stability analysis of embankments constructed over alluvial materials will be performed during future site-specific investigations during the PS&E phase. In addition, all earthwork in the project area would be performed in accordance with the most current edition of the Department's Standard Specifications, the Department's criteria for slope stability, and/or the requirements of applicable government agencies (see standard project measures listed in Section 2.2.3.4).

The native soils are anticipated to be predominantly fine to coarse grained sands, and are susceptible to moderate to severe erosion. However, by incorporating selective grading and adhering to provisions for site drainage and slope planting, the potential for surface soil erosion can be minimized (see measures **GEO-1** through **GEO-3** below). With incorporation of the standard project measures listed below, impacts would be minimized to an acceptable level.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures

To ensure that, during construction, potential effects involving geology, soils, seismicity, and topography are minimized to an acceptable level, the following standard avoidance and minimization measures will be implemented.

- GEO-1** The project will implement Caltrans Standard Specifications Sections 13-05 and 21 related to erosion control during construction.
- GEO-2** Earthwork will be performed in accordance with the Department’s Standard Specifications, Section 19, which require standardized measures related to compacted fill, overexcavation, recompaction, and retaining walls, among other requirements.
- GEO-3** Construction will be conducted in accordance with Division III, “Earthwork and Landscape” Section 21-1 through 21-3 of the Department’s Standard Specifications, requiring erosion protection and drainage control.

2.2.4 Paleontology

2.2.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

- 23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.
- 23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

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

2.2.4.2 Affected Environment

The primary source used in the preparation of this section is the *Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) for the Interstate 10/Monroe Street Interchange Improvement Project*, dated September 2019 (California Department of Transportation 2019j).

A museum records search was conducted at the Natural History Museum of Los Angeles County in March 2018. The records search area consisted of the project area and the Indio, CA 7.5-minute U.S. Geological Survey quadrangle. The museum records search was supplemented by a search of the University of California Museum of Paleontology's online database for Riverside County as well as a review of previous technical reports of work conducted in the vicinity.

A field reconnaissance survey was conducted on May 1, 2018, to identify the presence/absence of exposed fossils on the ground surface and to evaluate geologic exposures for their potential to yield subsurface fossil material. The survey was completed by a systematic pedestrian walkover using five-meter-spaced transects to inspect the ground surface for evidence of paleontological resources. During the survey, the project area landscape was examined to identify exposures of fossiliferous sediments and verify published geological maps used in this review. More attention was given to exposed landscape (i.e., not covered by roads) and areas undisturbed by construction activities. The field crew kept notes on the encountered geology and sedimentology, and took photographs to document the survey. No paleontological resources were encountered during the field reconnaissance.

Published geologic maps indicate eolian, alluvial, and fluvial deposits of Late Pleistocene or Holocene age throughout the project area. Geological literature also indicates that lacustrine deposits associated with Lake Cahuilla, a former freshwater lake that periodically occupied a major portion of the Salton Trough, may be located at unknown depth beneath the project area. Museum records indicate there are no previously recorded paleontological localities directly

within the project boundaries. However, several scientifically significant fossil localities have been recorded nearby, in the same lacustrine deposits that may underlie the project area at depth.

According to published maps, the surface geology of the project area is mapped primarily as Quaternary alluvial deposits composed of unconsolidated clay, silt, sand, and gravel recently deposited parallel to localized stream valleys and/or spread more regionally onto alluvial flats of larger river valleys (Qa) in addition to alluvial sand and gravel associated with the Whitewater River (Qg), and wind-laid dune sand (Qs). Fine-grained lacustrine Lake Cahuilla sediments are presumed present at unknown depth within the project area. Figure 2-14 shows the distribution of these alluvial deposits as mapped across the present landscape.

The fluvial deposits (Qa and Qg) are late Pleistocene or Holocene age and derived primarily from the Whitewater River, which currently flows through the southern portion of the project area, and from the Thousand Palms Canyon Wash, which currently flows through the westernmost portion of the project area. At least some of the fossils within these alluvial deposits, if any, may have been redeposited in the project area from upstream sources, while others may be *in situ*. Sand-sized fossils found within the eolian sands (Qs), if any, similarly will have originated from upwind sources in more recent times and are, therefore, unlikely to contain significant *in situ* fossils. More importantly, both alluvial and eolian deposits may overlie *in situ* and significant fossiliferous lacustrine deposits associated with the fresh waters of ancient Lake Cahuilla and the terrestrial habitats along its lakeshores.

Based on previous stratigraphic, archaeological, paleontological, and hydrogeological studies, Holocene Lake Cahuilla deposits are known to underlie surficial undissected deposits similar to the deposits in the project area, at shallow depth. The Lake Cahuilla deposits are composed of undissected to dissected terrace deposits consisting of weakly consolidated silts and clays and abundant, non-mineralized mollusk fragments. In turn, older Pleistocene-age ancient Lake Cahuilla deposits underlie the surficial to shallowly buried Holocene-age lacustrine silt at a moderate depth. The depth of the contact between the Holocene- and Pleistocene-age Lake Cahuilla deposits in the project area is unknown; however, the Pleistocene-age ancient Lake Cahuilla sediments are likely to be present at a relatively shallow depth below the Holocene lacustrine deposits. The Pleistocene-age Lake Cahuilla deposits are generally composed of weakly consolidated, lacustrine sands, silts, and clays, with tufa and travertine rock coatings, coarse alluvial deposits, and beach sands. The Pleistocene- to Holocene-age Lake Cahuilla sediments range from several feet deep at the margin of the Coachella Valley to as much as 300 feet thick in the center of the Salton Trough.

Late Quaternary-age lacustrine deposits derived from ancient Lake Cahuilla have proven to yield scientifically significant mollusk shells within the Salton Trough. During excavation for the San Diego Gas and Electric Company Sunrise Powerlink Transmission Line in western Imperial County, at least four different taxa of non-mineralized mollusks (i.e., clams, snails, tusk shells, and squids) were recovered from Lake Cahuilla sediments. In addition to the significant mollusk specimens recovered from ancient Lake Cahuilla deposits, fossil specimens of other freshwater invertebrates have been found (e.g., diatoms, sponges, and ostracods) just west of due south of the project area on both sides of Madison Street north of 58th Avenue. This area has fossil localities that produced a significant fauna of terrestrial and freshwater vertebrates as well as land plants. A single bighorn sheep jawbone was recovered to the east of Madison Street.

Pleistocene-age alluvial deposits similar to those mapped near the project area have proven to yield other significant vertebrate fossils throughout the inland valley and desert regions of Southern California, including the Salton Trough. Recovered specimens include large land mammals, rodents, birds, reptiles, amphibians, invertebrates, and insects. Holocene-age alluvial deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material, but they may overlie older fossiliferous deposits (e.g., Lake Cahuilla deposits, Quaternary older age alluvium) at an unknown depth.

Based on the literature review, museum records search, and survey results, the paleontological sensitivity was determined in accordance with Caltrans' (2016) tripartite sensitivity scale. The PIR/PER classified the Quaternary alluvial deposits as mapped on the ground surface as High potential, because they may include *in situ* late Pleistocene-Holocene fossils and they may overlie paleontologically significant Lake Cahuilla deposits, as well. This ranking agrees with the County of Riverside's (2015) classification of High potential (High A).

2.2.4.3 Environmental Consequences

Temporary

There are no temporary impacts on paleontological resources. Any impacts on such resources during the construction period are considered permanent impacts and are discussed below.

Permanent

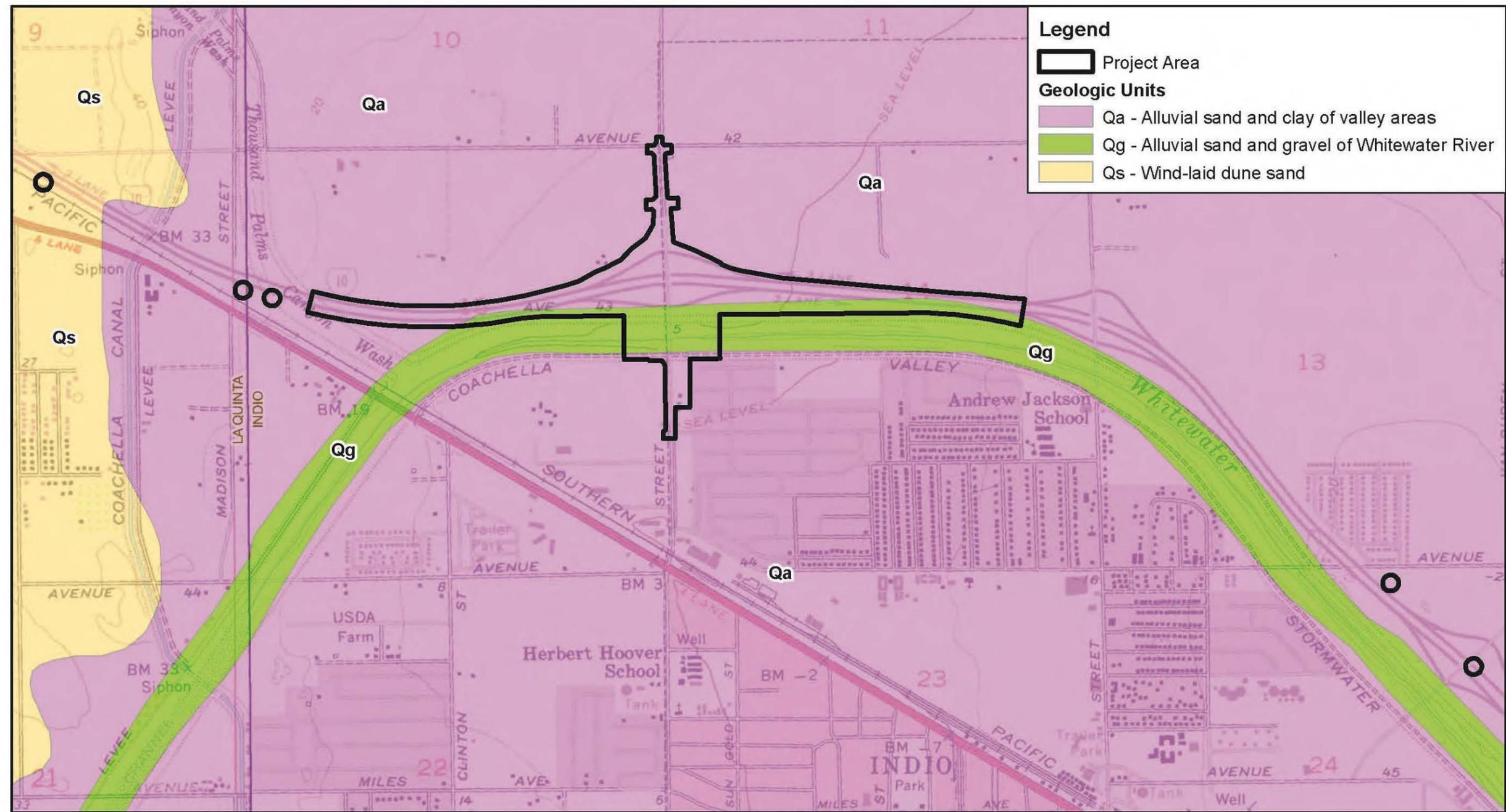
Alternative 1 (No Build)

Under the No-Build Alternative, no effects on paleontological resources would occur.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

The literature, records search, and survey indicate that the proposed project could have the potential to adversely impact several important nonrenewable highly sensitive paleontological resources. As mentioned previously, PIR/PER classified the Quaternary alluvial deposits as mapped on the ground surface as High potential, because they may include *in situ* late Pleistocene-Holocene fossils and they may overlie paleontologically significant Lake Cahuilla deposits. This ranking agrees with the County of Riverside's (2015) classification of High potential (High A).



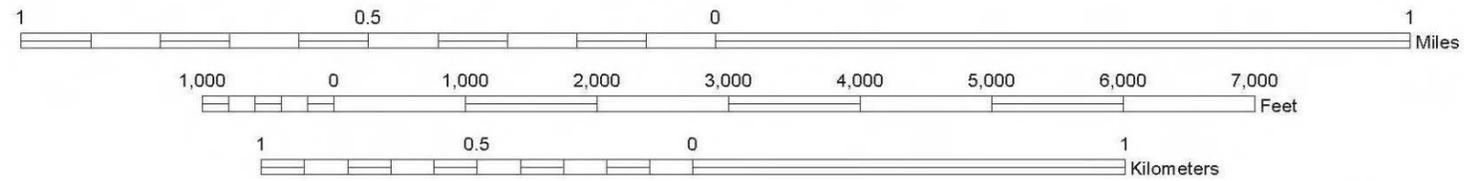
Legend

Project Area

Geologic Units

- Qa - Alluvial sand and clay of valley areas
- Qg - Alluvial sand and gravel of Whitewater River
- Qs - Wind-laid dune sand

SCALE 1:24,000



Geology: Dibblee (2008)
 Township 5 S./Range 7 E., Sections 10, 11, 14, 15, 16, and 24; SBB&M
 Indio (1956, photorevised 1972) and La Quinta (1959, photorevised 1980), CA 7.5' USGS Quadrangles

Figure 2-14
Paleontological Sensitivity Units Map
Interstate 10/Monroe Street Interchange Improvement Project

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Any construction activities in the project area below the present ground surface may uncover significant vertebrate fossil remains. Although no significant fossils were identified by the field survey, the background research and observations of local lithologies indicate the project area has high paleontological resource potential, although the significance and abundance of these resources is unknown. In order to minimize these impacts, a Paleontological Mitigation Plan (PMP), as described in measure **PALEO-1** below, would be prepared by a qualified paleontologist to address this identified area of potential sensitivity. In addition, implementation of measures **PALEO-2** and **PALEO-3** would also ensure impacts on sensitive paleontological resources are minimized and avoided.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

Measures for adequate protection or salvage of significant paleontological resources are applied to areas determined to contain geologic units that have either a High or Undetermined potential for containing significant fossils. Recommended measures are based upon the literature reviewed, museum records search results, and field survey, in accordance with Society of Vertebrate Paleontology's (SVP) 2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources and the Department's requirements. The following measures would be implemented in order to minimize or avoid impacts related to paleontological resources.

PALEO-1: Paleontological Mitigation Monitoring. Prior to the commencement of ground-disturbing activities, a qualified professional paleontologist will be retained to prepare and implement a Paleontological Resources Impact Mitigation Plan (PRIMP) for the project. Full-time monitoring is recommended for construction activities (e.g., grading, excavation, ripping, trenching, etc.), in accordance with criteria set forth by the SVP (2010) and the Department (2016). Monitoring will not be required in areas of previous disturbance or as determined by the qualified paleontologist. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the qualified paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.

Monitoring will include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the paleontologist or approved onsite monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected.

Additionally, bulk sediment samples from geologic units with high paleontological resource potential will be collected and processed to determine the presence of fine-fraction fossils. McLeod (2018) reports many of the collected fossil specimens from nearby localities are small, isolated elements recovered from screen-washing sediment samples. Thus, it is recommended that sediment samples be collected and hydroprocessed to determine the potential for small fossils.

PALEO-2: Worker's Environmental Awareness Training. Prior to the start of construction, all field personnel will be briefed regarding the types of fossils that could be found

in the project area and the procedures to follow should paleontological resources be encountered. This training will be accomplished at the pre-grade kick-off meeting or morning tailboard meeting and will be conducted by the project paleontologist or his/her representative. Specifically, the training will provide a description of the fossil resources that may be encountered in the project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the project paleontologist and onsite monitor(s). The training will be developed by the project paleontologist and may be conducted concurrent with other environmental training (e.g., biological, cultural, and natural resources awareness training, safety training, etc.).

PALEO-3: Fossil Preparation, Curation, and Reporting. Any significant fossils collected during fieldwork will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and prepared for curation. Fossil specimens will be submitted for permanent curation in a museum repository approved by the County. The cost of curation is assessed by the repository and is the responsibility of the project proponent.

At the conclusion of laboratory work and curation, a final report will be prepared to describe the results of the paleontological inventory and evaluation. The report will include an overview of the project area geology and paleontology, a description of the field and laboratory methods, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If fossils were collected and prepared for curation, a copy of the report will be submitted to the curation institution along with the fossil assemblage.

2.2.5 Hazardous Waste/Materials

2.2.5.1 Regulatory Setting

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

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

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

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

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

2.2.5.2 Affected Environment

The primary sources used in the preparation of this section are the *Aerially Deposited Lead Report for the I-10/Monroe Street Interchange Project*, dated October 2018 (California Department of Transportation 2018e), *Asbestos & Lead-Based Paint Sampling Summary Letter Report for the I-10/Monroe Street Interchange Project*, dated October 2018 (California Department of Transportation 2018f), *Phase I Initial Site Assessment for the I-10/Monroe Street Interchange Project*, dated September 2019 (ISA) (California Department of Transportation 2019c), and the *Amendment Memorandum to the Originally Approved I-10/Monroe Street Interchange Improvement Project Aerially Deposited Lead Report*, dated September 2019 (California Department of Transportation 2019m). The purpose of conducting a Phase I ISA is to identify Recognized Environmental Conditions (RECs) as defined by the ASTM International (ASTM) E 1527-13 Standard Practice for Environmental Site Assessments. The ASTM E 1527-13 Standard Practice defines the term REC as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not RECs.”

Environmental Records Review

Adjoining Properties

The governmental sources have been searched by Environmental Data Resources (EDR) for sites within the subject site and within an approximate one-mile radius of the subject site boundaries. The EDR findings were reported on August 13, 2018. The reviewed lists identified multiple regulatory sites within a one-mile radius of the project site that were contained in one or more of the regulatory databases. There were eight sites reported adjoining the project site. Refer to Table 2-40 for a description of the regulatory databases reported for adjoining sites and Table 2-41 for further evaluation of these adjoining regulatory properties.

Table 2-40. Database Summaries

Database	Description
CDL	Clandestine Drug Labs (CDL) is a listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.
CHMIRS	California Hazardous Material Incident Reporting System (CHMIRS). CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).
CIWQS	The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.
ECHO	Enforcement & Compliance History Information (ECHO) provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.
EDR Hist Auto	EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records," or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.
EMI	Emissions Inventory Data (EMI) is a database containing toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.
FINDS	Facility Index System (FINDS) contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).
HAZNET	Facility and Manifest Data (HAZNET). The data is extracted from the copies of hazardous waste manifests received each year by the California Department of Toxic Substances Control (DTSC). The annual volume of manifests is typically 700,000–1,000,000 annually, representing approximately 350,000–500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.
HIST CORTESE	The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.
HIST UST	The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.
LUST	The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data comes from the State Water Resources Control Board Leaking Underground Storage Tank Information System.
Notify 65	Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.
NPDES	A listing of wastewater permit locations.
RCRA-LQG	RCRAInfo is U.S. EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the

Table 2-40. Database Summaries

Database	Description
	Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.
RCRA-SQG	RCRAInfo is U.S. EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.
RGA LUST	The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.
SWEEPS UST	Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.
US CDL	A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.
UST	Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Source: California Department of Transportation 2019c

Table 2-41. Identified Regulatory Sites of Concern

Site Name/Address	Direction from Subject Site	Regulatory Database	EDR Site Status
I-10 Westbound at Monroe Street Indio, CA	Subject site	CHMIRS	Reported spill of 100 gallons of diesel fuel from a tractor trailer accident in 2010 reported in CHMIRS database.
Monroe Street and I-10	Subject site	CHMIRS	Reported spill in 1989 reported in CHMIRS database.
Shell Oil Company Shell Service Station Desert Shell I-10 Mobil 43411 Monroe Street Indio, CA 92201	Adjoining subject site to the west	LUST SWEEPS UST HIST CORTESE Notify 65 UST	Reported LUST leaked gasoline to aquifer used for drinking water supply. Case closed January 30, 1998. In February 2003, a grasp survey indicated contaminated soil and groundwater. Case closed December 29, 2009. Reported LUST leaked gasoline to aquifer used for

Table 2-41. Identified Regulatory Sites of Concern

Site Name/Address	Direction from Subject Site	Regulatory Database	EDR Site Status
		HAZNET RGA LUST FINDS EDR Hist Auto RCRA-SQG ECHO HIST UST EMI	drinking water supply and soil. Case closed July 29, 2016. Four USTs used for M.V. fuel reported in the UST, HIST UST, and SWEEPS UST database. Reported in the HIST CORTESE and Notify 65 database. HAZNET waste categories include empty containers 30 gallons or more; aqueous solution with total organic residues less than 10 percent; waste oil and mixed oil; and tank bottom waste. Disposal methods include recycler; treatment tank; and storage, bulking, and/or transfer off site. Reported in the RGA LUST database from 2005 to 2012. Reported in the FINDS and ECHO database. Reported as historical gasoline service station from 1987 to 2010. Reported small quantity generator with no violations found. Emissions reported in EMI database from 2006 to 2007.
Chevron Station South of 43411 Monroe Street 43421 Monroe Street Indio, CA 92201	Adjoining subject site to the west	CHMIRS RCRA-SQG FINDS ECHO LUST HIST CORTESE SWEEPS UST HIST UST RGA LUST Notify 65	Reported spill of 100 gallons of petroleum from a ruptured discharge valve on the fuel tank in 1996 reported in CHMIRS database. Reported small quantity generator with no violations found. Reported in the FINDS and ECHO database. Reported LUST leaked gasoline to aquifer used for drinking water supply. Case closed October 23, 1995. Reported in the HIST CORTESE and Notify 65 database. Four tanks reported in SWEEPS UST and HIST UST database. Reported in the RGA LUST database from 1994 to 2012.
Anayas Auto Repair Anayas Transmission & Auto Repair Beto's Auto Repair 43441 Monroe Street Indio, CA 92201 (Also reported as 43341 Monroe Street-anticipated EDR error)	Adjoining subject site to the west	HAZNET RCRA-SQG FINDS ECHO	HAZNET waste categories include unspecified solvent mixture; hydrocarbon solvents; unspecified organic liquid mixture; and waste oil and mixed oil. Disposal methods include storage, bulking, and/or transfer off site; hydrocarbon solvents; and other recovery of reclamation for reuse including acid regeneration. Reported small quantity generator with no violations found. Listed in FINDS and ECHO databases.

Table 2-41. Identified Regulatory Sites of Concern

Site Name/Address	Direction from Subject Site	Regulatory Database	EDR Site Status
UNOCAL Station Monroe Street UNOCAL Monroe Street 76 Conoco Phillips 76 Products Facility Tosco Corporation Station 43401 Monroe Street Indio, CA 92201	Adjoining subject site to the west	RCRA-LQG HIST UST SWEEPS UST RGA LUST EDR Hist Auto LUST HIST CORTESE UST FINDS HAZNET	Reported large quantity generator with no violations found. Three USTs reported in HIST UST and UST database. Listed in RGA LUST database from 1994 to 2010. Listed as historical gasoline service station from 1979 to 2014. Reported LUST leaked gasoline to soil. Case closed July 5, 2002. Listed in HIST CORTESE and FINDS database. HAZNET waste categories include aqueous solution with total organic residues less than 10 percent; organic solids; waste oil and mixed oil; tank bottom waste; unspecified aqueous solution; unspecified organic liquid mixture; and empty containers 30 gallons or more. Disposal methods include treatment tank; recycler; and transfer station.
United #1740 CRLLC 76 #1740 United Pacific #1740 Circle K Stores Inc. #1740 43502 Monroe Street Indio, CA 92201	Adjoining subject site to the east	FINDS HAZNET UST SWEEPS UST EDR Hist Auto	Reported in FINDS database. HAZNET waste categories include unspecified oil-containing waste; organic solids; and aqueous solution with total organic residues less than 10 percent. Disposal methods include storage, bulking, and/or transfer off site; transfer station; recycler; and treatment tank. Three USTs reported in SWEEPS UST database. Listed as historical convenience store from 1991 to 2014.
Palms at Indio Circle K Gas Station 82061 Avenue 42 Indio, CA 92203	Adjoining subject site to east	UST NPDES CIWQS	Three tanks listed in UST database. NPDES status date April 7, 2017. Listed in CIWQS database as storm water construction site in 2017.

Source: California Department of Transportation 2019c

Adjacent Properties

Based on the regulatory database search, multiple offsite regulatory properties within a one-mile radius of the subject site were identified. However, no reported adjacent regulatory properties have been identified that also present a potential concern to groundwater underlying the subject site. Reported adjacent regulatory properties are considered to have a low potential of affecting the subject site for one or more of the following reasons: distance from the subject site, direction of anticipated groundwater flow, site status, and/or no contamination has been reported.

Unmapped Properties

No listed Unmapped Properties appear to be located within the boundaries of the subject site. Also, other than at the Shell Service Station, potentially contaminated groundwater underlying the subject site as a result of the reported Unmapped Properties is considered to be unlikely due to the distance from the subject site, gradient, and/or the status of the identified sites.

File Record Reviews

The purpose of the regulatory file review is to obtain sufficient information to assist the environmental professional in determining if a REC, historical environmental condition (HREC), controlled recognized environmental conditions (CREC), or a de minimis¹ condition exists at the property in connection with the listing. Available online files for the properties of concern listed below were reviewed. Files maintained by GeoTracker and the Governor's Office of Emergency Services were reviewed. Based on the online files, no public records are available for review for the following properties: 43441 Monroe Street (Anayas Auto Repair), 43502 Monroe Street (United Pacific Gas Station), and 82061 Avenue 42 (Circle K Gas Station).

- I-10 Westbound at Monroe Street: The I-10 westbound at Monroe Street intersection (subject site) was listed in EDR as a CHMIRS spill site. Approximately 100 gallons of diesel fuel from a tractor trailer accident in 2010 was reported. Based on the Governor's Office Emergency Services Hazardous Materials Spill Report, the spill was contained and cleaned up by a contractor.
- Monroe Street and I-10: The Monroe Street and I-10 intersection (subject site) was listed in EDR as a CHMIRS spill site in 1989. The type of fuel, amount, and containment status were not reported.
- Shell Service Station (43411 Monroe Street): This property (adjoining the subject site to the west) is currently a Mobil Gas Station and was historically a Shell Service Station. In 1996, four 10,000-gallon underground storage tanks (USTs) and associated piping and dispensers were removed and replaced with three new USTs. Impacted soil was reported under the USTs and dispenser island. Four soil borings were drilled to approximately 30 feet bgs, and all soil samples were non-detect. The case was closed in 1998 after it was determined that impacts were adequately defined and remaining mass was limited in nature and extent.

In 2003, a petroleum release was identified during a subsurface investigation conducted by Shell Oil. From 2003 to 2006, multiple site investigations determined petroleum hydrocarbons were detected in groundwater and soil. In 2006 a soil vapor extraction (SVE) system began operating at the site. Additional site investigations occurred at the site from 2006 to 2008. In 2008, an additional release was discovered during SVE rebound testing. Vapor samples showed increased total petroleum hydrocarbons gasoline (TPH-g) concentrations as well as ethanol detections. Based on analytical data provided in 2008, residual methyl tertiary-butyl ether (MTBE) was present in soil at a depth of approximately 20 feet bgs. Additionally, groundwater analytical data from November 2003 to 2008 indicate that MTBE was detected once (April 19, 2006, at 2 micrograms per liter [$\mu\text{g/L}$]), but at a

¹ *De minimis* – A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not RECs or CRECs.

concentration below the maximum contaminant level of 13 µg/L. Shell was issued a no further action letter from the County of Riverside Department of Environmental Health (DEH) on December 29, 2009. However, another case was opened for the new owner/operator as a result of the 2008 release.

An additional release was discovered by Shell during an SVE rebound test in late 2008, which was separate from the release that occurred in 2003 and was closed on December 29, 2009. Annual groundwater monitoring was initiated in 2010; however, only two wells were sampled as the other three wells were dry. Groundwater from both wells was non-detect for all constituents tested. The water table continued to decline, and, from 2011 through 2015, all of the wells were dry. In June 2013, nine soil borings were drilled to a maximum depth of 51 feet bgs. Groundwater was not encountered to 51 feet bgs. All soil samples were non-detect for TPH-g, total petroleum hydrocarbons diesel (TPH-d), and volatile organic compounds (VOCs). In 2014, SVE remediation occurred and approximately seven pounds of hydrocarbons were removed from the soil. Vapor samples were all at or below the laboratory detection limits. The DEH issued a closure letter on July 29, 2016. Based on files reviewed, past releases have affected groundwater underlying the subject site.

- Chevron Station (43421 Monroe Street): This property (adjoining the subject site to the west) is currently Dollar General and was historically a Chevron Station. The site operated as a Chevron Station from approximately 1967 until decommissioning and abandonment of the station facilities in 1987. From 1992 to 1994 an SVE system began operating at the site and removed approximately 17,230 pounds of petroleum hydrocarbons from the subsurface. From 1990 to 1994 a groundwater treatment system (pump and treat containment system) extracted and discharged approximately 21,572,230 gallons of groundwater. The RWQCB determined groundwater beneath the site to be of beneficial use for agricultural, municipal, and industrial purposes. Groundwater cleanup levels for the site were set at 5 µg/L for benzene, and soil cleanup levels for the site were set at 10 milligrams per kilogram (mg/kg) for TPH. The RWQCB issued a closure letter, dated October 11, 1995, stating no further action related to the UST release was required.
- UNOCAL Station (43401 Monroe Street): This property (adjoining the subject site to the west) is currently occupied by a 76 Station and was historically occupied by a UNOCAL Station. In May 1999, soil samples were taken during a dispenser upgrade. Soil sample results ranged from non-detect to 5,200 parts per million (ppm) TPH-g, non-detect to 2010 ppm toluene, non-detect to 61 ppm ethylbenzene, non-detect to 290 ppm total xylenes, and non-detect to 67 ppm MTBE.

In October 1999, three soil borings were conducted near the dispenser islands. TPH-g and BTEX were not detected in any of the soil samples. MTBE was detected in boring 1 and boring 2. All other samples were non-detect. TBA was detected in boring 1. All other samples were non-detect for TBA.

The site was closed based on the fact that petroleum hydrocarbon impacts below the eastern dispenser island area are localized and appear to be limited primarily to coarse-grained sandy soils in the upper 15 feet. With the exception of a low MTBE detection (0.12 ppm) at approximately 21.5 feet bgs in boring 2, MTBE was not detected at or above laboratory reporting limits in analyzed samples below 15 feet bgs. No evidence of groundwater, perched or otherwise, was encountered. The DEH issued a closure letter dated July 5, 2002.

Historical Uses Summary

The subject site appears to have consisted of vacant land uses since prior to 1904. The CVSC traverses the site, flowing in an east/southeast direction. By 1941, Monroe Street and Avenue 42 were constructed, as well as a few rural residential uses (including 42501 Monroe Street) on the central portion of the subject site. Agricultural uses and multiple unimproved roads are noted throughout the subject site by 1953. By 1972, I-10 was constructed as a three-lane highway trending through the subject site in an east/west direction. Monroe Street was widened by 1973, and multiple commercial uses were developed on the western portion of the subject site. By 1984, Oleander Avenue was constructed through the southern portion of the subject site. By 1996, all onsite rural residential uses were demolished.

Based on the evaluation of the documented land use, the subject site appears to have historically consisted of agricultural uses that date back to at least 1953. Therefore, there is the potential for pesticides use. The historical and current use of agricultural pesticides may have resulted in pesticide residues of certain persistence in soil concentrations that are considered to be hazardous based on established federal regulatory levels. The presence of moderately elevated pesticide residuals in soil presents a potential health concern.

According to the SoCal Gas Riverside Transmission Pipeline Interactive Map, a natural gas high pressure distribution pipeline is located along Monroe Street within the boundaries of the subject site. According to the National Pipeline Mapping System, no petroleum pipelines are located within the boundaries of the subject site.

Site Reconnaissance

A visual observation of readily accessible areas of the subject site and immediately adjoining properties was conducted on September 5, 2018. The subject site consists of transportation (I-10, Monroe Street, and 43rd Avenue) and vacant land uses. Areas of the subject site associated with proposed partial right of way acquisition consist of vacant land uses and the CVSC. No habitable structures are within the subject site. Based on review of available documentation, past uses of the subject site appear to consist of transportation, agricultural, rural residential, and vacant land uses. No evidence to suggest the presence of other past uses was noted during the September 5, 2018, site visit.

Typical roadside utilities were noted during the September 5, 2018, site inspection. Evidence of underground utilities (i.e., telephone cable, natural gas pipelines, and other water related utilities) and aboveground electrical utilities (i.e., streetlights and electrical boxes) was noted throughout the limits of the subject site. No other staining or leakage was noted with respect to onsite utilities. Three pad-mounted transformers were observed along Monroe Street during the site visit. No staining or leaking was noted in association with the onsite transformers.

Lead-Based Paints

Lead-Based Paints (LBPs) were commonly used in traffic striping materials before the discontinued use of lead chromate pigment in traffic striping/marketing materials and hot-melt Thermoplastic stripe materials (discontinued in 1996 and 2004, respectively). Traffic striping

was observed along I-10 and Monroe Street during the September 5, 2018, site visit. Thus, LBPs may be present within traffic striping. Traffic striping was noted to be in good condition.

Two onsite bridge structures (I-10 overcrossing and Channel Bridge) were built by 1972 and appear to be in good condition. Based on the *Asbestos & Lead-Based Paint Sampling Summary Letter*, dated September 17, 2018, an LBP survey was conducted on September 5, 2018, and indicated the concrete bridges had grey and light grey paints, as well as various colors of graffiti paint. The lead concentrations of these paints were all less than 1.0 milligrams per square centimeter (mg/cm^2), which is the definition of a LBP. Yellow and white road striping paint and curb paints also had lead concentrations less than $1.0 \text{ mg}/\text{cm}^2$. Thus, the potential for LBPs to be found on site as a result of bridge structure materials is unlikely.

Aerially Deposited Lead

Aerially Deposited Lead (ADL) refers to lead deposited on highway shoulders from past leaded fuel vehicle emissions. According to the Department's ADL webpage, although lead was banned as a fuel additive in California beginning in 1992, ADL may still be present in soils adjacent to highways in use prior to that time. On September 5, 2018, sampling of soils within the project area for ADL from vehicle emissions was conducted. Soil borings were completed at 20 different locations to depths of 2 feet bgs. The results were evaluated in accordance with criteria presented in a 2016 agreement between the DTSC and the Department regarding ADL contaminated soil in state highway right-of-way (ADL Agreement). Based on this ADL Agreement, ADL-contaminated soil is defined as excavated soil with total lead concentrations greater than 80 mg/kg and/or 5 mg/L extractable lead, as determined by the CA-WET method, based on 95 percent upper confidence limit concentrations.

Based on the *Aerially Deposited Lead Report*, dated October 4, 2018, the maximum and 95 percent UCL concentrations of total lead (90.6 and 10.02 mg/kg , respectively) are less than the DTSC health-risk based screening level of 320 mg/kg . All soils, with the exception of those in the vicinity of boring location B19, are acceptable for unrestricted reuse on site. Location B19 is situated within Assessor's Parcel Number (APN) 610-093-037, which is proposed for partial right of way acquisition, to the east of the southern portion of the subject site. Based on the Soluble Threshold Limit Concentration (STLC) being greater than 5 mg/L and the Deionized Water Waste Extraction Test (DI-WET) being less than 1.5 mg/L , the soil in the vicinity of B19 can be reused on site if placed under pavement structure or under at least one foot of clean soil. Thus, lead contamination due to ADL exists within soils along I-10 in the vicinity of B19.

Additional soil testing was conducted within the new auxiliary lanes for ADL. Based on the results of the assessment, the onsite soils are considered to be non-hazardous and are classified as "Non-Designated" per DTSC. No special handling, management, or disposal requirements are necessary for excavated or disturbed soils along the project alignment. The site soils can be re-used on site, and the excess soil may be released to the contractor for disposal in accordance with local, state, and federal guidelines, laws, and regulations.

Asbestos-Containing Material

Asbestos is a strong, incombustible, and corrosion resistant material, which was used in many commercial products since prior to the 1940s and up until the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos containing materials (ACMs) are building materials containing more than one percent asbestos (some state and regional regulators impose a 0.1 percent threshold). Based on a review of available historical documentation, the two onsite bridge structures (I-10 overcrossing and Channel Bridge) were constructed by 1972.

Based on the *Asbestos & Lead-Based Paint Sampling Summary Letter*, dated September 17, 2018, an ACM survey was conducted on September 5, 2018. ACMs were detected in the gaskets to the metal bridge supports on both bridges. The material contains 55–60 percent chrysotile asbestos. All other samples were below the definition of an asbestos-containing material at less than one percent.

Off-Site Observations

Visual observations of the publicly accessible portions of adjoining properties were conducted on September 5, 2018. Based on the site inspection, Anayas Auto Repair, located at 43441 Monroe Street, appears to resemble a historical gas station. No other evidence to suggest other past uses was observed. Typical utilities (e.g., pole-mounted electrical transformers, gas and water infrastructure) were noted. No staining or leaking was observed with respect to offsite utilities during the site visit.

Fuel islands and propane above ground storage tanks were observed at adjoining gasoline service stations near the subject site. Evidence of groundwater remediation systems was observed at adjoining properties, which suggests that a past release of petroleum-based material may have occurred. No other unusual or suspicious materials handling or storage practices that would be considered as hazardous materials were observed at offsite properties. No evidence of hazardous materials was observed. However, stockpiled miscellaneous debris piles and equipment were noted at an adjoining property along the southern boundary, which appear to be construction-related.

Air Hazards

The area west of Monroe Street and north and south of I-10 is within the Riverside County Airport Land Use Capability Plan (CLUP) for the Bermuda Dunes Airport. The airport is a privately owned, public-use general aviation airport located along the central, western edge of Indio (City of Indio 2018a). The CLUP establishes limits on the maximum structure height, use restrictions, and mitigation and other treatments for new development built within the noise contours identified in the CLUP. The area west of Monroe is within an Airport Compatibility Zone E. Within these zones, airspace review is required for objects greater than 100 feet tall (County of Riverside 2004).

Fire Hazards

According to Cal Fire, the project area is within a Local Responsibility Area – Unincorporated for fire hazards. According to the County of Riverside General Plan, the project area is not

within a Very High Fire Hazard Severity Zone. However, there are Very High Fire Hazard Severity Zones approximately 0.5 mile north and 0.5 mile east of the project area.

2.2.5.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Under the No-Build Alternative, no construction is proposed; therefore, no adverse effects under NEPA or significant impacts under CEQA would occur with respect to hazardous waste and materials.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

During construction of the proposed project, there would be a possibility of accidental release of hazardous substances. However, the level of risk associated with the accidental release of hazardous substances is not considered to be adverse due to the small volume and low concentration of hazardous materials utilized during construction.

Exposure to Asbestos-Containing Materials, Lead-Based Paint, and Aerially Deposited Lead Traffic striping along I-10, Monroe Street, and 43rd Avenue was observed during the September 5, 2018, site visit. Based on the *Asbestos & Lead-Based Paint Sampling Summary Letter*, dated September 17, 2018, no LBPs are present along Monroe Street. The traffic striping materials along the I-10 mainline were not sampled. Excavation/resurfacing activities associated with the proposed project may disturb existing traffic striping materials along I-10. As traffic striping disturbance is proposed, handling and disposal of LBP and traffic striping materials will be performed in accordance with the Department's Standard Special Provisions (SSPs) and will be incorporated into a Worker Safety Plan for the proposed project (see standard project measures in Section 2.2.5.4). Implementation of these standard project features will help avoid exposure to these substances, thereby minimizing potential impacts. In addition, yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and therefore may require disposal at a Class I disposal site.

ACMs were detected in the gaskets to the metal bridge supports on both bridges during the September 5, 2018, site visit. No visible evidence of fraying or release was observed with respect to the bridge structures for ACMs. Thus, the onsite bridge structures have not resulted in a REC as a result of ACMs. However, as the project proposes modification to the existing bridge structures, which contain ACMs, the proposed project would include standard avoidance and minimization measure **HAZ-1** to ensure proper abatement/disposal of ACM prior to and during construction activities.

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project

alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

Based on the *Aerially Deposited Lead Report*, dated October 4, 2018, the maximum and 95 percent UCL concentrations of total lead (90.6 and 10.02 mg/kg, respectively) are less than the DTSC health-risk based screening level of 320 mg/kg. All soils, with the exception of those in the vicinity of boring location B19, are acceptable for unrestricted reuse on site. Boring location B19 is situated within APN 610-093-037, which is proposed for partial right of way acquisition and historically involved agricultural uses. Lead contamination due to ADL is not anticipated within soils on the subject site; therefore, ADL has not resulted in a REC on the subject site. If the soil in the vicinity of B19 is to be excavated and removed from the site, it will need to be disposed of at a landfill as a California hazardous waste (refer to measure **HAZ-2**).

Based on the *Amendment Memorandum to the Originally Approved I-10/Monroe Street Interchange Improvement Project Aerially Deposited Lead Report* dated September 2019, the onsite soils within the new auxiliary land area are considered to be non-hazardous and are classified as “Non-Designated” per DTSC. No special handling, management, or disposal requirements are necessary for excavated or disturbed soils along the project alignment. The site soils can be re-used on site, and the excess soil may be released to the contractor for disposal in accordance with local, state, and federal guidelines, laws, and regulations.

Although the onsite transformers have not resulted in a REC on the subject site, any transformer to be relocated/removed during site construction/demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding Polychlorinated Biphenyls (PCBs) (refer to avoidance and minimization measure **HAZ-3**).

Agricultural Uses

As the subject site was historically used for agriculture (particularly during the 1950s and 1960s), it is likely that pesticides/herbicides were historically used. Although areas of the subject site have been highly disturbed, areas proposed for grading remain vacant and historically contained agricultural uses. Further, levels of elevated lead contamination were noted in the *Aerially Deposited Lead Report*, dated October 4, 2018, at APN 610-093-037. Residual herbicide/pesticide contamination in onsite surface soils is likely to be present on the subject site (i.e., APNs 610-330-027, 610-093-037, 610-020-034, and 610-020-036). Therefore, residual herbicide/pesticide contamination in onsite surface soils is likely and a REC to the proposed project during the construction period. A Phase II/Site Characterization Specialist should conduct sampling during the PS&E phase of the project to determine whether residual herbicide/pesticide contamination, including residual lead contamination, exists within areas of proposed right of way acquisition for APNs 610-330-027, 610-093-037, 610-020-034, and 610-020-036 (due to historical agricultural production activities). Results of the sampling would indicate soil management practices that may need to be employed, including the reuse of soils on site, disposal of soils off site, and worker safety precautions that may be necessary during construction.

Current and Past Adjoining Properties

Current and adjoining properties consist of transportation, agricultural, commercial, and vacant land uses. Based on the regulatory database search, multiple offsite regulatory properties within a one-mile radius of the subject site were identified. The reported adjacent regulatory properties are considered to have a low potential of affecting the subject site, due to the distance, anticipated groundwater flow direction, and/or status of the identified sites. Thus, current and past adjacent properties have not resulted in a REC, and no impacts are anticipated from these adjoining properties.

Right of Way Acquisitions

Refer to Table 2-42 for the determination of whether a REC exists within proposed right of way acquisition areas.

Table 2-42. Right of Way Acquisition Summary

APN/Address	Finding and Opinion	REC Present?
610-330-027 No Address Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.27 acre Alternative 4: Partial Acquisition of 0.34 acre	Currently this APN is composed of vacant land and has not reported a release of hazardous materials to the environment. As such, existing land uses associated with this property have not resulted in a REC at the time of preparation of the Phase I ISA. However, it appears that the rural residence was constructed by 1941 and agricultural uses began by 1949. Therefore, it is likely that pesticides/herbicides were historically used, residual contamination in onsite surface soils is likely, and a REC has resulted in this regard.	REC
610-080-009 No Address Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.28 acre Alternative 4: Partial Acquisition of 0.37 acre	Currently this APN is owned by CVWD, and is composed of the CVSC. Historically, this property appears to have consisted of the CVSC. This property has not reported the handling/storage or transport of hazardous materials, nor has there been a reported release of hazardous materials to the environment. Further, based on the EDR database report, no offsite properties appear to have impacted groundwater or soil gas at this property. Thus, this property associated with right of way acquisition has not resulted in a REC at the time of preparation of the Phase I ISA.	No REC
610-093-037 No Address Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.14 acre Alternative 4: Partial Acquisition of 1.20 acres	Currently this APN is composed of vacant land and has not reported a release of hazardous materials to the environment. As such, existing land uses associated with this property have not resulted in a REC at the time of preparation of the Phase I ISA. Historically, it appears that agricultural uses began by 1949 and it is likely that pesticides/herbicides were historically used. Based on lead sampling in soil conducted as part of the ADL Report, dated October 4, 2018, one sample with elevated lead concentrations was found at this location. Therefore, residual herbicide/pesticide contamination in onsite surface soils is likely and a REC has resulted in this regard.	REC

Table 2-42. Right of Way Acquisition Summary

APN/Address	Finding and Opinion	REC Present?
610-020-015 No Address Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.07 acre Alternative 4: No Acquisition	Currently this APN is owned by the CVWD, and is composed of the CVSC. Historically, this property appears to have consisted of the CVSC. This property has not reported the handling/storage or transport of hazardous materials, nor has there been a reported release of hazardous materials to the environment. Further, based on the EDR database report, no offsite properties appear to have impacted groundwater or soil gas at this property. Thus, this property associated with right of way acquisition has not resulted in a REC at the time of preparation of the Phase I ISA.	No REC
610-020-034 42501 Monroe Street Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.17 acre Alternative 4: Partial Acquisition of 0.28 acre	Currently this APN is composed of vacant land and has not reported a release of hazardous materials to the environment. As such, existing land uses associated with this property have not resulted in a REC at the time of preparation of the Phase I ISA. However, it appears that the rural residence was constructed by 1941 and agricultural uses began by 1949. Therefore, it is likely that pesticides/herbicides were historically used, residual contamination in onsite surface soils is likely, and a REC has resulted in this regard.	REC
610-020-036 No Address Build Alternative 2 (Locally Preferred Alternative): Partial Acquisition of 0.55 acre Alternative 4: Partial Acquisition of 0.52 acre	Currently this APN is composed of vacant land and has not reported a release of hazardous materials to the environment. As such, existing land uses associated with this property have not resulted in a REC at the time of preparation of the Phase I ISA. However, it appears that the rural residence was constructed by 1941 and agricultural uses began by 1949. Therefore, it is likely that pesticides/herbicides were historically used, residual contamination in onsite surface soils is likely, and a REC has resulted in this regard.	REC
Source: California Department of Transportation 2019c		

Permanent**Alternative 1 (No Build)**

Under the No-Build Alternative, no improvements would be made to the existing interchange; therefore, no adverse effects under NEPA or significant impacts under CEQA would occur with respect to hazardous waste and materials.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

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 Build Alternatives would not result in adverse effects. Permanent impacts (direct or indirect) related to hazardous materials are not anticipated as a result of the Build Alternatives because operation of the proposed project would not generate hazardous waste.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

To ensure potential effects involving hazardous materials/waste during construction are avoided or reduced, the following avoidance, minimization, and/or mitigation measures will be implemented.

- HAZ-1** All onsite ACM will be abated by a licensed asbestos abatement contractor prior to demolition/renovation activities. Any suspect materials found during future field activities that were not previously sampled will be sampled prior to removal and abated as necessary.
- HAZ-2** If the soil in the vicinity of soil sample location B19 (southwest quadrant of the intersection of Monroe Street and 43rd Avenue) is to be excavated and removed from the site, it will need to be disposed of at a landfill as a California hazardous waste.
- HAZ-3** Any transformer to be relocated/removed during site construction/demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs.
- HAZ-4** Comply with the following Department Standard Special Provisions regarding proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility:
- Section 14-11.12, Specifications for removing yellow traffic stripe and pavement markings with hazardous waste residue.
 - Section 36-4, Specifications related to residue containing lead from paint and thermoplastic.
 - Section 84-9.03C, Specifications for removing traffic stripes and pavement marking containing lead.
- HAZ-5** Comply with the specifications for handling, removing, and disposing of earth material containing lead.
- HAZ-6** Comply with the specifications for performing work involving residue from grinding or cold planing that contains lead from paint and thermoplastic.
- HAZ-7** Follow the Department's Standard Specifications, Section 14-11.02, Discovery of Unanticipated Asbestos and Hazardous Substances, in the event unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous waste/materials.
- HAZ-8** During construction, solid waste would be disposed of as specified in the Department's Standard Specifications, Section 14-10.01, General.

2.2.6 Air Quality

2.2.6.1 Regulatory Setting

Federal

Federal Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), Lead (pb), and sulfur dioxide (SO₂). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

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

Conformity

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

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

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and in some areas (although not in California), sulfur dioxide (SO₂). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity

analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

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

2.2.6.2 Affected Environment

The primary source used in the preparation of this section is the *Air Quality Report for the I-10/Monroe Street Interchange Improvement Project*, dated December 2019 (California Department of Transportation 2019k).

Environmental Setting

The project site is at the intersection of I-10 and Monroe Street centrally located in the City of Indio in eastern Riverside County. The project site lies within the northeastern portion of the Salton Sea Air Basin (SSAB or Basin), which includes the Coachella Valley portion of Riverside County and all of Imperial County. Air quality regulation in Salton Sea Air Basin is administered by the South Coast Air Quality Management District (SCAQMD).

Climate

The City of Indio lies at an elevation of about minus three feet relative to mean sea level (msl) in the north-northwest/south-southeast trending Coachella Valley between the Little San Bernardino Mountains to the north, which rise to an elevation of about 1,700 feet, and the Santa Rosa Mountains to the south, which rise to an elevation of about 6,300 feet. The Indio area is part of the Salton Trough, which includes both Coachella Valley and Imperial Valley. Elevations on the Valley floor range from 1,600 foot above sea level at the north end of the Valley to 250 foot below sea level around Mecca. The northern shore of the Salton Sea is about 16 miles south-southeast of the project site at an elevation of about -230 feet msl.

Indio has a desert climate with large daily and seasonal fluctuations in temperature and relatively high annual average temperatures. Average minimum daily temperatures range from about 39 degrees Fahrenheit (°F) in January to approximately 78°F in July (Western Regional Climate Center [WRCC] 2018). Average maximum daily temperatures range from approximately 71°F in January to approximately 107°F in July. Precipitation ranges from approximately 0.01 inch per month in June to approximately 0.6 inch per month in January, totaling approximately 3.3 inches per year (WRCC 2018). The project area averages approximately 1,000 heating degree days and approximately 4,000 cooling degree days per year, indicative of a relatively long, hot summer and short winter.

The Indio climatological station, maintained by SCAQMD, is located near the project site and is representative of meteorological conditions near the project. Average daily wind speeds are approximately 3.5 miles per hour (mph), and winds are calm only about two percent of the time. Winds most often are out of the northwest and north-northwest (i.e., they blow toward the southeast and south-southeast), with south and south-southeast being the second-most common wind direction, together accounting for more than 80 percent of all winds. This pattern suggests that the predominant wind directions are aligned with the regional topography.

Attainment Status

Regional air quality is monitored by SCAQMD and ARB. These two agencies operate a network of air quality monitoring stations in the Air Basin. The U.S. EPA determines regional air quality status based on data collected from these permanent monitoring stations. Existing air quality conditions in the project area can be characterized in terms of the ambient air quality standards that the State of California and the federal government have established for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). Table 2-43 provides the state and federal ambient air quality standards.

Table 2-43. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Ozone (O ₃) ³	1 hour	0.09 ppm ⁴	---	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO _x) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Nonattainment (Extreme)	---
	8 hours	0.070 ppm	0.070 ppm (4 th highest in 3 years)			Nonattainment	Nonattainment (Extreme)
Carbon Monoxide (CO) ⁵	1 hour	20 ppm	35 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Attainment	Attainment (Maintenance)
	8 hours	9.0 ppm	9 ppm			Attainment	Attainment (Maintenance)
	8 hours (Lake Tahoe)	6 ppm	---			N/A	---
Respirable Particulate Matter (PM ₁₀) ⁶	24 hours	50 µg/m ³ ⁷	150 µg/m ³ (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing	Nonattainment	Attainment (Maintenance)
	Annual	20 µg/m ³	--- ⁶			Nonattainment	---

Table 2-43. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
				toxic & other aerosol and solid compounds are part of PM ₁₀ .	activities; unpaved road dust and re-entrained paved road dust; natural sources.		
Fine Particulate Matter (PM _{2.5}) ⁸	24 hours	---	35 µg/m ³ ⁶	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM _{2.5} size range. Many toxic & other aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO _x , sulfur oxides (SO _x), ammonia, and ROG.	---	Nonattainment (Serious)
	Annual	12 µg/m ³	12.0 µg/m ³			Nonattainment	Nonattainment (Serious)
Nitrogen Dioxide (NO ₂)	1 hour	0.18 ppm	0.100 ppm ⁹	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NO _x ” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Attainment	Attainment (Unclassifiable)
	Annual	0.030 ppm	0.053 ppm			Attainment	Attainment (Maintenance)
Sulfur Dioxide (SO ₂) ¹⁰	1 hour	0.25 ppm	0.075 ppm (99 th percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like	N/A	Attainment (Unclassifiable)
	3 hours	---	0.5 ppm ¹¹			---	N/A
	24 hours	0.04 ppm	0.14 ppm (for certain areas)			N/A	Attainment (Unclassifiable)

Table 2-43. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
	Annual	---	0.030 ppm (for certain areas)		active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	---	Attainment (Unclassifiable)
Lead (Pb) ¹²	Monthly	1.5 µg/m ³	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	N/A	---
	Calendar Quarter	---	1.5 µg/m ³ (for certain areas)			---	N/A
	Rolling 3-month average	---	0.15 µg/m ³ ¹³			---	Nonattainment (Partial)
Sulfates	24 hours	25 µg/m ³	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Attainment	N/A
Hydrogen Sulfide (H ₂ S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Attainment	N/A

Table 2-43. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Visibility Reducing Particles (VRP) ¹⁴	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	Unclassified	N/A
Vinyl Chloride ¹²	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Attainment	N/A

Adapted from the California ARB Air Quality Standards chart (<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>).

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

¹ California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations

² Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

³ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see [Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas](#)).

⁴ ppm = parts per million

⁵ Transportation conformity requirements for CO no longer apply after June 1, 2018 for the following California Carbon Monoxide Maintenance Areas (see [U.S. EPA CO Maintenance Letter](#)).

⁶ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

Table 2-43. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
<p>⁷ $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter</p> <p>⁸ The 65 $\mu\text{g}/\text{m}^3$ PM_{2.5} (24-hr) NAAQS was not revoked when the 35 $\mu\text{g}/\text{m}^3$ NAAQS was promulgated in 2006. The 15 $\mu\text{g}/\text{m}^3$ annual PM_{2.5} standard was not revoked when the 12 $\mu\text{g}/\text{m}^3$ standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 PM_{2.5} NAAQS, conformity requirements still apply until the NAAQS are fully revoked.</p> <p>⁹ Final 1-hour NO₂ NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.</p> <p>¹⁰ On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.</p> <p>¹¹ Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.</p> <p>¹² The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM₁₀ and, in larger proportion, PM_{2.5}. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and PM_{2.5} as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.</p> <p>¹³ Lead NAAQS are not considered in Transportation Conformity analysis.</p> <p>¹⁴ In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.</p>							

Table 2-44 lists the state and federal attainment status for all regulated pollutants. Coachella Valley is in attainment status under the FCAA for CO, NO₂, SO₂, PM_{2.5}, and Pb. It is in nonattainment status under the FCAA for O₃ and PM₁₀. Coachella Valley is in attainment status under the California Clean Air Act (CCAA) for CO, NO₂, and SO₂. It is in nonattainment status under the CCAA for O₃ and PM₁₀.

Table 2-44. Salton Sea Air Basin Attainment Status

Pollutant	Attainment Status ^a	
	National Standards	California Standards
Ozone (1-hour)	No Federal Standard	Nonattainment
Ozone (8-hour)	Nonattainment – Severe 15	Nonattainment
PM ₁₀	Nonattainment	Nonattainment
PM _{2.5}	Attainment	Attainment
Carbon Monoxide	Unclassifiable/Attainment	Attainment
Nitrogen Dioxide	Unclassifiable/Attainment	Attainment
Sulfur Dioxide	Unclassifiable/Attainment	Attainment
Sulfates	N/A	Attainment
Lead	Unclassifiable/Attainment	Attainment
Notes: (a) U.S. EPA often only declares Nonattainment Areas – everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.		
Source: California Department of Transportation 2019k.		

Table 2-45 describes the status of the U.S. EPA-approved SIPs for the Salton Sea Air Basin that are relevant to the proposed project.

Table 2-45. Status of SIPs Relevant to the Project Area

Name/Description	Description
2016 Air Quality Management Plan	Demonstrates attainment of the federal NAAQS for O ₃ and two of the PM _{2.5} standards. The 2016 AQMP specifically addresses FCAA planning requirements for the 2008 O ₃ NAAQS.
2003 Coachella Valley PM ₁₀ State Implementation Plan	This plan includes control measures for the abatement of large particulates in Coachella Valley. These dust control measures target construction and earth movement activities, disturbed vacant lands, impaired roads and lots, paved road dust, and agriculture.
Source: California Department of Transportation 2019k	

Transportation Conformity Rule

The U.S. EPA, in conjunction with the USDOT, established the Transportation Conformity Rule on November 30, 1993. The rule implements the FCAA conformity provision, which mandates that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved FCAA implementation plan.

Transportation Conformity Regulations apply to all programs and projects requiring funding or approval from the USDOT, FHWA, FTA, or MPO. The Transportation Conformity Rule applies

to highways and mass transit, while the General Conformity Rule applies to all other actions. It should be noted that the Transportation Conformity Rule distinguishes between metropolitan and rural areas since metropolitan areas have MPOs, which are specifically charged with determining conformity under the FCAA. The MPO is responsible for transportation planning, including the development of federally required metropolitan transportation plans and transportation improvement programs (TIPs) and determining conformity of such plans and TIPs. Transportation projects in rural areas are not included in MPO plans and TIPs. However, there are two types of rural areas for the purposes of the transportation conformity program, and the conformity requirements in these two types of rural areas are different. These two types of rural areas are defined as Isolated and Donut Areas.

The Transportation Conformity Rule has been amended several times since 1993 to address updates to the NAAQS and revise conformity provisions and procedures. Enacted in August 2005, the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (SAFETEA-LU) authorizes funding of the nation's transportation infrastructure and made several changes to the conformity portion of the FCAA. SAFETEA-LU was superseded by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which was enacted on July 6, 2012. MAP-21 governs the use of federal funds for transportation investments. Additionally, the Fixing America's Surface Transportation Act (FAST Act) was enacted on December 4, 2015 and builds on the changes made by MAP-21. The FAST Act provides long-term funding certainty for surface transportation infrastructure planning and investment. It authorizes \$305 billion over fiscal years 2016 through 2020 for highways, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act also maintains a focus on safety, keeps intact the established structure of the various highway-related programs managed by FHWA, continues efforts to streamline project delivery, and provides a dedicated source of federal funding for freight projects.

Local Ambient Air Quality

The project area is in Source Receptor Area 30. The closest air monitoring station is the Indio-Jackson station at 46990 Jackson Street in Indio (Figure 2-15), which is approximately 2.4 miles south-southeast of the project site. This station monitors ambient concentrations of O₃ and PM_{2.5}. The Palm Springs Station, at 590 East Racquet Club Avenue in Palm Springs, is the next-closest station. It is approximately 19 miles northwest of the project site and monitors O₃, CO, nitrogen oxides (NO_x), PM₁₀, and PM_{2.5}. Ambient air pollutant concentrations from these monitoring stations for the most recent five years (2014–2018) are shown in Table 2-46. Ambient air pollutant concentrations recorded at these two regional monitoring stations are deemed to be reasonably representative of air quality conditions at the project site.

Table 2-46. Ambient Air Quality Concentrations, 2014–2018

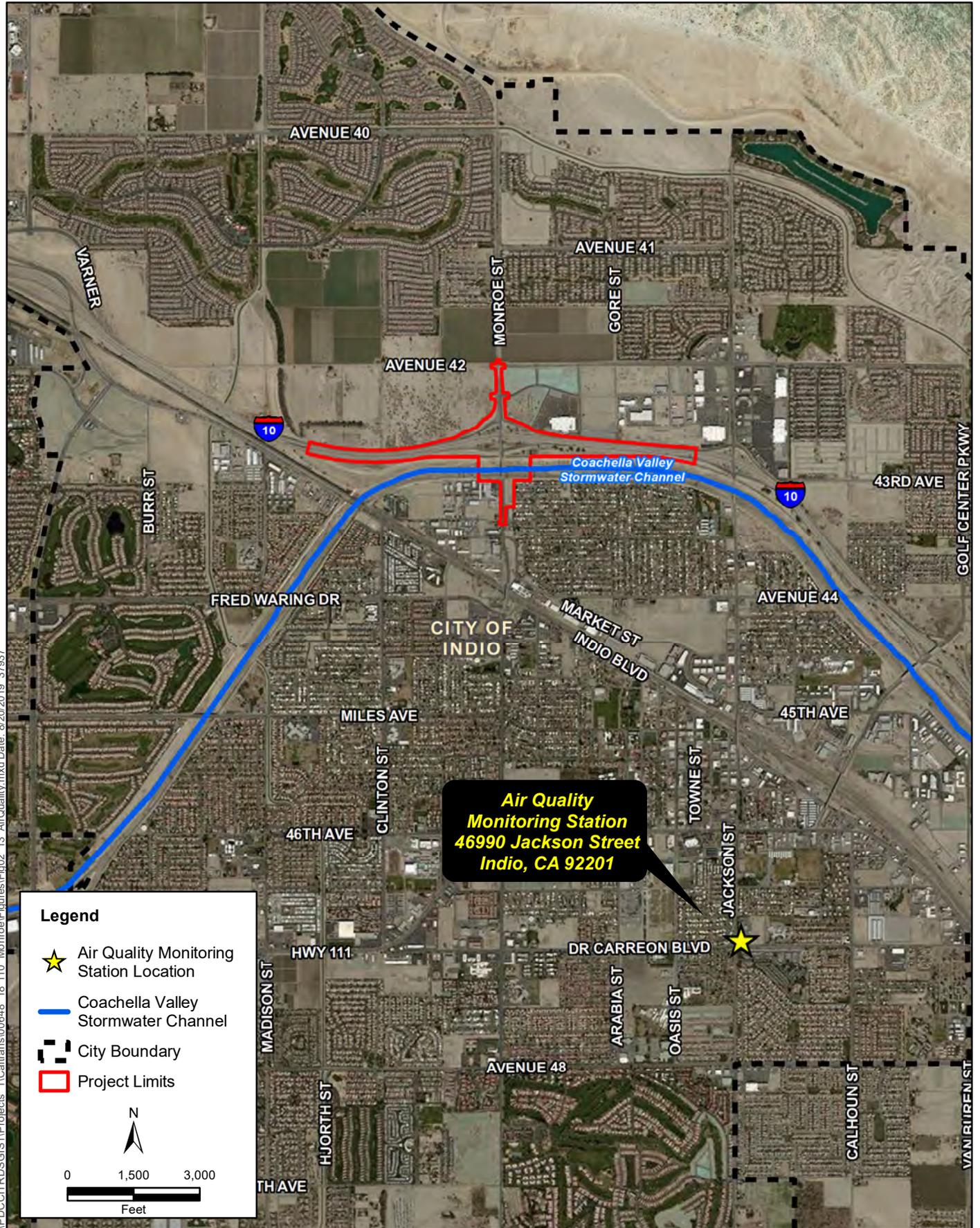
Pollutant	Standard	Annual Pollutant Concentrations					
		2014	2015	2016	2017	2018	
Ozone¹							
Max 1-hr concentration (ppm)		0.0905	0.093	0.099	0.107	0.106	
No. days exceeded: State	0.09 ppm	2	0	3	8	4	
Max 8-hr concentration (ppm)		0.091	0.085	0.089	0.093	0.091	
No. days exceeded: State	State	0.070 ppm	30	12	29	47	52
	Federal	0.070 ppm	24	11	27	44	49
PM₁₀¹							
Max 24-hr concentration (µg/m ³)	State	50 µg/m ³	299.0	382.0	261.2	143.1	149.6
	Federal	150 µg/m ³	322.3	381.0	393.2	198.6	336.0
No. days exceeded: State	State	50 µg/m ³	94.9	ND	135.7	ND	88.4
	Federal	150 µg/m ³	6.1	ND	ND	1	2.2
Max annual concentration (µg/m ³)			43.5	44.0	37.0	34.8	34.8
PM_{2.5}²							
Max 24-hr concentration (µg/m ³)			11.4	22.7	14.7	14.5	30.2
Max state 24-hr concentration (µg/m ³)			15.5	22.7	14.7	14.5	30.2
No. days exceeded: Federal		35 µg/m ³	0	0	0	0	0
Nitrogen Dioxide²							
Max 1-hr concentration (ppb)	0.18 ppm		46	41	42	42	42
	100 ppb		46.3	41.5	42.6	42.5	42.6
Source: California Department of Transportation 2019k .							
¹ Indio-Jackson Air Quality Monitoring Station (AQMS)							
² Palm Springs Fire Station AQMS							
Notes:							
hr – hour, ppm – parts per million, µg/m ³ – micrograms per cubic meter, ND – no data, ppb – parts per billion							

Sensitive Receptors

The air quality analysis looked at populations particularly vulnerable to the effects of air pollution to assess whether the proposed project would expose these sensitive receptors—residents, children, the elderly, the chronically ill, and other sensitive individuals—to substantial pollutant concentrations. The analysis identified residences, schools, daycare centers, and other locations where these vulnerable residents could be exposed. Research shows that the zone of greatest concern near roads is within 500 feet from the edge of the nearest traveled lane.

As shown in Figure 2-16, commercial and industrial uses are located adjacent to Monroe Street on both the northern and southern sides of I-10. A large residential subdivision is to the northeast of the I-10/Monroe Street interchange, with the closest residential units about 500 feet from the northern end of the Monroe Street overcrossing. Larger residential areas also are located west and south of the interchange, with the closest residential units about 1,000 feet to the south. The Riverside County Veterans Services center is about 600 feet south of the interchange on the northern side of Monroe Street.

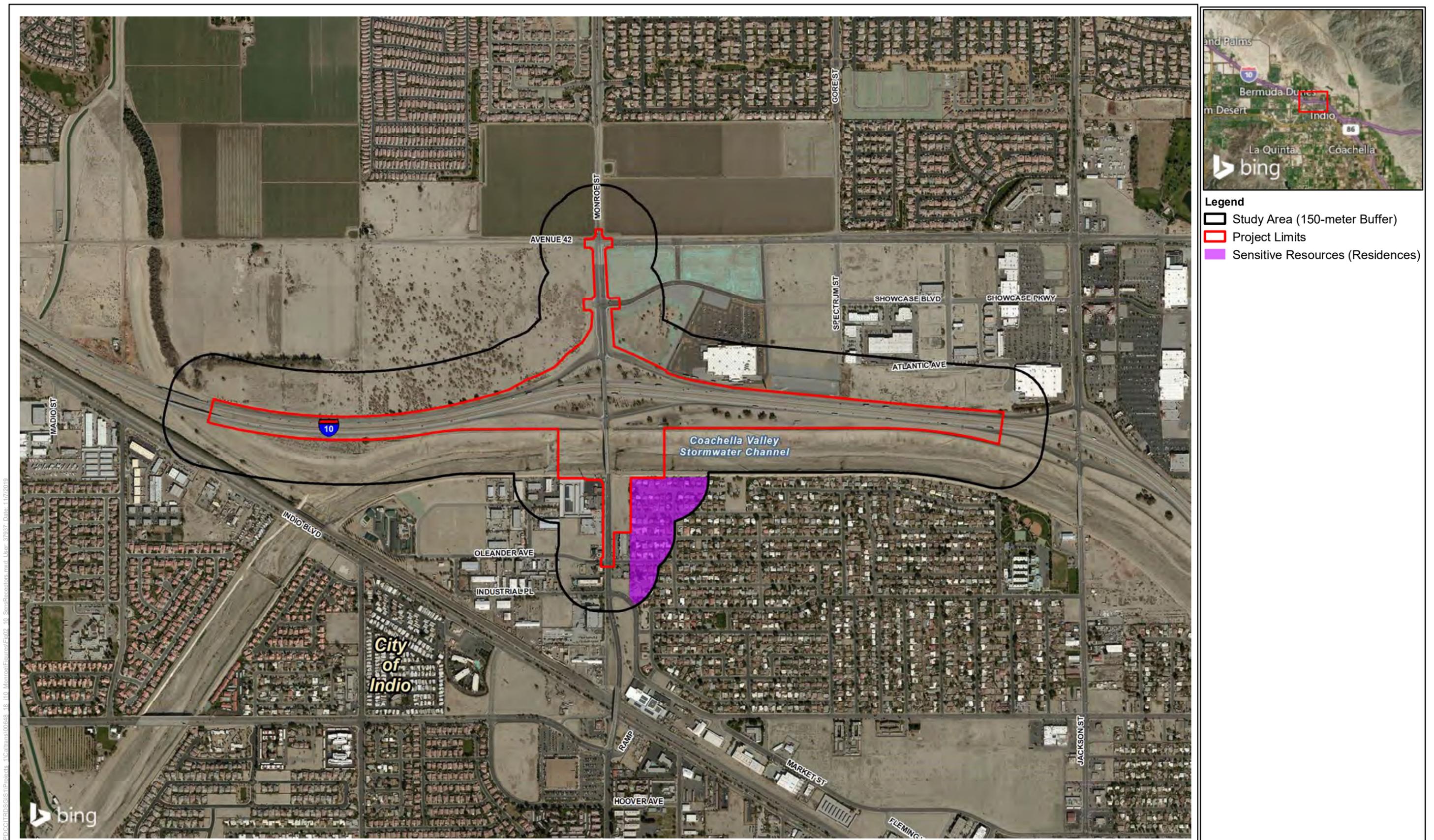
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Source: Bing Maps, Microsoft Corporation 2019

Figure 2-15
Location of Indio-Jackson Air Quality Monitoring Station
Interstate 10/Monroe Avenue Interchange Improvement Project

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- Legend**
- Study Area (150-meter Buffer)
 - Project Limits
 - Sensitive Resources (Residences)

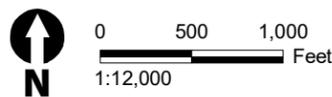


Figure 2-16
Sensitive Land Use Receptors
Interstate 10/Monroe Avenue Interchange Improvement Project

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Mobile Source Air Toxics

The largest sources of mobile source air toxics (MSAT) in the project area are cars and trucks on I-10, Monroe Street, and other major thoroughfares in the project vicinity. Ambient MSAT data are available from ARB's website (<http://www.arb.ca.gov/adam/toxics/toxics.html>).

Climate Change

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

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) is present in approximately 44 of California's 58 counties. Asbestos is often found in serpentine rock and ultramafic rock near fault zones. Asbestos is a human health hazard when airborne. Asbestos fibers can be inhaled into lungs, causing inflammation and respiratory ailments and cancers. The proposed project, well within an established urban area, is not near any known major sources of NOA (California Department of Conservation, Division of Mines and Geology 2000).

2.2.6.3 Environmental Consequences

Temporary Construction Impacts

Alternative 1 (No Build)

Under the No-Build Alternative, the proposed project would not be constructed. Short-term impacts on air quality would not occur.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

Construction of the proposed improvements is expected to start in June 2023 and be completed within 30 months. Construction activities will not last for more than five years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)). Under the transportation conformity regulations (40 CFR 93.123(c)(5)), construction activities are not required to be included in a hot-spot analysis unless construction would last more than five years. The proposed project would be constructed in less than five years, so construction emissions are not considered for purposes of conformity.

The construction sequence of the proposed project would consist of: mobilization, site preparation, excavation and grading, utilities, facility construction, paving, finishing, and demobilization. Air quality impacts from construction activities would occur from: combustion

emissions from fossil-fueled off-road equipment and on-road vehicles, VOC emissions from application of asphalt concrete and pavement markings, fugitive dust emissions due to grading of exposed soils, and road dust. Off-road construction equipment for the activities described above could include, but would not be limited to, cranes, forklifts, front end loaders, dump trucks, welders, generators, off-road vehicles, graders, rollers, vibrators, dewatering equipment, pumps, and air compressors. Typical on-road vehicles would include, but would not be limited to, flat bed and haul trucks, concrete trucks, and asphalt concrete trucks. These emissions sources would primarily use diesel fuel, emitting combustion exhaust including VOC, CO, NO_x, SO_x, PM₁₀ and PM_{2.5}.

Earth-disturbing activities, such as excavation and grading, would also generate PM₁₀ and PM_{2.5}. Paving and architectural coating activities would generate VOC emissions. Emissions were quantified for both onsite construction equipment and for offsite sources (haul trucks) transiting within the Basin. Estimated peak-day emissions assume overlaps of construction tasks, based on the anticipated construction schedule and equipment utilization.

Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model (RCEM), Version 8.1.0 was used to quantify emissions from anticipated construction activities. RCEM uses emission factors for off-road equipment and on-road vehicles from ARB's OFFROAD model and EMFAC2014 model. Project construction-related criteria air pollutant emissions estimated using RCEM were compared to SCAQMD's regional daily emission thresholds to determine significance. Emission calculations assume that the proposed project would comply with SCAQMD's Rule 403, Fugitive Dust, by implementing the rule-stipulated best available control measures to minimize fugitive dust emissions.

Table 2-47 summarizes construction emissions for a peak construction day, on which the greatest number of construction equipment would be used, and a considerable amount of haul trips would take place. The data demonstrate that at no time during construction of the proposed project would maximum daily emissions exceed any applicable SCAQMD thresholds of significance for regional emissions. Therefore, regional air pollutant emissions generated by construction of the proposed project could not cause a violation of an air quality standard or contribute to an existing violation. This would be a less-than-significant, temporary impact. No mitigation measure or further analysis is required.

Table 2-47. Proposed Project Peak Daily Construction Emissions

Emissions Parameter	Emissions by Pollutant (lb/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction Emissions – Build Alternative 2 (Locally Preferred Alternative)	3.0	8.9	59.1	0.1	50.6	10.8
Construction Emissions – Alternative 4	2.9	6.8	58.5	0.1	50.4	10.7
SCAQMD Construction Threshold (regional emissions)	75	100	550	150	150	55
Exceed Threshold?	NO	NO	NO	NO	NO	NO
SCAQMD LST, SRA #30 (local emissions)		425	5,331	NA	67	19
Exceed Threshold?	NA	NO	NO	NA	NO	NO
Source: California Department of Transportation 2019k .						
Notes:						
ROG – reactive organic compounds; NO _x – nitrogen oxides; CO – carbon monoxide; SO ₂ – sulfur dioxide; PM ₁₀ – particulates under 10 microns; PM _{2.5} – particulates under 2.5 microns. lb – pound; NA – not applicable; SCAQMD – South Coast Air Quality Management District; LST – Localized Significance Threshold; SRA – Source Receptor Area. Project emissions of ROG, NO _x , CO, PM ₁₀ , and PM _{2.5} were estimated using the Road Construction Emissions Model, Version 8.1.0. SO ₂ emissions estimated based on fuel consumption and use of ultra-low sulfur fuel (15 parts per million).						

Although construction emissions are anticipated to be below SCAQMD thresholds, contractors would be required to follow all applicable SCAQMD rules and regulations, including Rule 403 (Fugitive Dust) and Rule 431 (Diesel Equipment), to minimize air quality impacts. Contractors, for example, would water dusty areas and minimize the tracking of soil from unpaved dirt areas to paved roads.

Localized Significance Threshold

SCAQMD developed the Localized Significance Threshold (LST) methods to assist CEQA lead agencies in analyzing local air quality impacts from simple projects. The LST methods allow users to determine, without dispersion modeling, if a project would cause or contribute to an exceedance of the applicable ambient air quality standard. The LST methods are based on the maximum daily allowable onsite emissions, the total area of the emissions source, the ambient air quality in each Source Receptor Area (SRA) in which the emission source is located, and the distance to the nearest exposed individual. The LST includes look-up tables for emissions of NO₂, CO, PM₁₀, and PM_{2.5}. If proposed project emissions are less than the LST values, then the proposed activity is considered not to violate or substantially contribute to an existing or projected air quality standard.

SCAQMD's LST methods were used in this analysis to evaluate ambient air quality impacts from proposed project construction. The LST guidance indicates that the methods are appropriate for small construction sites. Although the project site encompasses an area of approximately 42 acres (Build Alternative 2 [Locally Preferred Alternative]) and 43 acres (Alternative 4), the LST analysis assumed a five-acre site because that is the largest area that would be disturbed at any given time. Distance to the nearest sensitive receptor was assumed to be 100 meters due to the size of the site and the distances to the nearest residential areas.

Project emissions were compared to the project-specific LST values in Table 2-46 to determine the significance of project impacts. Table 2-47 shows that emissions from proposed project construction would not exceed any applicable LST, and, therefore, could not result in a violation of an air quality standard.

Air quality impacts resulting from construction of the proposed project would be less than significant, so no mitigation measures or further analysis are required.

Toxic Air Contaminant Emissions

During the construction period, which is scheduled to last approximately 30 months, short-term generation of pollutants from construction vehicles and equipment would occur. However, the construction period is much shorter than the assumed 30-year exposure period used to estimate lifetime cancer risks, as recommended by the California Office of Environmental Health Hazard Assessment. Furthermore, given the linear nature of the proposed project, sensitive receptors would be exposed to pollutants for a small portion of the total construction period because equipment would not be operated at a particular location along the alignment for an extended period of time. The diesel particulate matter generated from construction equipment would be sporadic, transitory, and short term in nature. Therefore, the project would not expose receptors to acute and/or chronically hazardous TAC pollutants.

It is also important to note that there is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime, as cancer potency factors are based on animal lifetime studies where there is long-term exposure.

Odors

The project would not be a significant source of odors. The project would modify an existing transportation facility, and any odors generated by the project would be similar in nature to odors generated from the existing facility. Therefore, the project is not anticipated to generate significant odors.

Furthermore, construction of the project would not create substantial levels of odors in the surrounding area. Exhaust emissions from construction vehicles and equipment and fugitive emissions from other construction activities would be tightly controlled. The minor amounts of odors generated by onsite construction activities would be substantially dispersed and diluted to negligible levels in adjacent offsite areas.

Aerially Deposited Lead

ADL from the historical use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right of way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must 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.

ADL refers to lead deposited on highway shoulders from past leaded fuel vehicle emissions. Although leaded fuel has been prohibited in California since the 1980s, ADL may still be present in soils adjacent to highways in use prior to that time. It is the Department's policy to evaluate and investigate these unpaved areas when they will be affected by a project, to ensure

that workers are properly protected from lead exposure through training and appropriate work practices and to manage ADL-containing soils in compliance with all applicable laws and regulations while minimizing costs to the project and future state liability.

With respect to the proposed project, the ISA that was approved for the proposed project determined that all soils, with the exception of those in the vicinity of boring location B19, are acceptable for unrestricted reuse onsite. Boring location B19 is situated within APN 610-093-037, which is proposed for partial right of way acquisition and historically involved agricultural uses. Lead contamination due to ADL is not anticipated within soils on the subject site; therefore, ADL has not resulted in a REC on the subject site. If the soil in the vicinity of B19 is to be excavated and removed from the site, it will need to be disposed of at a landfill as a California hazardous waste. The project includes Measure HAZ-6, which would ensure proper handling of ADL-impacted soils.

Naturally Occurring Asbestos

Riverside County is not among the counties listed as containing serpentine and ultramafic rock; therefore, the impact from naturally occurring asbestos during construction of the project would be minimal to none.

Asbestos-Containing Materials

Structural asbestos has been identified in the bridge to be modified by the project. The ACM will be appropriately handled, removed, and disposed in accordance with standard industry practices and in compliance with federal, state, and local regulations. Prior to the commencement of construction, project personnel will further examine the makeup of the structures to be demolished. Should they suspect the presence of additional ACM, proper steps would be taken by asbestos-certified contractors to identify and, if needed, handle the materials.

Lead

Pb is normally not an air quality concern for transportation projects unless the project would disturb soils with high levels of ADL or disturb structures with Pb-based coatings. The Department has determined that ADL may exist in soils along roads due to emissions from the use of leaded gasoline. Disturbing these soils during construction can generate soil that needs to be properly managed due to its Pb content to protect the health of construction workers and nearby sensitive receptors.

I-10 has supported substantial volumes of motor vehicle traffic over a long period during which leaded gasoline was in use, and some soils along the proposed project alignment have been found to contain detectable concentrations of ADL. Although some surface soils along the project alignment contain measurable levels of Pb, airborne Pb levels are not expected to be an air quality concern during project construction for the following reasons.

- The project area was extensively sampled, and only one location was found to have Pb levels substantially above background levels, so Pb contamination is not widespread.

- The highest Pb concentration detected (90 ppm) was well below the state's screening level of 320 ppm, and the depth of contamination was very limited, so the total amount of lead present is very low.
- Pb-contaminated soils identified to date within the area to be disturbed by the project will be managed in accordance with federal, state, and local health and safety and hazardous materials regulations and policies.

Permanent Operational Impacts

Alternative 1 (No Build)

Under the No-Build Alternative, neither bridge modifications nor replacement would occur. Effects on air quality would not occur.

Build Alternatives 2 and 4

The project footprint for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives, because implementation of either would result in similar impacts.

Regional Conformity

The proposed project is listed in the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS): A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life* (adopted April 2016) (RTP ID 3A07022) financially constrained Regional Transportation Plan, Amendment #3, which was found to conform by SCAG on April 7, 2016, and FHWA and FTA made a regional conformity determination finding on June 1, 2016. The project is also included in SCAG's financially constrained *2019 Federal Transportation Improvement Program (2019 FTIP)*, through Amendment 19-15, on page 3 of 16. The SCAG 2019 FTIP Consistency Amendment was determined to conform by FHWA and FTA on November 25, 2019. The design concept and scope of the proposed project will be consistent with the project entry to be included in the forthcoming 2020 RTP, and the entry in the corresponding FTIP update for the project, and the assumptions in the Southern California Association of Governments' (SCAG's) regional emissions analysis.

Project Level Conformity

The *Particulate Matter Hot-Spot Analysis* and *Carbon Monoxide Protocol* are followed to determine if the proposed project demonstrates project-level conformity with the SIP. The SSAB is in nonattainment status for the federal PM₁₀ standards and in attainment status for the federal CO standard. Therefore, a project-level hot-spot analysis is required for PM₁₀ but not for CO under 40 CFR 93.109.

On March 10, 2006, U.S. EPA published amendments to the Transportation Conformity Rule that establish conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts. These amendments update the requirements for the analysis of project-level air quality impacts in PM₁₀ and PM_{2.5} nonattainment and maintenance areas.

Sections 3 and 4 of the CO Protocol describe the methods to determine whether a CO hot-spot analysis is required. The Protocol provides two conformity decision flowcharts designed to assist project sponsors in evaluating the requirements that apply to their project. The CO Protocol was followed for this project and determined that a quantitative analysis is not necessary.

Particulate Matter Hot-Spot Analysis

A conformity hot-spot analysis for PM was prepared according to the procedures and methods provided in the latest version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas released by U.S. EPA in November 2015 (Quantitative Guidance). The proposed project was submitted to the SCAG Transportation Conformity Working Group (TCWG) for consideration at its meeting on September 25, 2018. At that meeting, members of the TCWG confirmed that the proposed project is not a project of air quality concern (POAQC). Subsequent to the referenced TCWG meeting, the PDT determined that an eastbound auxiliary lane on I-10, between Monroe Street and Jackson Street, was to be included as a component of the proposed project improvements. As a result, the project was resubmitted to the TCWG for consideration at its August 27, 2019 meeting. At that meeting, members of the TCWG reaffirmed that the proposed project is not a POAQC. The PM hot-spot analysis and documentation of concurrence are provided in Chapter 4 of this IS/EA.

Emissions Analysis

The changes in traffic distribution and traffic operations with the project would have minor effects on emissions of criteria air pollutants along the project alignment (Table 2-48). The overall effects of the project on emissions of criteria air pollutants and their precursors are very minor. Future emissions of reactive organic gases, NO_x, and CO would be lower than at present, with or without implementation of the project due to improved fuel economy and pollution control technologies.

Table 2-48. Operational Emissions of Criteria Air Pollutants and Precursors on Interstate Segments Affected by the Project

Scenario	Pollutant Emissions (lb/day)								
	ROG	NO _x	CO	Exhaust		Other		Total PM	
				PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
2018 (Baseline)	156.0	816.9	2076.1	14.4	13.7	220.9	56.1	235.3	69.8
2025 No-Build	95.4	369.1	1261.7	4.8	4.5	250.0	63.4	254.8	67.9
2025 Build	95.4	369.1	1261.7	4.8	4.5	250.0	63.4	254.8	67.9
Project Increment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2045 No-Build	65.7	329.1	1083.9	4.4	4.0	339.1	85.6	343.5	89.6
2045 Build	65.7	329.1	1083.9	4.4	4.0	339.1	85.6	343.5	89.6
Project Increment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes: See Appendix D - CT-EMFAC Output File, included in the *Air Quality Report for the I-10/Monroe Street Interchange Improvement Project*, dated October 2019 (California Department of Transportation 2019k). Other includes tire wear, brake wear and road dust as calculated by CT-EMFAC2017
Project emissions would not exceed any applicable significance thresholds or regulatory limits. Road dust estimated based on ARB factor of 116.3 pounds per million vehicle-miles traveled.

Carbon Monoxide

A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM₁₀, and PM_{2.5}. In California, the procedures of the local analysis for CO are modified pursuant to 40 CFR 93.123(a)(1) of the Transportation Conformity Rule. As discussed in the Air Quality Report, the CO hot-spot analysis demonstrates that future predicted CO concentrations would generally be lower than existing concentrations due to the decrease in per-vehicle emissions resulting from improved technology and lower background concentrations. The project would not create or contribute to a violation of state or national ambient CO standards; therefore, local CO project-level transportation conformity requirements are satisfied.

Mobile Source Air Toxics Analysis

FHWA released updated guidance in October 2016 (FHWA 2016) for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis.

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects.
- Qualitative analysis for projects with low potential MSAT effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that (1) qualify as a categorical exclusion under 23 CFR 771.117, (2) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and (3) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the Annual Average Daily Traffic (AADT) is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and
- Are proposed to be located in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

Upon review of the Build Alternatives and the FHWA guidance categories described above, the project is classified as a project that improves the operations of a highway without adding substantial new capacity. Therefore, a qualitative analysis is appropriate for assessing air quality impacts from operation of the project.

For the Build Alternatives in this study, the amounts of MSATs emitted would be proportional to the AADT and average vehicle speeds if other variables, such as fleet mix, are the same for each alternative. The AADT estimated for the Build Alternatives are similar to those of the No-Build Alternative, so substantially higher levels of MSATs would not be expected from the Build Alternatives compared to the No-Build Alternative.

In addition, MSAT emissions from the Build Alternatives would likely be lower than existing levels in the design year because of U.S. EPA's national control programs that are projected to reduce annual MSAT emissions by more than 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. The magnitude of the U.S. EPA-projected reductions is so great (even after accounting for VMT growth), however, that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Operational impacts associated with the Build Alternatives, as compared to the No-Build Alternative, would be negligible; therefore, no mitigation is required.

2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures

AQ-1 The construction contractor will comply with SCAQMD Rule 403 (Fugitive Dust), which specifies actions or control measures to prevent, reduce, or mitigate PM emissions generated from construction, demolition, excavation, extraction, and other earthmoving activities.

- AQ-2** Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.
- AQ-3** Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas.
- AQ-4** Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.
- AQ-5** Construction equipment and vehicles will be properly tuned and maintained. Ultra-low-sulfur fuel will be used in all construction equipment as required by California Code of Regulations, Title 17, Section 93114.
- AQ-6** Equipment and materials storage sites will be located as far away from residential and park uses as practical. Construction areas will be kept clean and orderly.
- AQ-7** Track-out reduction measures, such as gravel pads at project access points, will be used to minimize dust and mud deposits on roads affected by construction traffic.
- AQ-8** All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to reduce PM₁₀ and deposition of particulate during transportation.
- AQ-9** Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease PM.
- AQ-10** The construction contractor will comply with Caltrans Standard Specifications in Section 14-9.02 and other standard practices according to the California Air Resources Board (ARB) and South Coast Air Quality Management District (SCAQMD) requirements for air quality restrictions, such as reducing idling time, properly maintaining equipment, and controlling fugitive dust during the construction period
- AQ-11** The construction contractor will comply with Standard Specification 14-9.03 relating to preventing and alleviating dust by applying water, dust palliative, or both and by covering active and inactive stockpiles.
- AQ-12** Construction equipment fleets will be in compliance with Best Available Control Technology requirements.
- AQ-13** All engines or portable engine-driven equipment will be required to obtain permits will obtain either an ARB Portable Equipment Registration or a permit from SCAQMD.
- AQ-14** During construction, dust palliatives will be used as specified in the Department's Standard Specifications, Section 18-1.03A, General.

Climate Change

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

2.2.7 Noise

2.2.7.1 Regulatory Setting

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

California Environmental Quality Act

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

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table 2-49 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2-49. Activity Categories and Noise Abatement Criteria (Title 23 CFR 772)

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ¹	67 (Exterior)	Residential.
C ¹	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC -- reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC – reporting only	Undeveloped lands that are not permitted.
Source: California Department of Transportation 2019l		
¹ Includes undeveloped lands permitted for this activity category.		

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation 2019c

Figure 2-17 Noise Levels of Common Activities

Figure 2-17 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

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

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

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.2.7.2 Affected Environment

The primary source used in the preparation of this section is the *I-10/Monroe Street Interchange Improvement Project Noise Study Report* (NSR), dated October 2019 (California Department of Transportation 2019I). A thorough field investigation was conducted to identify areas of frequent human use that could be subject to traffic noise impacts and to consider the physical setting of the highway alignment relative to those areas. Land uses in the project area were categorized by land use type; activity category, as defined in Table 2-49; noise abatement criteria; and the extent of frequent human use. As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, the impact analysis focuses on locations with defined outdoor use areas, which include residential backyards of homes and the pool area of a hotel. In addition, generalized receptors were also included for unpermitted lands within the study area. Generalized receptors are positioned no closer than 100 feet from the edge of the outside traffic lane in the area that best represents the highest expected traffic noise level.

Land uses in the project area have been grouped into a series of lettered analysis areas that are identified in Figures 2-18A and 2-18B. Each of these analysis areas is considered to be acoustically equivalent.

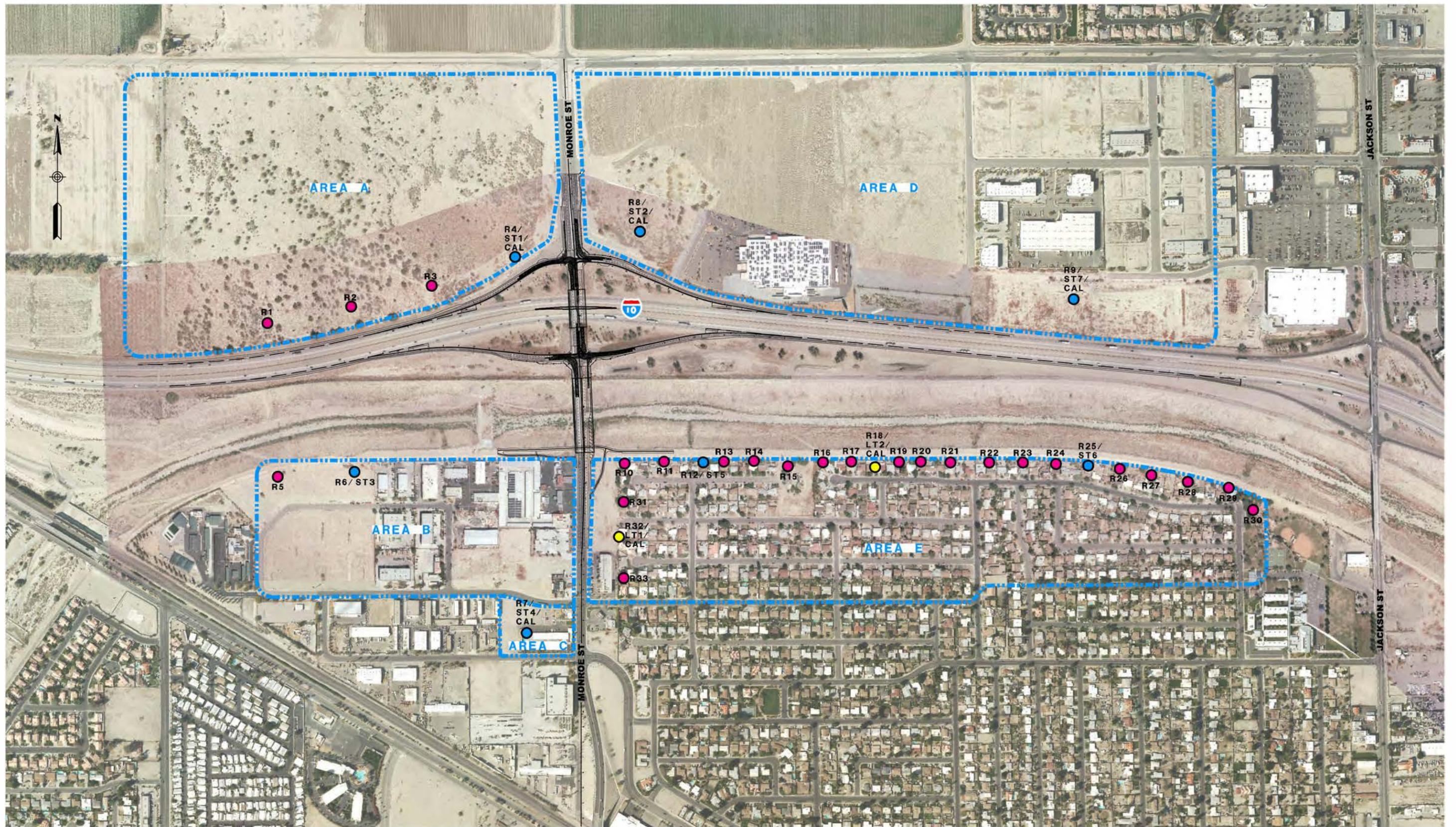
Area A: Area A is located north of I-10 and west of Monroe Street. This area contains undeveloped, unpermitted land (Activity Category G). This area is generally flat and no noise barrier is located or topographic shielding occurs between the roadway and the land.

Area B: Area B is located south of I-10 and west of Monroe Street. This area contains undeveloped, unpermitted land (Activity Category G) as well as industrial and commercial properties with no outdoor use areas. This area is generally flat and no noise barrier is located between the roadway and the land. There are however berms on either side of the storm water channel that provide topographic shielding between I-10 and the properties.

Area C: Area C is located west of Monroe Street and south of Oleander Avenue. A hotel with a pool area (Activity Category E) is located in this area. There are also several industrial and commercial properties with no outdoor use areas. This area is generally flat and no noise barrier is located or topographic shielding occurs between the roadway and the land uses.

Area D: Area D is located north of I-10 and east of Monroe Street. This area contains undeveloped, unpermitted land (Activity Category G) as well as commercial properties with no outdoor use areas. This area is generally flat and no noise barrier is located or topographic shielding occurs between the roadway and the land.

Area E: Area E is located south of I-10 and east of Monroe Street. This area contains single-family residences (Activity Category B), North Jackson Park (Activity Category C), and commercial properties with no outdoor use areas. This area is generally flat and no noise barrier is located between the roadway and the land. There are, however, berms on either side of the storm water channel that provide topographic shielding between I-10 and the residential properties and the park.



LEGEND

- LT - LONG-TERM MEASUREMENT /MODELED RECEIVER
- ST - SHORT-TERM MEASUREMENT /MODELED RECEIVER
- Rxx - MODELED ONLY RECEIVER

----- ANALYSIS AREA BOUNDARY

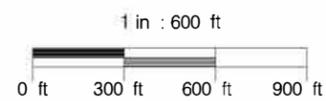
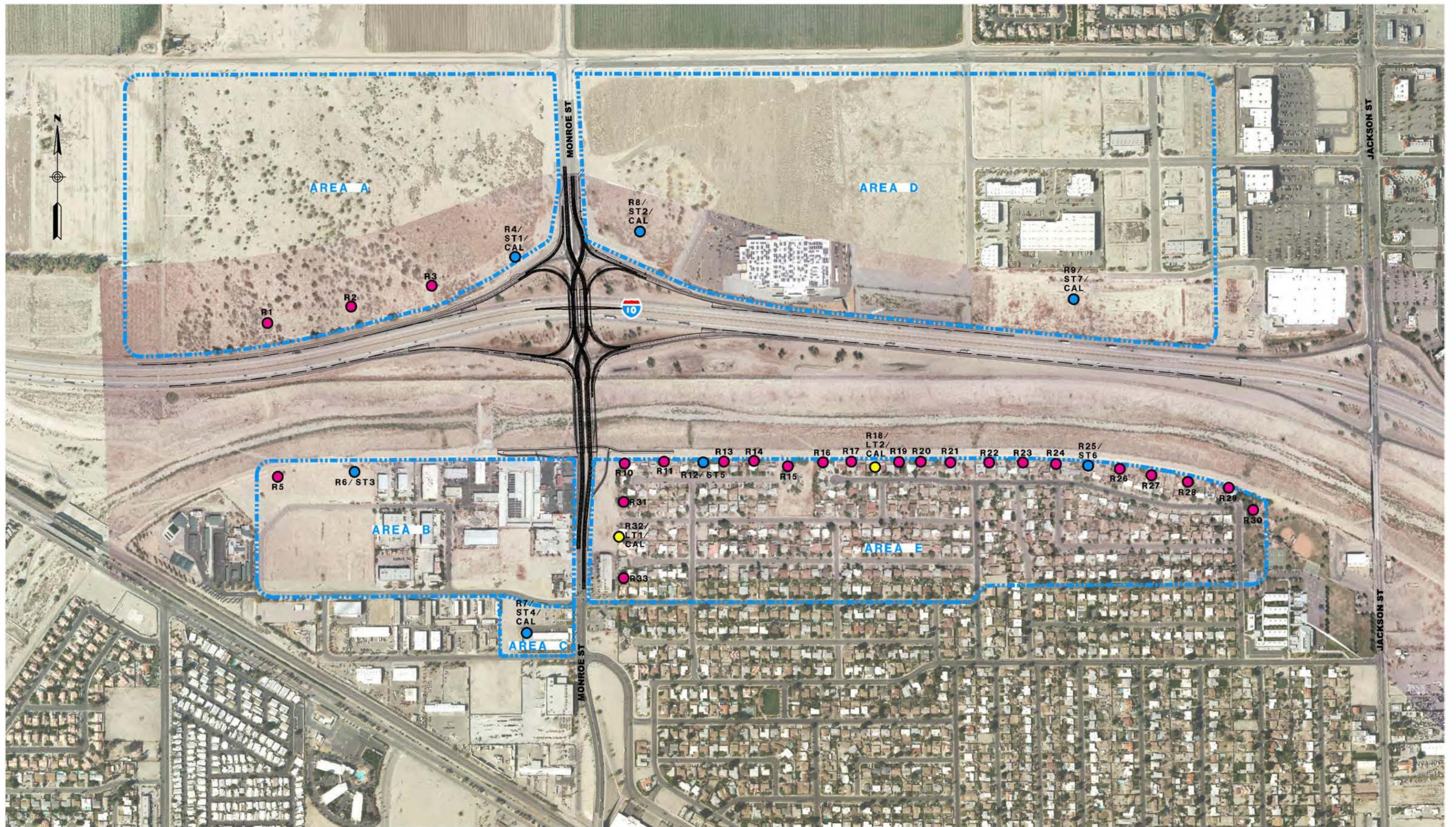


Figure 2-18A
Analysis Areas, Noise Monitoring and Receiver Locations
 Alternative 2 (Locally Preferred Alternative)
 Interstate 10/Monroe Street Interchange Project

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LEGEND

- LT - LONG-TERM MEASUREMENT /MODELED RECEIVER
- ST - SHORT-TERM MEASUREMENT /MODELED RECEIVER
- Rxx - MODELED ONLY RECEIVER
- - - - - ANALYSIS AREA BOUNDARY

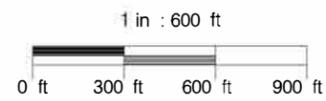


Figure 2-18B
Analysis Areas, Noise Monitoring and Receiver Locations
Alternative 4
Interstate 10/Monroe Street Interchange Project

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2.2.7.3 Environmental Consequences

Pursuant to the Department's *Traffic Noise Analysis Protocol* (May 2011), and associated guidance provided in 23 CFR 772, a Type I project is a project that involves any of the following:

1. The construction of a highway on a new location.
2. The physical alteration of an existing highway that would involve either of the following:
 - A. Substantial horizontal alteration: a project that halves the distance between the traffic noise source and the closest receptor between the existing condition and the future build condition.
 - B. Substantial vertical alteration: a project that removes shielding thereby exposing the line-of-sight between the receptor and the traffic noise source. This is done by altering either the vertical alignment of the highway or the topography between the highway traffic noise source and the receptor.
3. The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a high occupancy vehicle lane, high-occupancy toll lane, bus lane, or truck climbing lane.
4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane.
5. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange.
6. Restriping existing pavement for the purpose of adding a through- traffic lane or an auxiliary lane.
7. The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

The project is considered a Type 1 project because it would alter the vertical and horizontal alignment of I-10 as a result of constructing the interchange at Monroe Street.

Noise Measurement Sites

Seven short-term and two long-term outdoor noise measurements were taken throughout the project study area to calibrate the Traffic Noise Model (TNM) version 2.5 computer noise model. Specific measurement sites were chosen to be representative of acoustically distinct areas, based on their relationship to the I-10 and Monroe Street facilities and the varying topographic features between the areas and the roadways. All measurement sites were selected so that unusual noise from sources such as barking dogs, air-conditioners, pool pumps, or car alarms would not affect the measurement.

Short-term monitoring was conducted on June 19 and 20, 2018, and at seven sites using Larson-Davis Type 1 (precision grade) sound-level meters for two consecutive 10-minute intervals for a total duration of 20 minutes each. The measurements were conducted at Activity Category B, E, and G land uses during daytime when traffic was free-flowing. The short-term measurement locations are identified on Figure 2-18. Table 2-50 summarizes the short-term noise

measurement results. Sound level meters were attended by field staff to record observations concurrent with the measurements.

The L_{eq} values collected during each measurement period (10 minutes in duration) were automatically recorded with digital integrating sound-level meters and subsequently logged manually on field data sheets for each measurement location. The short-term measurements were repeated to ensure consistency per the guidance provided in the TeNS. Dominant noise sources observed and other relevant measurement conditions were identified and logged manually on the field data sheets. The calibration of the meter was checked before and after the measurement using Larson-Davis model CA250 calibrators.

Temperature, wind speed, and humidity were recorded manually during the short-term monitoring sessions using a Kestrel 3000 portable weather station. During the short-term measurements, wind speeds ranged from one to four miles per hour (mph). Temperatures ranged from 104°F to 116°F on June 19 and from 91°F to 103°F on June 20. Relative humidity ranged from 10 to 41 percent.

Long-term noise measurements were conducted to observe hourly noise distribution. Long-term monitoring was conducted at two locations from June 19 through June 20, 2018, using Larson-Davis model 812 Type 1 sound level meters. The purpose of these measurements was to identify variations in sound levels throughout the day. The long-term sound level data was collected for over 24-hour periods. Long-term monitoring locations are shown in Figure 2-18. Table 2-51 summarizes the long-term monitoring results and shows addresses and land use types of the monitoring location.

A total of seven short-term measurements, ST1 through ST7, and two long-term measurements, LT1 and LT2, were conducted for the purpose of calibrating the TNM 2.5 computer noise model. The traffic volumes were recorded through the use of a video camera and by manual count, and traffic speeds were recorded with a radar gun. The traffic counts were tabulated according to five vehicle types: automobiles, medium trucks (two-axle with six-tires), heavy trucks (three or more axle), buses, and motorcycles.

As a general rule, the noise model is considered to be calibrated if the field measured noise levels versus the modeled noise levels (using field-collected traffic data) agree less than 3.0 dB of each other. If differences are 3.0 dB or higher, refinement of the noise model is performed until there is agreement between the two values. If, after thorough re-evaluation, calibration still cannot be achieved due to complex topography or other unusual circumstances, then a calibration constant is added such that the measured versus modeled values agree before any predictions can be made with the model.

Table 2-50. Summary of Short-Term Noise Measurement Results

Site No. ¹	Street Address, City	Area	Land Use ²	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time ³	Measured L _{eq} (h), dBA ³
ST1	Empty Lot, Indio	A	UDL	G (--)	Open Area	06/20/2018	10:00	64.6
							10:10	64.9
ST2	Empty Lot, Indio	D	UDL	G (--)	Open Area	06/20/2018	10:00	59.9
							10:10	60.5
ST3	Empty Lot, Indio	B	UDL	G (--)	Open Area	06/20/2018	10:40	48.9
							10:50	49.0
ST4	Days Inn, 53505 Monroe St, Indio	C	HOT	C (72)	Pool Area	06/19/2018	13:10	56.0
							13:20	56.9
ST5	82156 Crest Ave, Indio	E	SFR	B (67)	Back Yard	06/19/2018	11:00	45.6
							11:10	45.7
ST6	82584 Crest Ave, Indio	E	SFR	B (67)	Back Yard	06/19/2018	12:10	48.4
							12:20	49.0
ST7	Empty Lot, Indio	D	UDL	G (--)	Open Area	06/20/2018	12:00	65.8
							12:10	65.2

Source: California Department of Transportation 2019l.

Notes:

¹ ST – Short-Term Measurements.

² Land Use: SFR – single-family residence; HOT – Hotel/motel; UDL – undeveloped land.

³ Short-term measured noise levels were measured for a total period of 20 minutes.

Table 2-51. Long-Term Noise Measurement Results

Site No. ¹	Street Address, City	Area	Land Use ²	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time	Duration (Hours)	Measured Worst-Hour L _{eq} (h), dBA	Peak-Hour Time
LT1	82051 Orange Grove Ave, Indio	E	SFR	B (67)	Back Yard	06/19/2018 – 06/20/2018	09:55	27	60	22:00
LT2	82378 Crest Ave, Indio	E	SFR	B (67)	Back Yard	06/19/2018 – 06/20/2018	09:08	29	57	22:00
Source: California Department of Transportation 2019I. Notes: ¹ LT – Long-Term Measurements. ² Land Use: SFR – single-family residence.										

Table 2-52 summarizes the calibration results of the nine measurement locations. Two of the modeled noise levels deviate more than 3.0 dB from the measured noise levels; therefore, after refinements to the noise model and thorough re-evaluation, calibration constants, or “K” constants, have been applied to the noise model results for these two areas acoustically represented by measurement sites ST3 and ST4.

Table 2-52. Noise Model Calibration Results

Site No.	Noise Study Area	Date	Start Time ¹	Noise Levels, $L_{eq}(h)$, dBA		Measured Minus Modeled, dB	Applied Adjustment, ² dB
				Measured	Modeled		
ST1	A	06/20/18	10:00	64.6	62.5	2.1	--
ST2	D	06/20/18	10:00	59.9	58.7	1.2	--
ST3	B	06/20/18	10:40	48.9	52.7	-3.8	-4.0
ST4	C	06/19/18	13:10	56.0	52.9	3.1	+3.0
ST5	E	06/19/18	11:00	45.6	48.5	-2.9	--
ST6	E	06/19/18	12:20	48.4	51.3	-2.9	--
ST7	D	06/20/18	12:00	65.8	65.6	0.2	--
LT1	E	06/19/18	11:00	55.8	54.4	1.4	--
LT2	E	06/19/18	11:00	48.1	47.3	0.8	--

Source: California Department of Transportation 2019l.

Notes:

¹ Measured noise levels were measured for a period of 10 minutes.

² Adjustment factor (K-Factor) is applied to receptors represented by measurement site when deviation is greater than +/- 3.0 dB.

Tables 2-53 and 2-54 summarize predicted traffic noise levels for both the existing and design-year with-project conditions for Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4, respectively. Predicted design-year traffic noise levels with the project are compared to the existing conditions to identify any “substantial” traffic noise impacts under 23 CFR 772 and to indicate the direct effects of noise resulting from the project. As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. In some cases, this can result in relative changes that may not appear intuitive. An example would be a comparison between sound levels of 64.4 and 64.5 dBA. The difference between these two values is 0.1 dB. However, after rounding, the difference is reported as 1 dB.

Alternative 1 (No Build)

Under the No-Build Alternative, no reconstruction or improvements would be made to the existing I-10/Monroe Street interchange other than routine maintenance under the No-Build Alternative. Design-Year No-Build noise levels are shown in Tables 2-53 and 2-54. As shown in both tables, no long-term noise impacts are anticipated.

Table 2-53. Predicted Future Noise Levels – Build Alternative 2 (Locally Preferred Alternative)

Receiver ID	Area	Activity Category	Existing (2018) Noise Level (dBA)	Design Year 2045 No-Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 No-Build Noise Level Minus Existing Conditions, dB ¹	Design Year 2045 Noise Level Minus No-Build Condition dB ¹	Impact Type ²	Noise Impact Requiring Abatement Consideration
R1	A	G (-)	71E	74	75	3	1	None	No
R2	A	G (-)	72E	75	75	3	0	None	No
R3	A	G (-)	71 E	74	74	3	0	None	No
R4/ST1 A	A	G (-)	65 E	68	67	3	-1	None	No
R5 ^{K1}	B	G (-)	52 E	55	55	3	0	None	No
R6/ST3 ^{K1}	B	G (-)	52 E	55	55	3	0	None	No
R7/ST4 ^{K2}	C	E(72)	59E	60	61	1	1	None	No
R8/ST2	D	G (-)	61 E	65	65	4	0	None	No
R9/ST7	D	G (-)	68 E	71	71	3	0	None	No
R10	E	B (67)	58E	60	60	1	1	None	No
R11	E	B (67)	55E	58	58	3	0	None	No
R12/ST5	E	B (67)	52 E	54	54	2	0	None	No
R13	E	B (67)	51 E	54	54	3	0	None	No
R14	E	B (67)	51 E	54	54	3	0	None	No
R15	E	B (67)	56 E	59	59	3	0	None	No
R16	E	B (67)	54 E	58	58	4	0	None	No
R17	E	B(67)	50 E	53	53	3	0	None	No
R18/LT2	E	B(67)	51 E	54	54	3	0	None	No
R19	E	B(67)	54 E	57	57	3	0	None	No
R20	E	B(67)	53 E	57	57	4	0	None	No
R21	E	B(67)	54 E	57	57	3	0	None	No
R22	E	B(67)	55 E	58	58	3	0	None	No
R23	E	B(67)	55 E	58	58	3	0	None	No
R24	E	B(67)	55 E	58	58	3	0	None	No
R25/ST6	E	B(67)	55 E	58	58	3	0	None	No
R26	E	B(67)	55 E	58	58	3	0	None	No
R27	E	B(67)	55 E	58	58	3	0	None	No

Table 2-53. Predicted Future Noise Levels – Build Alternative 2 (Locally Preferred Alternative)

Receiver ID	Area	Activity Category	Existing (2018) Noise Level (dBA)	Design Year 2045 No-Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 No-Build Noise Level Minus Existing Conditions, dB ¹	Design Year 2045 Noise Level Minus No-Build Condition dB ¹	Impact Type ²	Noise Impact Requiring Abatement Consideration
R28	E	B(67)	55 E	58	58	3	0	None	No
R29	E	B(67)	54 E	57	57	3	0	None	No
R30	E	C(67)	52 E	55	55	3	0	None	No
R31	E	B(67)	57 E	58	60	1	2	None	No
R32/LT1	E	B(67)	57 E	58	61	1	3	None	No
R33	E	B(67)	55 E	57	58	2	1	None	No

Source: California Department of Transportation 2019l.

¹ $L_{eq}(h)$ are A-weighted, peak hour noise levels in decibels.

² S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

^{K1} A calibration constant of -4.0 dB is applied for this receiver, based on noise model calibration results.

^{K2} A calibration constant of +3.0 dB is applied for this receiver, based on noise model calibration results.

Table 2-54. Predicted Future Noise Levels – Build Alternative 4

Receiver ID	Area	Activity Category	Existing (2018) Noise Level (dBA)	Design Year 2045 No-Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 No-Build Noise Level Minus Existing Conditions, dB ¹	Design Year 2045 Noise Level Minus No-Build Condition dB ¹	Impact Type ²	Noise Impact Requiring Abatement Consideration
R1	A	G (-)	71E	74	75	3	1	None	No
R2	A	G (-)	72E	75	75	3	0	None	No
R3	A	G (-)	71 E	74	74	3	0	None	No
R4/ST1 A	A	G (-)	65 E	68	66	3	-2	None	No
R5 ^{K1}	B	G (-)	52 E	55	55	3	0	None	No
R6/ST3 ^{K1}	B	G (-)	52 E	55	55	3	0	None	No
R7/ST4 ^{K2}	C	E(72)	59E	60	61	1	1	None	No
R8/ST2	D	G (-)	61 E	65	64	4	-1	None	No
R9/ST7	D	G (-)	68 E	71	71	3	0	None	No
R10	E	B (67)	58E	59	60	1	1	None	No
R11	E	B (67)	55E	58	58	3	0	None	No
R12/ST5	E	B (67)	52 E	54	55	2	1	None	No
R13	E	B (67)	51 E	54	55	3	1	None	No
R14	E	B (67)	51 E	54	55	3	1	None	No
R15	E	B (67)	56 E	59	59	3	0	None	No
R16	E	B (67)	54 E	58	58	4	0	None	No
R17	E	B(67)	50 E	53	53	3	0	None	No
R18/LT2	E	B(67)	51 E	54	54	3	0	None	No
R19	E	B(67)	54 E	57	57	3	0	None	No
R20	E	B(67)	53 E	57	57	4	0	None	No
R21	E	B(67)	54 E	57	57	3	0	None	No
R22	E	B(67)	55 E	58	58	3	0	None	No
R23	E	B(67)	55 E	58	58	3	0	None	No
R24	E	B(67)	55 E	58	58	3	0	None	No
R25/ST6	E	B(67)	55 E	58	58	3	0	None	No
R26	E	B(67)	55 E	58	58	3	0	None	No
R27	E	B(67)	55 E	58	58	3	0	None	No

Table 2-54. Predicted Future Noise Levels – Build Alternative 4

Receiver ID	Area	Activity Category	Existing (2018) Noise Level (dBA)	Design Year 2045 No-Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 Build Noise Level $L_{eq}(h)$, dBA ¹	Design Year 2045 No-Build Noise Level Minus Existing Conditions, dB ¹	Design Year 2045 Noise Level Minus No-Build Condition dB ¹	Impact Type ²	Noise Impact Requiring Abatement Consideration
R28	E	B(67)	55 E	58	58	3	0	None	No
R29	E	B(67)	55 E	58	57	3	0	None	No
R30	E	B(67)	54 E	57	55	3	0	None	No
R31	E	B(67)	57 E	58	60	1	2	None	No
R32/LT1	E	B(67)	57 E	58	60	1	2	None	No
R33	E	B(67)	55 E	57	57	2	0	None	No

Source: California Department of Transportation 2019I.

¹ $L_{eq}(h)$ are A-weighted, peak hour noise levels in decibels.

² S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.

^{K1} A calibration constant of -4.0 dB is applied for this receiver, based on noise model calibration results.

^{K2} A calibration constant of +3.0 dB is applied for this receiver, based on noise model calibration results.

Build Alternative 2 (Locally Preferred Alternative)

LOS C/D and Design Year 2045 forecasted traffic volumes were used to predict traffic noise levels and analyze noise impacts at receivers located within the project area. Modeled future build noise levels were generally calculated to be higher than existing peak hour noise levels by one to four dB. Modeling results in Table 2-53 indicate the following for Build Alternative 2 (Locally Preferred Alternative).

Area A

The traffic noise modeling results in Table 2-53 indicate traffic noise levels within the undeveloped land in Area A are predicted to be in the range of 67 to 75 dBA $L_{eq}(h)$ in the design year under Build Alternative 2 (Locally Preferred Alternative). The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from two to four dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area B

The traffic noise modeling results in Table 2-53 indicate traffic noise levels at the undeveloped land in Area B is predicted to be 55 dBA $L_{eq}(h)$ in the design year under Build Alternative 2 (Locally Preferred Alternative). The results also indicate that the increase in noise between existing conditions and the design year is predicted to be three dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area C

The traffic noise modeling results in Table 2-53 indicate that traffic noise levels at the hotel pool area in Area C is predicted to be 61 dBA $L_{eq}(h)$ in the design year under Build Alternative 2 (Locally Preferred Alternative). The results also indicate that the increase in noise between existing conditions and the design year is predicted to be two dB. Because the predicted noise levels in the design year are not predicted to approach or exceed the NAC of 71 dBA $L_{eq}(h)$ for Category E land uses and a substantial increase in noise will not occur, no traffic noise impacts are predicted in Area C.

Area D

The traffic noise modeling results in Table 2-53 indicate traffic noise levels within the undeveloped land in Area D are predicted to be in the range of 65 to 71 dBA $L_{eq}(h)$ in the design year under Build Alternative 2 (Locally Preferred Alternative). The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from three to four dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area E

The traffic noise modeling results in Table 2-53 indicate that traffic noise levels at the residential land uses in Area E are predicted to range from 53 to 61 dBA $L_{eq}(h)$ in the design year under Build Alternative 2 (Locally Preferred Alternative). The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from two to four dB.

Because the predicted noise levels in the design year are not predicted to approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for the residential uses and park and a substantial increase in noise will not occur, no traffic noise impacts are predicted in Area E.

Build Alternative 4

Modeling results in Table 2-54 indicate the following for Alternative 4.

Area A

The traffic noise modeling results in Table 2-54 indicate traffic noise levels within the undeveloped land in Area A are predicted to be in the range of 66 to 75 dBA $L_{eq}(h)$ in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from one to four dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area B

The traffic noise modeling results in Table 2-54 indicate traffic noise levels at the undeveloped land in Area B is predicted to be 55 dBA $L_{eq}(h)$ in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be three dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area C

The traffic noise modeling results in Table 2-54 indicate that traffic noise levels at the hotel pool area in Area C is predicted to be 61 dBA $L_{eq}(h)$ in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be two dB. Because the predicted noise levels in the design year are not predicted to approach or exceed the NAC of 71 dBA $L_{eq}(h)$ for Category E land uses and a substantial increase in noise will not occur, no traffic noise impacts are predicted in Area C.

Area D

The traffic noise modeling results in Table 2-54 indicate traffic noise levels within the undeveloped land in Area D are predicted to be in the range of 64 to 71 dBA $L_{eq}(h)$ in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be three dB. Because there is no noise abatement criterion for Activity Category G and because the project would not result in a substantial increase in noise, no traffic noise impacts are predicted to occur.

Area E

The traffic noise modeling results in Table 2-54 indicate that traffic noise levels at the residential land uses in Area E is predicted to range from 53 to 60 dBA $L_{eq}(h)$ in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from two to four dB. Because the predicted noise levels in the design year are not predicted to approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for the residential uses and park and a substantial increase in noise will not occur, no traffic noise impacts are predicted in Area E.

2.2.7.4 Avoidance, Minimization, and/or Mitigation Measures

Alternative 1 (No Build)

Under the No-Build Alternative, no construction activities would occur; therefore, there would be no short-term noise impacts.

Build Alternatives 2 and 4

During the construction phases within the project area, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 2-55 summarizes noise levels produced by construction equipment commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of approximately 6 dB per doubling of distance.

Table 2-55. Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82
Source: Federal Transit Administration 2006	

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

The noise level requirement specified herein will apply to the equipment on the job or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the Contractor.

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that can be used to minimize the potential impacts from construction vibration.

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

A combination of the mitigation techniques for equipment vibration control as well as administrative measures, when properly implemented, can be selected to provide the most effective means to minimize the effects of construction activity. Application of the mitigation measures will reduce the construction impacts; however, temporary increases in vibration would likely occur at some locations.

Construction will be conducted in accordance with Section 14-8.02, “Noise Control,” of the Department’s 2018 SSP (refer to measure **NOI-3** below). In addition, any local noise ordinances that are more restrictive than the requirements stated in SSP-14-8.02 will be followed during construction. SSP-14-8.02 will be edited specifically for this project during the PS&E phase.

Construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Furthermore, implementation of the measures listed below would further minimize the temporary noise impacts from construction.

The proposed project would not result in any operational noise impacts, and therefore abatement measures are not necessary for operational noise. The contractor will adhere to the following minimization measures.

- NOI-1** To minimize potential construction noise effects, the construction contractor will adhere to BMPs to minimize construction noise levels, including the following:
- a. All equipment will have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
 - b. Construction methods or equipment that will provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used to the greatest possible extent.
 - c. Idling equipment will be turned off.
 - d. Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
 - e. Temporary noise barriers will be used and relocated, as needed, to protect sensitive receivers against excessive noise from construction activities involving

large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.

- f. Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).
- g. Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City of Indio will occur before construction can be performed in noise-sensitive areas. Per Section 95C.09 of the City of Indio's Municipal Code, construction noise is exempted from the Noise Control provisions of the City of Indio's Municipal Code (City of Indio 2018a).
- h. Construction lay-down or staging areas will be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (e.g., residences).

NOI-2

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration:

- a. Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- b. For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.
- c. Conduct vibration monitoring during vibration-intensive activities.

NOI-3

The project will comply with sound control provisions as included in Section 14-8.02, "Noise Control," of the Department's Standard Specifications and Special

Provisions. The contractor will not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

2.2.8 Energy

2.2.8.1 Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.2.8.2 Affected Environment

The primary source used in the preparation of this section is the *Energy Analysis Report for the I-10/Monroe Street Interchange Improvement Project*, dated February 2020 (California Department of Transportation 2020b).

Existing Project Area Conditions

The project area includes lighting along the interchange, but does not currently include any transportation management systems elements. Additional details regarding existing conditions in the project area that affect energy usage, such as existing traffic conditions, vehicle mix, and pavement surfaces, are included below.

Existing Traffic Conditions

The study area vehicle miles traveled (VMT) was calculated based on the results of the travel demand forecasting completed for this project and documented in the *Air Quality Report* (California Department of Transportation 2019k). Table 2-56 shows the existing VMT on I-10 at the daily and annual timescales. Daily VMT was calculated by multiplying the amount of daily traffic on a roadway segment by the length of the segment. Annual VMT was calculated by multiplying the daily VMT from the travel demand model by the number of days per year and a seasonal factor to account for variation in travel patterns throughout the year.

**Table 2-56. Interstate 10/Monroe Street Interchange Existing (2018)
Vehicle Miles Traveled (VMT)**

Vehicle Miles Traveled	No Build
Daily	829,971
Annual	288,000,000
Source: California Department of Transportation 2020b	

The *Traffic Operations Analysis Report* indicated that all freeway facilities and intersections in the study area operate acceptably at LOS D or better under existing conditions. In addition, during the AM and PM peak hours, travel conditions on I-10 in the eastbound and westbound directions are currently free flowing. However, the following locations were found to exceed capacity during the AM peak hour:

- Northbound left-turn (westbound ramps/Monroe Street)
- Southbound right-turn (westbound ramps/Monroe Street)
- Southbound left-turn (eastbound ramps/Monroe Street)

Existing and Projected Vehicle Mix

I-10 is part of the California Freeway and Expressway System and has been recognized as an essential link in a multi-modal transportation network. The route is also part of the Federal Surface Transportation Assistance Act Route Network for oversized Trucks and the Subsystem of Highways for the Movement of Extralegal Permit Loads. Under existing (2018) conditions, truck traffic as a percentage of freeway average daily traffic within the study area is approximately 33 percent. In opening year (2025), truck traffic will account for approximately 33 percent of total daily volumes, while during the design year (2045) truck traffic will account for approximately 33 percent of total daily volumes.

Conditions of Existing Pavement Surface

In 1999, a pavement rehabilitation project (EA 452801) was completed on I-10 within the project limits. In 2012, the City widened and improved the westbound on- and off-ramps, Monroe Street north of the westbound ramp terminal intersection, and the eastbound off-ramp as part of project EA 0N750. According to a 2015 Pavement Condition Survey, no pavement distresses were observed on I-10 within the proposed project limits.

The following current pavement conditions exist along the I-10/Monroe Street interchange within the study area:

- Mainline lanes are typically Portland cement concrete (PCC) pavement.
- Inside and outside shoulders are typically asphalt concrete (AC) pavement.
- Auxiliary lanes are a mix of PCC and AC pavement.
- Interchange ramps are typically AC pavement.

Energy Resources

California contains abundant sources of renewable and non-renewable energy. The primary energy resources within California are described in the following sections.

Non-Renewable Energy

Non-renewable energy resources include petroleum, natural gas, and coal. These energy resources are considered fossil fuels because they were formed when large quantities of dead organisms, usually zooplankton (microscopic organisms drifting in water bodies), algae, and other vegetation, were buried beneath sedimentary rock and exposed to intense heat and pressure

over thousands of years. Fossil fuels are considered non-renewable resources because they cannot be replenished on a meaningful human timeframe. These resources will eventually run out because they cannot be renewed at a sufficient rate for sustainable economic extraction.

Renewable Energy

Renewable energy is generally defined as energy that comes from resources that are naturally replenished on a human timescale. Sources of renewable energy include the wind, sun, waves, and the heat of the Earth (i.e., geothermal heat). In addition, organic matter (also referred to as biomass), such as crops, animal waste, and municipal solid waste, can serve as sources of renewable energy, called biofuels. Renewable energy resources are continually replenished through natural processes.

2.2.8.3 Environmental Consequences

The energy analysis is based on the methodology described in the *Caltrans Standard Environmental Reference*, Volume 1, Chapter 13 – Energy, as well as guidance provided by Caltrans regarding CEQA Updates, effective April 27, 2019. The energy analysis addresses both direct and indirect energy consumption, which are defined as follows:

Direct Energy. In the context of transportation, direct energy involves all energy consumed by vehicle propulsion (e.g., automobiles, trains, airplanes). This energy consumption is a function of traffic characteristics, such as VMT, speed, vehicle mix, and thermal value of fuel being used. Additionally, direct energy also includes the one-time energy expenditure involved in construction of the project. Therefore, analysis of direct energy use includes the following factors:

- **Direct Energy (Mobile Sources):** The energy consumed by vehicle propulsion within the facility during operation of the project.
- **Direct Energy (Construction):** The energy consumed by construction vehicles and equipment during construction of the project.
- **Indirect Energy.** Indirect energy includes maintenance activities that would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway.

Direct energy consumption from mobile sources associated with the project was estimated using traffic model forecasts for VMT from the *Traffic Operations Analysis Report* (California Department of Transportation 2019a) and the *EMFAC2017* air quality model, which provides estimated fuel consumption rates for baseline year 2018, opening year 2025, and design year 2045. Estimated energy consumption in 2045 is considered to be the most conservative (i.e., highest) because population and employment are projected to be higher in that year than in any earlier year. Therefore, the energy consumption of the proposed project is compared to the projected 2045 baseline conditions, which assumes that limited baseline transportation improvements have occurred, and that the proposed project improvements were not implemented. The *EMFAC2017* model incorporates energy and conservation measures that were adopted as of December 2017, such as the federal Phase 2 Greenhouse Gas Standards, but it does not consider policies that are not yet adopted. *EMFAC2017* uses average values of energy

consumption for various vehicle types based on available data, and using the number of vehicle miles of travel, it is possible to calculate the energy consumption per vehicle miles of travel, and ultimately per day or per year.

Direct energy use associated with fuel consumption during project construction was estimated by converting carbon dioxide (CO₂) emissions generated by diesel and gasoline powered equipment for the 2.5-year construction period using the rate of CO₂ emissions emitted per gallon of combusted gasoline and diesel. These CO₂ emissions were obtained from the *I-10/Monroe Street Interchange Improvement Project Air Quality Report* (California Department of Transportation 2019k), which quantified CO₂ emissions using the Sacramento Metropolitan Air Quality Management District Roadway Construction Emissions Model.

To assess indirect energy use from the maintenance of the project facility, and the maintenance of vehicles using the facility, energy use factors were obtained from Caltrans' Energy and Transportation Systems Handbook, Appendix C. The I-10/Monroe Street interchange resource study area for the potential energy impacts is a subarea of the overall SCAG region and was defined by comparing year 2040 Regional Travel Demand Model forecasts of daily traffic volumes using the highway network under the No-Build Alternative (Alternative 1) and one set of traffic volumes for future year scenarios.

Implementation of the proposed project would affect the use of energy resources in the study area during short-term construction and long-term operations.

Project construction would also include various resource conservation measures, including the use of reclaimed water and energy-efficient lighting, such as light-emitting diode (LED) traffic signals.

Project operations would include implementation of intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems are commonly referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

The analysis of project impacts is at the regional level and is, therefore, by its nature, an analysis of cumulative impacts. The following analysis discusses the direct and indirect energy use impacts for each of the project alternatives.

Construction Impacts

Alternative 1 (No Build)

The No-Build Alternative would not require construction in the project area as a result of the I-10/Monroe Street interchange improvements. Therefore, energy consumption for project construction activities would not be required.

Build Alternatives 2 and 4
Direct Energy (Construction)

Direct energy from construction sources is the energy that is consumed during construction activities by vehicles and equipment. Project construction would involve the following types of diesel-powered equipment during the estimated 2.5-year construction period:

- Cranes
- Rough terrain forklifts
- Front end loaders
- Dump trucks
- Welders
- Generators
- Off-road vehicles
- Graders
- Rollers
- Vibrators
- Dewatering equipment
- Pumps
- Air Compressors

Project construction would also involve the use of on-road gasoline vehicles by construction workers. Overall, construction fuel consumption for the proposed project was calculated by converting the estimated CO₂ emission levels generated by diesel-powered off-road equipment and on-road gasoline vehicles for the construction period, provided by the *I-10/Monroe Street Interchange Improvement Project Air Quality Report*, into gallons of diesel and gasoline that would be consumed during project construction activities.

Table 2-57. Direct Energy Use during Construction

Year	2.5-Year Construction Period		
	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Fuel Consumption (BTU) (million)
Build Alternative 2 (Locally Preferred Alternative)			
2022	150,076	12,097	20,457
2023	43,090	3,224	5,846
2024	10,977	1,775	1,594
Total	204,143	17,096	27,897

Table 2-57. Direct Energy Use during Construction

Year	2.5-Year Construction Period		
	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Fuel Consumption (BTU) (million)
Build Alternative 4			
2022	128,809	12,097	17,746
2023	35,565	3,224	4,887
2024	10,977	1,775	1,593
Total	175,352	17,096	24,227
Source: California Department of Transportation 2020b			

As shown in Table 2-57, energy consumption for the construction of Build Alternative 2 (Locally Preferred Alternative) is expected to consume a total of approximately 204,143 gallons of diesel fuel and 17,096 gallons of gasoline fuel, resulting in a total energy consumption of approximately 27,897 million British thermal units (BTUs) over the 2.5-year period. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Therefore, Build Alternative 2 (Locally Preferred Alternative) would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Energy consumption for Build Alternative 4 is expected to consume a total of approximately 175,352 gallons of diesel fuel and 17,096 gallons of gasoline fuel, resulting in a total energy consumption of approximately 24,227 million BTUs over the 2.5-year period. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Therefore, Build Alternative 4 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Project construction would primarily consume diesel through operation of heavy-duty construction equipment, material deliveries, and debris hauling, while gasoline fuel would be consumed from worker vehicle trips to and from the construction site. The construction energy consumption under the two Build Alternatives represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy.

While construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials, including any removed asphalt concrete pavement and cement concrete pavement, will be used where feasible. Recycled products typically have lower manufacturing and transport energy costs because they do not utilize raw materials, which must be mined and transported to a processing facility. If new materials must be used, fly ash mix may be considered to allow for lowering of the heat

island effect,² depending on what is allowable according to Caltrans specifications. These energy conservation features are consistent with State and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Permanent Impacts

Alternative 1 (No Build)

Mobile Sources

Under the No-Build Alternative, the increase in forecasted traffic volumes would result in worsening of traffic congestion, slower traffic speeds, and increases in traffic delays. Without the improvements proposed in the Build Alternatives, congested traffic conditions and limitations on mobility would be more prevalent throughout the study area. These conditions would contribute to inefficient energy consumption, as vehicles would use extra fuel while idling in stop-and-go traffic or moving at slow speeds through congested roadways.

Indirect Energy Use

Table 2-58 shows that under the No-Build Alternative in the year 2025, indirect energy use in the study area would remain relatively the same compared to the No-Build Alternative in the year 2045. The No-Build Alternative serves as a baseline for comparison against Build Alternatives 2 and 4, as discussed below.

Build Alternatives 2 and 4

Direct Energy (Mobile Sources)

Energy calculations for transportation projects are dependent on VMT and vehicle fuel consumption. For the study area, energy calculations are based on annual VMT, shown in Table 2-58. VMT for existing year 2018, opening year 2025, and design year 2045 are shown in the table to provide an overview of VMT by evaluation year and project alternative. As shown in the table, daily and annual VMT under existing conditions (2018) are lower than daily and annual VMT in the future years 2025 and 2045. The increase in daily and annual VMT can be attributed to the projected increase in population growth and increased employment in the region.

Energy use during operations of any alternative are directly related to the gasoline and diesel fuel consumption by automobiles and trucks. In addition to VMT, traffic operating conditions also affect fuel consumption rates. Therefore, VMT, travel speeds, and vehicle type were used to calculate the fuel consumption. Operational energy consumption was estimated based on vehicle types (e.g., automobiles, trucks, light-duty trucks, medium-duty trucks, and heavy-duty trucks) traveling within the proposed area using the CT-EMFAC2017 model, which relies on emission factors from the EMFAC2017 (version 1.0.2) model. The EMFAC2017 model output provided the total gallons of combined gasoline and diesel fuel.

² The “heat island effect” is when the sun heats dry, exposed urban surfaces, such as roofs and pavement, to temperatures 50–90 degrees Fahrenheit (°F) hotter than the air.

Table 2-58. Operational Vehicle Miles by Alternative

Study Phase	Vehicle Miles Traveled (VMT)	No-Build (Alternative 1)	Build Alternative 2 (Locally Preferred Alternative)	Build Alternative 4
Existing Conditions (2018)	Daily VMT	829,971	N/A	N/A
	Annual VMT ¹ (millions)	288	N/A	N/A
Opening Year (2025)	Daily VMT	942,363	942,363	942,363
	Annual VMT (millions)	327	327	327
Design Year (2045)	Daily VMT	1,265,130	1,265,130	1,265,130
	Annual VMT (millions)	439	439	439
Source: California Department of Transportation 2020b ¹ Annual values were derived by multiplying the daily values by 347, per CARB methodology (CARB 2008).				

Energy use can be represented in terms of the thermal value of the fuel usually measured in BTU. Gallons of fuel can be converted to BTUs by using the heat content of the fuel. Diesel fuel has a heat content of 127,460 BTUs per gallon and gasoline has a heat content of 109,772 BTUs per gallon. Table 2-59 summarizes the annual energy use for each of the Build Alternatives.

Table 2-59. Annual Direct Energy Use (Mobile Sources) by Alternative and Study Year

Fuel Usage by Study Year	No-Build (Alternative 1)	Build Alternative 2 (Locally Preferred Alternative)	Build Alternative 4
2018 Fuel Usage (gallons)			
Gasoline	26,303	N/A	N/A
Diesel	25,389	N/A	N/A
2025 Fuel Usage (gallons)			
Gasoline	23,657	23,657	23,657
Diesel	25,878	25,878	25,878
2045 Fuel Usage (gallons)			
Gasoline	23,835	23,835	23,835
Diesel	28,018	28,018	28,018
2018 BTU (billion)	2,125	N/A	N/A
2025 BTU (billion)	2,046	2,046	2,046
2045 BTU (billion)	2,147	2,147	2,147
2025 Percent Change from No-Build	---	0	0
2045 Percent Change from No-Build	---	0	0
Source: California Department of Transportation 2020b			

As shown in Table 2-59, the annual energy consumption between 2018 and 2045 would increase by 22 BTU (1.04 percent), even though VMT is projected to increase by 52.43 percent. The disparity discerned when comparing the increases of energy use against VMT is attributed to

fleet turnover, as older, less fuel-efficient vehicles are replaced by later model, more fuel-efficient vehicles over time. These later model year replacement vehicles would also include hybrid and all electric vehicles. Among project alternatives, no change in energy consumption would occur due to (1) no change in project vicinity VMT, and (2) the relatively small magnitude of this single interchange capacity enhancement in light of the larger region. Therefore, there would be no increase in energy consumption under either Build Alternative when compared to the No-Build Alternative.

As shown in Table 2-59, Build Alternative 2 (Locally Preferred Alternative) would not result in an increase in energy consumption in 2045 compared to the No-Build Alternative since Build Alternative 2 (Locally Preferred Alternative) would not increase capacity (i.e., VMT) in the study area. Implementation of Build Alternative 2 (Locally Preferred Alternative) would result in more flexibility in the traffic movement and higher efficiencies along the I-10/Monroe Street interchange. Therefore, Build Alternative 2 (Locally Preferred Alternative) would not result in an inefficient, wasteful, and unnecessary consumption of energy.

As shown in Table 2-59, Build Alternative 4 would not result in an increase in energy consumption in 2045 compared to the No-Build Alternative since Build Alternative 4 would not increase capacity (i.e., VMT) in the study area.

Consistency with Energy Regulations and Policies

The energy regulations and policies described in the regulatory setting involve achieving varying degrees of energy efficiency, reduced consumption of non-renewable resources, and increased use of alternative modes of transportation. Federal and state regulations and policies (e.g., Surface Transportation Act, Energy Policy Act, California's Transportation Plan) are intended to achieve goals such as reducing congestion, improving air quality, and increasing vehicle fuel efficiency. The Build Alternatives would not conflict with these regulations or policies. The regional and local policies (e.g., SCAG 2016 RTP and City of Indio General Plan) include goals such as reducing congestion, reducing traffic on arterial roads, promoting mass transit, reduction of travel miles, and increasing vehicle occupancy rates. The Build Alternatives would be consistent with these policies because the project would enhance operations by improving reliability and travel times within the I-10 corridor and would also improve the traffic flow by reducing the congested areas and offering the motorists a faster and reliable commute. The Build Alternatives are not consistent with the goals of reducing travel miles and promoting mass transit.

The No-Build Alternative would not be consistent with regional and local policies because there would be no decrease in traffic congestion, and operational, mobility, and travel time conditions (mainline, interchanges, and ramps) would continue to deteriorate.

The differences among the alternatives are small enough to have little to no effect on total energy usage or fuel availability along the corridor or in the region. Operational energy consumption calculations are based on study area VMT, and the changes among the alternatives are only incremental, and no major differences in energy usage would result among the alternatives. No substantial alterations to the existing energy infrastructure would be required for the I-10/Monroe Street interchange. Based on available information about fossil fuel availability each Build Alternative would have minimal operational energy consumption impacts.

Indirect Energy Use

Indirect energy use is the energy that is consumed during maintenance of the facility, and the maintenance of vehicles using the facility.

Indirect energy use may also include peripheral energy effects, which includes the use of energy sources that are not used by the transportation system itself, but rather energy used as a result of changes in land use, population density, or transportation patterns that are induced by the project, which would affect the energy demand, supply, and distribution within the surrounding area. However, because the project area is already urbanized and located along an existing transportation corridor, the project would not be expected to induce substantial changes in land use, population density, or transportation patterns that would increase energy demand, supply, or distribution. Therefore, an analysis of peripheral energy effects is not included in this report.

To assess indirect energy use from the maintenance of the project facility, and the manufacturing and maintenance of vehicles using the facility, energy use factors were obtained from Caltrans' *Energy and Transportation Systems Handbook*, Appendix C. These factors are shown in Table 2-60.

As shown in Table 2-60, the facility maintenance energy use factor is the energy used to maintain an urban roadway with asphalt concrete pavement. For vehicle manufacturing and maintenance, Caltrans' *Energy and Transportation Systems Handbook* includes energy use factors for light, medium, and heavy trucks. For this analysis, the energy use factors for medium trucks were used as an average for the varying types of vehicles that would use the project facility. The total vehicle maintenance energy is the sum of three factors, which include the energy to produce oil and tires, and the energy to conduct general maintenance and repair.

Table 2-60. Indirect Energy Use Factors

Type of Indirect Energy Use	Indirect Energy Use Factor
Facility Maintenance Energy (Urban Roadway, Asphalt Concrete Pavement)	1.776 x 10 ⁸ BTU per Lane-Mile
Vehicle Maintenance Energy (Medium Truck; Sum of Oil: 594, Tire: 366, and General Maintenance and Repair: 1,186)	2,146 BTU per Mile
Source: California Department of Transportation 2020b	

Indirect energy is the energy used to maintain the facility, and to maintain the vehicles that would be using the facility. Indirect energy was calculated using indirect energy use factors provided by *Caltrans' Energy and Transportation Systems Handbook*. For facility maintenance, the indirect energy use factor is 1.776 x 10⁸ BTU per lane-mile for an urban roadway with asphalt concrete pavement. For the resource study area, this indirect energy use factor for facility maintenance was multiplied by the total lane distances of the I-10/Monroe Street interchange study area (1.22 miles), and then by the number of lanes along the corridor under each scenario (ten lanes under the No-Build Alternative, 18 lanes under Build Alternative 2 [Locally Preferred Alternative], and 15 lanes under Build Alternative 4).

For the regional area, the number of lane-miles in 2015 for the SCAG planning area (155,925.19 miles) was multiplied by the indirect energy use factor for facility maintenance to obtain estimates for facility maintenance energy use. While varying types of roadways are in the SCAG planning area, the indirect energy use factor for an urban roadway with asphalt concrete pavement was also used for the regional area to serve as a general estimate of indirect energy use, and to simplify the calculations so that they are consistent with those for the study area. Under Build Alternatives 2 and 4, which would include eight and five additional lanes compared to the No-Build Alternative, respectively, the regional area energy was adjusted to include the additional energy that Build Alternatives 2 and 4 would require for facility maintenance above the No-Build Alternative 1 scenario.

For vehicle maintenance, the indirect energy use factor is 2,146 BTU per mile for medium trucks. This indirect energy use factor is the sum of three factors, which include oil energy, tire energy, and general maintenance and repair energy. The energy use factor for medium trucks was used as an average for the varying types of vehicles that would use the project facility. The indirect energy use factor for vehicle maintenance was multiplied by the annual VMT for the study area provided by Caltrans and regional area obtained from SCAG's 2016/2040 RTP/Sustainable Communities Strategy.

The results of these calculations are shown in Table 2-61 and Table 2-62, which show the indirect energy use for facility and vehicle maintenance at both the study area and regional levels. Table 2-60 shows that Build Alternative 2 (Locally Preferred Alternative) would result in an increase in indirect energy use of approximately 24 percent in the study area for years 2025 and 2045 when compared to the No-Build Alternative. Table 2-61 shows that Build Alternative 2 (Locally Preferred Alternative) would result in negligible changes in indirect energy use in the region compared to the No-Build Alternative.

Based on this data, Build Alternative 2 (Locally Preferred Alternative) would not substantially contribute to indirect energy use at the regional level, and would not be expected to result in permanent adverse indirect energy impacts. This alternative would be consistent with federal, regional, and local plans and policies. Therefore, Build Alternative 2 (Locally Preferred Alternative) would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Table 2-61. Indirect Energy Use in the Interstate 10/Monroe Street Interchange Study Area by Alternative

Scenario	Indirect Energy for Facility Maintenance (Billion BTU)	Indirect Energy for Vehicle Maintenance (Billion BTU)	Total Indirect Energy Use (Billion BTU)	Numeric Difference Between Build Alternatives and No-Build Alternative	Percent Difference Between Build Alternatives and No-Build Alternative
2025 No-Build Alternative (Alternative 1)	0.27	0.70	0.97	--	--
2025 Build Alternative 2 (Locally Preferred Alternative)	0.50	0.70	1.20	0.23	23.62
2025 Build Alternative 4	0.44	0.70	1.14	0.17	17.40
2045 No-Build Alternative (Alternative 1)	0.27	0.94	1.21	--	--
2045 Build Alternative 2 (Locally Preferred Alternative)	0.50	0.94	1.44	0.23	18.93
2045 Build Alternative 4	0.44	0.94	1.38	0.17	13.94
Source: California Department of Transportation 2020b					

Table 2-62. Indirect Energy Use in the Southern California Association of Governments Regional Area

Scenario	Indirect Energy for Facility Maintenance (Billion BTU)	Indirect Energy for Vehicle Maintenance (Billion BTU)	Total Indirect Energy Use (Billion BTU)	Numeric Difference Between Build Alternatives and No-Build Alternative	Percent Difference Between Build Alternatives and No-Build Alternative
2025 No-Build Alternative (Alternative 1)	27,692.31	325,184.06	352,886.37	--	--
2025 Build Alternative 2 (Locally Preferred Alternative)	27,692.81	325,184.06	352,876.87	0.50	0.00014
2025 Build Alternative 4	27,697.75	325,184.06	352,876.81	0.44	0.0001
2045 No-Build Alternative (Build Alternative 1)	27,692.31	350,332.20	378,024.51	--	--
2045 Build Alternative 2 (Locally Preferred Alternative)	27,692.81	350,332.20	378,025.01	0.50	0.00013
2045 Build Alternative 4	27,692.75	350,332.20	378,024.95	0.44	0.0001

Source: California Department of Transportation 2020b

Table 2-61 shows that Build Alternative 4 would result in an increase in indirect energy use of approximately 17 percent in the study area for years 2025 and 2045 when compared to the No-Build Alternative. Table 2-62 shows that Build Alternative 4 would result in negligible changes in indirect energy use in the region in years 2025 and 2045 when compared to the No-Build Alternative.

Based on this data, Build Alternative 4 would not substantially contribute to indirect energy use at the regional level, and would not be expected to result in permanent adverse indirect energy impacts. This alternative would be consistent with federal, regional, and local plans and policies. Therefore, Build Alternative 4 would not result in an inefficient, wasteful, and unnecessary consumption of energy.

2.2.8.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives 2 and 4 would not result in adverse effects related to energy consumption; therefore, no avoidance, minimization, or mitigation measures are required.

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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 are discussed below in the Threatened and Endangered Species section, Section 2.3.5. 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 *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h).

The biological study area (BSA) includes all areas that could be affected by the proposed project. It includes a 500-foot buffer to accommodate any changes to the project footprint that may occur during project design.

Coachella Valley Multiple Species Habitat Conservation Plan

A Multiple Species Habitat Conservation Plan (Plan) was prepared for the entire Coachella Valley as well as the surrounding mountains to address current and potential future state and federal Endangered Species Act issues in the Plan area. A Memorandum of Understanding (“Planning Agreement”) was developed to govern preparation of the Plan. In late 1995 and early 1996, under the auspices of the CVAG, the Cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; the County of Riverside; U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Wildlife (CDFW); Bureau of Land Management (BLM); U.S. Forest Service (USFS); and National Park Service (NPS) signed the Planning Agreement to initiate the planning effort. Subsequently, the Department, the CVWD, IID, County Flood Control, Riverside County Regional Park and Open Space District (County Parks), Riverside County Waste Resources Management District (County Waste), California Department of Parks and Recreation (State Parks), and Coachella Valley Mountain Conservancy (CVMC) decided to participate in the Plan.

The Plan balances environmental protection and economic development objectives in the Plan area and simplifies compliance with endangered species–related laws. The Plan is intended to satisfy legal requirements for the issuance of permits to allow the take of species covered by the Plan in the course of otherwise lawful activities. The Plan will, to the maximum extent practicable, minimize and mitigate the impacts of the taking and provide for conservation of the covered species.

The CVMSHCP includes establishment of a reserve system, conservation objectives to ensure conservation of the covered species and conserved natural communities in the CVMSHCP reserve system, provisions for management of the CVMSHCP reserve system, a monitoring program, and adaptive management. The CVMSHCP reserve system will be established from lands within 21 Conservation Areas. Because some take authorization is provided under the Plan for development in Conservation Areas, the actual CVMSHCP reserve system will be somewhat smaller than the total number of acres in the Conservation Areas. When assembled, the reserve system will provide for the conservation of the covered species in the Plan area.

Habitat Assessment/Study Methods

Plant communities identified from aerial photographs during the literature review were verified in the field by walking meandering transects through the plant communities and along boundaries between plant communities within the BSA. The plant communities were evaluated for their potential to support special-status plant and animal species. In addition, the field staff identified jurisdictional features, riparian/riverine habitat, and any natural corridors or linkages that may support the movement of wildlife through the area.

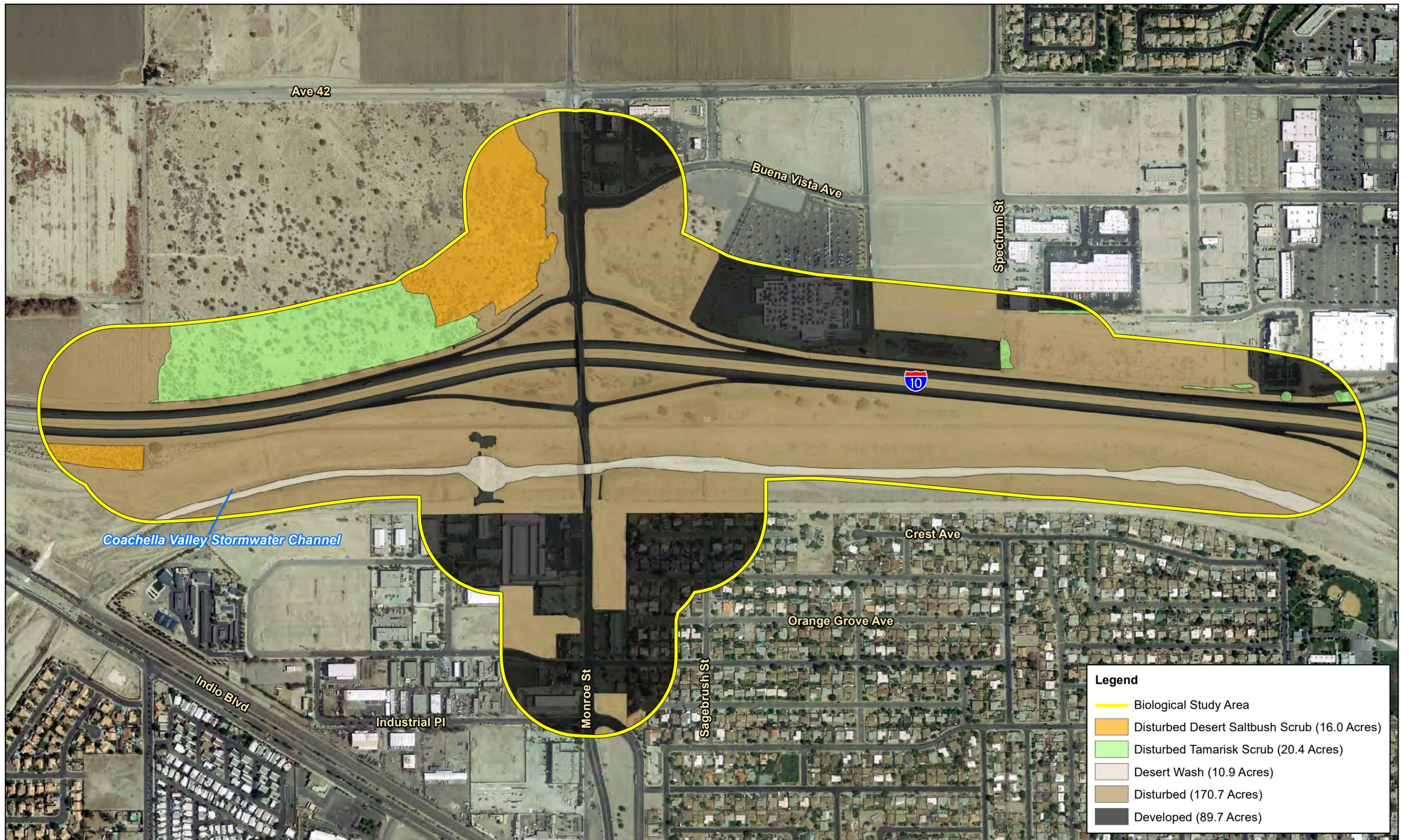
Special attention was given to special-status habitats and/or undeveloped areas, which have higher potential to support special-status plant and animal species, such as those identified during the records search. All plant and animal species observed, as well as dominant plant species within each plant community, were recorded in a standard field notebook. Wildlife detections were made through observations of scat, trails, tracks, burrows, or nests and/or through visual and aural observations. In addition, site characteristics, such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, the condition of on-site plant communities, and the presence of potential jurisdictional drainage and/or wetland features, were noted.

On-site and adjoining soils were researched prior to the field visit using the U.S. Department of Agriculture (USDA) NRCS *Custom Soil Resource Report for the Riverside County, Coachella Valley Area, California* (Custom Soil Resources Report). In addition, a review of local geological conditions and historical aerial photographs was conducted to assess the ecological changes the BSA has undergone.

Plant communities were mapped using U.S. Geological Survey (USGS) 7.5-minute topographic base maps and aerial photography. Plants were identified using keys, descriptions, and illustrations in Munz (1974) and Hickman (2012). Nomenclature for vegetation types generally follows that of *The Vegetation Classification and Mapping Program: List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*. In addition, the plant communities were cross referenced with Sawyer, Keeler-Wolf, and Evans (2009) and Holland (1986).

Biological Study Area

As mentioned earlier, the BSA identified for the proposed project includes the project footprint and a 500-foot buffer (refer to Figure 2-19). Specifically, the BSA is centrally located within the City of Indio at the crossroads of I-10, Monroe Street, and the CVSC. Under the jurisdiction of the CVWD, the CVSC (also known as the Whitewater River) bisects the central portion of the



Legend	
	Biological Study Area
	Disturbed Desert Saltbush Scrub (16.0 Acres)
	Disturbed Tamarisk Scrub (20.4 Acres)
	Desert Wash (10.9 Acres)
	Disturbed (170.7 Acres)
	Developed (89.7 Acres)



Source: Google Imagery

Figure 2-19
Biological Study Area and Vegetation
Interstate 10/Monroe Avenue Interchange Improvement Project

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BSA, running from the Whitewater area north of Palm Springs to the Salton Sea and channeling waters from surrounding mountain areas. Within the boundaries of the BSA, the CVSC consists of a trapezoidal earthen channel that is routinely maintained through weed abatement for flood control purposes. I-10 runs through the BSA in an east–west direction, while Monroe Street runs through the BSA in a north–south direction.

Areas surrounding the BSA comprise commercial, residential, and agricultural land uses. Channelization of surrounding waterways (i.e., the CVSC) for flood control and agricultural purposes has changed the hydrology of the area, further altering the natural habitats that once occurred. As a result, native plant communities or natural communities are no longer present within the BSA. In addition, habitats within surrounding properties have been converted to commercial, residential, and agricultural land uses and are no longer extant or connected to naturally occurring habitats, preventing natural plant communities from re-establishing. The remaining portions of the BSA consist of disturbed and developed areas that are generally devoid of vegetation.

Surface elevations within the BSA range from approximately -30 feet below to 28 feet above mean sea level (msl) and gently slope to the southeast. The only notable topographic relief within the BSA comes from the existing earthen banks of the CVSC. Based on historic Google Earth imagery, vegetation along the slopes of or adjacent to the active channel of the CVSC is routinely graded/removed for flood control purposes. On-site and adjoining soils were researched prior to the field visit using the USDA NRCS Web Soil Survey. According to the Custom Soil Resources Report, soils that have been mapped within the BSA include Indio very fine sandy loam (Is); Gilman fine sandy loam, 0% to 2% slopes (GbA); Gilman silt loam, 0% to 2% slopes (GeA); Coachella Fine Sand, 0% to 2% slopes (CpA); and Fluvents (Fe) (refer to Exhibit 5, Soils). The majority of surface soils within the BSA have been mechanically disturbed from weed abatement activities, development, and anthropogenic disturbances.

Plant Communities

Three plant communities were observed within the BSA during the field investigation: (1) desert wash, (2) disturbed desert saltbush scrub, and (3) disturbed tamarisk scrub. In addition, the BSA contains two human-modified areas: disturbed and developed. These plant communities and human-modified areas are described in further detail below and depicted in Figure 2-19.

Desert Wash (10.9 Acres)

The desert wash plant community, which encompasses approximately 10.9 acres of the southern portion of the BSA, is associated with the low-flow portion of the CVSC. Common plant species occurring within this plant community included tamarisk (*Tamarix ramosissima*), giant reed (*Arundo donax*), Jimsonweed (*Datura wrightii*), Canada horseweed (*Erigeron canadensis*), tocalote (*Centaurea melitensis*), California croton (*Croton californicus*), tarragon (*Artemisia dracunculus*), annual burweed (*Ambrosia acanthicarpa*), common sunflower (*Helianthus annuus*), short-podded mustard (*Hirschfeldia incana*), prickly lettuce (*Lactuca serriola*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), castor bean (*Ricinus communis*), and cocklebur (*Xanthium strumarium*).

Disturbed Desert Saltbush Scrub (16.0 Acres)

The disturbed desert saltbush scrub plant community is found within the northern and western portions of the BSA. Within the northern portion of the BSA, this plant community is found within a vacant parcel of land that was previously used for agricultural land uses. In addition, this plant community can be found within the western portion of the BSA, directly south of I-10. It encompasses approximately 16.0 acres of the BSA. This plant community is highly disturbed as a result of historical agricultural uses, illegal dumping, and off-road vehicle trails. The disturbed desert saltbush scrub plant community is dominated by fourwing saltbush (*Atriplex canescens*) and big saltbush (*Atriplex lentiformis*). Other plant species occurring within this plant community include short-podded mustard (*Hirschfeldia incana*), annual burweed, and Russian thistle (*Salsola tragus*).

Disturbed Tamarisk Scrub (20.4 Acres)

The disturbed tamarisk scrub plant community encompasses approximately 20.4 acres of the northern portion of the BSA. Disturbances within this plant community are a result of historical agricultural uses, illegal dumping, and off-road vehicle trails. The disturbed tamarisk scrub plant community is dominated by two species of tamarisk (*T. aphylla* and *T. ramosissima*). Other plant species occurring within this plant community include Russian thistle, short-podded mustard, and non-native grasses.

Disturbed (170.7 Acres)

Disturbed areas within the BSA, which encompass approximately 170.7 acres, do not comprise a natural plant community. Instead, they consist of unpaved dirt areas that are routinely exposed to anthropogenic disturbances. Surface soils within these areas are generally devoid of vegetation; however, they can support non-native and ruderal/weedy plant species. In addition, surface soils within these areas have been heavily disturbed and/or compacted from anthropogenic disturbances (e.g., grading, weed abatement, illegal dumping, off-road vehicle trails). Plant species occurring within disturbed areas consist of a variety of non-native species, including Saharan mustard (*Brassica tournefortii*), tocalote (*Centaurea melitensis*), coastal heron's bill (*Erodium cicutarium*), short-podded mustard, and tumble mustard (*Sisymbrium altissimum*).

Developed (89.7 Acres)

Developed areas encompass approximately 89.7 acres of the BSA. Developed areas within the BSA generally consist of paved impervious surfaces and infrastructure, including roadways (e.g., I-10, Monroe Street), residential properties, and commercial developments.

Habitats are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distribution; and/or (3) the habitat requirements of special-status plants or animals occurring on-site. One natural community of special concern was identified from the California Natural Diversity Database (CNDDDB) during the records search as occurring within the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles: Desert Fan Palm Oasis Woodland. However, no natural communities of special concern were found within the BSA during the habitat assessment. The only natural community of concern identified within the BSA is jurisdictional waters (refer to Section 2.3.2, Wetlands and Other Waters).

Habitat Connectivity

Habitat linkages provide links between large undeveloped habitat areas that have become separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature, with adequate width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species but inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. In addition, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

There are no known designated habitat linkages or migration corridors within the BSA. Furthermore, the CVSC has not been identified in the CVMSHCP as a habitat linkage or migration corridor. Areas surrounding the BSA are completely developed and comprise residential, transportation, and agricultural land uses that have eliminated the connection between the BSA and naturally occurring vegetation communities. The CVSC is relatively undeveloped, allowing wildlife to easily move through the area in search of food, shelter, or nesting habitat. Therefore, the channel has the potential to support the movement of coyote and other common species wildlife species that occur within the surrounding areas. However, the CVSC undergoes routine maintenance (e.g., grading, vegetation removal) that may periodically modify the habitat within the channel. Project activities are not expected to impede wildlife movement through the BSA, specifically, through the CVSC; it will continue to provide opportunities for local wildlife movement and function as a corridor for highly mobile wildlife species.

2.3.1.2 Environmental Consequences

Temporary

Alternative 1 (No Build)

If the project is not constructed, it will not cause any impacts on natural communities of concern within the BSA, including depleted natural communities/habitats of concern.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

As mentioned earlier, three plant communities were observed within the boundaries of the BSA during the habitat assessment: desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub. In addition, there are two human-modified areas that would be classified as disturbed and developed. Temporary impacts on these plant communities and other areas as a result of Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are listed in Table 2-63.

Table 2-63. Temporary Impacts on Vegetation Types and Other Areas

Vegetation Types and Other Areas	Existing (Acres)	Build Alternative 2 (Locally Preferred Alternative) Temporary Project Impact (Acres)	Build Alternative 4 Temporary Project Impact (Acres)
Desert Wash	10.9	1.81	1.80
Disturbed Desert Saltbush Scrub	16.0	0.30	0.27
Disturbed Tamarisk Scrub	20.4	0.19	0.18
Disturbed	170.7	27.50	27.13
Developed	89.7	1.62	1.32
Total	307.7	30.96	30.70
Source: California Department of Transportation 2019h.			

Temporary effects would be considered less than significant under CEQA and not adverse under NEPA because these types of vegetation communities occur in abundance and support a limited amount of biological resources.

Habitat Connectivity

There are no known designated habitat linkages or migration corridors within the BSA; therefore, no temporary impacts are anticipated.

Permanent

Alternative 1 (No Build)

If the project is not constructed, it will not cause any impacts on natural communities of concern within the BSA, including depleted natural communities/habitats of concern.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

As mentioned earlier, three plant communities were observed within the boundaries of the BSA during the habitat assessment: desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub. In addition, there are two human-modified areas that would be classified as disturbed and developed. Permanent impacts on these plant communities and other areas as a result of Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are listed in Table 2-64.

Table 2-64. Permanent Impacts on Vegetation Types and Other Areas

Vegetation Types and Other Areas	Existing (Acres)	Build Alternative 2 (Locally Preferred Alternative) Permanent Project Impact (Acres)	Build Alternative 4 Permanent Project Impacts (Acres)
Desert Wash	10.9	0.18	0.15
Disturbed Desert Saltbush Scrub	16.0	0.00	0.00
Disturbed Tamarisk Scrub	20.4	0.00	0.00
Disturbed	170.7	5.50	6.36
Developed	89.7	9.54	8.49
Total	307.7	15.22	15.00
Source: California Department of Transportation 2019h.			

Operation of the Build Alternatives may directly and indirectly affect vegetation communities that commonly occur throughout the study area. Direct impacts may include vegetation removal from routine maintenance of the right of way. Indirect effects associated with Build Alternative operations may include increased occurrences of dust, fire, pollution, and trash or the introduction of invasive plants. Operational effects would be considered less than significant under CEQA and not adverse under NEPA because these types of vegetation communities occur in abundance and support a limited amount of biological resources.

Habitat Connectivity

There are no known designated habitat linkages or migration corridors within the BSA; therefore, no permanent impacts are anticipated.

CVMSHCP

The proposed project is in the City of Indio. The City of Indio is a permittee under the CVMSHCP and required to comply with the requirements set forth in that plan. Therefore, the proposed project was analyzed for its consistency with the CVMSHCP. The proposed project is identified as a Covered Activity under the CVMSHCP. Furthermore, it was identified as a facility to be developed during development of the conservation goals and objectives of the CVMSHCP. As such, the proposed project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The proposed project is within the boundaries of the CVMSHCP but not within any CVMSHCP-designated Conservation Areas. As a Covered Activity outside designated Conservation Areas, no further avoidance, minimization, or mitigation measures are required, other than those identified in Section 2.3.2, Wetlands and Other Waters; Section 2.3.3, Plant Species; Section 2.3.4, Animal Species; and Section 2.3.6, Invasive Species.

2.3.1.3 Avoidance, Minimization, and/or Mitigation Measures

No further avoidance, minimization, and mitigation measures are required, other than those identified in Section 2.3.2, Wetlands and Other Waters; Section 2.3.3, Plant Species; Section 2.3.4, Animal Species; and Section 2.3.6, Invasive Species.

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

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

2.3.2.2 Affected Environment

Information used in this section is based on the approved *I-10/Monroe Street Interchange Improvement Project Delineation of State and Federal Jurisdictional Waters*, dated September 2019 (California Department of Transportation 2019m), and the *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h). A field delineation was conducted to determine the jurisdictional limits of waters of the U.S. and waters of the state (including potential wetlands) within the boundaries of the BSA. The field survey and verification of site conditions was conducted on April 25, 2018, by certified wetland delineators and regulatory specialists. A second verification of site conditions was conducted August 8, 2019. The jurisdictional delineation report provides an analysis of all water features that are or may be jurisdictional under USACE and RWQCB.

The CVSC is a trapezoidal earthen channel that runs through the BSA in a west– east direction and discharges to the Salton Sea, approximately 20 miles southeast of the BSA. Surface flows within the CVSC are provided primarily by urban runoff from surrounding commercial, residential, and agricultural land uses. Within the BSA, the CVSC exhibits primarily an earthen streambed, consisting of a natural substrate with an even distribution of gravel and fine sediment. However, some portions of the CVSC within the BSA have been improved for flood control purposes, including one concrete-lined drop structure approximately 565 linear feet upstream of

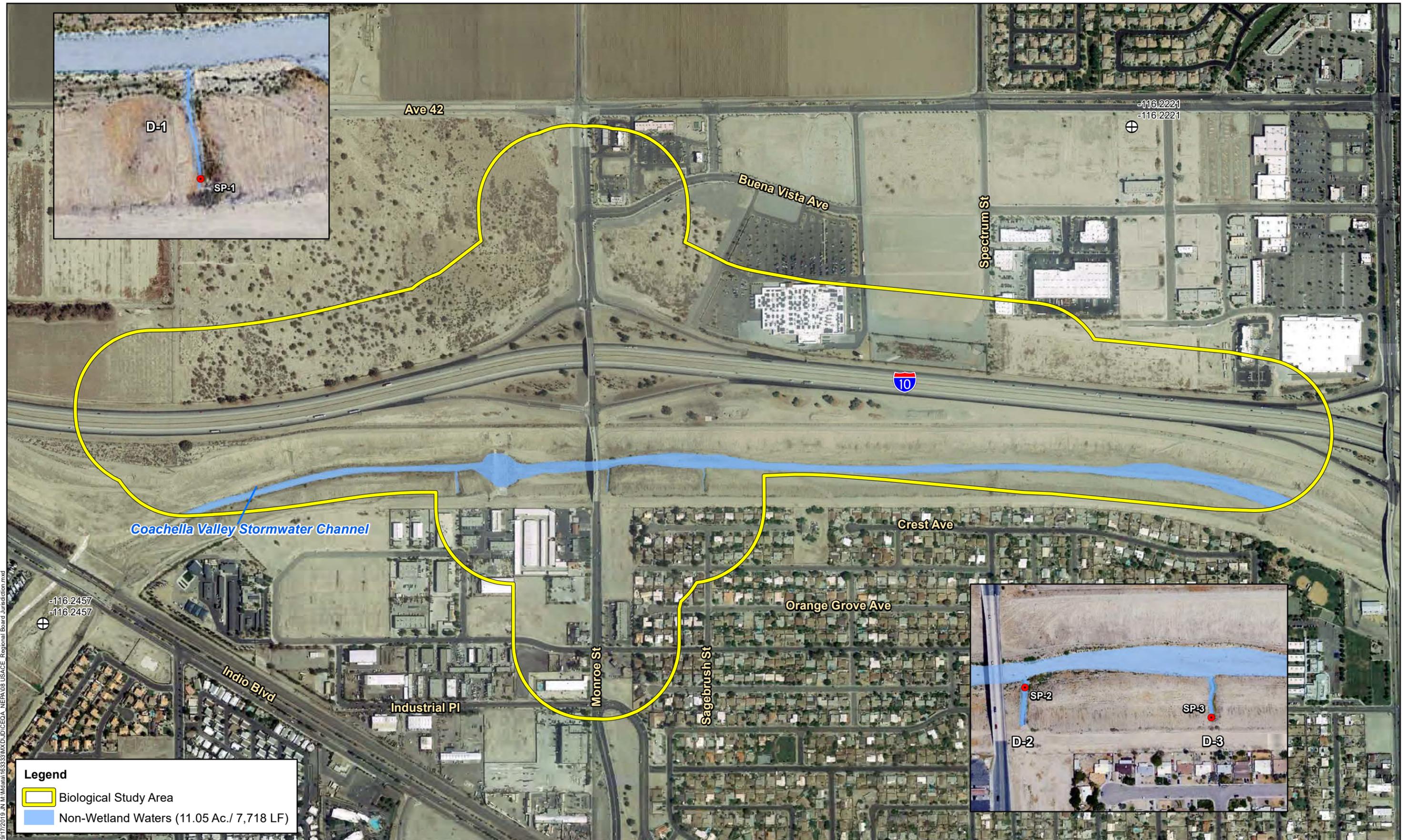
the Monroe Street bridge. Based on historic aerials and evidence observed in the field, the banks of the CVSC are devoid of vegetation and heavily disturbed by flood control maintenance activities (e.g., grading, vegetation removal) conducted by the CVWD on an annual basis. Common plant species occurring within the CVSC include tamarisk, giant reed, Jimsonweed, Canada horseweed, tocalote, California croton, tarragon, annual burweed, common sunflower, short-podded mustard, prickly lettuce, Russian thistle, London rocket, castor bean, and cocklebur.

Drainage 1 is an earthen drainage feature that discharges into the CVSC through two 24-inch storm drains along the southern bank of the channel, in the western portion of the BSA. Surface flows within Drainage 1 are provided by urban runoff from commercial properties immediately south of the CVSC. Within the boundaries of the BSA, Drainage 1 is approximately 119 linear feet in length. Based on historic aerials and evidence observed in the field, Drainage 1 is heavily disturbed by flood control maintenance activities (e.g., grading, vegetation removal) conducted by CVWD along the banks of the CVSC on an annual basis. Plant species occurring within Drainage 1 include tamarisk, Saharan mustard, rabbitsfoot grass (*Polypogon monspeliensis*), sorghum (*Sorghum halepense*), foxtail barley (*Hordeum murinum*), London rocket, Jimsonweed, wild celery (*Apiastrum angustifolium*), and prickly lettuce.

Drainage 2 is a concrete-lined drainage feature that discharges into the CVSC through one 48-inch storm drain along the southern bank of the channel, east of the Monroe Street bridge. Surface flows within Drainage 2 are provided by urban runoff from commercial and residential properties immediately south of the CVSC. Within the boundaries of the BSA, Drainage 2 is approximately 150 linear feet in length. Plant species occurring within Drainage 2 include black willow (*Salix gooddingii*), cattail (*Typha latifolia*), sprangletop (*Leptochloa fusca*), cocklebur, rabbitsfoot grass, Bermuda grass (*Cynodon dactylon*), common knotweed (*Persicaria lapathifolia*), and broadleaf dock (*Rumex obtusifolius*).

Drainage 3 is an earthen drainage feature that discharges into the CVSC along the southern bank of the channel, in the eastern portion of the BSA. Surface flows within Drainage 3 are provided by urban runoff from residential properties immediately south of the CVSC. Within the boundaries of the BSA, Drainage 3 is approximately 140 linear feet in length. Based on historic aerials and evidence observed in the field, Drainage 3 is heavily disturbed by flood control maintenance activities (e.g., grading, vegetation removal) conducted by the CVWD along the banks of the CVSC on an annual basis. Plant species occurring within Drainage 3 include rabbitsfoot grass, broadleaf cattail, and white sweetclover (*Melilotus albus*).

To qualify as a wetland, an area must exhibit the three wetland parameters (i.e., vegetation, soils, hydrology) described in the USACE *Arid West Regional Supplement*. According to the results of the field investigation, no areas met all three wetland parameters, and no jurisdictional wetland features exist within the BSA.



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Figure 2-20

USACE/RWQCB Jurisdiction

Interstate 10/Monroe Avenue Interchange Improvement Project



Source: Google Imagery

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Figure 2-21
CDFW Jurisdiction
Interstate 10/Monroe Avenue Interchange Improvement Project

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The CVSC, which includes Drainage 1 through 3, is tributary to the Salton Sea, a traditional navigable water. Therefore, these features qualify as waters of the U.S. and fall under the regulatory authority of the USACE, RWQCB, and CDFW. Approximately 11.06 acres (7,718 linear feet) of USACE/RWQCB jurisdictional waters (non-wetland waters) and approximately 68.57 acres (7,718 linear feet) of CDFW jurisdictional streambed are within the BSA (refer to Figures 2-20 and 2-21). Corresponding site photographs are provided in Appendix G.

2.3.2.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

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

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Based on a review of the preliminary design plans for Build Alternative 2 (Locally Preferred Alternative), approximately 1.83 acres (1,149 linear feet) of temporary impacts on USACE/RWQCB jurisdictional waters (non-wetland waters) would occur (refer to Table 2-65). In addition, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 10.26 acres (1,149 linear feet) of temporary impacts on CDFW jurisdictional streambed.

Based on a review of the preliminary design plans for Build Alternative 4, approximately 1.80 acres (1,030 linear feet) of temporary impacts on USACE/RWQCB jurisdictional waters (non-wetland waters) would occur (refer to Table 2-65). Build Alternative 4 would result in approximately 10.20 acres (1,030 linear feet) of temporary impacts on CDFW jurisdictional streambed.

The proposed temporary impacts on federal and state jurisdictional waters and wetlands would be considered potentially significant under CEQA and adverse under NEPA. Therefore, it would be necessary for the project proponent to obtain the following regulatory approvals prior to construction within jurisdictional areas to minimize impacts: (1) USACE CWA Section 404 Permit, (2) RWQCB CWA Section 401 Water Quality Certification, and (3) CDFW Section 1602 Streambed Alteration Agreement. However, with implementation of measures **BIO-1** and **BIO-2**, below, impacts would be less than significant under CEQA and not adverse under NEPA.

Permanent

Alternative 1 (No Build)

If the project is not constructed, project-related impacts on federal and state jurisdictional waters and wetlands would not occur. Furthermore, clearing, grubbing, and grading associated with maintenance activities within the CVSC would continue to occur.

Build Alternatives 2 and 4

Permanent impacts on federal and state jurisdictional waters within the limits of disturbance would occur where structures are proposed, where grading (including cut or fill) would occur, and where features associated with water quality–related BMPs would be installed.

Based on a review of the preliminary design plans for Build Alternative 2 (Locally Preferred Alternative), approximately 0.20 acre (222 linear feet) of permanent impacts on USACE/RWQCB jurisdictional waters (non-wetland waters) would occur (refer to Table 2-66). In addition, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 1.21 acre (222 linear feet) of permanent impacts on CDFW jurisdictional streambed.

Table 2-65. Jurisdictional Temporary Impacts Summary

Site ID	Post Mile	Latitude/ Longitude	Cowardin Class	Class of Aquatic Feature	USACE/RWQCB Waters of the U.S. Acreage (Square Feet)			CDFW Streambed Acreage (Square Feet)		
					BSA	Alternative 2	Alternative 4	BSA	Alternative 2	Alternative 4
D-1	R54.55	33.737147/-116.236727	Riverine	Non-Wetland	0.01 (478)	0.00 (0)	0.00 (0)	0.01 (478)	0.00 (0)	0.00 (0)
D-2	R54.773	33.737204/-116.233468	Riverine	Non-Wetland	0.03 (1,201)	0.02 (693)	0.00 (0)	0.03 (1,201)	0.00 (0)	0.00 (0)
D-3	R54.892	33.737244/-116.231393	Riverine	Non-Wetland	0.02 (854)	0.00 (0)	0.00 (0)	0.02 (854)	0.00 (0)	0.00 (0)
CVSC	R54.751	33.737513/-116.233819	Riverine	Non-Wetland	11.00 (478,827)	1.81 (78,920)	1.80 (78,563)	68.51 (2,984,404)	10.24 (446,215)	10.20 (444,327)
TOTAL					11.06 (481,360)	1.83 (79,613)	1.80 (78,563)	68.57 (2,986,937)	1.21 (52,090)	10.26 (446,908)

Source: California Department of Transportation 2019h.

Table 2-66. Jurisdictional Permanent Impacts Summary

Site ID	Post Mile	Latitude/ Longitude	Cowardin Class	Class of Aquatic Feature	USACE/RWQCB Waters of the U.S. Acreage (Square Feet)			CDFW Streambed Acreage (Square Feet)		
					BSA	Alternative 2	Alternative 4	BSA	Alternative 2	Alternative 4
D-1	R54.55	33.737147/-116.236727	Riverine	Non-Wetland	0.01 (478)	0.00 (0)	0.00 (0)	0.01 (478)	0.00 (0)	0.00 (0)
D-2	R54.773	33.737204/-116.233468	Riverine	Non-Wetland	0.03 (1,201)	0.01 (540)	0.03 (1,193)	0.03 (1,201)	0.01 (540)	0.03 (1,193)
D-3	R54.892	33.737244/-116.231393	Riverine	Non-Wetland	0.02 (854)	0.00 (0)	0.00 (0)	0.02 (854)	0.00 (0)	0.00 (0)
CVSC	R54.751	33.737513/-116.233819	Riverine	Non-Wetland	11.00 (478,827)	0.19 (8,086)	0.16 (6,885)	68.51 (2,984,404)	1.20 (51,550) 0.98 (42,689)	1.00 (43,407)
TOTAL					11.06 (481,360)	0.20 (8,626)	0.19 (8,078)	68.57 (2,986,937)	1.21 (52,090)	1.03 (44,600)

Source: California Department of Transportation 2019h.

Based on a review of the preliminary design plans for Build Alternative 4, approximately 0.19 acre (257 linear feet) of permanent impacts on USACE/RWQCB jurisdictional waters (non-wetland waters) would occur (refer to Table 2-66). In addition, Alternative 4 would result in approximately 1.03 acre (257 linear feet) of permanent impacts on CDFW jurisdictional streambed. Furthermore, clearing, grubbing, and grading associated with the proposed project may result in indirect impacts associated with sediment release and the transport of non-native plants into adjacent jurisdictional areas.

The proposed permanent impacts on federal and state jurisdictional waters and wetlands would be considered potentially significant under CEQA and adverse under NEPA. However, with implementation of measures **BIO-1** and **BIO-2**, below, impacts would be less than significant under CEQA and not adverse under NEPA. Authorization under Section 404 of the CWA Nationwide Permit and water quality certification under Section 401 of the CWA, as well as a Porter-Cologne Water Quality Control Act permit for impacts on state waters only, would be required, as would a CDFW 1602 Streambed Alteration Agreement.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following measure would ensure that potential significant impacts under CEQA and potential substantial impacts under NEPA on federal and state jurisdictional features would not occur:

- BIO-1:** Permanent and temporary impacts on jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.
- BIO-2:** Prior to construction, the following regulatory approvals must be obtained prior to commencement of any construction activities within the identified jurisdictional areas: (1) USACE CWA Section 404 Permit; (2) Regional Board CWA Section 401 Water Quality Certification; and (3) CDFW Section 1602 Streambed Alteration Agreement.

2.3.3 Plant Species

2.3.3.1 Regulatory Setting

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

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

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

2.3.3.2 Affected Environment

Information used in this section is based on the *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h).

Prior to conducting the field survey, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the BSA. The records search focused on the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles. Previously recorded occurrences of special-status plant species and their proximity to the BSA were determined through a query of the CDFW CNDDDB through RareFind 5, the CDFW Biogeographic Information and Observation System (BIOS) database, the CNPS Inventory of Rare and Endangered Plants, Calflora Database, the compendia of special-status species published by CDFW, USFWS species listings, and the CVMSHCP Covered Species list. In addition, a species list was obtained from the Carlsbad field office of the USFWS through the Information, Planning, and Consultation (IPaC) database on December 20, 2018, and updated on August 8, 2019. The field reviews for the proposed project were conducted on April 25, May 17, June 13, July 10, August 9, 2018, and August 8, 2019.

The CNDDDB was queried for reported locations of special-status plant species as well as natural communities of special concern in the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles. A search of published records for these species was conducted

using CNDDDB RareFind 5 online software and the CDFW BIOS database. The CNPS Inventory of Rare and Endangered Plants supplied information regarding the distribution and habitats of vascular plants in the vicinity of the BSA. In addition, the IPaC database was searched for special-status wildlife species that USFWS believes may occur within the BSA. This database search was based on specific site boundaries rather than the quadrangles where the project would occur.

The CNDDDB and CNPS literature search identified 30 special-status plant species that have the potential to occur within the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles (refer to Table 2-67, below). In addition, one natural community of special concern was identified. Special-status plant species were evaluated for their potential to occur within the BSA, based on habitat requirements, availability and quality of suitable habitat, and known distributions. No special-status plant species or natural communities of special concern were identified within the BSA.

None of the 30 special-status plant species were found to be present within the BSA during the habitat assessment. Given the habitat requirements for specific species, and considering the availability and quality of habitats, none of the 30 special-status plant species are expected to occur within the BSA and therefore are presumed absent.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
chaparral sand- verbena <i>Abronia villosa</i> var. <i>aurita</i>	None/None/1B.1/ Not Covered	Habitats include chaparral, coastal scrub, and desert dunes. Found at elevations ranging from 246 to 5,250 feet above msl. Blooming period is from January to September.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Borrego milk-vetch <i>Astragalus lentiginosus</i> var. <i>borreganus</i>	None/None/4.3/ Not Covered	Grows in sandy soils within Mojavean desert scrub and Sonoran Desert scrub. Found at elevations ranging from 98 to 1,050 feet above msl. Blooming period is from February to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
Coachella Valley milk-vetch <i>Astragalus lentiginosus</i> var. <i>cochellae</i>	FE/None/1B.2/ Covered	Occurs in dunes and sandy flats along disturbed margins of sandy washes and in sandy soils along roadsides adjacent to sand dunes. May also occur in sandy substrates in creosote bush scrub. Found at elevations ranging from 130 to 2,150 feet above msl. Blooming period is February to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Lancaster milk-vetch <i>Astragalus preussii</i> var. <i>laxiflorus</i>	None/None/1B.1/ Not Covered	Occurs on alkaline clay in flat, gravelly, or sandy washes in chenopod scrub. Found at elevations ranging from 0 to 2,300 feet above msl. Blooming period is from March to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
gravel milk-vetch <i>Astragalus sabulonum</i>	None/None/2B.2/ Not Covered	Associated with sandy and sometimes gravelly flats, washes, and roadsides. Habitats include desert dunes, Mojavean desert scrub, and Sonoran Desert scrub. Found at elevations ranging from -200 feet below to 3,050 feet above msl. Blooming period is from February to July.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial, and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing
triple-ribbed milk- vetch <i>Astragalus tricarinatus</i>	FE/None/1B.2/ Covered	Found in sandy or gravelly soils within Joshua tree woodland and Sonoran Desert scrub habitats. Found at elevations ranging from 1,476 to 3,904 feet above msl. Blooming period is from February to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
Peninsular spineflower <i>Chorizanthe leptotheca</i>	None/None/4.2/ Not Covered	Occurs in alluvial and granitic soils within chaparral, coastal scrub, and lower montane coniferous forest habitats. Found at elevations ranging from 984 to 6,233 feet above msl. Blooming period is from May to August.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
glandular ditaxis <i>Ditaxis claryana</i>	None/None/2B.2/ Not Covered	Occurs on sandy habitats in Mojavean desert scrub and Sonoran Desert scrub. Found at elevations ranging from 0 to 1,525 feet above msl. Blooming period is from October to March.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
California ditaxis <i>Ditaxis serrata</i> var. <i>californica</i>	None/None/3.2/ Not Covered	Occurs in Sonoran Desert scrub habitat at elevations ranging from 98 to 3,281 feet above msl. Blooming period is from March to December.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Booth's evening- primrose <i>Eremothera boothii</i> ssp. <i>Boothi</i>	None/None/2B.3/ Not Covered	Found in Joshua tree as well as pinyon and juniper woodland habitats. Found at elevations ranging from 2,674 to 7,874 feet above msl. Blooming period is from April to September.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Joshua tree poppy <i>Eschscholzia androuxii</i>	None/None/4.3/ Not Covered	Grows in desert washes, along the flats, and on slopes; prefers sandy, gravelly, and/or rocky soils within Joshua tree woodland and Mojavean desert scrub habitats. Found at elevations ranging from 1,919 to 5,528 feet above msl. Blooming period is from February to June.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
Abrams' spurge <i>Euphorbia abramsiana</i>	None/None/2B.2/ Not Covered	Grows in sandy soils within Mojavean desert scrub and Sonoran Desert scrub habitats. Found at elevations ranging from -16 feet below to 4,298 feet above msl. Blooming period is from (August) September to November.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Arizona spurge <i>Euphorbia arizonica</i>	None/None/2B.3/ Not Covered	Preferred habitat includes sandy Sonoran Desert scrub habitat. Found at elevations ranging from 164 to 984 feet above msl. Blooming period is from March to April.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
flat-seeded spurge <i>Euphorbia platysperma</i>	None/None/1B.2/ Not Covered	Occurs within desert scrub and sandy Sonoran Desert scrub habitats. Found at elevations ranging from 213 to 328 feet above msl. Blooming period is from February to September.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
pink velvet-mallow <i>Horsfordia alata</i>	None/None/4.3/ Not Covered	Grows in Sonoran Desert scrub. Found at elevations ranging from 330 to 1,640 feet above msl. Blooming period is from February to December.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Newberry's velvet-mallow <i>Horsfordia newberryi</i>	None/None/4.3/ Not Covered	Grows in Sonoran Desert scrub. Found at elevations ranging from 0 to 2,625 feet above msl. Blooming period is from February to December.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
ribbed cryptantha <i>Johnstonella costata</i>	None/None/4.3/ Not Covered	Grows in sandy soils within desert dunes, Mojavean desert scrub, and Sonoran Desert scrub habitats. Found at elevations ranging from -196 feet below to 1,640 feet above msl. Blooming period is from February to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
winged cryptantha <i>Johnstonella holoptera</i>	None/None/4.3/ Not Covered	Occurs in Mojavean desert scrub and Sonoran Desert scrub habitats. Found at elevations ranging from 328 to 5,545 feet above msl. Blooming period is from March to April.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
southwestern spiny rush <i>Juncus acutus</i> ssp. <i>leopoldii</i>	None/None/4.2/ Not Covered	Occurs in wetlands, seeps, meadows, salt-marsh, and dunes. Found at elevations ranging from 0 to 2,955 feet above msl. Blooming period is from May to June.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Cooper's rush <i>Juncus cooperi</i>	None/None/4.3/ Not Covered	Found in meadows and seeps (mesic, alkaline, or saline). Occurs at elevations ranging from -853 to 5,807 feet above msl. Occurs in the blooming period from April to May (August).	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Torrey's box-thorn <i>Lycium torreyi</i>	None/None/4.2/ Not Covered	Grows in sandy, rocky washes; along streambanks; and in desert valleys within Mojavean desert scrub and Sonoran Desert scrub habitats. Found at elevations ranging from 164 to 4,003 feet above msl. Blooming period is from March to June.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
California marina <i>Marina orcuttii</i> var. <i>orcuttii</i>	None/None/1B.3/ Not Covered	Grows in rocky soils within chaparral, pinyon and juniper woodland, and Sonoran Desert scrub habitats. Found at elevations ranging from 3,445 to 3,806 feet above msl. Blooming period is from May to October.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
spear-leaf matelea <i>Matelea parvifolia</i>	None/None/2B.3/ Not Covered	Occurs in rocky soils within Mojavean desert scrub and Sonoran Desert scrub habitats. Found at elevations ranging from 1,444 to 3,593 feet above msl. Blooming period is from March to May (July).	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
creamy blazing star <i>Mentzelia tridentate</i>	None/None/B.3/ Not Covered	Occurs on rocky, gravelly, and sandy soils within Mojavean desert scrub. Found at elevations ranging from 2,300 to 3,850 feet above msl. Blooming period is from March to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
slender cottonheads <i>Nemacaulis denudata</i> var. <i>gracilis</i>	None/None/2B.2/ Not Covered	Occurs in coastal dunes, desert dunes, and Sonoran Desert scrub habitats. Found at elevations ranging from 164 to 1,312 feet above msl. Blooming period is from March to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
narrow-leaf sandpaper-plant <i>Petalonyx linearis</i>	None/None/2B.3/ Not Covered	Found in sandy or rocky canyons within Mojavean desert scrub and Sonoran Desert scrub habitats. Found at elevations ranging from -82 feet below to 3,658 feet above msl. Blooming period is March to May.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
Deep Canyon snapdragon <i>Pseudorontium cyathiferum</i>	None/None/2B.3/ Not Covered	Grows in Sonoran Desert scrub habitats (rocky). Found at elevations ranging from 0 to 2,325 above msl. Blooming period is from February to April.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
desert spike-moss <i>Selaginella eremophila</i>	None/None/2B.2/ Not Covered	Found in chaparral and Sonoran Desert scrub habitats, within gravelly or rocky soil. Found at elevations ranging from 656 to 2,953 feet above msl. Blooming period is from May to July.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
purple stemodia <i>Stemodia durantifolia</i>	None/None/2B.1/ Not Covered	Occurs in Sonoran Desert scrub habitats. Found at elevations ranging from 591 to 984 feet above msl. Blooming period is from January to December.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.
Mecca-aster <i>Xylorhiza cognate</i>	None/None/1B.2/ Covered	Occurs in Sonoran Desert scrub within Indio Hills and Mecca Hills. Found at elevations ranging from 65 to 1,310 feet above msl. Blooming period is from January to June.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which deters plant species from establishing.

Table 2-67. Potentially Occurring Special-Status Plant Species

Common/ Scientific Name	Status ¹ Fed/CA/CNPS/ CVMSHCP	General Habitat Requirements	Habitat Present/ Absent	Rationale
Plant Communities				
Desert Fan Palm Oasis Woodland	CDFW Sensitive Habitat	Rare plant community that is one of the most unusual biological resources within the Coachella Valley. Found within canyons and along the San Andreas Fault Zone where water occurs naturally. Generally characterized by open to dense groves of native desert fan palms, which are the most massive native palm in North America, growing to more than 66 feet.	Habitat Absent	This plant community was not observed within or adjacent to the BSA during the field investigation.
Source: California Department of Transportation 2019h. 1/Notes U.S. Fish and Wildlife Service (Fed) – Federal FE – Federal Endangered FT – Federal Threatened California Department of Fish and Wildlife (CA) – California SE – State Endangered ST – State Threatened FP – Fully Protected SSC –Species of Special Concern WL – Watch List California Native Plant Society (CNPS)		<i>California Rare Plant Rank</i> 1B – Plants that are rare, threatened, or endangered in California and elsewhere 2B – Plants that are rare, threatened, or endangered in California but more common elsewhere 3 – Plants about which more information is needed (a review list) 4 – Plants of limited distribution (a watch list) <i>Threat Ranks</i> 0.1 – Seriously threatened in California 0.2 – Moderately threatened in California 0.3 – Not very threatened in California		

2.3.3.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

If the project is not constructed, Alternative 1 would not cause any impacts on non-listed special-status species.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Because of the lack of suitable habitat within the BSA, none of the 30 special-status plant species are expected to occur within the BSA and therefore are presumed absent. No temporary direct

impacts on special-status plant species are anticipated to occur as a result of the proposed project. However, development of the proposed project has the potential to result in indirect impacts on special-status plant species that may occur within habitats surrounding the BSA; such impacts could stem from fugitive dust or the spread of non-native seeds. With implementation of avoidance and minimization measures **BIO-3** and **BIO-4** described below, the proposed project would not result in indirect impacts on special-status plant species, and no compensatory mitigation would be required. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Permanent

Alternative 1 (No Build)

If the project is not constructed, Alternative 1 would not cause any impacts on non-listed special-status species.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Because of the lack of suitable habitat within the BSA, none of the 30 special-status plant species are expected to occur within the BSA and therefore are presumed absent. No long-term impacts on special-status plant species are anticipated to occur as a result of the proposed project.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following avoidance and minimization measures would ensure temporary impacts on special-status plant species would not occur.

- BIO-3:** Project materials will not be cast from the project site into nearby habitats and project-related debris, spoils, and trash will be contained and removed to a proper disposal facility.
- BIO-4:** All construction equipment will be inspected and cleaned prior to use in the project footprint to minimize the importation of non-native plant material. All mulch, topsoil, and seed mixes used during post-construction landscaping activities and erosion control BMPs will be free of invasive plant species propagules. A weed abatement program will be implemented should invasive plant species colonize the area within the project footprint post-construction.

No avoidance, minimization, and/or mitigation measures are required.

2.3.4 Animal Species

2.3.4.1 Regulatory Setting

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

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

2.3.4.2 Affected Environment

Information used in this section is based on the *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h).

Habitat Assessment

The BSA includes all areas that could be affected by the proposed project, including a 500-foot buffer to accommodate any changes to the project footprint that may occur during project design. Plant communities identified from aerial photographs during the literature review were verified in the field by walking meandering transects through the plant communities and along boundaries between plant communities within the BSA. The plant communities were evaluated for their potential to support special-status plant and animal species. In addition, the field staff identified jurisdictional features, riparian/riverine habitat, and natural corridors and linkages that may support the movement of wildlife through the area. Special attention was given to special-status habitats and/or undeveloped areas, which have higher potential to support special-status animal species, such as those identified during the records search. Areas providing suitable habitat for burrowing owl were closely surveyed for suitable burrows during the habitat assessment. The survey included searching for burrowing owls and suitable burrows

in all areas of the BSA that provide suitable habitat. Walking transects were spaced approximately 33 feet apart or less to ensure visual coverage of all areas. The methods for detecting the presence of burrowing owl relied on direct observation, aural detection, and signs of presence, including pellets, white wash, feathers, or prey remains. Suitable burrows or nests, including rock piles and non-natural substrates (e.g., drainpipes), were thoroughly examined for signs of presence. All suitable burrows encountered were thoroughly examined for shape, scat, pellets, feathers, tracks, and prey remains. The locations of remnant and occupied burrows were documented, if found.

All plant and animal species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observations of scat, trails, tracks, burrows, and nests and/or visual and aural observation. In addition, site characteristics, such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, the condition of on-site plant communities, and the presence of potential jurisdictional drainage and/or wetland features, were noted.

Personnel Survey Dates

Qualified biologists who were experienced with the flora and fauna of the Coachella Valley evaluated biological conditions within the BSA on April 25, 2018. Additional field surveys were also conducted on August 9, 2018, and August 9, 2019. Focused surveys for burrowing owl were conducted during the 2018 breeding season by qualified biologists who were experienced in the identification and detection of burrowing owls and their habitat. The burrowing owl focused surveys were conducted on April 25, May 17, June 13, and July 10, 2018.

Wildlife

Wildlife species detected during the field survey by sight, calls, tracks, scat, and other signs were recorded in a field notebook. Field guides were used to assist with the identification of species during surveys and included *The Sibley Field Guide to the Birds of Western North America* for birds, *A Field Guide to Western Reptiles and Amphibians* for herpetofauna, and *A Field Guide to Mammals of North America* for mammals. Taxonomic nomenclature used in this report follows these guides or, where applicable, accepted taxonomic updates (e.g., the American Ornithologists' Union annual checklist supplement). Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names (first reference only).

Fish

No fish were observed within the BSA during the habitat assessment. The section of the CVSC within the BSA was dry during the habitat assessment. Standing water is most likely not present long enough to support populations of fish. Therefore, fish are presumed absent from the BSA.

Amphibians

No amphibians were observed within the BSA during the habitat assessment. Flows and vegetation within the active channel of the CVSC provide a limited amount of suitable habitat for amphibian species. Because of extensive urban development in the surrounding area, it is unlikely that the BSA would support a robust population of native amphibian species.

Furthermore, the CVSC is routinely maintained through weed abatement and does not support the native habitats that are favored by the native amphibian species that are known to occur in the general vicinity of the BSA. Therefore, amphibians are presumed absent from the BSA.

Reptiles

Desert iguana (*Dipsosaurus dorsalis*) was the only reptile observed during the habitat assessment. Because the BSA comprises a mixture of developed and undeveloped land, it is expected to provide suitable habitat for a small number of reptilian species, primarily lizards, that are acclimated to edge or urban environments. Common reptilian species that have the potential to occur within the BSA include western side-blotched lizard (*Uta stansburiana elegans*), western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), Great Basin whiptail (*Aspidoscelis tigris tigris*), and red racer (*Coluber flagellum piceus*).

Birds

Plant communities found within the BSA provide suitable foraging and nesting habitat for a variety of bird species that have adapted to the high degree of disturbance associated with the surrounding land uses. Twenty-four avian species were identified during the habitat assessment. Common bird species observed during the habitat assessment included burrowing owl, white-throated swift (*Aeronautes saxatalis*), verdin (*Auriparus flaviceps*), house finch (*Haemorhous mexicanus*), American kestrel (*Falco sparverius*), barn swallow (*Hirundo rustica*), American cliff swallow (*Petrochelidon pyrrhonota*), northern mockingbird (*Mimus polyglottos*), lesser goldfinch (*Spinus psaltria*), and Cassin's kingbird (*Tyrannus vociferans*).

Mammals

Black-tailed jackrabbit (*Lepus californicus*) was the only mammalian species detected during the habitat assessment. The plant communities found within the BSA provide suitable habitat for a small number of mammalian species that have adapted to living in edge or urban environments. However, the extensive development surrounding the BSA limits the potential for occurrences of mammalian species even further. Most mammal species are nocturnal and difficult to observe during a diurnal field survey. Common mammalian species with potential to occur within the BSA include coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Otospermophilus beecheyi*). Although bats occur throughout most of Southern California, their habitat within the BSA is somewhat limited. They may forage in the open habitat, but suitable roosting habitat (i.e., bridges, untrimmed palm trees, caves) is limited within the BSA or in the general vicinity. The channel bridge and ornamental palm tree species have the potential to provide suitable roosting habitat for bats; however, no bats or signs were detected around the bridge or palm trees during the habitat assessment. In addition, the palm trees are routinely maintained and therefore not expected to provide suitable roosting opportunities.

Regional Species and Habitats and Natural Communities of Concern

The CNDDDB was queried for reported locations of special-status plant animal species as well as natural communities of special concern in the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles. A search of published records for these species was conducted using the CNDDDB RareFind 5 online software and the CDFW BIOS database. The

CNPS Inventory of Rare and Endangered Plants supplied information regarding the distribution and habitats of vascular plants in the vicinity of the BSA. In addition, the IPaC database was searched for special-status wildlife species that USFWS believes may occur within the BSA. This database search was based on specific site boundaries rather than the quadrangles where the project would occur. It does not necessarily indicate special regulatory protection because many of the species that are listed in the IPaC database are migratory birds that are protected only by the Migratory Bird Treaty Act (MBTA).

The CNDDDB and CNPS literature search identified 49 special-status animal species as having the potential to occur within the Indio, La Quinta, Myoma, and West Berdoo Canyon USGS 7.5-minute quadrangles (refer to Table 2-68). Animals are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on-site. In addition, one natural community of special concern was identified. Two special-status animal species were identified within the BSA during the habitat assessment: burrowing owl and black-tailed gnatcatcher.

Based on the results of the field survey, it was determined that the habitats within or adjacent to the BSA have high potential with respect to supporting loggerhead shrike and low potential for Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), California horned lark (*Eremophila alpestris actia*), western yellow bat (*Lasiurus xanthinus*), vermilion flycatcher (*Pyrocephalus rubinus*), American badger (*Taxidea taxus*), Crissal thrasher (*Toxostoma crissale*), and Le Conte's thrasher (*Toxostoma lecontei*). No other special-status animal species are expected to occur within the BSA; all are presumed absent, based on the habitat requirements for specific species, the availability and quality of the habitats needed by special-status animal species, and known distributions.

Special-Status Bird Species

Other special-status bird species either observed or with the potential to occur within the BSA include burrowing owl (*Athene cunicularia*), black-tailed gnatcatcher (*Poliophtila melanura*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), Crissal thrasher (*Toxostoma crissale*), and Le Conte's thrasher (*Toxostoma lecontei*). In addition, Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), and vermilion flycatcher (*Pyrocephalus rubinus*) have the potential to forage within the BSA. These species are discussed below.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
Cooper's hawk <i>Accipiter cooperii</i>	None/WL/ Not Covered	Common yearlong resident of California. Typically forages in broken woodland and habitat edges with dense stands of coast live oak (<i>Quercus agrifolia</i>), riparian deciduous, or other forest habitat near water. Usually nests in dense riparian areas, usually near streams. Also found in urban and suburban areas where there are tall trees for nesting.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging habitat. However, this species is not expected to nest within the BSA because of the lack of suitable nesting habitat.
sharp-shinned hawk <i>Accipiter striatus</i>	None/WL/ Not Covered	Found in pine, fir, and aspen forests. Can be found hunting in the forest interior and edges from sea level to near-alpine areas. Can also be found in rural, suburban, and agricultural areas where they often hunt at bird feeders. Typically found in Southern California in the winter months.	Habitat Absent	This species is not usually found over open desert habitats.
pallid bat <i>Antrozous pallidus</i>	None/SSC/ Not Covered	Locally common species in low elevations of California. Occurs in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting.	Habitat Absent	Suitable habitat is not present within the BSA
golden eagle <i>Aquila chrysaetos</i>	None/FP/WL/ Not Covered	Occupies nearly all terrestrial habitats of the western states, except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	Habitat Absent	Suitable habitat is not present within the BSA.
burrowing owl <i>Athene cunicularia</i>	None/SSC/ Covered	Common yearlong resident of Southern California. Prefers open, annual, or perennial grasslands; deserts; and scrublands characterized by low-growing vegetation. Requires fossorial burrows for roosting and nesting surrounded by relatively short vegetation and open habitat for foraging and watching for predators. Also known to occupy man-made structures, including drain pipes, debris piles, and development pads.	Habitat Present	This species was observed during the habitat assessment and subsequent focused surveys conducted during the 2018 breeding season. In addition, the BSA provides suitable foraging, roosting, and nesting habitat for this species.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
ferruginous hawk <i>Buteo regalis</i>	None/WL/ Not Covered	Common winter resident of grasslands and agricultural areas in southwestern California. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and the fringes of pinyon-juniper habitats. Does not breed in California.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging habitat. However, the species does not nest in California and is not expected to roost within the BSA during the winter.
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	None/SSC/ Not Covered	Found most often in grass-chaparral edges but may also be found in coastal scrub or other habitats, primarily in San Diego County.	Habitat Absent	Suitable habitat is not present within the BSA.
pallid San Diego pocket mouse <i>Chaetodipus fallax pallidus</i>	None/SSC/ Not Covered	Common resident of sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. Occurs mainly in arid coastal and desert border areas. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland.	Habitat Absent	Suitable habitat is not present within the BSA.
Vaux's swift <i>Chaetura vauxi</i>	None/SSC/ Not Covered	Prefers redwood and Douglas-fir habitats, with nest sites in large hollow trees and snags, especially tall burned-out stubs.	Habitat Absent	Suitable habitat is not present within the BSA.
northern harrier <i>Circus cyaneus</i>	None/SSC/ Not Covered	Frequents meadows, grasslands, open rangelands, desert sinks, and fresh- and saltwater emergent wetlands; seldom found in wooded areas. Mostly found in flat, or hummocky, open areas of tall, dense grasses and moist or dry shrubs, with edges for nesting, cover, and feeding. Nests on the ground, usually in dense clumps of willows, grasses, sedges, cattails, bulrushes, and reeds.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging habitat. However, this species is not expected to nest within the BSA because of the lack of suitable nesting habitat.
San Diego banded gecko <i>Coleonyx variegatus abbotti</i>	None/SSC/ Not Covered	Occurs in creosote flats, sagebrush desert, pinyon-juniper woodlands, and chaparral habitats. Prefers rocky coastal sage and chaparral habitat with granite outcrops. Also occurs in dry, rocky riverbeds. Species avoids areas with high-intensity night lighting.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
olive-sided flycatcher <i>Contopus cooperi</i>	None/SSC/ Not Covered	Uncommon-to-common summer resident in a wide variety of forest and woodland habitats below 9,000 feet throughout California, exclusive of the deserts, the Central Valley, and other lowland valleys and basins. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
red-diamond rattlesnake <i>Crotalus ruber</i>	None /SSC/ Not Covered	Can be found in the desert, dense chaparral in the foothills (avoids mountains above 4,000 feet), warm inland mesas and valleys, and cool ocean shores. It is most commonly associated with heavy brush with large rocks or boulders. Dense foothill chaparral, cactus, or boulders associated coastal sage scrub, oak and pine woodlands, and desert slope scrub associations are known to support populations of northern red-diamond rattlesnake; however, chamise and redshank associations may offer better structural habitat for refuge and food resources than other habitats.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
desert pupfish <i>Cyprinodon macularius</i>	FE/SE/Covered	Naturally occurring populations are extirpated in Arizona but still occurring in the Salton Sink basin and Colorado River delta. Can be found in the Salton Sea and nearby shoreline pools, freshwater ponds and irrigation drains, as well as portions of the creeks/washes that are tributary to the Salton Sea. Can tolerate salinities ranging from fresh water to 68–70 parts per thousand), water temperatures as high as 108°F, and oxygen levels as low as to 0.1 part per million.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
Casey's June beetle <i>Dinacoma caseyi</i>	FE/None/Not Covered	All populations are associated with the alluvial sediments occurring in or contiguous to desert alluvial fans and the broad, gently sloping depositional surfaces at the base of the Santa Rosa mountain ranges in the dry Coachella Valley region. Most commonly associated with the Carsitas series soil.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	FE/SSC/ Not Covered	Found primarily in Riversidian alluvial fan sage scrub and sandy loam, alluvial fans and floodplains, and along washes with nearby sage scrub. May occur at lower densities in Riversidian upland sage scrub, chaparral, and grassland in uplands and tributaries in proximity to Riversidian alluvial fan sage scrub habitats. Tends to avoid rocky substrates; prefers sandy loam substrates for digging shallow burrows.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
little willow flycatcher <i>Empidonax traillii brewsteri</i>	None/SE/ Not Covered	Breeds in the Pacific Northwest and in the Sierra Nevada in central California. Breeds only in riparian woodland, typically adjacent to or even over water.	Habitat Absent	There is no suitable nesting habitat within or adjacent to the BSA. The CVSC is routinely maintained; it lacks the preferred density and plant species structure for nesting.
southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE/SE/Covered	Uncommon summer resident of Southern California. Occurs in riparian woodlands. Typically requires large areas of willow thickets in broad valleys, along canyon bottoms, or around ponds and lakes. These areas typically have standing or running water or are at least moist.	Habitat Absent	There is no suitable nesting habitat within or adjacent to the BSA. The CVSC is routinely maintained; it lacks the preferred density and plant species structure for nesting.
California horned lark <i>Eremophila alpestris actia</i>	None/WL/ Not Covered	Generally found in shortgrass prairies, grasslands, disturbed fields, or similar habitat types. Flocks in groups.	Habitat Present	The desert wash, disturbed tamarisk scrub, disturbed desert saltbush scrub, and other disturbed areas within and surrounding the CVSC and the BSA provide suitable foraging/ nesting habitat for this species.
western mastiff bat <i>Eumops perotis californicus</i>	None/SSC/ Not Covered	Primarily a cliff-dwelling species; generally roosts under exfoliating rock slabs. Roosts are generally high above the ground, allowing a clear vertical drop of at least 10 feet for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, floodplains, chaparral, oak woodlands, open ponderosa pine forests, grasslands, and agricultural areas.	Habitat Absent	There is no suitable roosting habitat (i.e., cliffs, exfoliating rock slabs) within or adjacent to the BSA. Furthermore, there are no recent recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDDB.
quino checkerspot butterfly <i>Euphydryas editha quino</i>	FE/None/ Not Covered	Found in the sand dunes of El Segundo. Requires coast buckwheat (<i>Eriogonum parviflorum</i>) for all of its life cycles and appears to depend on habitats containing loose sand.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
prairie falcon <i>Falco mexicanus</i>	None/WL/ Not Covered	Commonly occurs in arid and semi-arid shrubland and grassland community types. Occasionally found in open parklands within coniferous forests. During the breeding season, found commonly in foothills and mountains that provide cliffs and escarpments that are suitable for nest sites.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
desert tortoise <i>Gopherus agassizii</i>	FT/ST/Covered	Occurs in desert scrub, desert wash, and Joshua tree habitats with friable, sandy, well-drained soils for nest and burrow construction. Highest densities occur in creosote bush scrub, with extensive annual wildflower blooms and succulents with little to no non-native plant species.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
yellow-breasted chat <i>Icteria virens</i>	None/SSC/ Covered	Found primarily in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. Breeding habitat must be dense to provide shade and concealment. It winters in Central America.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
loggerhead shrike <i>Lanius ludovicianus</i>	None/SSC/ Not Covered	Often found in broken woodlands, shrublands, and other habitats. Prefers open country with scattered perches for hunting and fairly dense, thorny vegetation/shrubs for nesting.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging/nesting habitat for this species.
western yellow bat <i>Lasiurus xanthinus</i>	None/SSC/ Covered	Uncommon in California; known only in Los Angeles and San Bernardino Counties. Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Prefers to roost and feed in or near palm oases and riparian habitats.	Habitat Present	The desert wash plant community within and adjacent to the BSA provides suitable foraging habitat. The ornamental palm trees within the BSA have the potential to provide roosting habitat; however, the palm trees are routinely maintained, which most likely deters this species from roosting in them.
lowland leopard frog <i>Lithobates yavapaiensis</i>	None/SSC/ Not Covered	Occurs along streams, river side channels, springs, ponds, and stock ponds in desert scrub, grassland, woodland, and pinyon-juniper woodland habitats. In California, species inhabited slackwater aquatic habitat dominated by bulrushes (<i>Schoenoplectus</i> spp.), cattails (<i>Typha</i> spp.), and riparian grasses near or under an overstory of cottonwoods (<i>Populus fremontii</i>) and willows (<i>Salix</i> spp.). The species is currently considered extirpated from California.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Furthermore, the species is currently considered extirpated from California.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	None/SSC/ Not Covered	Occurs in coastal scrub communities between San Luis Obispo and San Diego Counties. Prefers moderate to dense canopies, especially rocky outcrops.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
pocket free-tailed bat <i>Nyctinomops femorosaccus</i>	None/SSC/ Not Covered	Often found in pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases. In California, it has been associated primarily with creosote bush and chaparral habitats. Prefers rock crevices in high cliffs and rugged rock outcroppings for roosting.	Habitat Absent	There is no suitable foraging habitat within the BSA for this species. In addition, there are no suitable roosting opportunities (i.e., rock crevices in cliffs) within or adjacent to the BSA. Lastly, there have been no recent recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDB.
desert bighorn sheep <i>Ovis canadensis nelsoni</i>	None/FP/ Not Covered	Preferred habitat is near mountainous terrain above the desert floor that is visually open as well as steep and rocky. Most Mojave Desert mountain ranges satisfy these requirements well. Surface water is another element that is considered important to population health.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
Osprey <i>Pandion haliaetus</i>	None/WL/ Not Covered	Remains close to still or slow-moving bodies of water, including oceans, rivers, lakes, mangroves, coastal wetlands, lagoons, reefs, estuaries, and marshes. Generally nests in high places, such as trees, power poles, or cliffs.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	None/SSC/ Not Covered	Occupies low, tidally influenced habitats; adjacent ruderal areas; moist grasslands; and, infrequently, drier grasslands.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
large-billed savannah sparrow <i>Passerculus sandwichensis rostratus</i>	None/SSC/ Not Covered	Non-breeding visitor, occurring primarily from late August to early March along the southern coast and from late July to mid-February at the Salton Sea. Breeding habitat is limited to open, low salt-marsh vegetation, including grasses, pickleweed, and iodine bush.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
Palm Springs pocket mouse <i>Perognathus longimembris bangsi</i>	None/SSC/ Covered	Known from various vegetation communities, including creosote scrub, desert scrub, and grasslands, generally occurring on loosely packed or sandy soils with sparse to moderately dense vegetative cover. No longer occurs on the valley floor from Palm Springs to the Salton Sea in areas developed for urban and agricultural land uses.	Habitat Absent	This species is no longer presumed to occur on the valley floor from Palm Springs to the Salton Sea in areas developed for urban and agricultural land uses. Furthermore, the high-level of routine maintenance within the CVSC as well as agriculture land has eliminated suitable habitat within the BSA.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	None/SSC/ Not Covered	Occurs in lower-elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows but instead seeks refuge under weeds and dead leaves.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
flat-tailed horned lizard <i>Phrynosoma mcallii</i>	None/SSC/ Covered	Typical habitat is sandy desert hardpan or gravel flats with scattered sparse vegetation and low species diversity. Most common in areas with a high density of harvester ants and fine windblown sand; does not normally occur in habitats characterized as marshes, tamarisk arrowweed thickets, or agricultural and developed areas.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. Furthermore, the BSA is outside the current distribution.
summer tanager <i>Piranga rubra</i>	None/SSC/ Covered	Uncommon summer resident, occurring within open oak, hickory, and mixed oak-pine woodlands. Also found in parks, orchards, and along roadsides.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
black-tailed gnatcatcher <i>Polioptila melanura</i>	None/WL/ Not Covered	In the Mojave, Great Basin, Colorado, and Sonoran Desert communities, prefers nesting and foraging in densely lined arroyos and washes dominated by creosote bush and salt bush, with scattered bursage, burrowed, ocotillo, saguaro, barrel cactus, prickly pear cactus, and cholla.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable nesting/foraging habitat. Multiple individuals were observed foraging within these areas during the 2018 field investigation.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
vermillion flycatcher <i>Pyrocephalus rubinus</i>	None/SSC/ Not Covered	Occurs in a variety of open habitats, including open woodlands, clearings, desert scrub, savannah, agricultural land, golf courses, and parks. The species tends to stay near water, often occurring in riparian vegetation characterized by cottonwoods, mesquite (<i>Prosopis</i> spp.), willows, and sycamores (<i>Platanus</i> spp.).	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging habitat. Suitable nesting habitat is not present for this species within the BSA.
Yuma clapper rail <i>Rallus longirostris yumanensis</i>	FE/ST/FP/ Covered	Rare yearlong resident of Southern California. Restricted to the Salton Sea and immediate surrounding habitats. Generally found in freshwater and alkali marshes dominated by stands of emergent vegetation, interspersed with areas of open water and drier upland benches. Prefers mature marsh stands along margins of shallow ponds with stable water levels.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. The CVSC is exposed to a high-level of routine maintenance and does not provide suitable nesting habitat. Furthermore, the BSA is outside the current distribution; there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDB.
Yuma Ridgway's rail <i>Rallus obsoletus yumanensis</i>	FE/ST/FP/ Not Covered	Consistently found in freshwater marshes that are composed of bulrush and cattail, with an average height greater than 6 feet.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA. The CVSC is exposed to a high-level of routine maintenance and does not provide suitable nesting habitat. Furthermore, the BSA is outside the current distribution; there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDB.
yellow warbler <i>Setophaga petechia</i>	None/SSC/ Covered	Nests over all of California, except the Central Valley, the Mojave Desert region, high altitudes, and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
American badger <i>Taxidea taxus</i>	None/SSC/ Not Covered	Occupies a wide variety of habitats, including dry, open grassland; sagebrush; and woodland habitats. Requires dry, friable and often sandy soil to dig burrows for cover, food storage, and giving birth.	Habitat Present	There is suitable foraging and denning habitat within disturbed areas and the desert wash in the CVSC; however, the channel is exposed to a high-level of routine maintenance that most likely deters this species from occupying the channel.
Crissal thrasher <i>Toxostoma crissale</i>	None/SSC/ Covered	Common yearlong resident in Southern California. Occupies arid habitats, including desert washes, riparian brush, and mesquite thickets at lower elevations and dense scrub in arroyos at higher elevations. Occurs in areas dominated by mesquite hummocks and thickets with acacias, arrowweed, and desert saltbush scrub.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging/nesting habitat for this species.
Le Conte's thrasher <i>Toxostoma lecontei</i>	None/SSC/ Covered	Common yearlong resident in Southern California. Typically occurs in habitats consisting of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a high proportion of one or more species of saltbush (<i>Atriplex</i> spp.) and/or cylindrical cholla cactus (<i>Cylindropuntia</i> spp.). The ground is generally bare or has sparse patches of grasses and annuals, forming low ground cover. Prefers thick, dense, and thorny shrubs or cholla cactus for nesting.	Habitat Present	The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging/nesting habitat for this species.
Coachella Valley fringe-toed lizard <i>Uma inornata</i>	FT/SE/Covered	Sparsely vegetated arid areas with fine windblown sand, including dunes, washes, alkali scrub, and flats with sandy hummocks around the bases of vegetation. Requires fine, loose windblown sand for burrowing.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE/SE/Covered	Uncommon summer resident of Southern California. Prefers riparian habitat in proximity to water bodies that typically feature a dense, stratified canopy. Species is typically associated with southern willow scrub, cottonwood-willow forest, mulefat scrub, sycamore alluvial woodlands, coast live oak riparian forest, willow riparian forest, or mesquite in desert regions.	Habitat Absent	There is no suitable nesting habitat within or adjacent to the BSA. The CVSC is routinely maintained; it lacks the preferred density and structure of plant species required for nesting.

Table 2-68. Potentially Occurring Special-Status Animal Species

Common/Scientific Name	Status ^a Fed/State/ CVMSHCP	General Habitat Requirements	Specific Habitat ^b Present/ Absent	Rationale
yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	None/SSC/ Not Covered	Uncommon yearlong resident of Southern California throughout freshwater emergent wetlands; moist, open areas along agricultural areas; and mudflats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the borders of lakes and ponds.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
Palm Springs round-tailed ground squirrel <i>Xerpermophilus tereticaudus chlorus</i>	None/None/ Covered	Prefers open, flat, grassy areas in fine-textured sandy soil. Habitats include mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde, and saltbush/alkali scrub. Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement.	Habitat Absent	There is no suitable habitat within or adjacent to the BSA.
1/Notes U.S. Fish and Wildlife Service (Fed) – Federal FE – Federal Endangered FT – Federal Threatened California Department of Fish and Wildlife (CA) – California SE – State Endangered ST – State Threatened		FP – Fully Protected SSC –Species of Special Concern WL – Watch List <i>Threat Ranks</i> 0.1 – Seriously threatened in California 0.2 – Moderately threatened in California 0.3 – Not very threatened in California		
Source: California Department of Transportation 2019h.				

Cooper's Hawk

Cooper's hawk is a California watch list species that is adapted to urban environments. It commonly occurs within the vicinity of the BSA. The species typically forages along broken woodlands and habitat edges and nests in deciduous trees in dense woodland and riparian areas, usually near streams. The breeding season for Cooper's hawk generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

Cooper's hawk was not detected during the habitat assessment. However, this species often occurs in urban environments in close proximity to humans. It was determined that the species has the potential to forage within the desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA. This species is not expected to nest within the BSA because of the lack of suitable nesting habitat (i.e., dense riparian habitat near streams).

Burrowing Owl

Burrowing owl is a California species of special concern and a grassland specialist, occupying open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls rarely dig their own burrows; instead, they depend on the presence of burrowing mammals whose burrows are used for roosting and nesting. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried, non-functioning drain pipes; dry culverts; or concrete piles. The breeding season for burrowing owl generally extends from February 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

Focused surveys for burrowing owl were conducted during the 2018 breeding season within the BSA. A total of 21 burrowing owls, consisting of five pairs, 10 juveniles, and one adult single, were observed during the burrowing owl focused surveys. Furthermore, nine additional burrowing owls were observed during a follow-up survey of the BSA on August 9, 2018, bringing the total count to 30 individuals. The population of burrowing owls within the BSA is restricted mainly to the earthen slopes of the CVSC; however, one family was observed within the northwestern portion of the BSA in disturbed desert saltbush scrub habitat. The BSA provides open foraging habitat and line-of-site opportunities for burrowing owls. In addition, the BSA provides fossorial mammal burrows (more than four inches in diameter) that provide suitable nesting opportunities.

Ferruginous Hawk

Ferruginous hawk is a California watch list species that typically forages along grasslands and agricultural areas but may also be found in sagebrush flats, desert scrub, low foothills, or along the edges of pinyon-juniper woodland. It roosts in open areas, usually in a lone tree or on utility pole. Ferruginous hawks do not breed in California.

Ferruginous hawk was not detected during the habitat assessment. However, the desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub habitats within and adjacent to the BSA provide suitable foraging habitat for this species. No ferruginous hawks were observed during the field survey. In addition, no nests or nesting behaviors were detected during the field survey, and there is no suitable nesting habitat within the BSA.

Northern Harrier

Northern harrier is a California species of special concern that frequents meadows, grasslands, open rangelands, desert sinks, and fresh- and saltwater emergent wetlands; it is seldom found in wooded areas. Northern harriers are mostly found in flat, or hummocky, open areas with tall, dense grasses and edges for nesting, cover, and feeding. It nests on the ground, usually in dense clumps of willows (*Salix* spp.), grasses, sedges (*Cyperaceae* spp.), cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), or reeds. The breeding season for northern harrier generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

Northern harrier was not detected during the habitat assessment. However, the desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub habitats within and adjacent to the BSA provide suitable foraging habitat for this species. In addition, no nests or nesting behaviors were detected during the field survey, and there is no suitable nesting habitat within the BSA.

California Horned Lark

California horned lark is a California watch list species that typically forages in groups in shortgrass prairies, grasslands, disturbed fields, or similar habitat types. It nests on the open ground, often next to clumps of grass or objects. The breeding season for California horned lark generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

The desert wash, disturbed desert saltbush scrub, and disturbed areas within and surrounding the CVSC, including the disturbed tamarisk scrub habitats within the BSA and the open agricultural areas surrounding the BSA, provide suitable foraging/nesting habitat for this species. However, no California horned larks, nests, or nesting behaviors were detected during the field survey.

Loggerhead Shrike

Loggerhead shrike is a California watch list species that is often found in broken woodlands, shrublands, and open country with scattered perches for hunting and fairly dense, thorny vegetation/shrub for nesting. The breeding season generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

The desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub habitats within and adjacent to the BSA provide suitable foraging/nesting habitat for this species. However, no loggerhead shrikes, nests, or nesting behaviors were detected during the field survey.

Black-tailed Gnatcatcher

Black-tailed gnatcatcher is a CDFW watch list species that prefers nesting and foraging in densely lined arroyos and washes dominated by creosote bush (*Larrea tridentata*) and saltbush (*Atriplex* spp.), with scattered annual burweed, burroweed (*Ambrosia dumosa*), ocotillo (*Fouquieria splendens*), saguaro (*Carnegiea gigantea*), barrel cactus (*Ferocactus cylindraceus*), prickly pear cactus (*Opuntia* spp.) and cholla (*Cylindropuntia* spp.). The species is a fairly common resident at elevations lower than 300 feet above msl in desert wash habitat from Palm Springs to Joshua Tree National Monument and along the Colorado River. The breeding season for black-tailed gnatcatcher generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

The desert wash, disturbed tamarisk scrub, and disturbed desert saltbush scrub plant communities within and adjacent to the BSA provide suitable nesting/foraging habitat for this species. Multiple individuals were observed foraging within the desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub habitats during the 2018 field investigation. However, no nests or nesting behaviors were detected.

Vermilion Flycatcher

Vermilion flycatcher is a California species of special concern that occurs in a variety of open habitats, including desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and agricultural land. The species tends to stay near water, often occurring in riparian vegetation characterized by cottonwoods (*Populus fremontii*), mesquite (*Prosopis* spp.), willows, and California sycamore (*Platanus racemosa*). The breeding season for Vermilion flycatcher generally extends from March 1 through August 31 but can vary slightly from year to year, based on seasonal weather conditions.

Vermilion flycatcher was not detected during the habitat assessment. However, the desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub habitats within and adjacent to the BSA provide suitable foraging habitat for this species. In addition, no nests or nesting behaviors were detected during the field survey, and there is no suitable nesting habitat within the BSA.

Crissal Thrasher

Crissal thrasher is a California species of special concern and common yearlong resident in Southern California. The species occupies arid habitats, including desert washes, riparian brush, and mesquite thickets at lower elevations and dense scrub in arroyos at higher elevations. It occurs in areas dominated by mesquite hummocks and thickets with catclaw (*Senegalia greggii*). It also occurs in arrowweed (*Pluchea sericea*) and desert saltbush scrub. The breeding season for Crissal thrasher generally extends from January 15 through June 15 but can vary slightly from year to year, based on seasonal weather conditions.

Crissal thrasher was not detected during the habitat assessment. However, the desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub habitats within and adjacent to the BSA provide suitable foraging and nesting habitat for this species. However, no Crissal thrasher nests or nesting behaviors were detected during the field survey.

Le Conte's Thrasher

Le Conte's thrasher is a California species of special concern and common yearlong resident in Southern California. The species typically occurs in habitats consisting of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills with a high proportion of one or more species of saltbush and/or cylindrical cholla. The ground is generally bare or has sparse patches of grasses and annuals, forming low ground cover. It prefers thick, dense, and thorny shrubs or cholla cactus for nesting. The breeding season for Le Conte's thrasher generally extends from January 15 through June 15 but can vary slightly from year to year, based on seasonal weather conditions.

Le Conte's thrasher was not detected during the habitat assessment. The desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub habitats within and adjacent to the BSA provide suitable foraging and nesting habitat for Le Conte's thrasher. However, no Le Conte's thrashers nests or nesting behaviors were detected within the BSA during the field survey.

Special-Status Mammal Species

Western Yellow Bat

Western yellow bat (*Lasiurus xanthinus*) is a California species of special concern that is known only in Los Angeles and San Bernardino Counties. It occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. The species forages over water or among trees and roosts in trees, preferably palm trees.

The habitat assessment included a non-intrusive assessment and inspection of potential roosting habitat (i.e., vegetation, structures) to document the presence of bats within the BSA. Western yellow bat was not detected during the habitat assessment. However, the desert wash habitat within and adjacent to the BSA provides suitable foraging habitat for this species. The ornamental palm trees within the BSA have the potential to provide roosting habitat; however, the palm trees are routinely maintained, which most likely deters this species from roosting in them.

American Badger

American badger (*Taxidea taxus*) is a California species of special concern that occupies a wide variety of open habitats, including grassland, farmland, desert scrub, and the edges of woodlands. The species requires dry, friable, often sandy soil to dig burrows, which are used for shelter, food storage, and giving birth.

No American badgers or signs (i.e., paw prints, bones) were observed within the BSA during the field survey. There is suitable foraging and denning habitat along the disturbed banks and desert wash habitat of the CVSC; however, the channel is exposed to a high-level of routine maintenance that would most likely deter this species from occupying the channel.

2.3.4.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Alternative 1 would not add to impacts on special-status birds or mammals or potentially suitable habitat.

Build Alternative 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Special-Status Birds Species

Vegetation within and surrounding the BSA has the potential to provide refuge from predators, perching sites, and favorable conditions for avian nesting, all of which could be directly or indirectly affected by construction associated with the proposed project. Disturbances associated with the proposed project, including noise, vibration, and dust, may result in indirect impacts on avian species if project activities occur during active nesting efforts. Nesting birds are protected pursuant to the MBTA and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513, which prohibit the take, possession, or destruction of birds, their nests, or eggs). To protect

migratory bird species, nesting bird clearance surveys need to be conducted prior to any ground disturbance or vegetation removal that may disrupt birds during the nesting season. If avian nesting behaviors are disrupted, the resulting nest abandonment and/or a loss of reproductive effort would be considered “take” and potentially punishable by fines and/or imprisonment.

The section below describes potential temporary impacts on special-status bird species.

Cooper’s Hawk

Because of the lack of suitable nesting habitat within the BSA, no direct or indirect impacts on nesting Cooper’s hawks are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging habitat for Cooper’s hawk. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging habitat would occur. Although the proposed project would result in impacts on suitable foraging habitat for this species, the impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

Burrowing Owl

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 29.80 acres of temporary impacts on suitable foraging/nesting habitat for burrowing owl. Under Build Alternative 4, approximately 29.38 acres of temporary impacts on suitable foraging/nesting habitat would occur. Implementation of the project has the potential to have both direct and indirect impacts on burrowing owl. In addition, construction-related disturbance may have an adverse impact on this species, especially during the burrowing owl breeding season (February 1 to August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA.

Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, **BIO-7**, and **BIO-8**, described below in Section 2.3.4.4, no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on burrowing owl. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Ferruginous Hawk

Because of the lack of suitable nesting habitat within the BSA, and because the species does not breed in California, no direct or indirect impacts on nesting ferruginous hawks are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging habitat for ferruginous hawk. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging habitat would occur.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

Northern Harrier

Because of the lack of suitable nesting habitat within the BSA, no direct or indirect impacts on nesting northern harriers are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in 2.30 acres of temporary impacts on suitable foraging habitat for northern harrier. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging habitat would occur. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

California Horned Lark

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 29.80 acres of temporary impacts on suitable foraging/nesting habitat for California horned lark. Under Build Alternative 4, approximately 29.38 acres of temporary impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on California horned lark. In addition, construction-related disturbance may have an adverse impact on this species, especially during the California horned lark breeding season (March 1 to August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, identified below in Section 2.3.4.4, no compensatory mitigation would be required. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Loggerhead Shrike

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging/nesting habitat for loggerhead shrike. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on loggerhead shrike. In addition, construction-related disturbance may have an adverse impact on this species, especially during the loggerhead shrike breeding season (March 1 to August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, identified below in Section 2.3.4.4, no compensatory mitigation would be required

Blacktailed Gnatcatcher

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging/nesting habitat for blacktailed gnatcatcher. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on black-tailed gnatcatcher. In addition, construction-related disturbance may have an adverse impact on this species, especially during the black-tailed gnatcatcher breeding season (March 1 to August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, identified above, no compensatory mitigation would be required. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Vermilion Flycatcher

Because of the lack of suitable nesting habitat within the BSA, no direct or indirect impacts on nesting vermilion flycatcher are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging habitat for vermilion flycatcher. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging habitat would occur.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

Crissal Thrasher

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging/nesting habitat for Crissal thrasher. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on Crissal thrasher. In addition, construction-related disturbance may have an adverse impact on this species, especially during the Crissal thrasher breeding season (January 15 to June 15) when individuals may be attempting

to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on Crissal thrasher. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Le Conte's Thrasher

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 2.30 acres of temporary impacts on suitable foraging/nesting habitat for Le Conte's thrasher. Under Build Alternative 4, approximately 2.25 acres of temporary impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on Le Conte's thrasher. In addition, construction-related disturbance may have an adverse impact on this species, especially during the Le Conte's thrasher breeding season (January 15 to June 15) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise or visual disturbances may disrupt nesting activities or cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, described below in Section 2.3.4.4, no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on Le Conte's thrasher. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Special-Status Mammal Species

Western Yellow Bat

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 1.83 acres of temporary impacts on suitable foraging habitat for western yellow bat. Under Build Alternative 4, approximately 1.80 acres of temporary impacts on suitable foraging habitat would occur. Because of the lack of suitable roosting habitat within the BSA, no direct impacts on western yellow bat are anticipated to occur as a result of project implementation. Construction-related noise or visual disturbances during non-daylight hours may result in indirect impacts on individuals that may be attempting to forage within and adjacent to the BSA. Implementation of avoidance and minimization measures **BIO-5** and **BIO-9**, identified below in Section 2.3.4.4, would ensure that impacts would be minimized and avoided; no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on western yellow bat. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

American Badger

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 29.80 acres of temporary impacts on suitable foraging and denning habitat for American badger. Under Build Alternative 4, approximately 29.38 acres of temporary impacts on suitable foraging and denning habitat would occur. Therefore, implementation of the proposed project has the potential to result in direct impacts on American badgers that may be within the BSA. In addition, construction-related noise or visual disturbances may result in indirect impacts on individuals that may be attempting to raise young in proximity to the BSA. Construction-related noise or visual disturbances may disrupt active dens or cause badgers to leave their den, resulting in the loss of young.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5** and **BIO-10**, described below in Section 2.3.4.4, would ensure that impacts would be minimized and avoided; no compensatory mitigation would be required. Short-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

Permanent

Alternative 1 (No Build)

Alternative 1 would not add to impacts on special-status birds or mammals or potentially suitable habitat.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Special-Status Birds Species

Cooper's Hawk

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging habitat for Cooper's hawk. Under Build Alternative 4, approximately 0.18 acre of permanent impacts on suitable foraging habitat would occur. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

Burrowing Owl

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 5.68 acres of permanent impacts and Build Alternative 4 would result in approximately 6.51 acres of permanent impacts on suitable foraging/nesting habitat. Implementation of the proposed project has the potential to result in both direct and indirect impacts on burrowing owl.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, **BIO-7**, and **BIO-8**, described below in Section 2.3.4.4, no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on the burrowing owl. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Ferruginous Hawk

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts and Build Alternative 4, would result in approximately 0.15 acre of permanent impacts on suitable foraging habitat. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

Northern Harrier

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging habitat for northern harrier. Under Build Alternative 4, approximately 0.15 acre of permanent impacts on suitable foraging habitat would occur. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

California Horned Lark

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 5.68 acres of permanent impacts and Build Alternative 4 would result in approximately 6.51 acres of permanent impacts on suitable foraging/nesting habitat. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on California horned lark. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Loggerhead Shrike

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts and Build Alternative 4 would result in approximately 0.15 acre of permanent impacts on suitable foraging/nesting habitat. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on loggerhead shrike. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and

minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Northern Harrier

Because of the lack of suitable nesting habitat within the BSA, no direct or indirect impacts on nesting northern harriers are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging habitat for northern harrier. Under Build Alternative 4, approximately 0.15 acre of permanent impacts on suitable foraging habitat would occur. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no avoidance and minimization measures or compensatory mitigation would be required.

California Horned Lark

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 5.68 acres of permanent impacts on suitable foraging/nesting habitat for California horned lark. Under Build Alternative 4, approximately 6.51 acres of permanent impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on California horned lark. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Loggerhead Shrike

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging/nesting habitat for loggerhead shrike. Under Build Alternative 4, approximately 0.15 acre of permanent impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on loggerhead shrike. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Blacktailed Gnatcatcher

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging/nesting habitat for blacktailed gnatcatcher. Under Build Alternative 4, approximately 0.15 acre of permanent impacts on suitable foraging/nesting habitat would occur. Therefore, implementation of the

proposed project has the potential to result in both direct and indirect impacts on black-tailed gnatcatcher. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Vermilion Flycatcher

Because of the lack of suitable nesting habitat within the BSA, no direct or indirect impacts on nesting vermilion flycatcher are anticipated to occur as a result of the proposed project. Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging habitat, and Build Alternative 4 would result in approximately 0.15 acre of permanent impacts. Although the project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** would ensure that impacts would be minimized or avoided; no compensatory mitigation would be required. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Crissal Thrasher

Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.18 acre of permanent impacts on suitable foraging/nesting habitat, and Build Alternative 4 would result in approximately 0.15 acre of permanent impacts. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on Crissal thrasher. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7** described above, no compensatory mitigation would be required. Further, the CVMSHCP mitigates for impacts on Crissal thrasher. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Le Conte's Thrasher

Alternative 2 would result in approximately 0.18 acres of permanent impacts on suitable foraging/nesting habitat and Alternative 4, would result in approximately 0.15 acres of permanent impacts. Therefore, implementation of the proposed project has the potential to result in both direct and indirect impacts on Le Conte's thrasher. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5**, **BIO-6**, and **BIO-7**, described above, would ensure that no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on Le Conte's thrasher. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

Special-Status Mammal Species

Western Yellow Bat

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.20 acre of permanent impacts on suitable foraging habitat for western yellow bat. Under Build Alternative 4, approximately 0.19 acre of permanent impacts on suitable foraging habitat would occur. Because of the lack of suitable roosting habitat within the BSA, no direct impacts on western yellow bat are anticipated to occur as a result of project implementation. Visual disturbances during non-daylight hours may result in indirect impacts on individuals that may be attempting to forage within or adjacent to the BSA. Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5** and **BIO-9**, identified below, would ensure that impacts would be minimized and avoided; no compensatory mitigation would be required. Furthermore, the CVMSHCP mitigates impacts on western yellow bat. Long-term operational impacts would be considered less than significant under CEQA and not adverse under NEPA.

American Badger

Based on current design plans, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 5.68 acres of permanent impacts on suitable foraging and denning habitat for American badger. Under Build Alternative 4, approximately 6.51 acres of permanent impacts on suitable foraging and denning habitat would occur. Therefore, implementation of the proposed project has the potential to result in direct impacts on American badgers that may be within the BSA. In addition, visual disturbances may result in indirect impacts on individuals that may be attempting to raise young in proximity to the BSA. Visual disturbances may disrupt active dens or cause badgers to leave their dens, resulting in the loss of young.

Although the proposed project would result in impacts on suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Implementation of avoidance and minimization measures **BIO-5** and **BIO-10**, described below, would ensure that impacts would be minimized and avoided; no compensatory mitigation would be required. Long-term construction impacts would be considered less than significant under CEQA and not adverse under NEPA.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to ensure that impacts would be avoided or minimized:

Special-Status Bird Species

Burrowing Owl

Development of avoidance and minimization measures **BIO-5**, **BIO-6**, **BIO-7**, and **BIO-8**, described below, was based on guidance provided in the CVMSHCP and the CDFW 2012 *Staff Report on Burrowing Owl Mitigation* (2012). These measures would be reviewed by CDFW and finalized in the Section 1602 Streambed Alteration Agreement.

- BIO-5:** 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 animal 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 to 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 photographs of the listed species, which will be shown to the employees. Following the education program, the photographs 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-6:** Construction activities shall not be scheduled to occur during the breeding season for special-status species, identified as February 1 to August 31, within 100 feet (500 feet for raptors and listed species) of suitable habitat unless one of the following exceptions applies:
1. Completed protocol-level surveys conducted by a qualified biologist during the year of implementation determined that the site was not occupied,
 2. Noise levels resulting from project construction activities would not exceed the existing ambient noise level, or
 3. If the work window is not feasible, then pre-construction surveys for special-status birds and migratory bird nests within a specified distance of the project impact area will be conducted by a qualified biologist. If an active nest is found during the pre-construction nesting bird surveys, then consultation with the USFWS and/or CDFW will be initiated.
- BIO-7:** If project activities cannot be avoided during the breeding season, a pre-construction nesting bird clearance survey shall be conducted by a qualified biologist for avian species, including burrowing owl, California horned lark, loggerhead shrike, blacktailed gnatcatcher, Crissal thrasher, and Le Conte's thrasher, no more than three days prior to ground breaking or vegetation removal activities to determine the presence of nesting birds. The surveys shall be conducted by a qualified biologist at the appropriate time(s) of day. If an active avian nest is located, a 100-foot "no construction" buffer (500-foot buffer for raptors and listed species) shall be put in place until nesting has ceased or the young have fledged. The qualified biologist shall monitor the nest to ensure that impacts on nesting birds do not occur.
- BIO-8:** Prior to implementation of the proposed project, the construction area and adjacent areas within 500 feet of the development footprint, or to the edge of the property if less than 500 feet, will be surveyed by a qualified biologist for burrows that could be

used by burrowing owl. If a burrow is located, the biologist will determine if the burrow has been used recently or if an owl is present in the burrow. If the burrow is occupied, the burrow will be flagged, and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow, in accordance with the CVMSHCP. The buffer will be staked and flagged. No construction activities will be permitted within the buffer until the young are no longer dependent on the burrow.

If the burrow is unoccupied, the burrow will be made inaccessible to owls, and construction activities may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated, pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following accepted protocols, at least one burrowing owl has been observed occupying a burrow on the site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. A determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat), in coordination with the CDFW. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the CDFW.

Special-Status Mammal Species

Avoidance and minimization measure **BIO-9**, described below, would be reviewed by CDFW and finalized in the Section 1602 Streambed Alteration Agreement.

BIO-9: Prior to implementation of the proposed project, a qualified bat biologist shall survey all suitable structures and vegetation for bat roosts within 30 days prior to the start of construction activities. If bats roosts are found within the project impact area, the qualified bat biologist shall identify the bats to the species level and evaluate the colony to determine its size and significance. If any structures house an active maternity colony of bats, construction activities shall not occur during the recognized bat breeding season (March 1 to October 1).

If a bat roost is present within the vicinity of the project impact area and does not need to be removed, a qualified bat biologist shall establish a no-disturbance buffer (typically 100 feet) that must be maintained for the duration of the project. If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified bat biologist determines that the roost is no longer active.

If project activities must occur during non-daylight hours or during the bat breeding season (March 1 to October 1), a qualified bat biologist shall establish monitoring measures, including measures related to frequency and duration, based on species, individual behavior, and the type of construction activities. Night lighting should be used only within the active portion of the project work area and focused directly on

that area. This measure would minimize visual disturbance and allow bats to continue to use the remainder of the area for foraging and night roosting. If bats are showing signs of distress, work activities shall be modified to prevent bats from abandoning their roost or altering their feeding behavior. At any time, the qualified biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to roost abandonment. Work shall not resume until corrective measures have been taken or it is determined that continued activity would not adversely affect roost success.

- BIO-10:** A qualified biologist shall conduct a pre-construction clearance survey for American badger no more than three days prior to the initiation of vegetation removal or ground-disturbing activities to determine if American badger den sites are present within the work area. The clearance survey should cover all areas of suitable habitat that will be directly or indirectly affected by project activities, including areas within 100 feet of the project limits. All potential dens will be assessed using non-intrusive methods (e.g., scope, mirror, camera) to determine the presence of badgers. Dens that are determined to be inactive by the qualified biologist shall be hand excavated and collapsed with a shovel to prevent reoccupation between the time of the clearance survey and construction activities. If badgers are detected, the qualified biologist shall passively relocate badgers out of the work area prior to construction, if feasible. If an active den is detected within the work area, the den will be avoided until the qualified biologist determines that the den is no longer active.

2.3.5 Threatened and Endangered Species

2.3.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts on 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 *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h).

A USFWS species list was generated from the IPaC database on December 20, 2018, and August 8, 2019 (see Chapter 4 for a copy of the referenced USFWS species list). According to the IPaC species list, a total of six federally listed threatened or endangered plant or animal species have the potential to occur within the vicinity of the BSA. Furthermore, six additional federally listed species were identified by CNDDDB and CNPS queries as having the potential to occur in the vicinity of the BSA.

According to the CNDDDB and CNPS queries, a total of eight state-listed threatened or endangered plant or animal species have the potential to occur within the vicinity of the BSA. No state-listed plant or animal species were observed with the BSA during the habitat assessment.

Table 2-69 provides a list of all special-status plants, including federally and/or state-listed species, reviewed for the project, along with a summary of the habitat requirements for each species. Effects determinations for each of the species identified in the USFWS species list are also shown below.

Critical Habitat

Critical habitat refers to specific areas within the geographical area of a species at the time it is listed, including those physical or biological features that are essential to survival and eventual recovery of a species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals of the species are present or not.

All federal agencies are required to consult with the USFWS regarding activities they authorize, fund, or permit that may affect a federally listed species or its designated critical habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the federally listed species or adversely modify or destroy its designated critical habitat. The designation of critical habitat does not affect private landowners, unless a project they are proposing uses federal funds or requires federal authorization or permits (e.g., funding from FHWA or a CWA Section 404 permit from the USACE). If there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The BSA is not within federally designated critical habitat. Therefore, consultation with USFWS would not be required for the loss or adverse modification of critical habitat.

Table 2-69. Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific name Common Name	Status		General Habitat Requirements	Effects Determination	Reason for Determination
	USFWS	CDFW			
Birds					
<i>Empidonax trailii extimus</i> southwestern willow flycatcher	FE	SE	Uncommon summer resident of Southern California. Occurs in riparian woodlands. Typically requires large areas of willow thickets in broad valleys, along canyon bottoms, or around ponds and lakes. These areas typically have standing or running water or are at least moist.	No Effect	There is no suitable nesting habitat within or adjacent to the BSA. The desert wash habitat within the CVSC is routinely maintained; it lacks the preferred density and structure of plant species required for nesting. Therefore, it was determined that “no effect” on southwestern willow flycatcher would occur.
<i>Rallus longirostris yumanensis</i> Yuma clapper rail	FE	ST, FP	Rare yearlong resident of Southern California. Restricted to the Salton Sea and immediate surrounding habitats. Generally found in freshwater and alkali marshes dominated by stands of emergent vegetation, interspersed with areas of open water and drier upland benches. Prefers mature marsh stands along margins of shallow ponds with stable water levels.	No Effect	There is no suitable habitat within or adjacent to the BSA. The desert wash habitat within the CVSC is exposed to a high-level of routine maintenance and does not provide suitable nesting habitat. Furthermore, the BSA is outside the current distribution, and there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDB. Therefore, it was determined that “no effect” on Yuma clapper rail would occur.

Table 2-69. Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific name Common Name	Status		General Habitat Requirements	Effects Determination	Reason for Determination
	USFWS	CDFW			
<i>Rallus obsoletus yumanensis</i> Yuma Ridgway's rail	FE	ST, FP	Consistently found in freshwater marshes that are composed of bulrush and cattail, with an average height greater than 6 feet.	No Effect	There is no suitable habitat within or adjacent to the BSA. The desert wash habitat within the CVSC is exposed to a high-level of routine maintenance and does not provide suitable nesting habitat. Furthermore, the BSA is outside the current distribution, and there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDDB. Therefore, it was determined that "no effect" on Yuma Ridgway's rail would occur.
<i>Vireo bellii pusillus</i> least Bell's vireo	FE	SE	Uncommon summer resident of Southern California. Prefers riparian habitat in proximity to water bodies that typically feature a dense, stratified canopy. Species is typically associated with southern willow scrub, cottonwood-willow forest, mulefat scrub, sycamore alluvial woodlands, coast live oak riparian forest, willow riparian forest, or mesquite in desert regions. Preferred nesting habitat typically consists of a well-developed overstory and understory, along with low densities of aquatic and herbaceous plant cover. The understory frequently contains dense sub-shrub or shrub thickets that are often dominated by plants such as willow, mulefat, and one or more herbaceous species.	No Effect	There is no suitable nesting habitat within or adjacent to the BSA. The desert wash habitat within the CVSC is routinely maintained; it lacks the preferred density and structure of plant species required for nesting. Furthermore, there have been no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDDB. Therefore, it was determined that "no effect" on least Bell's vireo would occur.

Table 2-69. Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific name Common Name	Status		General Habitat Requirements	Effects Determination	Reason for Determination
	USFWS	CDFW			
Fish					
<i>Cyprinodon macularius</i> Desert pupfish	FE	SE	Naturally occurring populations of desert pupfish are extirpated in Arizona but still occurring in the Salton Sink basin and Colorado River delta. Can be found in the Salton Sea and nearby shoreline pools, freshwater ponds and irrigation drains, as well as portions of the creeks/washes that are tributary to the Salton Sea. Can tolerate salinities ranging from freshwater to 68–70 parts per thousand, water temperatures as high as 108°F, and oxygen levels down to 0.1 part per million.	No Effect	No suitable habitat occurs within or adjacent to the BSA. The CVSC was dry during the habitat assessment; standing water is most likely not present long enough to support populations of fish. Native fish are presumed absent from the BSA. Therefore, it was determined that “no effect” on desert pupfish would occur.
Insects					
<i>Dinacoma caseyi</i> Casey's June beetle	FE	—	All populations are associated with alluvial sediments occurring in or contiguous to desert alluvial fans and the broad, gently sloping depositional surfaces at the base of the Santa Rosa mountain ranges in the dry Coachella Valley region. Most commonly associated with the Carsitas series soil.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, it was determined that “no effect” on Casey's June beetle would occur.
<i>Euphydryas editha quino</i> quino checkerspot butterfly	FE	—	Found in the sand dunes of El Segundo. Requires coast buckwheat (<i>Eriogonum parviflorum</i>) for all of its life cycles and appears to depend on habitats containing loose sand.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Furthermore, the BSA is outside the current distribution, and there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDDB. Therefore, it was determined that “no effect” on quino checkerspot butterfly would occur.

Table 2-69. Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific name Common Name	Status		General Habitat Requirements	Effects Determination	Reason for Determination
	USFWS	CDFW			
Mammals					
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	FE	—	Found primarily in Riversidian alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub. May occur at lower densities in Riversidian upland sage scrub, chaparral, and grassland in uplands and tributaries in proximity to Riversidian alluvial fan sage scrub habitats. Tends to avoid rocky substrates and prefers sandy loam substrates for digging of shallow burrows.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Furthermore, the BSA is outside the current distribution, and there are no recorded occurrences of this species within the Indio, La Quinta, Myoma, or West Berdoo Canyon quadrangles in the CNDDDB. Therefore, it was determined that “no effect” on San Bernardino kangaroo rat would occur.
Reptiles					
<i>Gopherus agassizii</i> desert tortoise	FT	ST	Occurs in desert scrub, desert wash, and Joshua tree habitats with friable, sandy, well-drained soils for nest and burrow construction. Highest densities occur in creosote bush scrub with extensive annual wildflower blooms and succulents with little to no non-native plant species.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, it was determined that “no effect” on desert tortoise would occur.
<i>Uma inornata</i> Coachella Valley fringe-toed lizard	FE	SE	Sparsely vegetated arid areas with fine windblown sand, including dunes, washes, alkali scrub, and flats with sandy hummocks around the bases of vegetation. Requires fine, loose, windblown sand for burrowing.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, it was determined that “no effect” on Coachella Valley fringe-toed lizard would occur.

Table 2-69. Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific name Common Name	Status		General Habitat Requirements	Effects Determination	Reason for Determination
	USFWS	CDFW			
Flowering Plants					
<i>Astragalus lentiginosus</i> var. <i>cochellae</i> Coachella Valley milk-vetch	FE	—	Occurs in dunes and sandy flats along disturbed margins of sandy washes and in sandy soils along roadsides adjacent to sand dunes. May also occur in sandy substrates in creosote bush scrub. Found at elevations ranging from 130 to 2,150 feet above msl. Blooming period is February to May.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up of commercial and residential land uses. In addition, the CVSC is routinely maintained, which limits the potential for this species to occur. Therefore, it was determined that “no effect” on Coachella Valley milk-vetch would occur.
<i>Astragalus tricarinatus</i> triple-ribbed milk-vetch	FE	—	Found in sandy or gravelly soils within Joshua tree woodland and Sonoran Desert scrub habitats. Found at elevations ranging from 1,476 to 3,904 feet above msl. Blooming period is from February to May.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or made up commercial and residential land uses. In addition, the CVSC is routinely maintained, which limits the potential for this species to occur. Therefore, it was determined that “no effect” on triple-ribbed milk-vetch would occur.
USFWS SE – Federally Endangered ST – Federally Threatened			CDFW SE – State Endangered ST – State Threatened FP – Fully Protected		
Source: California Department of Transportation 2019h.					

2.3.5.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Alternative 1 would not be expected to affect threatened or endangered plant or animal species because these species were confirmed absent from the study area. There would be no change from existing conditions.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

No federally listed plant or animal species were observed within the BSA during the habitat assessment. Based on the results of the habitat assessment, all federally listed plant or animal species are presumed absent from the BSA and therefore would not be directly or indirectly impacted from implementation of the proposed project. As such, the proposed project would have no effect on any federally listed species identified by the USFWS species list, CNDDDB, or CNPS (refer to Table 2-69). Therefore, no additional mitigation or consultation with USFWS, pursuant to the FESA, would be required. In addition, the BSA is not within federally designated critical habitat; consultation with USFWS, pursuant to the FESA, for the loss or adverse modification of critical habitat would not be required.

Permanent

Alternative 1 (No Build)

Long-term operation of Alternative 1 would not be expected to affect threatened or endangered plant or animal species because these species were confirmed absent from the study area. There would be no change from existing conditions.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

As mentioned previously, all federally listed plant or animal species are presumed absent from the BSA and therefore would not be directly or indirectly affected by implementation of the proposed project. As such, the proposed project would have no effect on any federally listed species identified by the USFWS species list, CNDDDB, or CNPS. Therefore, no additional mitigation or consultation with USFWS, pursuant to the FESA, would be required.

2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

No threatened or endangered plant or animal species were found; therefore, avoidance and minimization measures are not necessary. No compensatory mitigation is necessary.

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 *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impacts*, dated September 2019 (California Department of Transportation 2019h).

Noxious weed species include species designated as federal noxious weeds by USDA, species listed by the California Department of Food and Agriculture, and other exotic pest plants designated by the California Invasive Plant Council. Invasive plant species occur throughout the BSA within the desert wash associated with the CVSC, disturbed desert saltbush scrub, disturbed tamarisk scrub, and disturbed areas. Some of the more commonly occurring exotic plants occurring within the BSA include giant reed, Saharan mustard, rescue grass, tocalote, tree tobacco, Russian thistle, tocalote, and tamarisk.

2.3.6.3 Environmental Consequences

Temporary

Alternative 1 (No Build)

Alternative 1 would not be expected to add to the temporary impacts from invasive species because it would not change existing conditions.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

During construction activities, construction vehicles and equipment could transport invasive plant species from past work sites to the project area or between work areas within the study area. After construction is complete, areas left as bare ground could create favorable conditions for invasive plants and promote the spread of these species. Prior to implementation of the proposed project, all construction equipment would be inspected and cleaned prior to use to minimize the importation and spread of non-native plant material.

Impacts on natural open space from the introduction of invasive species would be considered potentially significant under CEQA and adverse under NEPA. Implementation of avoidance and minimization measure **BIO-4** would ensure that any potential indirect impacts from the introduction of invasive species during construction would be avoided and/or minimized.

Permanent

Alternative 1 (No Build)

Alternative 1 is not expected to add to the impacts from invasive species because it would not change existing conditions.

Build Alternatives 2 and 4

The project footprints for both Build Alternative 2 (Locally Preferred Alternative) and Build Alternative 4 are similar; therefore, the discussion below is combined into a single discussion of Build Alternatives because implementation of either Build Alternative would result in similar impacts.

Although the transport of invasive plant species is a real threat to ecosystems, the Build Alternatives would not increase the risk above the existing baseline; therefore, impacts are considered less than significant under CEQA and not adverse under NEPA.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

To ensure that the Build Alternatives do not promote the introduction or spread of invasive plant species to the open space areas within the study area, measure **BIO-4** would be implemented.

2.4 Cumulative Impacts

2.4.1 Regulatory Setting

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

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

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

2.4.2 Methodology

The Department, in conjunction with FHWA and U.S. EPA, developed a guidance document titled *Guidance for Preparers of Cumulative Impact Analysis* (2005). The discussion below is based on the referenced guidance.

As specified in the guidance, if a proposed project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource. Furthermore, it is identified in the guidance that the cumulative impact analysis should focus only on 1) those resources significantly affected by the project or 2) resources currently in poor or declining health or at risk, even if the project impacts are relatively small. Therefore, less-than-significant impacts need not be included in the evaluation of potential cumulative impacts.

Resource Study Areas (RSAs) for those resources warranting analysis were identified for each respective resource. As discussed at the beginning of Chapter 2, or in the related sections of Chapter 2 of this environmental document, the proposed project would result in minor impacts but would not result in direct or indirect impacts for the topics listed below; therefore, no discussion is provided for the following topics in the evaluation of potential cumulative impacts:

- Coastal zone
- National Marine Fisheries Service

- Wild and scenic rivers
- Sole-source aquifers
- Encroachment on state lands
- Land use
- Parks and recreation facilities
- Farmlands/timberlands
- Growth
- Community impacts
- Utilities and emergency services
- Relocations and real property
- Environmental justice
- Visual impacts
- Cultural resources
- Floodplains
- Traffic and transportation/pedestrian and bicycle facilities
- Air quality
- Noise
- Energy
- Natural communities
- Plant species
- Threatened and endangered species
- Invasive species

2.4.3 Resources Evaluated for Potential Cumulative Impacts

The discussion of potential cumulative impacts is organized by environmental resource area, as follows:

- Water quality and stormwater runoff
- Geology/soils/seismicity
- Paleontology
- Hazardous waste/materials
- Wetlands and other waters
- Animal species

Future development projects near the project site within the City of Indio are listed in Table 2-1 and shown in Figure 2-3. As seen, future development near the project site consists of a variety of land uses, the majority being commercial/retail development and transportation improvement

projects. Construction of the proposed improvements is expected to start in January 2022 and be completed within 30 months. The majority of the planned projects listed in Table 2-1 should be completed by the time construction of the proposed project begins in 2022, with the exception of the following projects, which are anticipated to begin construction in 2022:

- I-10/Jackson Street Interchange Project (project ID #13)
- Jackson Street Improvements –Roadway (project ID #14)
- Indio Boulevard Bridge over Whitewater River Seismic Retrofit (project ID #17)
- City CIP Project ST1708 Avenue 44 Road Diet (project ID #18)

2.4.3.1 Water Quality and Stormwater Runoff

Water Quality

The RSA for the analysis of cumulative impacts associated with water quality is the area covered by Indio HSA 719.47. This subarea covers approximately 540,000 acres. Receiving water bodies within the project boundaries include the CVSC, which eventually discharges to the Salton Sea about 25 miles downstream. Development of the I-10/Monroe Street Interchange Improvement Project, in combination with all the other development projects listed in Table 2-1 that would occur within this RSA, would involve construction activities that would increase stormwater runoff from new impervious surface areas. Construction of new development throughout the HSA could result in soil erosion, thereby cumulatively degrading water quality within the HSA. In addition, the increase in impervious surface area resulting from future development may also adversely affect water quality by increasing the amount of stormwater runoff, transportation-related pollutants, and associated targeted design constituents entering the storm drain system; however, new development would have to comply with existing regulations regarding construction practices that minimize the risk of erosion and runoff. Among the various regulations are the applicable provisions of the statewide NPDES permit; County and municipal codes related to controlling stormwater quality for new development and significant redevelopment, road and highway projects, and public works projects; municipal grading permits; and other NPDES permits. These would minimize the degradation of water quality at individual project construction sites. Consequently, cumulative water quality impacts would be minimized during the construction and operational phases. Compliance with applicable SWRCB and RWQCB regulations would ensure that water quality would be maintained to the maximum extent practicable with implementation of the potential development projects within the HSA. Therefore, there would be no water quality impacts associated with implementation of the I-10/Monroe Street Interchange Improvement Project, and the proposed project would not result in a cumulatively considerable contribution to cumulative effects related to water quality.

Groundwater

The RSA for the analysis of cumulative impacts associated with groundwater is the area underlain by the groundwater basins and sub-basins within the project corridor. The project site rests above the Coachella Valley Groundwater Basin, which is a sub-basin to the Colorado River Hydrologic Region. The proposed project is not within an identified recharge area. Dewatering and construction activities that could encounter groundwater are not expected to occur, but this will be confirmed during field investigations at the Plans, Specifications, and Estimate (PS&E)

phase. There would be no potential impacts on groundwater recharge with implementation of the proposed project. Although implementation of the proposed project would not have a cumulatively considerable adverse effect on groundwater recharge in the basin, overall development associated with transportation infrastructure projects that may be planned within the basin could directly and/or indirectly result in a loss of groundwater volume. The proposed project would be required to implement treatment BMPs to the MEP. Treatment BMPs, such as infiltration devices, augment groundwater by retaining stormwater runoff, which subsequently infiltrates into the groundwater regime.

Regional programs and BMPs, such as TMDL programs, the Drainage Area Management Plan/Local Implementation Plan (DAMP/LIP), and the municipal separate storm sewer system (MS4) permit, have been designed in anticipation of future urbanization within the region. Regional control measures contemplate the cumulative effects of proposed development. The requirements of these programs are intended to minimize the collective impacts of development on water quality. Because of these programs, water quality health in the watershed is considered to be improving.

The proposed project—and all proposed projects in the RSA—would be required to comply with the regulations that are in effect at the time the project is approved, or before construction permits are issued, thereby minimizing the water quality impacts of each project. Compliance with these regional programs and the construction general permit constitutes compliance with the programs that address cumulative water quality impacts. Therefore, the proposed project's contribution to cumulative hydrology and water quality impacts would be minimal when taking into account other planned and programmed projects in the RSA.

2.4.3.2 Geology/Soils

The RSA includes the area within 0.5 mile on each side of the project corridor. The cumulative projects include all projects listed in Table 2-1, except for the Alfresco Project Master Plan (284 single-family detached homes) and the Avenue 44 Road Diet Project (repair of several roadway areas on Avenue 44 between Monroe Street and a point just east of East Circle Drive). The proposed project, in conjunction with other planned projects in the vicinity, may result in short-term increases in erosion due to grading activities. Increased development density in the surrounding areas could expose persons and property to potential impacts related to seismic activity. However, construction performed in accordance with accepted engineering standards and building codes would reduce the potential for structural damage due to seismic activity to the maximum extent feasible. Earthwork in the project area would be performed in accordance with the most current edition of the Department's *Standard Specifications* and/or the requirements of applicable government agencies. Implementation of the standard project features listed in Section 1.6, Project Features, would ensure that potential effects would be minimized. With implementation of these measures, the proposed project would not contribute to cumulative geologic impacts in combination with other planned and programmed projects in the RSA.

2.4.3.3 Paleontology

The RSA pertaining to paleontological resources includes a records search area that consisted of the project area and the U.S. Geological Survey 7.5-minute quadrangle map for Indio, California. The literature, records search, and survey indicate that the proposed project could have the

potential to adversely affect several important, nonrenewable, highly sensitive paleontological resources. The Paleontological Identification Report/Paleontological Evaluation Report (PIR/PER) classified the Quaternary alluvial deposits mapped on the ground surface as having a “high” potential because they may include in situ late-Pleistocene-Holocene fossils and overlie paleontologically significant Lake Cahuilla deposits. Any construction activities in the project area below the present ground surface may uncover significant vertebrate fossil remains. Therefore, impacts on paleontological resources in these areas may occur during project construction. To minimize these impacts, a Paleontological Mitigation Plan (measure **PALEO-1**) would be prepared by a qualified paleontologist to address issues associated with this identified area of potential sensitivity. In addition, implementation of measures **PALEO-2** and **PALEO-3** would also ensure that impacts on sensitive paleontological resources would be minimized and avoided.

As mentioned previously, construction activities in the project area below the present ground surface may uncover significant vertebrate fossil remains. Therefore, other development projects in the RSA could disturb nonrenewable paleontological resources. However, because these projects would be discretionary actions and subject to CEQA, they would be required to incorporate measures to reduce impacts on unknown, nonrenewable paleontological resources. Therefore, construction activities associated with the project, in conjunction with other projects, would not result in cumulative impacts related to unknown and nonrenewable paleontological resources.

Once the project and other projects are operational, they would not have the potential to affect unknown and nonrenewable paleontological resources. Therefore, operation of the project, in conjunction with other projects, would not result in significant cumulative impacts under CEQA related to unknown and nonrenewable paleontological resources.

2.4.3.4 Hazardous Materials/Hazards

The RSA for hazardous materials/hazards is the area within 0.5 mile of the project site. The RSA is limited to areas where hazardous waste/materials may be present. The cumulative projects include all of the projects listed in Table 2-1, except for the Alfresco Project Master Plan (284 single-family detached homes) and the Avenue 44 Road Diet Project (repair of several roadway areas on Avenue 44 between Monroe Street and a point to just east of East Circle Drive). During construction of the proposed project, the potential would exist for construction workers to be exposed to residual herbicides/pesticides, ACMs, and LBP; however, the proposed project would include measures (**HAZ-1** through **HAZ-3**) to minimize these potential effects. Following construction, the proposed project would not be expected to create new health hazards or expose people to new health hazards because toxic materials and chemicals would not be stored on the site. The project is not anticipated to increase the amount of hazardous material in the project area. The other development projects in the RSA could result in similar short-term exposure to hazardous materials during the construction period. However, because these projects would be discretionary actions and subject to CEQA and NEPA, they would be required to incorporate measures to reduce exposure-related impacts. Therefore, construction activities associated with the project, in conjunction with other projects, would not result in cumulative impacts related to hazards and hazardous materials.

2.4.3.5 Biological Resources

The RSA used for assessing cumulative effects is based on the area plan of the CVMSHCP. The BSA is centrally located within the City of Indio, at the crossroads of I-10, Monroe Street, and the CVSC. The BSA for the proposed project is within the boundaries of the CVMSHCP but not within a CVMSHCP-designated Conservation Area. Areas surrounding the BSA comprise commercial, residential, and agricultural land uses. Channelization of surrounding waterways (i.e., the CVSC) for flood control and agricultural purposes has changed the hydrology of the area, further altering the natural habitats that once occurred. As a result, native plant communities, or natural communities, are no longer present within the BSA. In addition, habitats within surrounding properties have been converted to commercial, residential, and agricultural land uses and are no longer extant or connected to naturally occurring habitats, preventing natural plant communities from re-establishing. Remaining portions of the BSA consist of disturbed and developed areas that are generally devoid of vegetation. Temporary effects from the project would be considered less than significant under CEQA and not adverse under NEPA because these types of vegetation communities occur in abundance and support a limited amount of biological resources. There are no known designated habitat linkages or migration corridors within the BSA; therefore, no temporary impacts are anticipated. The project would not contribute to cumulative impacts on native plant communities or natural communities.

2.4.3.6 Wetlands and Other Waters

Based on the results of the delineation of state and federal jurisdictional waters, the CVSC, which includes Drainages 1 through 3, is tributary to the Salton Sea, a traditional navigable water, and falls under the jurisdiction of the USACE, the RWQCB, and the CDFW. Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.15 acre (102 linear feet) of permanent impacts and 1.81 acres (1,036 linear feet) of temporary impacts on USACE/RWQCB jurisdictional waters (non-wetland waters). In addition, Build Alternative 2 (Locally Preferred Alternative) would result in approximately 0.98 acre (101 linear feet) of permanent impacts and 10.28 acres (1,034 linear feet) of temporary impacts on a CDFW jurisdictional streambed.

Build Alternative 4 would result in approximately 0.16 acre (104 linear feet) of permanent impacts and 1.85 acres (1,061 linear feet) of temporary impacts on USACE/RWQCB jurisdictional waters (non-wetland waters). In addition, Build Alternative 4 would result in approximately 1.00 acre (108 linear feet) of permanent impacts and 10.51 acres (1,059 linear feet) of temporary impacts on a CDFW jurisdictional streambed. Therefore, it would be necessary to obtain the following regulatory approvals for both Build Alternatives (refer to measures **BIO-1** and **BIO-2**) prior to construction within jurisdictional areas: 1) USACE CWA Section 404 Permit, 2) RWQCB CWA Section 401 Water Quality Certification, and 3) CDFW Section 1602 Streambed Alteration Agreement.

Because of the relatively small impacts proposed and because all direct impacts would be fully addressed (refer to Section 2.3.2.4), the proposed project would not be expected to make a cumulatively considerable contribution to a regional decline in jurisdictional resources. The potential incremental increase in potential operational effects (if any) on jurisdictional waters and wetlands would not make a cumulatively considerable contribution to a regional decline in jurisdictional waters and wetlands.

2.4.3.7 Animal Species

The proposed project has the potential to result in both direct and indirect impacts on burrowing owl. However, with implementation of avoidance and minimization measures **BIO-5** through **BIO-8** and compliance with the CVMSHCP, no compensatory mitigation would be required. Other special-status bird species observed or with potential to occur within the BSA include black-tailed gnatcatcher, loggerhead shrike, vermilion flycatcher, California horned lark, Crissal thrasher, and Le Conte's thrasher. The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of avoidance and minimization measures **BIO-5** through **BIO-7** and compliance with the CVMSHCP, no compensatory mitigation would be required. Any potential for cumulative impacts would be fully mitigated through consistency with the CVMSHCP. In addition, Cooper's hawk, ferruginous hawk, northern harrier, and vermilion flycatcher have the potential to forage within the BSA. These species are not expected to nest within the BSA because of a lack of suitable nesting habitat and known breeding ranges. Therefore, no direct or indirect impacts on nesting Cooper's hawk, ferruginous hawk, northern harrier, or vermilion flycatcher would occur. Although the proposed project would result in impacts on suitable foraging habitat for these species, the impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Therefore, no compensatory mitigation would be required.

Special-status mammal species with the potential to occur within the BSA include western yellow bat and American badger. The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of avoidance and minimization measures **BIO-5** through **BIO-10** and compliance with the CVMSHCP, no compensatory mitigation would be required. Any potential for cumulative impacts would be fully mitigated through consistency with the CVMSHCP.

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Chapter 3 **CEQA Evaluation**

3.1 Determining Significance under CEQA

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

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

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

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

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

I. 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) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). 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"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA Significance Determinations for Aesthetics

a), b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: As discussed in Chapter 2, there are no designated State Scenic Highways in the vicinity of the project site. However, the Indio General Plan 2020 (Indio General Plan) contains goals and policies to protect the scenic beauty of prominent natural features within the Planning Area, including the Indio Hills to the north of the project site (Goal OS-2 and Policy OS-2.1). In addition to public views along Interstate 10 (I-10) and Monroe Street, residential uses to the south would have views of the project site and the Indio Hills. Upon project completion, the site’s graded elevation would be similar to existing conditions. For this reason, the project would not obstruct public views toward the Indio Hills or other visual resources. As such, the project would not have a substantial adverse effect on a scenic view or vista. No impacts are anticipated.

Review of the project site and project plans indicates that the project would not result in substantial adverse impacts on the visual environment, as the reconstructed I-10 overcrossing

and Channel Bridge structures, retaining walls, and other physical features would appear similar in mass and scale to the existing transportation infrastructure in the project vicinity. An investigation on architectural treatments for retaining walls, bridge structures, and other project features will be conducted in consultation with the City, County, and the Department's District Landscape Architect before and during the Plans, Specifications, and Estimate (PS&E) phase to ensure the visual character of these structural elements are consistent with the existing architectural character in the project area (see measures in Section 2.1.10.4, Project Features). In addition, landscape palettes and concept plans shall be implemented in consultation with the City, County, and the Department's District Landscape Architect before and during the PS&E phase and be consistent with guidelines presented in the Interstate 10 Corridor Master Plan, County of Riverside, prepared by the Department, dated August 2013 (see measures in Section 2.1.10.4). No impacts are anticipated.

c) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: While the proposed project would slightly alter the existing visual character of the site through grading activities, it would not substantially degrade the visual character of the site or its surroundings. Although the project would result in two new bridge structures (replacing the existing I-10 overcrossing and Channel Bridge structures), these structures would be similar in height, mass, and scale compared to the existing I-10 overcrossing over I-10 and Channel Bridge structures. The project would not impede views of the Indio Hills to the north, or any other visual resources in the surrounding area. As such, the character of the site would remain similar to the surrounding area. The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and it would not conflict with applicable zoning and other regulations governing scenic quality.

d) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Construction impacts could result from staging areas, warning signage, equipment storage, and nighttime construction that requires additional lighting. These construction activities may temporarily obscure views. Construction of the proposed improvements is expected to start in January 2022 and to be completed within 30 months. Project construction would occur year-round. In addition, the potential exists for some nighttime construction to occur. This would create the need for high-intensity lighting. However, such lighting would not result in adverse impacts at most locations because sensitive residential receptors would be some distance away from or not within sight of the construction area. Furthermore, roadway travelers would be exposed to such lighting very briefly as they pass by. However, if construction activities occur at night in locations that are directly adjacent to residences, then this lighting could shine into residences and disturb residents in their homes. Implementation of avoidance and minimization measures **AES-1** and **AES-2** would ensure that nighttime construction would not occur directly adjacent to residences and that the construction contractor would minimize project-related light and glare to the maximum extent feasible during nighttime construction activities.

The proposed project would show continuity of the aesthetics currently experienced along this portion of I-10. 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.

II. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project 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 checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

CEQA Significance Determination for Agriculture and Forest Resources

a), b) Less Than Significant Impact.

Build Alternative 2 (Locally Preferred Alternative): There are no areas with Williamson Act contracts within the project area; however, Build Alternative 2 (Locally Preferred Alternative) would require the permanent acquisition of 3.65 acres of land for right of way purposes, including 1.53 acres of farmland-designated land. These farmland-designated parcels represent less than one percent of all farmlands countywide; as such, impacts would be inconsequential. Furthermore, the affected parcels are not currently used for purposes of agricultural production.

Build Alternative 4: There are no areas with Williamson Act contracts within the project area. Build Alternative 4 would affect five parcels, including three parcels designated as “Farmlands of Local Importance” by the Riverside County Important Farmland 2016 map. Build Alternative 4 would require the acquisition of 3.97 acres of land for right of way purposes, including 1.75 acres of farmland-designated land. These farmland-designated parcels represent less than one percent of all farmlands countywide; as such, impacts would be inconsequential. Furthermore, the affected parcels are not currently used for purposes of agricultural production.

c), d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: There are no timberlands or timber harvesting uses in the project area. The proposed project would have no effect on timberlands. Additionally, there are no forests within the project area, and thus there would be no effect on forest lands.

e) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: These farmland-designated parcels represent less than one percent of all farmlands countywide; as such, impacts would be inconsequential. Furthermore, the affected parcels are not currently used for purposes of agricultural production or forest land and would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

III. Air Quality

Where available, the significance criteria established by the applicable air quality management 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 non-attainment 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 checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA Significance Determinations for Air Quality

a), b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Construction of the project would not exceed any applicable local significance thresholds. The overall effects of the project on emissions of criteria air pollutants and their precursors would be very minor. Future emissions of

reactive organic gases, nitrogen oxides, and carbon monoxide would be lower than at present with or without implementation of the project, due to improved fuel economy and pollution control technologies. Air pollutant emissions would not increase overall due to operation of the proposed project. Operational impacts would be negligible. Therefore, the proposed project would not conflict with the Air Quality Management Plan, violate any air quality standard, or result in a net increase of any criteria pollutants.

Operational mobile source emissions associated with the project are not expected to increase emissions from mobile sources because the project would not itself generate new vehicle trips. Therefore, it would not have a significant impact on air quality in the Air Basin. Implementation of the project should further improve traffic flow and decrease congestion within the region. Therefore, the project would not result in an increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

c) Less than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: As stated in Chapter 2, emission calculations assume that the proposed project would comply with the South Coast Air Quality Management District's Rule 403, Fugitive Dust, by implementing the rule-stipulated best available control measures to minimize fugitive dust emissions. Sensitive receptors would be exposed to pollutants for a small portion of the total construction period because equipment would not be operated at a particular location along the alignment for an extended period of time. The diesel particulate matter generated from construction equipment would be sporadic, transitory, and short term in nature. Therefore, the project would not expose receptors to acute and/or chronically hazardous toxic air contaminant pollutants.

Distance to the nearest sensitive receptor was assumed to be 100 meters due to the size of the site and the distances to the nearest residential areas. Emissions from construction of the proposed project would not exceed any applicable local significance threshold, and, therefore, could not result in a violation of an air quality standard. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations during the construction period.

d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project would not create new sources of motor vehicle traffic but could induce some motorists to alter their existing routes. Air pollutant emissions would not increase overall due to operation of the proposed project - and could decrease if proposed project improvements resulted in more efficient traffic operations - but could be marginally higher along Monroe Street if vehicle volumes increased. Operational impacts would be negligible, and no mitigation measures or further analysis are required.

The project would modify an existing transportation facility, and any odors generated by the project would be similar in nature to odors generated by the existing facility. Exhaust emissions from construction vehicles and equipment and fugitive emissions from other construction activities would be tightly controlled. The minor amounts of odors generated by onsite

construction activities would be substantially dispersed and diluted to negligible levels in adjacent offsite areas. The proposed project would not result in emissions (such as those leading to odors) that would affect a substantial number of people; therefore, no impacts would occur.

IV. Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

CEQA Significance Determination for Biological Resources

a) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: No federally listed plant or animal species were observed within the biological study area (BSA) during the habitat assessment and would not be directly or indirectly affected by project implementation. No temporary or permanent direct impacts on special-status plant species are anticipated to occur as a result of the proposed project. However, development of the proposed project has the potential to result in indirect impacts on special-status plant species that may occur within habitats surrounding the BSA, such as fugitive dust or spread of nonnative seeds. With implementation of avoidance and

minimization measures **BIO-3** and **BIO-4** described below, the proposed project would not result in indirect impacts on special-status plant species.

Burrowing owls (*Athene cunicularia*) were identified in the BSA during focused surveys. The proposed project has the potential to result in both direct and indirect impacts on burrowing owl. Other special-status bird species observed or with the potential to occur within the BSA include black-tailed gnatcatcher (*Polioptila melanura*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), Crissal thrasher (*Toxostoma crissale*), and Le Conte's thrasher (*Toxostoma lecontei*). The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of the avoidance and minimization measures identified in Section 2.3.4, Animal Species, and compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), no compensatory mitigation would be required.

Special-status mammal species with the potential to occur within the BSA include western yellow bat (*Lasiurus xanthinus*) and American badger (*Taxidea taxus*). The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of the avoidance and minimization measures identified in Section 2.3.4, Animal Species, and compliance with the CVMSHCP, no compensatory mitigation would be required.

b) Less Than Significant Impact.

Build Alternative 2 (Locally Preferred Alternative): The BSA of the proposed project contains the following natural communities: desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub. Under Build Alternative 2 (Locally Preferred Alternative), there would be temporary impacts on 1.81 acres of desert wash, 0.30 acre of disturbed desert saltbush scrub, and 0.17 acre of disturbed tamarisk scrub. Under this alternative, there would be permanent impacts on 0.15 acre of desert wash, and none on disturbed desert saltbush scrub or disturbed tamarisk scrub. These impacts would be less than significant because these communities occur in abundance and support a limited amount of biological resources.

Build Alternative 4: The BSA contains desert wash, disturbed desert saltbush scrub, and disturbed tamarisk scrub. Under Build Alternative 4, there would be temporary impacts on 1.85 acres of desert wash, 0.27 acre of disturbed desert saltbush scrub, and 0.18 acre of disturbed tamarisk scrub. Under this alternative, there would be permanent impacts on 0.15 acre of desert wash, and none on disturbed desert saltbush scrub or disturbed tamarisk scrub. These impacts would be less than significant because these communities occur in abundance and support a limited amount of biological resources.

c) Less than Significant Impact with Mitigation.

Build Alternative 2 (Locally Preferred Alternative): Build Alternative 2 (Locally Preferred Alternative) would temporarily affect 1.81 acres and permanently affect 0.15 acre of U.S. Army Corps of Engineers/Regional Water Quality Control Board jurisdiction (non-wetland waters). Build Alternative 2 (Locally Preferred Alternative) would also temporarily affect 10.28 acres and permanently affect 0.98 acre of California Department of Fish and Wildlife jurisdictional streambed. Additionally, clearing, grubbing, and grading associated with Build Alternative 2

(Locally Preferred Alternative) may result in indirect impacts on jurisdictional areas. Implementation of measure **BIO-1** and **BIO-2** would reduce impacts on wetlands to less-than-significant levels.

Build Alternative 4: Build Alternative 4 would temporarily affect 1.85 acres and permanently affect 0.16 acre of U.S. Army Corps of Engineers/Regional Water Quality Control Board jurisdiction (non-wetland waters). Build Alternative 4 would also temporarily affect 10.51 acres and permanently affect one acre of California Department of Fish and Wildlife jurisdictional streambed. Additionally, clearing, grubbing, and grading associated with Alternative 4 may result in indirect impacts on jurisdictional areas. Implementation of measure **BIO-1** and **BIO-2** would reduce impacts on wetlands to less-than-significant levels.

d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: There are no known designated habitat linkages or migration corridors within the BSA. Furthermore, the Coachella Valley Stormwater Channel (CVSC) has not been identified in the CVMSHCP as a habitat linkage or migration corridor. The CVSC is relatively undeveloped and allows wildlife to easily move through the area in search of food, shelter, or nesting habitat. Therefore, the channel has the potential to support the movement of coyote and other common wildlife species that occur within the surrounding areas. Project activities are not expected to impede wildlife movement through the BSA, specifically through the CVSC, which would continue to provide opportunities for local wildlife movement and function as a corridor for highly mobile wildlife species. The proposed project would have no impact on movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e), f) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The BSA for the proposed project is within the boundaries of the CVMSHCP, but it is not within a CVMSHCP-designated Conservation Area. In addition, the proposed project is identified as a Covered Activity under the CVMSHCP. The proposed project would not conflict with the provisions of the CVMSHCP or other approved local, regional, or state habitat conservation plan.

V. Cultural Resources

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

CEQA Significance for Cultural Resources

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: There are no historical structures eligible for or listed on the National Register of Historic Places or California Register of Historical Resources for this project. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: No previously recorded cultural resources were found in the project's Area of Potential Effects during the records search, and the archaeological surveys also did not identify any new cultural resources. The archaeological survey revealed the entire surface of the Area of Potential Effects was disturbed previously by road and interstate construction in addition to channelization and regular maintenance of the CVSC. Findings indicate that construction activities within the present roadway alignments are not expected to extend into undisturbed sediments. However, widening of the I-10 overcrossing and the Channel Bridge has the potential to affect native sediments, which could contain undiscovered, unknown cultural resources.

While no prehistoric archaeological resources have been identified within the project APE, the possibility exists that previous unknown buried historical and archaeological deposits could be discovered during grading and excavation work associated with construction activities. If cultural materials are discovered during construction, all earth-moving activity within 60 feet of the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find (refer to measure **CR-1**). Implementation of this standard measure (refer to Section 2.1.11.4) would ensure such sensitive cultural resources would not be affected by project implementation. Additional surveys may be required if project plans change to include areas that were not previously surveyed for cultural resources.

c) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Construction activities are not expected to be at a depth where they could possibly encounter human remains, especially because the majority of the proposed work is on previously disturbed soil; therefore, there would be no impact. In addition, the records search and survey results did not yield any evidence of human burials, or cemeteries, either formal or informal. If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop within 60 feet of any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to California Public Resources Code Section 5097.98, will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Andrew Walters, District Environmental Branch Chief [(909) 383-2647] or Gary Jones, District Native American Coordinator [(909) 383-7505], so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable (refer to measure **CR-2**). Implementation of this standard measure (refer to Section 2.1.11.4) would ensure that impacts do not occur due to project implementation.

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 be discovered during construction, would be avoided.

- CR-1** If buried cultural resources are encountered during project activities, it is Caltrans' policy that all work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.
- CR-2** In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendant (MLD). The person who discovered the remains will contact the District 8 Division of Environmental Planning; Andrew Walters, District Environmental Branch Chief: (909) 383-2647 and Gary Jones, District Native American Coordinator: (909) 383-7505. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

VI. 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 checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA Significance Determination for Energy

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4:

Direct Energy (Mobile Sources)

The net direct energy required at the I-10/Monroe Street interchange under the two Build Alternatives during project design year 2045 is approximately 2,147 billion British thermal units (BTUs) at the study area level. There would be no net direct energy increase over the No Build Alternative. Implementation of either of the Build Alternatives would increase vehicle speeds and reduce travel times, resulting in a more efficient use of energy compared to baseline or existing operating conditions. Operational improvements that smooth out traffic flow and eliminate choke points and decrease traffic congestion, such as those proposed for this project, would increase moving vehicle speeds and decrease travel time on the congested freeway system, which would result in a more efficient use of energy. Implementation of the Build Alternatives would result in improvements to the capacity at the I-10/Monroe Street interchange that would allow for more flexibility in traffic movement and higher efficiencies, which would enable the interchange to maximize productivity and travel reliability. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Direct Energy (Construction)

Project construction would consume diesel fuel through operation of heavy-duty construction equipment and commercial trucks for material deliveries and debris hauling. It would also consume gasoline related to construction worker vehicle trips to and from the construction site. Direct energy from construction would vary between the two Build Alternatives. Construction under Build Alternative 2 (Locally Preferred Alternative) would require a total energy consumption of approximately 27,897 million BTUs over the 2.5-year construction period, while construction under Build Alternative 4 would require a total energy consumption of approximately 24,227 million BTUs over the 2.5-year construction period.

Although construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials, including any removed

asphalt concrete pavement and cement concrete pavement, would be used where feasible. Recycled products typically have lower manufacturing and transport energy costs since they do not use raw materials, which must be mined and transported to a processing facility. Additionally, the project would use solar energy systems to power emergency call boxes within the project area. If new materials must be used, fly ash mix may be considered to allow for lowering of the heat island effect,¹ depending on what is allowable according to Caltrans specifications. These energy conservation features are consistent with state and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Indirect Energy

The indirect energy required to maintain the facility and vehicles using the facility during project design year 2045 would range from 1.38 to 1.44 billion BTU at the study area level. The Build Alternatives would result in a net increase in indirect energy use (approximately 13.9 to 18.9 percent change) in the region compared to the No Build Alternative. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Build Alternatives 2 and 4 would not result in adverse effects related to energy consumption; therefore, no avoidance, minimization, or mitigation measures are required

b) Less Than Significant Impact.

Federal and state regulations and policies (e.g., Surface Transportation Act, Energy Policy Act, California's Transportation Plan) are intended to achieve goals such as reducing congestion, improving air quality, and increasing vehicle fuel efficiency. The Build Alternatives would not conflict with these regulations or policies. The regional and local policies (e.g., SCAG 2016 RTP and City of Indio General Plan) include goals such as reducing congestion, reducing traffic on arterial roads, promoting mass transit, reducing travel miles, and increasing vehicle occupancy rates. The Build Alternatives would be consistent with these policies since the project would enhance operations by improving reliability and travel times within the I-10 corridor and would improve the traffic flow by reducing the congested areas and offering the motorists a faster and reliable commute. The Build Alternatives are not consistent with the goals of reducing travel miles and promoting mass transit.

The No Build Alternative would not be consistent with regional and local policies since there would be no decrease in traffic congestion, and operational, mobility, and travel time conditions (mainline, interchanges, and ramps) would continue to deteriorate.

The differences among the alternatives are small enough to have little to no effect on total energy usage or fuel availability along the corridor or in the region. Operational energy consumption calculations are based on study area VMT, and the changes among the alternatives are only incremental. No substantial alterations to the existing energy infrastructure would be required for the I-10/Monroe Street interchange. Therefore, based on available information about fossil fuel

¹ The "heat island effect" is when the sun heats dry, exposed urban surfaces, such as roofs and pavement, to temperatures 50 to 90 degrees Fahrenheit (°F) hotter than the air.

availability, vehicle technology advancements, and the trends from data related to traffic, all of the Build Alternatives would have minimal operational energy consumption impacts. Impacts would be considered less than significant.

VII. Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CEQA Significance Determination for Geology and Soils

a i), a ii), a iii), a iv) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project site is located in the seismically active Southern California region. However, construction and operation of the project have no potential to a rupture a known earthquake fault, cause strong seismic ground shaking, or cause seismic-related ground failure, including liquefaction. However, during the life of the project, seismic activity associated with active faults can be expected to generate moderate

to strong ground shaking at the site during active earthquakes. Conformance with the California Building Code, as well as adherence to standard engineering practices and the Department's design criteria, would reduce the effects of seismic ground shaking to the project. The proposed project would implement the Department's current highway and structure seismic design standards.

Available site information and the site review performed in support of the Preliminary Geotechnical Design Report did not indicate landslide hazards within the project limits. No impacts are anticipated.

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The native soils are anticipated to be predominantly fine- to coarse-grained sands, and they are susceptible to moderate to severe erosion. However, by incorporating selective grading and adhering to provisions for site drainage and slope planting, the potential for surface soil erosion can be minimized and the proposed project would not result in substantial soil erosion or the loss of topsoil (see avoidance and minimization measures listed in Section 2.2.3.4).

c) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The Monroe Street overcrossing and Whitewater River Bridge are within a Riverside County–designated area of moderate liquefaction potential (Riverside County 2018). Liquefaction potential is considered to be low due to an absence of shallow groundwater; however, this will need to be confirmed using site-specific soil borings to be performed later during PS&E phase. The project would follow the latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With incorporation of the avoidance and minimization measures listed in Section 2.2.3.4, no direct or indirect adverse, long-term impacts would occur as a result of the proposed project.

d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The subsurface soils at the site are expected to consist of engineered fill underlain by alluvial soils. The engineered fill is expected to consist of fine to coarse silty sand, and the alluvial soil is expected to consist of interbedded, micaceous, very fine to fine sand and laminated clayey silt. Coarse-grained soils (sandy soils) are generally anticipated to be non-expansive or have a very low expansion potential. Fine-grained soils (silts and clays) are usually susceptible to medium to high expansion potential. Soil expansion potential will be evaluated during the PS&E phase for the project. If the expansion potential is very low (expansion index <20), no mitigation is necessary. If low, medium, or high expansion potential is observed, mitigation will be implemented to reduce the potential for uplift and distress due to soil expansion. With incorporation of the avoidance and minimization listed in Section 2.2.3.4, the proposed project would not create substantial direct or indirect risks to life or property from expansive soils.

e) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project would not implement the use of septic tanks or alternative waste water disposal systems. No impacts are expected in this regard.

f) Less Than Significant Impact with Mitigation.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The literature, records search, and survey indicate that the proposed project could have the potential to adversely affect several important, nonrenewable, highly sensitive paleontological resources. Any construction activities in the project area below the present ground surface may uncover significant vertebrate fossil remains. Although no significant fossils were identified by the field survey, the background research and observations of local lithologies indicate the project area has high paleontological resource potential, although the significance and abundance of these resources is unknown. In order to minimize these potential impacts, a Paleontological Mitigation Plan, as described in measure **PALEO-1**, would be prepared by a qualified paleontologist to address this identified area of potential sensitivity. In addition, implementation of measures **PALEO-2** and **PALEO-3** would ensure impacts on sensitive paleontological resources are minimized and avoided.

VIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA Significance Determination for Greenhouse Gas Emissions

a) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

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

The *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016) was used to estimate GHG emissions from project construction. Project

construction would generate an estimated 9,744 pounds per day of CO₂ equivalent (CO_{2e}) under either Build Alternative, including 9,645 pounds per day of CO₂, 2.9 pounds per day of CH₄, and 0.1 pounds per day of N₂O. Overall project construction emissions of GHGs would be 2,159 metric tons over the approximately 30-month construction period, which would be approximately 0.02 percent of Riverside County's estimated 2020 GHG Business as Usual inventory. GHG emissions for Alternative 4 would be slightly more than for Alternative 2 because the Diverging Diamond configuration would require additional structure for traffic to cross to opposite sides between signalized crossover intersections. However, emissions would still be within approximately 0.02 percent of Riverside County's estimated 2020 GHG Business as Usual inventory.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations. They also include Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes, including those of the South Coast Air Quality Management District (SCAQMD). Certain common regulations that reduce construction vehicle emissions, such as equipment idling restrictions and proper maintenance of construction equipment, also help reduce GHG emissions. A transportation management plan will schedule and route construction traffic to minimize traffic delays and idling and reduce engine GHG emissions. A two-stage construction plan would minimize delays resulting from closures on Monroe Street.

Even with an increase in design year VMT as compared to the baseline VMT (refer to Table 3-2 in Section 3.3, Climate Change), operation of the project would not increase GHG emissions from mobile sources despite the capacity-enhancing features of the project, which include the addition of an auxiliary lane. A sidewalk and shared path for bikes and low speed electric vehicles (LSEVs) will increase opportunities for non-motorized transportation and provide connectivity with the planned CV Link multi-use trail. These features support GHG-related goals and policies of the RTP, the Riverside County and City of Indio general plans, the Western Coachella Valley Area Plan, and the Riverside County Climate Action Plan (CAP). Implementation of the project, along with other projects included in the regional 2016–2040 RTP, should further improve traffic flow and decrease congestion within the region.

While the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions (refer to Section 3.3, Climate Change). With implementation of construction GHG-reduction measures **GHG-1 through GHG-5**, the impact would be less than significant.

b) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases; the impact would be less than significant.

IX. 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"/>

CEQA Significance Determinations for Hazards and Hazardous Materials

a), b) Less Than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Implementation of the proposed project is not expected to create a significant hazard to the public or environment and the site is not on a list of hazardous materials sites. Excavation/resurfacing activities associated with the proposed project may disturb existing traffic striping materials along I-10. As traffic striping disturbance is proposed, avoidance and minimization measures in Section 2.2.5.4 would be implemented to help avoid exposure to these substances. Residual herbicide/pesticide contamination in onsite surface soils is likely to be present on the project site. Asbestos-containing materials were detected within the project site. Avoidance and minimization measure **HAZ-1** and the avoidance and minimization measures listed in Section 2.2.5.4 would be implemented to ensure proper abatement/disposal of asbestos-containing material prior to and during construction activities. If soils containing aerially deposited lead are excavated and removed from the project site, they will be disposed of properly, as stated in the avoidance and

minimization measures listed in Section 2.2.5.4. Any transformer to be relocated or removed during site construction or demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding polychlorinated biphenyls, as stated in measure **HAZ-3**. During construction of the proposed project, there would be a possibility of accidental release of hazardous substances. However, the level of risk associated with the accidental release of hazardous substances is considered to be less than significant due to the small volume and low concentration of hazardous materials utilized during construction.

c), d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: There are seven schools within 1.5 miles of the project site, with the closest school (Andrew Jackson Elementary School) being 0.20 mile away. During construction of the proposed project, there would be a possibility of accidental release of hazardous substances. However, the level of risk associated with the accidental release of hazardous substances is not considered to be adverse due to the small volume and low concentration of hazardous materials utilized during construction. However, given the distance of the schools from the project area, and use of BMPs and safe handling practices, no impacts are anticipated in this regard.

e) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project is within the Riverside County Airport Land Use Compatibility Plan for the Bermuda Dunes Airport; however, the project is not subject to airspace review or any restrictions because the project would be less than 100 feet tall. The proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area.

f) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Build Alternatives 2 (Locally Preferred Alternative) and 4 would improve the operational performance of the I-10/Monroe Street Interchange and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area, thereby improving the delivery of public services (police and fire protection, and emergency medical response) in the area that would otherwise not occur under the No-Build Alternative.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Emergency service response times would be temporarily affected during the 30-month construction period. Construction impacts would be addressed with implementation of a Traffic Management Plan (refer to measure **CI-1** in Section 2.1.5.2), which would minimize temporary impacts and ensure coordination with emergency service providers during the construction period.

g) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: According to the County of Riverside General Plan, the project area is not within a Very High Fire Hazard Severity Zone. However,

there are Very High Fire Hazard Severity Zones approximately 0.5 mile north and 0.5 mile east of the project area. The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. No impacts are anticipated.

X. Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<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 which would:				
(i) Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<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"/>

CEQA Significance Determination for Hydrology and Water Quality

a), e) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project has the potential to affect water quality during the operation phase. Potential pollutant sources associated with operations include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care. During the construction phase, soil disturbance activities including earth-moving activities such as excavation and trenching, soil compaction, cut and fill activities, and grading would occur. The temporarily disturbed surface area would be 42.21 acres for Build Alternative 2 (Locally Preferred Alternative) and 43.97 acres for Build Alternative 4, which would result in similar impacts. The Caltrans Storm Water Management Plan applies to the

project area, as well as other water quality control plans and policies adopted by the State Water Resources Control Board, which includes Caltrans being named as a stake holder in a bacterial indicator total maximum daily load. There are existing water quality issues with the CVSC, which is where the project site discharges to. There are also groundwater quality issues in the Coachella Valley Stormwater Basin, which is below the project site. With the implementation of standard Department's Treatment BMPs, Design Pollution Prevention BMPs, and Maintenance BMPs, impacts on surface and ground water quality associated with operation of the proposed project would not occur. There would be no conflict with applicable stormwater quality plans or sustainable groundwater management plans. A Storm Water Pollution Prevention Plan would be prepared prior to construction to identify BMPs to be implemented during construction activities, as stated in **WQ-2** listed in Section 2.2.2.4. No impacts are anticipated.

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Groundwater recharge facilities are not present within the project limits and there would be no change in channel lining; therefore, the proposed project would not interfere with groundwater recharge.

c i), c ii), c iii) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project would not cause a change to sedimentation in receiving water bodies within the proposed project area because the proposed project would result in a minor increase in runoff compared to the entire hydrologic area. A Storm Water Pollution Prevention Plan would be prepared prior to construction to identify BMPs to be implemented during construction activities, as stated in the measures listed in Section 2.2.2.4. As a result, the proposed project would not result in substantial erosion or siltation on or off site. No impacts are anticipated.

The proposed project would result in minor changes to onsite watersheds when compared to the offsite watershed area. As such, the proposed improvements would not result in substantial impacts on the flow capacity of the offsite systems. With the implementation of the avoidance and minimization measures listed in Section 2.2.2.4 and regulatory permit conditions, no direct or indirect temporary significant impacts on drainages would result during the construction of the Build Alternatives.

The proposed project would result in an increase in impervious surface area, which would increase stormwater runoff. The approximate acreage of net new impervious surface as a result of the proposed project for Build Alternative 2 (Locally Preferred Alternative) would be 24.82 acres and for Build Alternative 4 would be approximately 24.71 acres. With the implementation of standard Department Treatment BMPs, Design Pollution Prevention BMPs, and Maintenance BMPs, the proposed project would not increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. The increased runoff would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; therefore, no impacts are anticipated.

c iv), d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Based on Flood Insurance Rate Map No. 06065C2251H, Federal Emergency Management Agency Flood Insurance Rate Map Panel, the one percent annual-chance flood event, Zone AE, is contained within the CVSC at the Monroe Street Bridge. All remaining portions of the project location are outside the one percent and 0.2 percent annual-chance flood event zones. The proposed project would not result in a significant encroachment into a floodplain as defined in 23 Code of Federal Regulations 650.105. Additionally, the Whitewater River is controlled by permanent levees on both banks, which form the CVSC. However, the proposed project would not affect the existing conditions related to risk of flooding.

Based on the inland location of the project site, tsunamis do not pose a hazard to this site. Seiches are possible within the Whitewater River Channel if a large earthquake coincides with a high-flow event. The proposed project would not introduce additional risk for traffic disruptions or loss of life and property. The potential risk to life and property under the proposed project would be unchanged from existing conditions.

XI. 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"/>

CEQA Significance Determinations for Land Use and Planning

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project would not physically divide an established community, as I-10 exists within this area and the project would not result in permanent acquisitions. However, temporary construction easements (TCEs) would be required under both Build Alternatives. Most of the TCEs would occur on vacant land; however, some TCEs would be required at commercial and retail properties. Access to these properties would be maintained. Because these impacts would be temporary and the portions of the parcels required during construction would be restored and returned to their owners following construction, no impacts would occur.

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project is consistent with the City of Indio’s General Plan; the Southern California Association of Governments’ 2019 Federal Transportation Improvement Program; the 2016-2040 Regional Transportation

Plan/Sustainable Communities Strategy, Amendment #3; and the California Transportation Plan 2040. The proposed project is a Covered Activity under the CVMSHCP and is not within any designated Conservation Areas. The proposed project would not conflict with the provisions of the CVMSHCP. There are no other land use plans, policies, or regulations related to the proposed project.

XII. 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"/>

CEQA Significance Determinations for Mineral Resources

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: According to the County of Riverside General Plan Land Use Map, the proposed project is not located in an area designated as containing mineral resources (Riverside County Planning Department 2015). Therefore, the proposed project would not result in the loss of available mineral resources of value to the region and residents of the state. As such, the proposed project is expected to result in no impacts.

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: According to the County of Riverside General Plan Land Use Map, the proposed project is not in an area designated as containing mineral resources (Riverside County Planning Department 2015). Therefore, the proposed project would not result in the loss of availability of any locally important mineral resource recovery site. As such, the proposed project is expected to result in no impacts.

XIII. Noise

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

CEQA Significance Determinations for Noise

a), b) Less Than Significant Impact.

Land uses in the project area have been grouped into a series of lettered analysis areas that are identified on Figure 2-9. Each of these analysis areas is considered to be acoustically equivalent. Land uses within the project area include several single-family residences identified as Activity Category B land uses as well as a hotel pool area identified as Activity Category E land use and undeveloped land uses identified as Activity Category G land uses. In addition, there are several commercial and industrial facilities within the study area without outdoor use areas. The terrain throughout the project area is varied where there is a storm channel between I-10 and land uses to the south with earthen berms located on either side of the storm channel. The terrain at noise-sensitive receivers is generally flat.

Temporary construction noise impacts would be unavoidable at areas immediately adjacent to the proposed project alignment. It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. However, construction noise and vibration would be short term, intermittent, and overshadowed by local traffic noise. Construction noise control shall conform to the provisions in Section 14-8.02, “Noise Control,” of the Department’s 2018 Standard Specifications and 14-8.02, “Noise Control,” of the Standard Special Provisions. The requirements state that all equipment shall be fitted with adequate mufflers and operated according to the manufacturers’ specifications. Construction noise varies greatly depending on the construction process, type, and condition of equipment used, and layout of the construction site. Furthermore, implementation of the avoidance and minimization measures listed in Section 2.2.7.4 would further minimize the temporary noise and vibration impacts from construction.

Operational noise levels under the Build Alternatives would not approach or exceed the noise abatement criteria (NAC) of 67 dBA Leq(h) for residential or park/recreational land uses or

result in a substantial increase in operational noise. Therefore, the project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impacts would be less than significant and no measures are required.

c) No Impact.

The area west of Monroe Street and north and south of I-10 is within the Riverside County Airport Land Use Compatibility Plan for the Bermuda Dunes Airport. No habitable structures are proposed as part of the project; therefore, no noise impacts related to air traffic would occur. The project would not expose people residing or working in the project area to excessive noise levels.

XIV. 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"/>

CEQA Significance Determinations for Population and Housing

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project is located on an existing interstate facility near existing roadways, providing access to existing and planned development. The project has been designed to accommodate present and projected increases in traffic volumes expected as a result of previously implemented and planned development in the area. The proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly; therefore, no impacts are anticipated.

b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project would not displace any existing developments, including housing, or people, and also would not necessitate the construction of replacement housing elsewhere. As such, there would be no impacts in this regard.

XV. Public Services

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

CEQA Significance Determinations for Public Services

a) Fire protection, police protection, schools, and parks. No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The City of Indio provides fire and emergency services to the project area. The nearest fire station is the City of Indio Station #5 at 42-900 Golf Center Parkway, in the City of Indio. The City of Indio Police Department, at 46800 Jackson Street, provides police services in the project area. There are two parks and a golf course within 0.5 mile of the project site: Yucca Park, North Jackson Park, and The Lights at Indio Golf Course. There are seven schools within 1.5 miles of the project site, with the closest school (Andrew Jackson Elementary School) being 0.20 mile away.

The proposed project would not result in an increase in population, result in the need for additional facilities, or increase response times of emergency personnel. However, construction activities have the potential to result in temporary disruptions during the construction period. Access to community service facilities, such as schools and parks, may be temporarily affected during construction of the Build Alternatives. Construction activities could also lead to an increase in delay times for emergency response vehicles. However, with the implementation of a Traffic Management Plan, as identified in avoidance and minimization measure **CI-1** in Section 2.1.5.2, temporary access impacts on these community service facilities would not occur.

Build Alternatives 2 (Locally Preferred Alternative) and 4 would improve the operational performance of the I-10/Monroe Street Interchange and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area, thereby improving the delivery of public services (police and fire protection, and emergency medical response) in the area that would otherwise not occur under the No-Build Alternative.

a) Other Public Facilities. No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: No impacts are anticipated to occur on other public facilities.

XV. Recreation

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

CEQA Significance Determination for Recreation

a), b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The proposed project does not have the capacity to generate a substantial increase in the 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.

XVI. Transportation

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

CEQA Significance Determinations for Transportation

a), c) No Impact.

Build Alternative 2 (Locally Preferred Alternative): The proposed project would be designed to be consistent with the CV Link project and would help accommodate multimodal travel (pedestrian, bicycle, and LSEVs) consistent with the City of Indio's General Plan. Build Alternative 2 (Locally Preferred Alternative) includes the construction of non-vehicular and pedestrian access improvements. These include a 6.5-foot-wide sidewalk on both the west and east sides of Monroe Street along the limits of ultimate improvements. A shared 10-foot-wide path for LSEV and bikes is also proposed on both the west and east side shoulders of Monroe Street. Build Alternatives 2 (Locally Preferred Alternative) and 4 would require realignment of the Coachella Valley Association of Governments' (CVAG's) planned CV Link multi-use trail within the project limits to accommodate the widening of Monroe Street and provide the minimum vertical undercrossing clearance. Design facilities for both Build Alternatives 2 (Locally Preferred Alternative) and 4 would be fully accessible in accordance with the Department's Design Information Bulletin 82-05, "Pedestrian Accessibility Guidelines for Highway Projects," and would also be consistent with all applicable Americans with Disabilities Act-compatible crossing requirements. The proposed project would improve existing interchange geometric deficiencies and would not alter any existing uses.

Build Alternative 4: The proposed project would be designed to be consistent with the CV Link project and would help accommodate multimodal travel (pedestrian, bicycle, and LSEV) consistent with the City of Indio's General Plan. Build Alternative 4 includes the construction of a 6.5-foot-wide sidewalk on both the west and east sides of Monroe Street along the limits of ultimate improvements. As the directions of travel cross over, pedestrians would cross to the inside of the interchange, and would be accommodated on a single 10-foot-wide path between the I-10 ramps. A shared 10-foot-wide path for LSEV and bikes is proposed on both the west and east side shoulders of Monroe Street. The LSEV and bikes would also cross at the signalized crossover intersections and remain separated for each direction of travel. Build Alternatives 2 (Locally Preferred Alternative) and 4 would require realignment of CVAG's planned CV Link multi-use trail within the project limits to accommodate the widening of Monroe Street and provide the minimum vertical undercrossing clearance. Design facilities for both Build Alternatives 2 (Locally Preferred Alternative) and 4 would be fully accessible in accordance with the Department's Design Information Bulletin 82-05, "Pedestrian Accessibility Guidelines for Highway Projects," and would also be consistent with all applicable Americans with Disabilities Act-compatible crossing requirements. The proposed project would improve existing interchange geometric deficiencies and would not alter any existing uses.

b), d) No Impact.

Build Alternative 2 (Locally Preferred Alternative) and 4: No-Build CO₂ emissions would increase substantially between 2018 and 2045 due to increases in total VMT. Under Year 2022 and 2045 Build conditions, VMT would be substantially the same as for No-Build conditions because the project would not itself generate traffic. Therefore, no significant impact on GHG emissions would occur. Operational mobile source emissions associated with the project are not expected to increase emissions from mobile sources. The project itself would not generate new

vehicle trips and therefore would not have a significant impact on air quality in the air basin. Implementation of the project, along with other projects included in the regional 2016-2040 Regional Transportation Plan, should further improve traffic flow and decrease congestion within the region.

Construction activities have the potential to result in temporary, localized, site-specific disruptions during the construction period. This could lead to an increase in delay times for emergency response vehicles. Construction impacts would be short term, lasting only the length of construction, and would cease upon completion of construction. Construction is estimated to last 30 months. A two-stage construction for both Build Alternatives is planned in order to minimize closures on Monroe Street. Monroe Street would remain open while the new bridge structure/overcrossing is constructed, generally to the east of the existing street. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated. The project includes the preparation of a Traffic Management Plan (measure **CI-1**), as identified in Section 2.1.5.2, which would ensure that emergency access impacts would not occur; therefore, no impacts are anticipated.

XVII. 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 type="checkbox"/>	<input checked="" type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public 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 type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA Significance Determinations for Tribal Cultural Resources

a), b) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: No Tribal Cultural Resources were identified as a result of consultations conducted with pertinent Native American tribal representatives. No previously recorded prehistoric or historic archaeological resources were found in the project Area of Potential Effects during the records search, and the archaeological surveys also did not identify any new archaeological resources. There are no resources 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) in the project area.

Additionally, there are no resources 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. There are no significant resources for a California Native American tribe identified near or within the project study area; therefore, no impacts are anticipated.

XVII. 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 or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project 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"/>

CEQA Significance Determinations for Utilities and Service Systems

a) Less than Significant Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Widening of Monroe Street would require relocating two SoCal Gas high-pressure gas lines, adjusting two Ventura Sanitary District manhole structures to grade, relocating Imperial Irrigation District underground electric distribution lines, and relocating a 12-inch-diameter Indio Water Authority water line. Decisions regarding relocation of utilities would occur during final design. Prior to the final design, coordination with the affected utility providers in the vicinity of the improvements would be completed to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed to establish exact procedures and specifications for addressing facilities affected by the project. As necessary, additional analysis would be completed, and any measures identified in conjunction with the analysis would be implemented. Any required relocations of utilities would be completed prior to any project-related

construction. The proposed project would result in an increase in impervious surface area, which would increase stormwater runoff; however, it is not anticipated that either of the Build Alternatives would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities.

b), c), No Impact.

The proposed project has sufficient water supplies available to serve the project during normal, dry, and multiple dry years. There is no reasonably foreseeable future development associated with the project, as the project is located on an existing interstate facility near existing roadways, which provide access to existing and already planned development. Construction of the proposed project is not expected to generate the need for additional wastewater treatment facilities or exceed wastewater treatment requirements of the Regional Water Quality Control Board. No new or expanded entitlements would be needed for the proposed project; therefore, no impacts are anticipated.

d), e) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: 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 during construction. It is the Department’s policy to recycle materials whenever possible. The proposed project would be served by a landfill with sufficient capacity to serve its solid waste disposal needs during construction; therefore, there would be no impact.

The proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations; therefore, there would be no impact.

XIX. Wildfire

If located in or near state responsibility areas or lands classified as very high fire 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, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If located in or near state responsibility areas or lands classified as very high fire severity zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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"/>

CEQA Significance Determinations for Wildfire

a) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: Construction activities have the potential to result in temporary, localized, site-specific disruptions during the construction period. This could lead to an increase in delay times for emergency response vehicles. Construction impacts would be short-term, lasting only the length of construction, and would cease upon completion of construction. Construction is estimated to last 30 months. A two-stage construction for both Build Alternatives is planned in order to minimize closures on Monroe Street. Monroe Street would remain open while the new bridge structure/overcrossing is constructed, generally to the east of the existing street. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or will be allowed. The project includes the preparation of a Traffic Management Plan (measure **CI-1**), as identified in Section 2.1.5.2, which would ensure that emergency access impacts would not occur. The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation; therefore, no impacts are anticipated.

b), d) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: According to the County of Riverside General Plan, the project area is not within a Very High Fire Hazard Severity Zone (CAL FIRE-FRAP 2009; County of Riverside 2016). There are Very High Fire Hazard Severity Zones approximately eight miles south west of the project site. The proposed project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Because the project is not within a High Fire Hazard Severity Zone, it is not anticipated that the proposed project would 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.

c) No Impact.

Build Alternatives 2 (Locally Preferred Alternative) and 4: The project area is not within a Very High Fire Hazard Severity Zone and would not 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. No impacts are anticipated.

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

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant Impact.

The proposed project would not 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, or reduce the number or restrict the range of a rare or endangered plant or animal species. No federally listed plant or animal species were observed within the BSA during the habitat assessment and would not be directly or indirectly affected by project implementation. No temporary or permanent direct impacts on special-status plant species are anticipated to occur as a result of the proposed project. However, development of the proposed project has the potential to result in indirect impacts on special-status plant species that may occur within habitats surrounding the BSA, such as fugitive dust or spread of nonnative seeds. With implementation of the measures **BIO-3** and **BIO-4** described in Section 2.3.3.4, the proposed project would not result in indirect impacts on special-status plant species.

Burrowing owls were identified in the BSA during focused surveys. The proposed project has the potential to result in both direct and indirect impacts on burrowing owl. Other special-status bird species observed or with the potential to occur within the BSA include black-tailed gnatcatcher, loggerhead shrike, California horned lark, Crissal thrasher, and Le Conte’s thrasher. The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of the avoidance and minimization measures identified in Section 2.3.4, Animal Species, and compliance with the CVMSHCP, no compensatory mitigation would be required.

Special-status mammal species with the potential to occur within the BSA include western yellow bat and American badger. The proposed project has the potential to result in both direct and indirect impacts on these species. However, with implementation of the avoidance and minimization measures identified in Section 2.3.4, Animal Species, and compliance with the CVMSHCP, no compensatory mitigation would be required. The proposed project does not have the potential to eliminate important examples of major periods of California history or prehistory. No impacts are anticipated.

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 increase capacity at the I-10/Monroe Street interchange to accommodate the forecast travel demand for the 2045 design year within the City of Indio, accommodate multimodal travel consistent with the City of Indio's General Plan and regional plans, and improve existing interchange geometric deficiencies.

3.3 Climate Change

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂.

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

Regulatory Setting

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

Federal

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

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

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

resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

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

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

State

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

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

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

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in

September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

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

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

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

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO_{2e}).² Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

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

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

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

² GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent" (CO_{2e}). The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.

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

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

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

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

Environmental Setting

The project site is centrally located within the City of Indio at the crossroad of I-10, Monroe Street, and the Coachella Valley Stormwater Channel (CVSC, Whitewater River) in Riverside County, California. Refer to Figure 1-1 (Regional Vicinity Map) and Figure 1-2 (Project Location Map). Indio is a fast-growing city of 88,000 that also accommodates nearly 1.4 million visitors during seasonal events. I-10 is a major east-west transportation route that connects the City to Los Angeles County to the west and the California/Arizona state border to the east. Monroe Street is a north-south, two-lane divided arterial in Indio. The interchange is a major access point for existing residential and commercial development at the interchange area. The CVSC traverses Monroe Street to the south of the interchange in an east-west direction. Vacant undeveloped lands make up the predominant land uses in the northwestern and northeastern project quadrants. The land uses in the southwestern project quadrant include the CVSC and retail/commercial. The land uses in the southeastern project quadrant include the CVSC, vacant land, and retail/commercial. There are residential subdivisions north and south of the project limits. Figure 2-1 shows the existing land uses in the project area. The City has 19 land use and transportation projects in the project vicinity that are under various stages of design, approval, or construction (see Section 2.1.1, Land Use, Table 2-1).

The freeway and ramp junctions operate acceptably under existing (2018) conditions. However, the project traffic study indicates that the growth anticipated for the region by design year 2045 would cause conditions to degrade at several locations.

The 2016–2040 Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) guides transportation and

housing development in the project area. The proposed project is included in the RTP/SCS. The Riverside County General Plan Air Quality element (2018) addresses GHGs in the project area. Riverside County adopted a CAP in December 2015 (amended in 2018) (Riverside County Planning Department 2018) to facilitate streamlining project-level CEQA review by tiering from the CAP. The CAP includes a county GHG inventory and was amended into the Riverside County General Plan in 2018 (Riverside County Planning Department 2015). Consistent with ARB's Scoping Plan reduction targets, Riverside County's CAP sets a target to reduce countywide GHG by 15 percent from 2008 levels. The Riverside County General Plan Air Quality Element and the CAP recommend a variety of measures to reduce GHG emissions. The City of Indio is also covered in the Western Coachella Valley Area Plan, which contains land use and transportation policies supplemental to and coordinated with those of the General Plan.

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

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO₂, CH₄, N₂O, HFCs, perfluorocarbons, SF₆, and nitrogen trifluoride. It also accounts for emissions of CO₂ that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO₂ (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO₂e GHG emissions in 2016, 81% consist of CO₂, 10% are CH₄, and 6% are N₂O; the balance consists of fluorinated gases (U.S. EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions. Figure 3-1 below provides an overview of U.S. 2016 GHG emissions by pollutant and a breakdown of the total U.S. 2016 GHG emissions by sector.

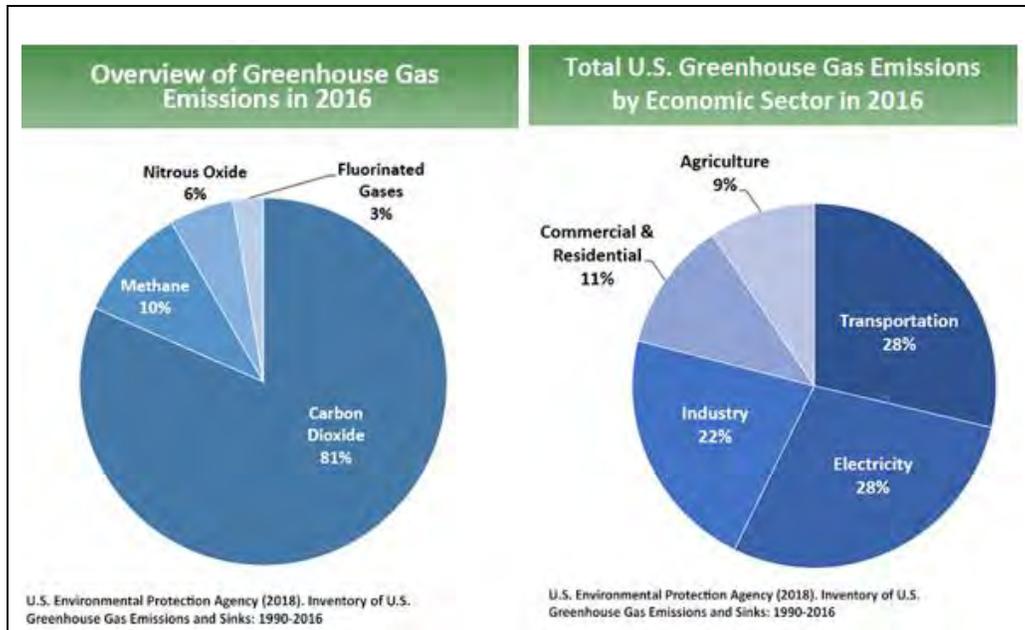


Figure 3-1. U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state’s progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO₂e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

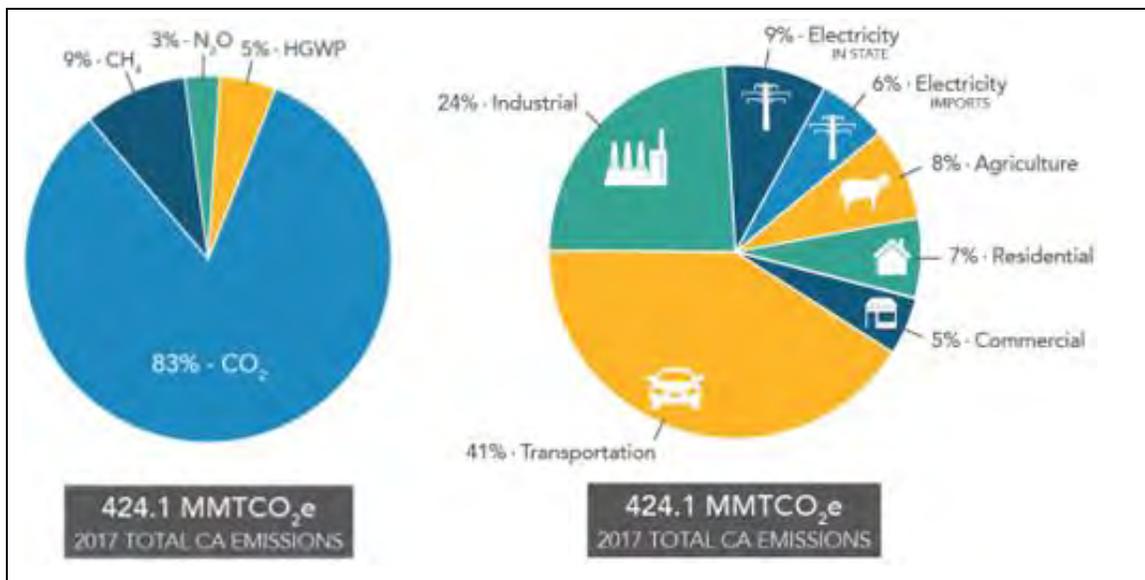


Figure 3-2. California 2017 Greenhouse Gas Emissions

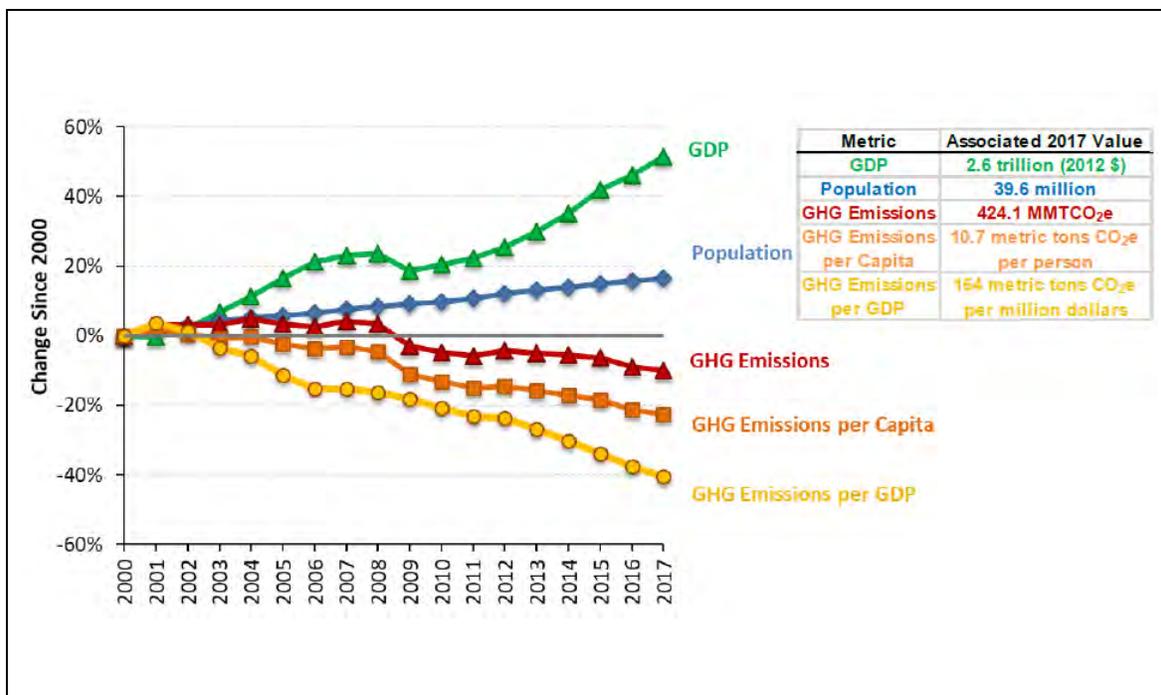


Figure 3-3. Change in California GDP, Population, and GHG Emissions Since 2000

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

Regional Plans

The regional plans and policies within the project area are summarized in Table 3-1 below. ARB sets regional targets for California’s 18 MPOs to use in their RTP/SCSs to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the 2016 RTP/SCS (SCAG 2016) of the Southern California Association of Governments (SCAG) (Amendment #3) as RTP ID RIV071254, as discussed in Section 2.1.1, Land Use, above. ARB’s regional reduction target for SCAG as of October 2018 is 8 percent by 2020 and 19 percent by 2035, compared to 2005 levels (ARB 2019c) (The 2016 RTP/SCS used earlier targets of a 9 percent per capita reduction by 2020 and a 16 percent per capita reduction by 2035. It should be noted that the SCAG planning region comprises Imperial, Orange, San Bernardino, and Ventura Counties in addition to Riverside County, and that targets apply in the region as a whole and to all GHG emission sources, not individual counties or transportation alone.) The RTP/SCS concluded that implementing the plan would result in an 8 percent per capita GHG reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040.

Riverside County Climate Action Plan (Riverside County Planning Department 2018) serves as a tool to implement the goals and policies of the various elements of the Riverside County General Plan related to GHG emissions. It provides a list of specific actions that will reduce countywide GHG emissions consistent with the reduction targets of AB 32 (Riverside County Planning Department 2018: p. 1-3).

Western Coachella Valley Area Plan (County of Riverside 2019) integrates and supplements the transportation policies of the Riverside County General Plan.

The Indio General Plan dates from 1994 and does not specifically address climate change or GHGs. However, the General Plan Circulation Element’s Goal CIR-2 establishes Policy CIR-2.2, Bike Lane and Trails, to accommodate alternatives to private automobile transportation by providing a circulation network that allows safe and efficient movement of cyclists (see Section 2.1.1, Land Use). The proposed project includes improvements to bicycle and pedestrian circulation.

Table 3-1. Regional Greenhouse Gas Reduction Policies

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (adopted April 7, 2016)	<ul style="list-style-type: none"> • Preserve Our Existing System • Manage Congestion • Transportation Systems Management
Riverside County General Plan	<p>Land Use Element</p> <ul style="list-style-type: none"> • Policy LU 2.1k(f): f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile. • Policy LU 11.4: Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality. • Policy LU 13.4: Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate. <p>Circulation Element,</p> <ul style="list-style-type: none"> • Policy C 1.2: Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-n-ride facilities and pedestrian facilities. • Policy C 1.7: Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths, and mixed-use community centers. • Policy C 5.2: Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping. • Policy C 20.14 (Previously C 20.12): Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles.
Riverside County General Plan Amendments (Adopted July 17, 2018)	<p>Air Quality Element</p> <ul style="list-style-type: none"> • Policy AQ 20.1: Reduce VMT by requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes. Improve connectivity of the multi-modal facilities by providing linkages between various uses in the developments. • Policy AQ 20.3: Reduce VMT and GHG emissions by improving circulation network efficiency.

Title	GHG Reduction Policies or Strategies
	<p>Circulation Element (Amendment No. 960 – Public Review Draft, February 2015)</p> <ul style="list-style-type: none"> Policy C 1.8: Ensure that all development applications comply with the California Complete Streets Act of 2008 as set forth in California Government Code Sections 65040.2 and 65302.
Riverside County Climate Action Plan (2018)	<p>Transportation Measures</p> <ul style="list-style-type: none"> R2-T5: Roadway Improvements including Signal Synchronization and Transportation Flow Management R2-T6: Provide a Comprehensive System of Facilities for Non-motorized Transportation R2-T8: Anti-Idling Enforcement
Western Coachella Valley Area Plan (WCVAP)	Policy 18.2: Implement the Trails and Bikeway System, Figure 8, as discussed in the Non-motorized Transportation section of the General Plan Circulation Element.

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH₄, and N₂O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

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

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

Operational Emissions

CO₂ accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO₂ emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of CO₂ from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 3-4). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO₂, may be reduced.

Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued concurrently.

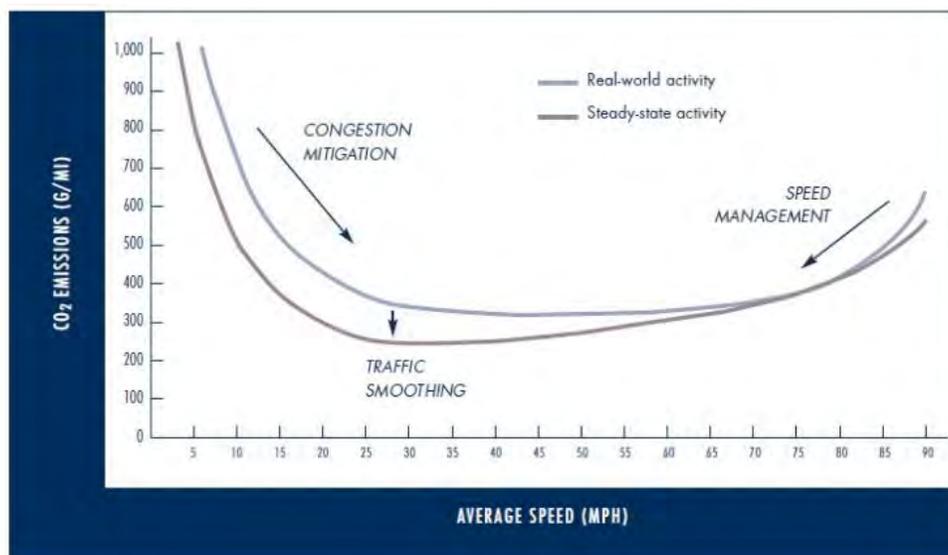


Figure 3-4. Possible Use of Traffic Operation Strategies in Reducing On-road CO₂ Emissions

Source: Barth and Boriboonsomsin 2010

The City of Indio, in cooperation with Caltrans District 8 and the County of Riverside, proposes to reconstruct and widen Monroe Street at I-10 to improve the operational performance of the Monroe Street interchange. The City identified Monroe Street as a major north to south arterial that provides access to the interstate system and connects the northern and southern halves of the City across I-10 and the CVSC. To address anticipated growth and development in and around the interchange, the City initiated a Project Study Report (PSR) in 2008 to request capital programming for right-of-way and construction costs. The City placed the PSR on hold in 2009, due in part to the economic downturn and Caltrans's introduction of the Project Initiation Document process. In May 2015, the City reinitiated project development and a Project Study Report – Project Development Study (PSR-PDS) received Caltrans concurrence on December 30, 2016. The City, with support from the CVAG and the Riverside County Transportation Department, recognizes the need to improve the I-10/Monroe Street interchange and proposes to reconstruct and widen the interchange to improve traffic flow, multimodal connectivity, and operational performance of the interchange.

The approved PSR-PDS recommended two alternatives for study in the Project Approval/Environmental Document (PA/ED) phase: Alternative 2 – Tight Diamond and Alternative 3 –

Single Point Interchange. At the PA/ED phase onset, Alternative 4 – Diverging Diamond Interchange was introduced as a new alternative to be studied in the PA/ED phase. Through an early alternative screening process, which included preliminary traffic analysis, the Project Development Team on June 28, 2018, elected to remove Alternative 3 and introduce Alternative 4 as the second viable alternative to be studied in the PA/ED phase. This differs from the approved PSR-PDS in that the Single Point Interchange is no longer considered a viable alternative and the Diverging Diamond Interchange, introduced in the PA/ED phase, was included for study. See Section 5B, Rejected Alternatives, of the PSR-PDS for more information on rejected alternatives. Transit and multi-modal features are included in both Build Alternatives. Alternatives 2 and 4 include on-street access for LSEVs, new bike paths, and new pedestrian access. The overall transportation framework in the project area is automobile driven; however, the I-10/Monroe Street Interchange Improvement Project, as stated above, includes multi-modal components and works with existing transit facilities. The project also connects to CV Link as part of a regional multi-modal plan. SunLine transit operates several routes in the City with stops north and south of the interchange. The City, in the General Plan, has also outlined steps for a regional train connection, although not within the project area. The improvements would enhance north-south connection across I-10 for all users.

The project is listed in the SCAG 2016–2040 RTP under project ID number RIV071254. The 2016–2040 RTP was approved by FHWA on June 1, 2016. Implementation of the 2016 RTP/SCS would result in an 8 percent reduction in GHG emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040, compared with 2005 levels. This would meet or exceed the State’s mandated reductions, which are 8 percent by 2020 and 13 percent by 2035.

The proposed project is included in, but is not consistent with, the current RTP cycle’s—2016 RTP (RIV071254) titled “2016-2040 Regional Transportation Plan/Sustainable Communities Strategy”—project description, cost, and schedule. The 2020 RTP is being tracked through the PA/ED phase and will be updated for consistency prior to final PA/ED approval. Modeling amendments were submitted through the City to Riverside County Transportation Commission and SCAG in October 2018 and August 2019.

2016 RTP Project Description (Approved):

ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/ DECELERATION LANES (EA: 0K730K).

2020 RTP Project Description (Proposed):

ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 4 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN ONRAMP TERMINI 1 TO 2 LANES AND OFF-RAMP TERMINI 1 TO 3 LANES. CONSTRUCT EB AUX LANE B/T MONROE AND

JACKSON STREET AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES (EA: 0K730K).

According to the Traffic Operations Analysis Report (Caltrans 2019a), under Design Year (2045) No Build Alternative, eastbound I-10 study facilities would operate acceptably. Westbound I-10 would have insufficient capacity for the 2045 traffic demand, and consequently result in deficient operations at level of service (LOS) F and LOS E at the Jackson Street on-ramp and Monroe Street off-ramp, respectively, during the AM and PM peak hours. These findings are consistent with the I-10 Transportation Concept Report prepared by Caltrans in 2017, which found that I-10 would operate deficiently by 2040 in the Monroe Street study area without widening I-10. For the purpose of this project, I-10 is assumed to remain as in the existing condition under the No Build Alternative because no improvements are programmed along the study corridor in accordance with the 2016 SCAG's RTP. In addition, under the No Build Alternative, all study intersections along Monroe Street operate unacceptably during the AM and PM peak hours except for the Monroe Street/Oleander Avenue intersection, which would operate unacceptably during the AM peak hour.

Under Design Year (2045), Build Alternative 2 (Tight Diamond) during the AM peak hour would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No Build Alternative and is not degraded further under Alternative 2. Six study intersections along Monroe Street would also be improved from unacceptable to acceptable during the AM peak hour. The number of vehicles served would increase by 4,840 vehicles (or 12 percent), while vehicle hours of delay would decrease by 42 percent and travel times increase slightly, with a correlating decrease in speeds along the I-10 corridor, specifically in the westbound direction during the AM peak period. At the ramp terminal intersections, LOS would be improved from LOS F to LOS B for both intersections, while demand served at the intersections would be improved by 23 percent.

During the PM peak hour, when compared to the No Build Alternative, Build Alternative 2 (Tight Diamond) would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No Build Alternative and is not degraded further under Alternative 4. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 would also serve 6,140 more vehicles (or 14 percent), reduce vehicle hours of delay by 19 percent, and reduce delay per vehicle by 24 percent. While travel time on I-10 in the westbound direction is increased slightly, by 6 seconds, speeds are maintained when compared to the No Build Alternative. In the eastbound direction the travel time is decreased by 16 seconds with a 4 mile per hour increase in speed. Both ramp terminal intersections would be improved from LOS F to LOS B with an increase in volume served of approximately 25 percent.

Under Design Year (2045), during the AM peak hour, Build Alternative 4 (Diverging Diamond) would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No Build Alternative and is not degraded further under Alternative 4. Six study intersections along Monroe Street would also be improved from unacceptable to acceptable. The number of vehicles served would increase by 4,840 vehicles (or 12 percent), while vehicle hours of delay would decrease

by 31 percent and travel times decreases by one second in both the eastbound and westbound direction. At the ramp terminal intersections, LOS would be improved from LOS F to LOS B for both intersections, while demand served at the intersections would be improved by 23 percent.

Under Design Year (2045), during the PM peak hour, when compared to the No Build Alternative, Build Alternative 4 (Diverging Diamond) would improve all freeway facilities to acceptable operations, with the exception of the westbound merge from Jackson Street, which operates unacceptably under the No Build Alternative and is not degraded further under Alternative 4. Four study intersections along Monroe Street would also be improved to acceptable conditions during the PM peak hour. Build Alternative 2 would also serve 5,840 more vehicles (or 13 percent) and reduce vehicle hours of delay by 13 percent. While travel time on I-10 in the westbound direction is increased slightly, by 7 seconds, speeds are maintained when compared to the No Build Alternative during the PM peak period. In the eastbound direction travel time is decreased by 13 seconds while speed is increased by 3 miles per hour. At the ramp terminal intersections, the I-10 eastbound ramp terminal intersection would be improved from LOS F to LOS C, with an increase in demand served of 24 percent, while the I-10 westbound ramp terminal intersection would be improved from LOS F to LOS B with a 27 percent increase in demand served.

Quantitative Analysis

VMT is expected to increase between Existing (2018) and the Opening Year (2025) and Design Year (2045) scenarios under the No Build Alternative and both Build Alternatives. The expected increase in VMT across all alternatives, including the No Build Alternative, is a result of land use growth assumed in the future year travel demand model. CVAG, which includes land use assumptions consistent with the 2016 SCAG RTP, was used to forecast future traffic volume and VMT in the study area. The CVAG model predicts significant growth in the number of households and employment within the City of Indio, the Indio Sphere, and the Coachella Valley will occur by 2040. Within the City of Indio and the Coachella Valley, both employment and households are projected to increase at 2 percent per year between the model base year (2008) and future year (2040). The Indio Sphere will see higher growth rates, with a 6 percent per year increase in households and a 3 percent increase in employment. Traffic volume and VMT increases within the project study area were found to be consistent with the increase in land use assumed in the travel demand model, growing at approximately 2 percent per year for both the Opening Year (2025) and Design Year (2045) scenarios.

Operational emissions were modeled using the CT-EMFAC2017 model. VMT for the project area was calculated from the data in the approved Traffic Volume Report and Traffic Operations Analysis Report (Caltrans 2019a) and vehicles per hour were estimated utilizing the link lengths for each scenario. Model defaults were used for the VMT fraction for trucks and non-trucks, while project-specific VMT distribution by speed was used. CO₂ emissions would decrease between the 2018 existing year and 2045 design year as seen in Table 3-2 despite an increase in the annual VMT from existing to design year, as the project by itself does not generate additional trips, improves speed distribution, and decreases congestion, which results in an emissions decrease. Emissions for the 2045 no build and build scenarios would be the same, as the project by itself does not generate any additional trips.

Table 3-2. Modeled Annual CO₂e Emissions and Vehicle Miles Traveled, by Alternative

Alternative	CO₂e Emissions (metric tons CO₂e/year)	Annual Vehicle Miles Traveled¹ (million miles per year)
Existing/Baseline 2018	321	288
Open to Traffic 2025		
No Build	295	327
Build Alternative 2	295	327
Build Alternative 4	295	327
20-Year Horizon/Design-Year 2045		
No Build	304	439
Build Alternative 2	304	439
Build Alternative 4	304	439

CO₂ = carbon dioxide

CO₂e = CO₂, N₂O, CH₄

Source: CT EMFAC (2017)

¹ Annual vehicle miles traveled (VMT) values in million miles per year were derived from daily VMT values multiplied by 347, per ARB methodology (ARB 2008).

As shown in Table 3-2 above, even with an increase in design year VMT as compared to the baseline VMT, operation of the project would not increase GHG emissions from mobile sources despite the capacity-enhancing features of the project, which include the addition of an auxiliary lane. A sidewalk and shared path for bikes and LSEVs will increase opportunities for non-motorized transportation and provide connectivity with the planned CV Link multi-use trail. These features support GHG-related goals and policies of the RTP, the Riverside County and City of Indio general plans, the Western Coachella Valley Area Plan, and the Riverside County CAP. Implementation of the project, along with other projects included in the regional 2016–2040 RTP, should further improve traffic flow and decrease congestion within the region.

While CT-EMFAC2017 has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC2017 are therefore estimates and may not reflect actual physical emissions. Although CT-EMFAC2017 is currently the best available tool for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives.³

³ This analysis does not currently account for the effects of the US National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule. Part One revoking California's authority to set its own greenhouse gas emissions standards was published on September 27, 2019 and effective November 26, 2019. The SAFE Vehicles Rule Part 2 would amend existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026. The proposal would retain the model year 2020 standards for both programs through model year 2026 (U.S. DOT 2018). Although ARB has not yet provided adjustment factors for greenhouse gas emissions to be utilized in light of the SAFE Rule, modeling these estimates with EMFAC2017 or CT-EMFAC2017 remains the most precise means of estimating future greenhouse gas emissions.

Construction Emissions

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

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.

The *Road Construction Emissions Model* (Sacramento Metropolitan Air Quality Management District 2016) was used to estimate GHG emissions from project construction. Project construction would generate an estimated 9,744 pounds per day of CO₂ equivalent (CO_{2e}) under either Build Alternative, including 9,645 pounds per day of CO₂, 2.9 pounds per day of CH₄, and 0.1 pounds per day of N₂O. Overall project construction emissions of GHGs would be 2,159 metric tons over the approximately 30-month construction period, which would be approximately 0.02 percent of Riverside County's estimated 2020 GHG Business as Usual inventory. GHG emissions for Alternative 4 would be slightly more than Alternative 2 because the Diverging Diamond configuration would require additional structure for traffic to cross to opposite sides between signalized crossover intersections. However, emissions would still be within approximately 0.02 percent of Riverside County's estimated 2020 GHG Business as Usual inventory.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes, including those of the SCAQMD. Certain common regulations that reduce construction vehicle emissions, such as equipment idling restrictions and proper maintenance of construction equipment, also help reduce GHG emissions. A transportation management plan will schedule and route construction traffic to minimize traffic delays and idling and reduce engine GHG emissions. A two-stage construction plan would minimize delays resulting from closures on Monroe Street.

CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG-reduction measures, the impact would be less than significant.

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

Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals, as shown on Figure 3-5, that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

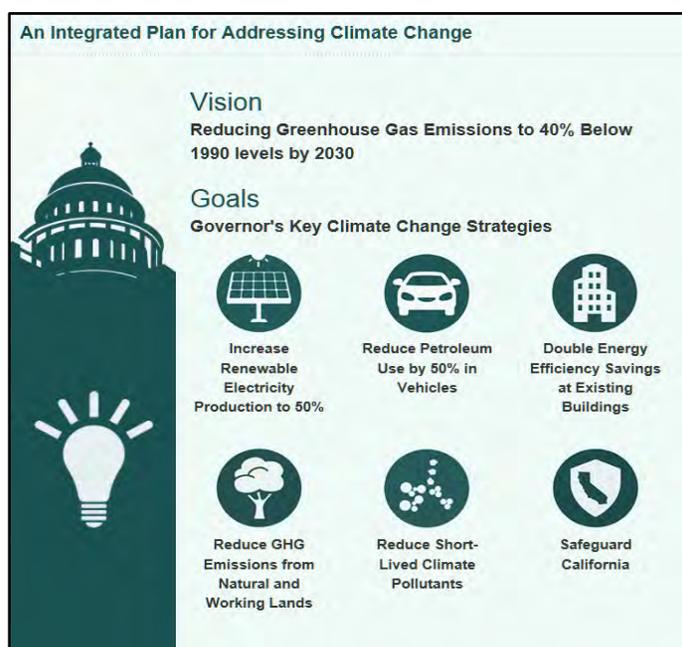


Figure 3-5. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO₂ reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

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

Caltrans Strategic Management Plan

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

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

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

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

- GHG-1:** Idling time for lane closure during construction is restricted to 10 minutes in each direction; in addition, the contractor must comply with SCAQMD's rules, ordinances, and regulations regarding air quality restrictions.
- GHG-2:** The project will incorporate the use of energy efficient lighting.
- GHG-3:** Bids will be solicited that include use of energy and fuel-efficient fleets in accordance to current practices.
- GHG-4:** The project will incorporate complete streets components, specifically pedestrian sidewalks, and bicycle and LSEV paths in the shoulder.
- GHG-5:** The project will maintain equipment in proper tune and working condition.

Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGRCP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15

U.S.C. ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.” Chapter 12, “Transportation,” presents a key discussion of vulnerability assessments. It notes that “asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime.” (USGCRP 2018.)

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions.” (U.S. DOT 2011.)

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems.

FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels. (FHWA 2019.)

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California’s Fourth Climate Change Assessment* (State of California 2018) is the state’s latest effort to “translate the state of climate science into useful information for action” in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the “combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.”
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the “capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience”. Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.

- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the “susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt.” Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality.² Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate “sea-level rise (SLR) projections into planning and decision making for projects in California” in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California’s infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Sea Level Rise

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

Floodplains

The project crosses the CVSC, which conveys the Whitewater River flows from the base of the San Bernardino Mountains to the Salton Sea. The Monroe Street Bridge is in a Federal Emergency Management Agency–designated 1-percent-annual-chance (100-year) flood zone, Zone AE. The project’s Location Hydraulic Study determined that the difference in 100-year water surface elevation before and after project improvements would be less than 1 foot. The draft *District 8 Climate Change Vulnerability Assessment* (Caltrans 2018) indicates that the project area is in a region of Riverside County anticipated to experience a less than 5 percent increase in 100-year storm precipitation depth through 2085.

Resiliency to climate change effects such as flooding, high water flows, stormwater runoff, and scour is considered within the project design. The Coachella Valley Water District design standards require the channel to have a minimum of 4 feet of freeboard over the 100-year

discharge, when measured to the top of the leveed channel. For the I-10/Monroe Street Interchange Improvement Project, the bridge over the channel does not encroach on the levees and is therefore not the limiting factor for freeboard. The Federal Emergency Management Agency reports the 100-year discharge at 39,000 cubic feet per second. The analysis of the channel hydraulics with the proposed bridge in place show that the Coachella Valley Water District freeboard criterion is exceeded by a factor of 2. This provides a very large buffer for climate change resiliency. As a check, 105 percent of the design flow was analyzed for this project and the water surface changed by only 0.4 foot at the bridge. The scour calculations include a factor of safety to account for the unpredictability of rain events. Therefore, the scour calculations also provide a similar buffer for the unpredictability of climate change. Hence, the proposed changes to the Monroe Street bridge over the CVSC would not have further adverse effects on the environment due to global climate change when evaluated for channel capacity and scour.

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, as well as the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings and interagency coordination meetings. In addition to consultation with participating agencies, the environmental document process will include public coordination by providing the public an opportunity to comment on the document during the public review period. This chapter summarizes the results of efforts to identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Consultation and Coordination

Meetings and/or consultations with the resource agencies listed below have occurred in conjunction with development of the project.

4.1.1 Air Quality Coordination

Pursuant to the interagency consultation requirement of 40 Code of Federal Regulations 93.105 (c)(1)(i), the proposed project was submitted to the Southern California Association of Governments Transportation Conformity Working Group (TCWG) for consideration at its meeting on September 25, 2018. At that meeting, members of the TCWG confirmed that the proposed project is not a project of air quality concern (POAQC). Subsequent to the referenced TCWG meeting, the PDT determined that an eastbound auxiliary lane on I-10, between Monroe Street and Jackson Street, was to be included as a component of the proposed project improvements. As a result, the project was resubmitted to the TCWG for consideration at its August 27, 2019, meeting. At that meeting, members of the TCWG reaffirmed that the proposed project is not a POAQC. A copy of the TCWG's determinations are included in Section 4.3 at the end of this chapter.

The proposed project still requires an air quality conformity analysis determination letter from the Federal Highway Administration (FHWA). The FHWA will base its determination on the air quality conformity analysis prepared for the project. This is done after the preferred alternative is selected, which will not occur until after circulation of this environmental document is completed.

4.1.2 U.S. Fish and Wildlife Service

No agency coordination or professional contacts have been initiated at this time for the proposed project. A U.S. Fish and Wildlife Service (USFWS) species list was generated from the Information for Planning and Consultation database on December 20, 2018, August 8, 2019, and March 9, 2020. A copy of the USFWS species list dated March 9, 2020 is included in Section 4.2 at the end of this chapter.

4.1.3 Native American Coordination

4.1.3.1 Native American Heritage Commission

The Native American Heritage Commission (NAHC) was contacted and asked to provide information regarding sacred lands and a list of Native American organizations/individuals for contact. The NAHC responded on February 28, 2018, stating that the commission was unaware of any sacred lands in the project area. The NAHC provided a list of 31 local tribal contacts for further consultation.

4.1.3.2 Native American Tribes

Request-for-information letters were sent to several Native American groups, as identified through coordination with the NAHC, in support of the cultural resources studies for the proposed project. More specifically, these letters were mailed to the Native American entities listed below. A detailed record of the correspondence efforts with Native American groups is included in the Historic Property Survey Report (HPSR) (March 2019) and summarized below.

In accordance with Section 106 of the National Historic Preservation Act, the Department sent initial consultation letters through the U.S. Postal Service on March 28, 2018, to the following individuals:

- Patricia Garcia-Plotkin, Director, Agua Caliente Band of Cahuilla Indians (ACBCI)
- Amanda Vance, Chairperson, Augustine Band of Mission Indians
- Doug Welmas, Chairperson, Cabazon Band of Mission Indians
- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians
- Michael Mirelez, Cultural Resource Coordinator, Torres-Martinez Desert Cahuilla Indians
- Anthony Madrigal, Tribal Historic Preservation Officer, Twenty-Nine Palms Band of Mission Indians

These letters served as formal notification of a proposed project, as required under the California Environmental Quality Act, specifically Public Resources Code Section 21080.3.1 and Assembly Bill (AB) 52 (Chapter 532, Statutes 2014). The letters provided a project description, including the project location, and discussed upcoming cultural resources studies of the project area.

Three responses to the Section 106 initiation letter and AB 52 notification letter were received:

- Katie Croft, Cultural Resource Manager with the Tribal Historic Preservation Office of the ACBCI, sent a letter dated March 26, 2018, stating that the project is not within the boundaries of the ACBCI Reservation but is within the tribe's Traditional Use Area. The letter noted that, at this time, the ACBCI is deferring consultation efforts to the Twenty-Nine Palms Band of Mission Indians and the Cabazon Band of Mission Indians and added that consultation efforts with the ACBCI are concluded.

- Anthony Madrigal, Tribal Historic Preservation Officer of the Twenty-Nine Palms Band of Mission Indians sent a letter dated April 5, 2018, noting that the project is within 1.5 miles of a culturally sensitive area as well as the Chemehuevi Traditional Use Area. For these reasons, the project could result in inadvertent discoveries, which could have an adverse effect on potential cultural resources that are of concern to the Twenty-Nine Palms Band of Mission Indians. The tribe requested copies of all available cultural reports related to the project and will provide recommendations after it reviews the documents.
- Amanda Vance, Chairperson of the Augustine Band of Mission Indians, sent a letter dated April 9, 2018. The letter stated that the tribe is unaware of specific cultural resources that could be affected by the project but encouraged the Department to contact other Native American tribes and individuals within the immediate vicinity of the project site. The tribe asked for a monitor who is qualified in Native American cultural resource identification to be present during the pre-construction and construction phases of the project and requested that the Augustine Band of Mission Indians be notified if any cultural resources are identified during development of the project.

The first round of follow-up emails went out on April 25, 2018. The individuals contacted as part of the follow-up included:

- Doug Welmas, Chairperson, Cabazon Band of Mission Indians
- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians
- Michael Mirelez, Cultural Resource Coordinator, Torres-Martinez Desert Cahuilla Indians

One response was received as a result of the first round of follow-up emails:

- Judy Stapp, Director of Cultural Affairs for the Cabazon Band of Mission Indians, sent a letter dated April 26, 2018, stating that the project area is outside the tribe's current reservation boundaries. In addition, the tribe has no specific archival information to indicate that the project site is a sacred/religious site or other site of traditional cultural value to Native Americans.

A second round of follow-up emails went out on May 29, 2018. The individuals contacted included:

- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians
- Michael Mirelez, Cultural Resource Coordinator, Torres-Martinez Desert Cahuilla Indians

No responses were received as a result of the second round of follow-up emails.

A final round of follow-up emails went out on June 28, 2018. The individuals contacted as part of the follow-up included:

- Joseph Ontiveros, Cultural Resource Department, Soboba Band of Luiseño Indians
- Michael Mirelez, Cultural Resource Coordinator, Torres-Martinez Desert Cahuilla Indians

Two responses were received as a result of the final round of follow-up emails:

- Joseph Ontiveros, Cultural Resource Department of the Soboba Band of Luiseño Indians, sent an email response on June 28, 2018, noting that there is a location of cultural sensitivity a few miles northwest of the project area. Mr. Ontiveros stated that, for this project, Soboba formally defers consultation efforts to the Torres-Martinez Desert Cahuilla Indians.
- Michael Mirelez, Cultural Resource Coordinator for the Torres-Martinez Desert Cahuilla Indians, sent an email response on July 19, 2018, noting that the project site falls within the tribe's Traditional Use Area and that Cahuilla village sites are in the vicinity of the project. For these reasons, the tribe is concerned about inadvertent discoveries during project implementation. Mr. Mirelez requested copies of the environmental impact report, cultural resource report, and government-to-government consultation and wishes to participate in all surveys and ground-disturbing activities associated with the project.

A PDF copy of the Archaeological Survey Report and the HPSR was emailed to Joseph Ontiveros, Cultural Resource Department of the Soboba Band of Luiseño Indians, and Michael Mirelez, Cultural Resource Coordinator for the Torres-Martinez Desert Cahuilla Indians, on October 22, 2018. No further response from either tribe has been received to date. A complete record of Native American consultation is included in Attachment E to the HPSR.

4.1.3.3 Local Historical Society/Historic Preservation Group

The Coachella Valley Historical Society and Museum in Indio was mailed a letter on May 2, 2018, regarding the project. A follow-up email with an updated letter and project area map was sent on September 4, 2018. On September 5, 2018, Karen Hawkesworth, from the Coachella Valley Historical Society and Museum, responded via email. Ms. Hawkesworth noted that the museum has no record of historical resources of a sensitive nature within the project area.

4.1.4 Coachella Valley Association of Governments – CV Link Coordination

The County of Riverside, City of Indio, and project consultant team have been working with the Coachella Valley Association of Governments (CVAG) to ensure that the design of the I-10/Monroe Street Interchange Project is compatible with the CV Link project. The team met on April 17, 2018, to discuss the proposed Jackson and Monroe Street Interchange improvements and to acknowledge that the Jackson and Monroe Street Interchange improvements would need to be coordinated with the CV Link project team. CVAG, the City, and the County understood that the CV Link designed ramps and undercrossing may need to be adjusted as the interchange improvements are further developed. Discussion on the minimum undercrossing vertical clearance, project schedule for the proposed Jackson and Monroe Street Interchange improvements and the CV Link project, and the proposed Class II shared bike/low speed electric vehicle lane(s) for both the Jackson and Monroe Street projects occurred. The team met again with CVAG on December 11, 2018, to discuss the preliminary Monroe Street Widening CV Link re-alignment plan/concept with CVAG. The project schedule was also discussed. A copy of the meetings notes can be found below in Section 4.2.

4.1.5 City of Indio – Identification of Locally Preferred Alternative

As described in Chapter 1, during a regularly scheduled PDT meeting conducted on March 28, 2019, the PDT—composed of representatives from the Department, the City, and the County—identified Build Alternative 2 as the locally preferred alternative. Subsequently, the City Council selected Build Alternative 2 as the locally preferred alternative at its July 17, 2019, City Council meeting. A copy of the July 17, 2019, City Council meeting minutes are included in Section 4.2.

4.2 Agency Coordination Documentation

Correspondence obtained from agencies in response to the Department’s request for information and input/concurrence related to the proposed I-10/Monroe Street Interchange Improvement Project is included on the pages that follow.

**TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**

**September 25, 2018
Minutes**

THE FOLLOWING MINUTES ARE A SUMMARY OF THE MEETING OF THE TRANSPORTATION CONFORMITY WORKING GROUP. A DIGITAL RECORDING OF THE ACTUAL MEETING IS AVAILABLE FOR LISTENING IN SCAG'S OFFICE.

The Meeting of the Transportation Conformity Working Group was held at the SCAG office in Los Angeles.

In Attendance:

Huddleston, Lori	Metro
Morris, Michael	FHWA
Priest, Todd	Todd Priest & Associates

SCAG:

Asuncion, John
Louie, Matthew

Via Teleconference:

Brugger, Ron	LSA Associates
Chan, Jenny	RCTC
Christian, Shalanda	Caltrans Headquarters
Deluca, Nicole	Parsons
Damiani, Brian	Parsons
Gallagher, Gina	RCTC
Gallo, Ilene	Caltrans District 11
Hall, Kara	Fehr & Peers
Hatcher, Shannon	ARB
Hudson, Kerrie	Caltrans District 8
Kalandiyur, Nesamani	ARB
Lancaster, Mark	RCTC
Mejia, James	SBCTA
Nord, Greg	OCTA
O'Connor, Karina	EPA Region 9
Sanchez, Lucas	Caltrans Headquarters
Schnapp, Angela	Parsons
Tax, Wienke	EPA Region 9
Vaughn, Joseph	FHWA
Verano, Jerusalem	Michael Baker International
Yoon, Andrew	Caltrans District 7

TCWG Minutes September 25, 2018

**TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**

**September 25, 2018
Minutes**

1.0 CALL TO ORDER AND SELF-INTRODUCTION

Lori Huddleston, TCWG Chair, called the meeting to order at 10:06 am.

2.0 PUBLIC COMMENT PERIOD

None.

3.0 CONSENT CALENDAR

3.1. August 28, 2018 TCWG Meeting Minutes

The meeting minutes will be revised to incorporate edits to Section 4.2 as requested via email by Andrew Yoon, Caltrans District 7.

4.0 INFORMATION ITEMS

4.1 Review of PM Hot Spot Interagency Review Forms

1) LA0G1119

It was reaffirmed that this is not a POAQC.

(Updated PM hot spot interagency review form will be resubmitted to SCAG with minor corrections to 2044 ADT figures).

2) RIV070308

It was reaffirmed that this is not a POAQC.

3) RIV071254

It was determined that this is not a POAQC.

4.2 Draft Revised Ozone Transportation Budgets

Shannon Hatcher, ARB, reported the following:

- As part of respective ozone SIP updates, ozone transportation conformity budgets had been revised for South Coast, Coachella Valley, and Western Mojave Desert nonattainment areas to reflect most recent travel activity data from SCAG's 2016-2040 RTP/SCS Amendment #2.
- Budgets for ozone precursors ROG and NOx had been set for same years of 2020, 2023, and 2026 in Coachella Valley and Western Mojave Desert areas; and for 2020, 2023, 2026, 2029, and 2031 in South Coast area.
- Safety margins were currently proposed only to Western Mojave Desert area.
- Budgets were calculated with EMFAC 2014.

TCWG Minutes September 25, 2018

**TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**

**September 25, 2018
Minutes**

4.3 FTIP Update

John Asuncion, SCAG, reported the following:

- 2019 FTIP had been adopted by SCAG Regional Council.
- Federal approval was expected to be on schedule by mid-December 2018.

4.4 RTP Update

John Asuncion, SCAG, reported the following:

- Daniel Tran had left SCAG so he would report on RTP Update from now on.
- Project submittal call was initiated early September 2018 for SCAG's 2020 RTP/SCS and project submittals by county transportation commissions would be due to SCAG by November 1, 2018.

In response to questions, Mr. Asuncion, SCAG, stated that 2016 RTP/SCS Amendment #3 had been approved by SCAG Regional Council and federal approval was anticipated to be by mid-December 2018; there would not be Amendment #4 to 2016 RTP/SCS.

4.5 EPA Update

Wienke Tax, EPA Region 9, reported the following:

- Acting EPA Region 9 Administrator signed a proposed rule-making on South Coast 2006 PM_{2.5} NAAQS Serious nonattainment area plan on September 24, 2018.
- Link to Federal Register notice would be forwarded to SCAG for distribution when it is published in a few weeks.
- EPA was proposing to approve 2017 and 2019 PM_{2.5} transportation conformity budgets (found adequate in January 2018) and associated trading mechanism.
- There would be a 30-day public comment period upon publication in Federal Register.
- All public comments would be responded to in final rule-making.

In response to a question, Ms. Tax, EPA Region 9, would research and then provide status update on South Coast NO₂ maintenance period at October 23, 2018 TCWG meeting.

4.6 ARB Update

Nesamani Kalandiyur, ARB, reported the following:

- Revised ozone transportation conformity budgets reported by Shannon Hatcher, ARB, had been posted on ARB website on September 21, 2018.

TCWG Minutes September 25, 2018

**TRANSPORTATION CONFORMITY WORKING GROUP
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SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**

**September 25, 2018
Minutes**

- Upon approval by ARB Governing Board on October 25, 2018, the ozone transportation conformity budgets would be submitted to EPA by end of 2018.

4.7 Air Districts Update
There were no new air district update.

5.0 INFORMATION SHARING

Lucas Sanchez, Caltrans Headquarters, shared the following:

- Rodney Tavitas, Caltrans Headquarters, had arranged a 3-day course *Introduction to Transportation Conformity* from March 25 through March 27, 2018 at Caltrans District 4 in Oakland; and Mr. Tavitas would send out enrollment information shortly.
- Caltrans Headquarters would host next Statewide Transportation Conformity Working Group meeting from 9:30 am to 12:00 pm on October 17, 2018 in downtown Los Angeles.

6.0 ADJOURNMENT

The meeting was adjourned at 10:37 am. The next Transportation Conformity Working Group meeting will be held on Tuesday, October 23, 2018 at the SCAG main office in downtown Los Angeles.

TCWG Minutes September 25, 2018

A.1 - September 2018 Transportation Working Group POAQC Determination

The screenshot shows a software window titled "September 2018" with a close button in the top right corner. The main content area is titled "PM Hot Spot Analysis Project Lists" and contains a sub-header "Review of PM Hot Spot Interagency Review Forms". Below this is a table with two columns: "September, 2018" and "Determination". The table lists four project entries, with the first one highlighted by a black border.

September, 2018	Determination
RIV071234 September 2018	Not a POAQC - Hot Spot Analysis Not Required
RIV070308 35641 September 2018	Not a POAQC - Hot Spot Analysis Not Required
LA0G1119 September 2018	Reaffirmed to be not a POAQC - Hot Spot Analysis Not Required (Updated PM hot spot interagency review form will be resubmitted to SCAG with minor corrections to 2044 ADT figures)
LA0G1119track September 2018	

8. Appendices

August 2019 Transportation Working Group POAQC Determination

August 2019

PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

August, 2019	Determination
RIV071254 August 2019	
Lincoln Blvd August 2019	Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received after meeting)
Lincoln Blvd August 2019 Map	
RIV071254 August 2019	Reaffirmed Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received after meeting)



United States Department of the Interior

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In Reply Refer To:

March 09, 2020

Consultation Code: 08ECAR00-2019-SLI-1414

Event Code: 08ECAR00-2020-E-01732

Project Name: I-10 Monroe Street Interchange Improvement Project

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

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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

03/09/2020

Event Code: 08ECAR00-2020-E-01732

2

Project Summary

Consultation Code: 08ECAR00-2019-SLI-1414

Event Code: 08ECAR00-2020-E-01732

Project Name: I-10 Monroe Street Interchange Improvement Project

Project Type: TRANSPORTATION

Project Description: The City of Indio (City), in cooperation with the California Department of Transportation (Caltrans) and the County of Riverside (County), proposes to reconstruct and widen Monroe Street at Interstate 10 (I-10) to improve the operational performance of the Monroe Street interchange.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/33.73827785398143N116.23141169717682W>



Counties: Riverside, CA

Endangered Species Act Species

There is a total of 6 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
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yuma Clapper Rail <i>Rallus longirostris yumanensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

03/09/2020

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Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard <i>Uma inornata</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2069	Threatened
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 is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch <i>Astragalus lentiginosus var. coachellae</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7426	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



MEETING MINUTES

MEETING: CVAG / CV Link Focus Meeting
I-10/Jackson and Monroe St IC PA / ED

Caltrans EA No.:
08-0K730 (Monroe)
08-0M910 (Jackson)

DATE: Tuesday, April 17, 2018
TIME: 1:00 p.m. – 2:30 p.m.
LOCATION: CVAG Conference Room
73710 Fred Waring Drive Ste #200,
Palm Desert, CA 92260

Prepared by: Jerusalem Verano
Approved by: Rebecca Young

HNTB provided the meeting agenda.

1) Introductions

Andy Cheah invited the meeting attendees to introduce themselves. Refer to the sign in sheet for attendees.

2) Background / Status of Current Work

Andy presented the current project status and background NEV design information.

3) Commuter Connector / Shared Facilities

Passing vs. No Passing - Roadway Shoulder Width Dimension:

CVAG, the City, and the County came to a consensus to provide a Class II shared bike / NEV lane(s) for both the Jackson and Monroe Street projects. The Class II facility is to be a minimum 10-foot wide (0 to 3-foot buffer and a 7' shared NEV / bicycle lane). A 10-foot width will allow for passing of broken or stalled NEV's within the shoulder area.

Limits of Full Width Shoulder / Join Locations:

CVAG, the City, and the County came to a consensus to limit the Class II shared bike / NEV lane to within the interchange improvements, up to the nearest driveway north of the interchange for both projects. For Jackson, the southern limit would be the CV Link path because the City's DRAFT General Plan Mobility Element does not identify NEV uses south of CV Link. For Monroe, the southern limits will be the limits of proposed ultimate roadway width

4) CV Link Coordination

Andy informed the attendees the Jackson and Monroe Street Interchange improvements would be coordinated with the CV Link project team. CVAG, the City, and the County understood that the CV Link designed ramps and undercrossing may need to be adjusted as the interchange improvements



are further developed.

CVAG, the City, and the County agreed the minimum undercrossing vertical clearance should be a 10-foot minimum.

5) Project Schedule

HNTB distributed the project schedule for the Jackson Street IC project. The PA / ED phase for both the Monroe and Jackson projects are scheduled to be completed at the end of 2019. Depending on funding availability, the projects are scheduled for an opening year of 2023.

Martin Magana stated the CV Link project is anticipated to be constructed this year.

6) Other Items

City of Indio General Plan Update:

Michael Baker noted proposed bike and NEV route discrepancies within the City's DRAFT General Plan Update and CV Link Master Plan and asked which document governed. CVAG, the City, and the County agreed the following documents will govern according to the order identified below,

1. City General Plan (and future General Plan Update)
2. CV Link Master Plan (January 2016)
3. Other CV Link and CVAG Guidance

Jason Pack noted the City is currently updating its General Plan and is scheduled to adopt the updated document around fall of this year. The General Plan Update proposes a Class IV bike / cycle track through the Monroe Street interchange project. In view of this meeting, Eric Weck agreed to review the City's proposed General Plan Update "bike route map" to possibly revise the Monroe Street bike route to a Class II facility from a Class IV facility prior to the adoption of the General Plan Update.

Action Item: Eric Weck will review the City's proposed General Plan Update "bike route map" to possibly revise the Monroe Street bike route to a Class II facility from a Class IV facility prior to the adoption of the General Plan Update.

DISCLAIMER:

The following items presented summarize the substantive items discussed or issues resolved at the above meeting to the best of the writer's memory. The information presented herein is for specific direction from the County, City, Agency, or Client. All attendees are requested to review these minutes and respond in writing within five (5) calendar days from receipt. If no responses or comments are received, these minutes will be accepted as a definitive version.

MEETING AGENDA

Project: I-10 Jackson Interchange – PA&ED (EA 08-0M910)

Meeting For: Focus Meeting (CV-Link)

Location: CVAG Conference Room

Date/Time: April 17, 2018 1:00 PM



TOPICS

1.	Introduction
2.	Background / Status of Current Work <ul style="list-style-type: none"> • Environmental Phase • Preliminary Design
3.	Commuter Connector / Shared Facilities: <ul style="list-style-type: none"> • Width <ul style="list-style-type: none"> ○ Consider using Class II – Shared Bike/LSEV Facilities: <ul style="list-style-type: none"> ▪ 8-foot Caltrans Standard Shoulder ▪ 9-foot PSR-PDS ▪ 10-foot shoulder allows passing • Limits <ul style="list-style-type: none"> ○ North / South limits along Jackson • Rough Order of Magnitude Estimate (ROM estimate)
4.	Traffic Study <ul style="list-style-type: none"> • Bike/LSEV/Pedestrian Volumes • Study Area/Limits on Jackson
5.	Access Ramps at CVSC Bridge <ul style="list-style-type: none"> • Proposed bridge widening <ul style="list-style-type: none"> ○ Current CV-Link Access Ramps to be Revised ○ Coordination with CVAG Design Team
6.	Project Schedule <ul style="list-style-type: none"> • Impact to schedule / scope
7.	Other Items



SR-86/Avenue 50 New Interchange PDT Meeting Minutes No. 16
 May 30, 2018
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<p>PROJECT OVERVIEW: I-10/Monroe: Michael Baker International [MBI] (Jerusalem Verano) briefly discussed the Monroe Street Widening CV Link re-alignment plan / concept, but noted that the current layout is preliminary and subject to change. CV Link modifications include:</p> <ul style="list-style-type: none"> • Realign CV Link undercrossing to accommodate a 10' vertical clearance, 1.5: 1 slope paving, Monroe Street widening. • Realign CV Link eastside access ramp to accommodate the Monroe Street Widening. Will impact the "AP-5" architectural sitting area east of Monroe Street. • Maintain original CV Link design intent and inter-agency decisions made as part of CV Link project, i.e. railing, path dimensions, channel access, maintain and join existing channel lining. • APN: 610-093-037 is vacant and impacted by the Monroe Street widening of CV Link. CVAG, the City, and the County verified that there are no current plans to develop said parcel. Jerusalem noted the eastside CV Link access ramp alignment shown is subject to change and will be refined in final design. <p>CVAG will coordinate with Alta to possibly reduce / change the pavement type through the Monroe Street CV Link undercrossing and eastside access ramp. John Ashlock noted that this decision is up to CVAG as the Monroe and Jackson projects are in a preliminary planning phase and the current design is not final and is subject to change.</p> <p>Jerusalem will share Monroe Street Widening CV Link re-alignment plan / exhibit with CVAG.</p> <p>CVAG will coordinate with Alta to possibly reduce / change the pavement type through the Monroe Street CV Link undercrossing and eastside access ramp.</p> <p>County (John Ashlock) noted that this decision is up to CVAG as the Monroe and Jackson projects are in a preliminary planning phase and the current design is not final and is subject to change.</p>	<p>2.1</p>
<p>I-10/Jackson: HNTB (David Speirs) briefly discussed the Jackson Street Widening project. The project in PA/ED phase. The project is evaluating to reconstruct the existing 5-span structure to a 3-span structure.</p> <p>Andy shared the preliminary proposed profile exhibit based on the latest 3 s-span structure concept with 9-foot girder depth. With the increased of girder depth, 2% cross slope for wider structure, and Jackson realignment, the CV-link profile will need to be lower (approximately 4.09 feet on the westside to 7.31 on the eastside feet) as shown in attached exhibit. The promising news is the bottom of CV-link ramp still higher than the existing 100-year water surface elevation. No flood hazard, but noted that it is pending on final HEC-RAS analysis of the proposed 3-span structure, and final roadway and bridge profile.</p> <p>Andy will provide the latest Jackson Street CV Link proposed profile concept to CVAG.</p> <p>As noted in the CV-link master plan, Jackson Street is identified as a commuter connector. The team agreed to include the direct access ramps from the Jackson Street for the</p>	<p>2.2</p>

SR-86/Avenue 50 New Interchange PDT Meeting Minutes No. 16
 May 30, 2018
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	environmental study footprint. However, the pavement structure section type and construction costs can be worked out between the agencies will work in the future.	
	Operations and Maintenance of CV-Link CVAG will own and operate CV Link. On lands owned by CVWD, CVAG will/has executed an inter-agency agreement. On private property CV Link has / will negotiate easements with property owners.	
3	Schedule CVAG (Martin Magana) stated that Phase is tentatively anticipated to advertise for bid in spring 2019, construction to start in summer or fall 2019. Phase 2 of CV-Link will include Jackson Street portion. It is anticipate to start before completion of Phase 2, tentatively targeting 2020.	
4	Open Discussions / Other Items None.	

DECISION LOG:

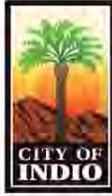
No.	Decisions

All attendees should review and comment on the above meeting summary content. The attendees' comments shall be received within seven (7) calendar days from the distribution date shown hereon; otherwise this document is accepted as the "Meeting Minutes of Record".

DISTRIBUTION DATE:	June 4, 2018
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Attachments: Meeting Agenda
 Meeting Attendees Sign-in Sheet

cc: Project File



CITY OF INDIO Agenda

City Council

150 Civic Center Mall
Indio, California

July 17, 2019

MISSION STATEMENT

THE CITY OF INDIO'S PUBLIC SERVANTS PROVIDE OUTSTANDING MUNICIPAL SERVICES TO ENHANCE THE QUALITY OF LIFE FOR OUR RESIDENTS, VISITORS AND THE BUSINESS COMMUNITY

JOINT CLOSED SESSION CITY COUNCIL / SUCCESSOR AGENCY

3:00 p.m.

1. CALL TO ORDER AND ROLL CALL

Mayor/Chairperson Lupe Ramos Amith
Mayor Pro Tem/Vice Chairperson Glenn Miller
Councilmember/Director Elaine Holmes
Councilmember/Director Waymond Fermon
Councilmember/Director Oscar Ortiz

2. PUBLIC COMMENT

This is the time set aside for public comment. If you wish to speak, please complete a "request to speak" form and limit your comments to three minutes (forms are located in the lobby of the Council Chamber). If the total time of comments extend beyond 30 minutes, the Mayor may defer further public comments for items Not on the Agenda until the end of the Agenda.

3. ADJOURN TO CLOSED SESSION to consider:

- a. Conference with Real Property Negotiator (City Council), Government Code Section 54956.8; APN 610-070-025 and 610-070-002, City of Indio Negotiator: Mark Scott, City Manager; Negotiating Parties: Coachella Valley Mosquito and Vector Control District; Under Negotiation: Price and Terms of Payment.
- b. Conference with Real Property Negotiators (City Council and Successor Agency), Government Code Section 54956.8; City of Indio and Successor Agency properties with APN's 611-164-014, 611-172-001, 611-172-003, 611-172-007, 611-172-017, 611-172-018, 611-172-019, 611-172-020, 611-172-022, 611-172-023, 611-172-025, 611-172-026, 611-172-027, 611-173-002, 611-173-006, 611-173-008, 611-173-012, 611-173-013, 611-173-015, 611-173-016, 611-173-017, 611-173-018, 611-173-019, 611-173-020, 611-173-021, 611-212-041, 611-164-011, 611-164-013, 611-164-015, 611-153-001, 611-153-004, 611-153-007, 611-153-009, 611-153-010, 611-153-011; City of Indio and City of Indio Successor Agency Negotiator: Mark Scott, City

Manager/Executive Director; Negotiating Party: PSDG; Under Negotiation: Price and Terms of Payment

- c. Conference with Real Property Negotiators (City Council and Successor Agency), pursuant to California Government Code Section 54956.8; City of Indio and Successor Agency properties with APN's 611-164-011, 013, 014, 015; APN 611-172-025, 026, 027, 022, 023, 020, 017, 018, 019; City of Indio and City of Indio Successor Agency Negotiator: Mark Scott, City Manager/Executive Director; Negotiating Parties: Coachella Valley Development Partners. Negotiation: Price and Terms of Payment.
- d. Conference with Legal Counsel, Existing Litigation, Government Code Section 54956.9(d)(1); Henricus Peeters, et al. v. City of Indio, Riverside County Superior Court Case No. PSC 1704172
- e. Conference with Legal Counsel, Existing Litigation, Government Code Section 54956.9(d)(1); Comite Latino v. City of Indio, Riverside County Superior Court Case No. PSC 1904258
- f. Conference with Legal Counsel, Existing Litigation, Government Code Section 54956.9(d)(1); City of Indio v. City of Coachella, et. al., Riverside County Superior Court Case No. PSC 1804374
- g. Public Employee Performance Evaluation, Government Code Section 54957; Public Employee: City Manager
- h. Conference with Labor Negotiator, Government Code Section 54957.6; City Negotiator: Roxanne Diaz, City Attorney and Mayor Amith; Unrepresented Employee: City Manager

**REGULAR JOINT MEETING
CITY COUNCIL / INDIO WATER AUTHORITY
5:00 p.m.**

1. CALL TO ORDER AND ROLL CALL

Mayor/President Lupe Ramos Amith
Mayor Pro Tem/Vice President Glenn Miller
Councilmember/Commissioner Elaine Holmes
Councilmember/Commissioner Waymond Fermon
Councilmember/Commissioner Oscar Ortiz

2. INVOCATION

The City Council does not endorse the content of the invocation and does not endorse the invitational speaker's particular faith, belief and/or religious denomination. The City Council does not engage in any prior inquiry, review of, or involvement in, the content of the invocation, except to request the speaker to refrain from using the invocation as an opportunity to attempt to convert others to a particular faith or to disparage any faith or belief and for the speaker to face the City Council. The City Council has an established neutral policy for selecting and scheduling invitational speakers. The City Clerk will make the Council's policy on invocations available upon request for public inspection and copying.

3. PLEDGE OF ALLEGIANCE

4. REPORT ON CLOSED SESSION

5. REPORT ON CITY COUNCIL EXTERNAL/INTERNAL BOARDS, COMMISSIONS AND COMMITTEE MEETINGS AND REPORT ON MEETINGS ATTENDED PER GOVERNMENT CODE SECTION 53232.3(d)

6. PRESENTATIONS

- a. Certificate of Recognition to Radio Remanente

7. APPOINTMENTS

- a. [Designation of Voting Delegates and up to Two Alternates to the League of California Cities Annual Conference – October 16 – 18, 2019, in Long Beach, CA](#)

8. CITY MANAGER REPORTS AND INFORMATION

- a. Loan Program for Downtown Restaurant Expansion
- b. Acquisition of Public Art for Dr. Carreon Park
- c. Update — Study of Future Electrical Power Service Alternatives
- d. Legislative Update — SB 5 (State Funding for Affordable and Homeless Housing)

9. PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA

This is the time set aside for public comment. If you wish to speak, please complete a "request to speak" form and limit your comments to three minutes (forms are located in the lobby of the Council Chamber). If the total time of comments extend beyond 30 minutes, the Mayor may defer further public comments for items Not on the Agenda until the end of the Agenda.

10. CONSENT CALENDAR

Note: Consent calendar items are considered to be routine in nature and will be approved by one motion. Reading of text of Ordinances is waived and Ordinances are adopted as second reading, by title only. Public requests to discuss consent calendar items must be filed with the City Clerk before the consent calendar is called. This is the time for any member of the public wishing to speak on a consent calendar item to do so. Any member of the public wishing to speak shall have a total of three minutes to address any and all items on which he/she wishes to speak. Unless a consent calendar item is pulled for discussion by a council member, there will be no further opportunity to discuss the matter. If a consent calendar item is pulled for Council discussion and a member of the public then wishes to speak, he/she shall limit comments to matters raised during the Council discussion.

- a. [Minutes for the Regular City Council meeting held June 19, 2019](#) (Sabdi Sanchez, City Clerk Administrator) Recommendation: Approve
- b. [Resolution approving the City's participation in the Public Agency Retirement Services Post-Employment Benefits Trust to prefund the City's Post-Employment Pension Benefits and authorizes the City Manager to execute the agreement and all related documents to implement the program](#) (Rob Rockwell, Assistant City Manager and Finance Director) Recommendation: Approve
- c. [City Warrants](#) (Rob Rockwell, Assistant City Manager and Finance Director) Recommendation: Receive/File
- d. [IWA Warrants](#) (Trish Rhay, IWA General Manager) Recommendation: Receive/File
- e. [Purchase of cellular data and voice services from Verizon Wireless in the yearly amount of \\$110,000 for three years](#) (Ian Cozens, IT Director) Recommendation: Approve

- f. Fuel purchase in the amount of \$340,000 from SoCo Group Inc., for the City's fuel needs (Timothy T. Wassil, P.E., Public Works Director) Recommendation: Approve
- g. A purchase from Fiesta Ford in the amount of \$479,595.30 for ten (10) new 2020 Ford Explorers (Timothy T. Wassil, P.E., Public Works Director) Recommendation: Approve
- h. Approval of Purchase and Sale Agreement and Joint Escrow Instructions between the City of Indio and Frontier California, Inc., for the purchase in fee of an approximate 159 square foot portion of the real property identified as APNs 611-310-018, 611-310-019, and 611-330-013 for public street purposes and all uses necessary or convenient thereto, and an approximate 133 square foot temporary construction easement for a term of four years to facilitate the construction of the Avenue 44 Low-Flow Crossing Replacement Project (BR1101) and finding that the purchase is consistent with the General Plan (Timothy T. Wassil, P.E., Public Works Director) Recommendation: Approve
- i. Agreement for contractual services between the City of Indio and Riverside University Health System – Behavioral Health (RUHS-BH), for crisis triage behavioral health services in the amount of \$300,000 over a three year term (Michael R. Washburn, Chief of Police) Recommendation: Approve
- j. Supplier agreement with Ferguson Enterprises, LLC dba Ferguson Waterworks, for as-needed water meters and meter parts for Fiscal Year 2019-20 in the amount not-to-exceed \$250,000 (Trish Rhay, IWA General Manager) Recommendation: Approve (Indio Water Authority)
- k. Purchase of as needed waterworks parts and supplies from Ferguson Waterworks, Core & Main, Dangelo Company, United Waterworks, Inc., and Western Water Works for Fiscal Year 2019-20 in an amount not-to-exceed \$360,000 (Trish Rhay, IWA General Manager) Recommendation: Approve (Indio Water Authority)
- l. Acceptance of the Bill of Sale of Water System Facilities from Polo Estates Ventures, LLC for Tract No. 37396-1 at Trilogy at the Polo Club (Trish Rhay, IWA General Manager) Recommendation: Authorize & Accept (Indio Water Authority)
- m. Approve the accounts receivable write-offs in the amount of \$148,241.39 as of June 30, 2019 pursuant to Administrative Policy No. IWA-750-01-004-12 (Trish Rhay, IWA General Manager) Recommendation: Approve (Indio Water Authority)

11. ADMINISTRATIVE ITEMS

- a. Identification and selection of Alternative Two (Tight Diamond Interchange Layout) as the locally preferred alternative for the Jackson Street Interchange and Monroe Street Interchanges (Timothy T. Wassil, P.E., Public Works Director) Recommendation: Approve
- b. Amendment No. 1 to the Employment Agreement between the City and City Manager Mark Scott (Roxanne Diaz, City Attorney) Recommendation: Approve

12. PUBLIC HEARINGS

- a. [Public hearing to adopt a Resolution to increase solid waste rates and a Resolution providing for the collection of Solid Waste Charges on the tax roll for Fiscal Year 2019-2020](#) (Timothy T. Wassil, P.E., Public Works Director) Recommendation: Approve
- b. [Public hearing to adopt Resolution certifying the Final Environmental Impact Report, adopting CEQA findings and mitigation monitoring and reporting program and adopting a statement of overriding consideration for the City of Indio 2040 General Plan and Climate Action Plan; Resolution adopting the City of Indio 2040 General Plan; and Resolution adopting the Climate Action Plan](#) (Kevin Snyder, AIEP, Community Development Director) Recommendation: Approve

13. PUBLIC COMMENTS CONTINUED, IF NEEDED, FOR ITEMS NOT ON THE AGENDA

14. ADJOURN

Next Council Meeting: August 21, 2019

Agenda packets are available on the city's website at www.indio.org and at the public counter in City Hall at 100 Civic Center Mall, Indio, California. Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection at the front counter of the lobby of the City Hall Administration Building at 100 Civic Center Mall, Indio, during normal City business hours and during the meeting.

PUBLIC NOTICE

The Indio City Council Chamber is accessible to person(s) with disabilities. If special equipment is needed, for the hearing impaired, please call the City Clerk's office. Persons with disabilities can receive this agenda in an alternative format and should call the City Clerk's office at 391-4007. Notification 48 hours prior to a meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting (28 CFR 35.102.35.104 ADA Title 11).

DECLARATION OF POSTING

I, Sabdi Sanchez, City Clerk Administrator of the City of Indio, California, do hereby declare that the foregoing agenda was posted on July 12, 2019, at least seventy-two (72) hours prior to the meeting per Government Code 54954.2, at the following locations:

City of Indio Council Chamber, 150 Civic Center Mall, Indio, CA 92201
City of Indio website www.indio.org

Sabdi Sanchez

SABDI SANCHEZ, CMC
CITY CLERK ADMINISTRATOR

Chapter 5 List of Preparers

The following persons were principally responsible for review and preparation of this IS/EA.

California Department of Transportation

Renetta Cloud	Senior Environmental Planner
Liana Griebisch	Associate Environmental Planner/Generalist
Ashley Bowman	Principal Investigator, Prehistoric Archaeology/Cultural Studies
Andrew Walters	Senior Environmental Planner/Cultural Studies
Chun-Sheng Wang	Associate Environmental Planner/Biological Studies
Craig Wentworth	Senior Environmental Planner/Biological Studies
Olufemi Odufalu, P.E.	Office Chief/Environmental Engineering
Alan Espejo	Transportation Engineer/Noise
Farhana Islam	Transportation Engineer/Noise
Osabuogbe C. Igbinedion, P.E., QSD	Senior Transportation Engineer/Water Quality
Bahram Karimi	Associate Environmental Planner/Paleontological Studies
Donald Cheng	Transportation Engineer/Hazardous Waste
Raftar Sharia, P.E.	Professional Engineer/Hydraulics
Chris Gonzalez	Transportation Engineer/Air Quality

City of Indio

Eric Weck	Principal Engineer
-----------	--------------------

County of Riverside Transportation Department

John Ashlock	Project Manager
Jan Bulinski	Senior Transportation Planner

Consultants

Court Morgan	Senior Environmental Planner, ICF
Mari Piantka	Senior Environmental Planner, ICF
Monica Corpuz	Environmental Planner, ICF
Meagan Flacy	Environmental Planner, ICF
Elizabeth Irvin	Senior Technical Editor, ICF
John Mathias	Technical Editor, ICF
Jenelle Mountain-Castro	Publications Specialist, ICF
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Jerusalem V. Verano, P.E.	Project Engineer, Michael Baker International
Rebeca Young, P.E.	Design Engineer, Michael Baker International
Kristen Bogue	Environmental Analyst, Michael Baker International
Cathy Johnson, ASLA	Environmental Analyst, Michael Baker International
Brad Losey	Engineer, Michael Baker International
Joan George	Co-Principal Investigator/Historical Archaeology, Applied EarthWorks, Inc.
Amy Ollendorf, PhD	Principal Investigator/Prehistoric Archaeology and Paleontology Program Manager, Applied EarthWorks, Inc.
Bruce Campbell	Environmental Analyst, Parsons
Laura Tanaka	Principal Environmental Scientist, Converse Consultants
Greg Berg	Noise Control Specialist, Parsons
Kara Hall, EIT	Senior Transportation Engineer, Fehr & Peers
Jessica Wilkinson	Environmental Planner, Parsons
Nikole Meade	Associate Engineer, Parsons

Chapter 6 Distribution List

The Initial Study/Environmental Assessment (IS/EA) and/or a Notice of Availability was distributed to the following federal, state, regional, and local agencies, elected officials, interested groups, organizations and individuals, and utilities and service providers in the project area. In addition, all property owners and resident/occupants located within 500 feet of the proposed project were provided with a Notice of Availability.

6.1 Agencies

Indio Water Authority
83101 Avenue 45
Indio, California 92201

Desert Sands Unified School District
Scott Bailey, Superintendent
47-950 Dune Palms Road
La Quinta, CA 92253

Riverside County Planning Dept.
Director
Carolyn Syms Luna
4080 Lemon Street, 9th Floor
Riverside, CA 92501

City of Indio Public Works Department
Timothy Wassil, Director
100 Civic Center Mall
Indio, CA 92201

City of Indio
City Manager
Mark Scott
100 Civic Center Mall
Indio, CA 92201

City of Indio
Director of Development Services
100 Civic Center Mall
Indio, CA. 92201

City of Indio
Jim Curtis, Manager of Community
Services
100 Civic Center Mall
Indio, CA 92201

City of Indio Fire Administration
Headquarters
Jorge Rodriguez, Division Chief
46-990 Jackson Street
Indio, CA 92201

City of Indio Police Department
Mike Washburn, Chief of Police
46800 Jackson Street
Indio, CA 92201

County of Riverside Transportation
Department
Attn: Russell Williams, Environmental /
Development Review Division Manager
4080 Lemon Street
Riverside, CA 92502-1629

Coachella Valley Assoc. of
Governments, Director of
Environmental Resources
Katie Barrows
73-710 Fred Waring Drive, Ste. 200
Palm Desert, CA 92260

City of Indio Chamber of Commerce
and Visitors Center
82-921 Indio Boulevard,
Indio, CA 92201

Coachella Valley Mosquito and Vector
Control District
General Manager
Jeremy Wittie, MS
43-420 Trader Place
Indio, CA 92210

Coachella Valley Water District
Division 4, Board of Director
Peter Nelson
51501 Tyler Street
Coachella, CA 92236

Greater Coachella Valley Chamber of
Commerce
Indio Office
82-921 Indio Boulevard
Indio, CA 92201

Southern California
Assoc. of Governments
Huasha Liu, Planning & Programs –
Land Use and Env't Plng
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Coachella Valley Water District
Steve Bigley, Director of Environmental
Services
PO Box 1058
Coachella, CA 92236

Coachella Valley Recreation & Park
District
45-305 Oasis Street
Indio, CA 92201

So. CA Assoc. of Governments
Riverside County Regional Office
Attn: Cheryl Leising
3403 10th Street, Suite 805 Riverside,
CA 92501

SunLine Transit Agency
Lauren Skiver, General Manager
32-505 Harry Oliver Trail
Thousand Palms, CA 92276

Native American Heritage Commission
Attn: Gayle Totton, Associate
Governmental Project Analyst
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691

U.S. Fish & Wildlife Service Palm Springs Fish and Wildlife Office Attn: Ken Corey 777 E. Tahquitz Canyon Way Suite 208 Palm Springs, California 92262	California Department of Transportation Division of Environmental Analysis Attn: Dan McKell 1120 "N" Street Sacramento, CA 95814	CA Air Resources Board Transportation Projects 1001 "I" Street Sacramento, CA 95814
Department of Water Resources Reclamation Board 1416 Ninth Street Room 1601 Sacramento, CA 95814	California RWQCB / Colorado River Basin Region 7 Kai Dunn Senior Water Resources Control Engineer 73-720 Fred Waring Drive Palm Desert, CA 92260	California Highway Patrol Enforcement & Planning Division Special Programs Section Transportation Planning Unit 601 N. 7 th Street Sacramento, CA 95811
California Dept. of Water Resources Division of Environmental Services 3500 Industrial Boulevard West Sacramento, CA 95691	SCAQMD Planning, Energy & Environ. Section Attn: Carol Gomez Transportation Manager 1865 E. Copley Drive Diamond Bar, CA 91765	Riverside County Fire Dept. Office of the Fire Marshal Palm Desert Office 77-93 Las Montanas Road, #201 Palm Desert, CA 92211
CA Dept. of Fish & Wildlife Leslie MacNair, Acting Regional Manager 3602 Inland Empire Boulevard Suite C-220 Ontario, CA 91764	California NRCS State Office Carlos Suarez, State Conservationist Richard E. Lyng USDA Service Center 430 G Street, #4164 Davis, CA 95616-4164	County of Riverside Transportation Department Juan C. Perez, Director of Transportation & Land Management 4080 Lemon Street Riverside, CA 92501
City of Coachella Fire Dept. Bonifacio De La Cruz Battalion Chief 1377 Sixth Street Coachella, CA 92236	U.S. Army Corps of Engineers Los Angeles District Transportation & Special Projects Environmental Protection 915 Wilshire Boulevard Los Angeles, CA 90015	Coachella Valley Conservation Commission 73-710 Fred Waring Drive, Suite 200 Palm Desert, California 92260
Mr. Joseph Tavaglione, Commissioner California Transportation Commission 3405 Arlington Avenue Riverside, CA 92506	Cal Fire – Riverside Unit Riverside County Fire Department Jodie Gray, Division Chief, Strategic Planning Division 210 West San Jacinto Avenue Perris, CA 92570-1915	California Department of Conservation Environmental Review 801 K Street, MS 24-01 Sacramento, CA 95814
Department of Toxic Substances Control Johnson P. Abraham, Project Manager 5796 Corporate Avenue Cypress, CA 90630	Coachella Valley Association of Governments 73-710 Fred Waring Drive Palm Desert, CA 92260	City of Coachella Jonathan Hoy, P.E. City Engineer 1515 Sixth Street Coachella, CA 92236
Riverside County Flood Control and Water Conservation District 1995 Market Street Riverside, CA 92501	Coachella Valley History Museum 82616 Miles Avenue Indio, CA 92201	Coachella Valley Water District PO Box 1058 Coachella, CA 92236-1058
Director Office of Environmental Policy and Compliance, Department of the Interior Main Interior Bldg. MS 2340 1849 C Street, NW Washington, DC 20240		

6.2 Native American Tribes

Augustine Band of Cahuilla Mission
Indians
Attn: Amanda Vance
PO Box 849
Coachella, CA 92236

Soboba Band of Mission Indians
Attn: Joseph Ontiveras
PO Box 487
San Jacinto, CA 92581

Agua Caliente Band of Cahuilla Indians
Attn: Patricia Garcia-Plotkin
5401 Dinah Shore Drive
Palm Springs, CA 92264

Cabazon Band of Mission Indians
Doug Welmas
84-245 Indio Springs Parkway
Indio, CA 92203

Agua Caliente Band of Cahuilla Indians
Attn: Katie Croft, Tribal Historic
Preservation Officer
5401 Dinah Shore Drive
Palm Springs, CA 92264

Cabazon Band of Mission Indians
Judy Stapp
Director of Cultural Affairs
84-245 Indio Springs Parkway
Indio, CA 92203

Torres-Martinez Desert Cahuilla Indians
Attn: Michael Mirelez, Cultural
Resource Coordinator
Torres-Martinez DCI
P.O. Box 1160
Thermal, CA 92274

Twenty Nine Palms Band of Mission
Indians of California
Anthony Madrigal, Jr., Tribal Historic
Preservation Officer
46-200 Harrison Place
Coachella, CA 92236

Bureau of Indian Affairs
1451 Research Park Drive #100
Riverside, CA 92507-2154

Coachella Valley History Museum
82616 Miles Avenue
Indio, CA 92201

6.3 Elected Officials

City of Indio
Mayor Lupe Ramos Amith
100 Civic Center Mall
Indio, CA 92201

Riverside County Supervisor
V. Manuel Perez, Fourth District
73-710 Fred Waring Drive
Suite 222
Palm Desert, CA 92260

City of Indio
Waymond Fermon
Councilmember, Council District 2
100 Civic Center Mall
Indio, CA 92201

Honorable Kamala Harris
United States Senator
312 N. Spring Street
Suite 1748
Los Angeles, CA 90012

City of Indio
Oscar Ortiz
Councilmember
Council District 4
100 Civic Center Mall
Indio, CA 92201

City of Indio
Glenn Miller
Mayor Pro Tem
Council District 1
100 Civic Center Mall
Indio, CA 92201

City of Indio
Elaine Holmes
Councilmember
Council District 3
100 Civic Center Mall
Indio, CA 92201

Honorable Dianne Feinstein
United States Senator
11111 Santa Monica Boulevard Suite
915
Los Angeles, CA 90025

District Office of United States
Representative, 36th District
Dr. Raul Ruiz
43875 Washing Street, Suite F
Palm Desert, CA 92211

District Office of California State
Senator, 28th District
Jeff Stone
45-125 Smurr Street
Indio, CA 92201

District Office of Assembly Member
56th District
Eduardo Garcia
48220 Jackson Street, Suite A3
Indio, CA 92236

6.4 Local Residents and Other Interested Parties

Diversified Pacific 10621 Civic Center Drive Rancho Cucamonga, CA 91730-3804	Lowes HIW Inc. 1530 Faraday Avenue #140 Carlsbad, CA 92008-7353	Bella Vida at Shadow Hills Inc. PO Box 14387 Palm Desert, CA 92255-4387
B H Indio Land 11111 Santa Monica Blvd, #600 Los Angeles, CA 90025-3340	Clinton Street Business Partners 7901 Crossway Drive Pico Rivera, CA 90660-4449	Javier C & Raquel Z Rivera 41917 Napoli Street Indio, CA 92203-3121
Luis Salcido 82535 Pisa Court Indio, CA 92203-3125	Edith & Luz A Vazquez Po Box 6926 La Quinta, CA 92248-6926	Coachella Valley Mosq & Vector Control Dist. 83733 Avenue 55 Thermal, CA 92274
Arthur & Donna Altounian PO Box 223040 Princeville, HI 96722-3040	OSDIP PO Box 8183 Redlands, CA 92375-1383	Sunburst Partners 43180 Sunburst Street Indio, CA 92201-2083
L & M Franklin Ents LP 5065 Louise Avenue Encino, CA 91316-2531	Stephen E & Penny L Schaeffer 78393 Bent Canyon Court Bermuda Dunes, CA 92203-1058	Oleander Indio Commerce Center PO Box 2127 Monument, CO 80132-2127
Columbia Ventures Spectrum Grande 82545 Showcase Parkway, #104 Indio, CA 92203-9653	Elhalfy Abdel A Living Trust 47800 Madison Street, #209 Chiriaco Summit, CA 92201-6666	Bhavna & Bhavna 83597 Indio Blvd Indio, CA 92201-4732
Sandra J McConnell 36 Merrill Drive Palm Desert, CA 92260-0614	Joe Jesse & Marina Garcia Avila 23 Champagne Circle Rancho Mirage, CA 92270-2737	John D Arnold 82559 Pisa Court Indio, CA 92203-3125
Shivlal V & Deena Rakholia 82573 Pisa Court Indio, CA 92203-3125	Jesus M & Ana L Sinohuiz 47064 Palermo Court Indio, CA 92201-6906	Jose & Monica Ramirez 41372 Hoke Court Indio, CA 92203-4018
Serafin D Leon 81500 Industrial Place Indio, CA 92201-2189	Serafin Leon PO Box 96 Thousand Palms, CA 92276-0096	Ben Alan & Ruth Ann Smith 49555 Colorado Street Indio, CA 92201-8841
GSC Indio Ltd. 2082 Michelson Drive, #2128 Irvine, CA 92612-1212	TA 43401 Monroe Street Indio, CA 92201-2025	Indio Enterprise 57595 S. Valley Lane La Quinta, CA 92253-7772
Nina Mazzella 81867 Lancer Way Indio, CA 92201-3075	Monroe Business Park 78005 Wildcat Drive, #107 Palm Desert, CA 92211-4121	James S & Kristi K Hanousek PO Box 2569 Palm Desert, CA 92261-2569
Prudential Overall Supply 1661 Alton Pkwy Irvine, CA 92606-4801	Watts Management 7305 E Greenway Rd Scottsdale, AZ 85260-1603	DG Strategic II 100 Mission Rdg Goodlettsville, TN 37072-2171
Bernadette A Miramontes 82601 Pisa Court Indio, CA 92203-3125	Joel Guerrero & Maria Delacruz Villanueva 3564 Bluff Street Norco, CA 92860-1823	Anselmo Morales 82233 Orange Grove Avenue Indio, CA 92201-2125

Jose R & Dalia F Medina
82221 Orange Grove Avenue
Indio, CA 92201-2125

Hermelinda C & Emilia Beltran
82179 Orange Grove Avenue
Indio, CA 92201-2181

Noe A & Marie A Taboada
82243 Crest Avenue
Indio, CA 92201-2115

Robert B & Frances Tessandore
82207 Crest Avenue
Indio, CA 92201-2115

Velia Zamora
82165 Crest Avenue
Indio, CA 92201-2132

Roberto L & Maria Ines Uriarte
Castaneda
82168 Orange Grove Avenue
Indio, CA 92201-2180

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Maurilio Armenta
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Indio, CA 92201-2113

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82077 Crest Avenue
Indio, CA 92201-2111

Jose D & Ramona S Arrieta
82062 Crest Avenue
Indio, CA 92201-2112

Ruth Arreola
82104 Crest Avenue
Indio, CA 92201-2114

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82950 Beckman Drive
Thermal, CA 92274-9437

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Indio, CA 92201-2122

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Palm Desert, CA 92260-4007

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Rafael R & Elsa F Esqueda
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Indio, CA 92201-8600

Habitat for Humanity of the CO
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Palm Desert, CA 92211-0848

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Indio, CA 92201-2132

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Indio, CA 92201-2180

Victoria Lizette Gutierrez
82192 Orange Grove Avenue
Indio, CA 92201-2180

Denise Vielmas
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Indio, CA 92201-2126

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Indio, CA 92201-2112

Salvador Aguilar & Rosa Maria Vaca
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Indio, CA 92201-2112

Elizabeth Pimentel
82132 Crest Avenue
Indio, CA 92201-2114

Freddy V Rios
82132 Lemon Grove Avenue
Indio, CA 92201-2146

Jose D & Silvia Aguilera 83780 Avenue 48, #403 Indio, CA 92201-7034	Don & Nancy Brandon 82104 Lemon Grove Avenue Indio, CA 92201-2146	Lucy Raphaela Colin 82090 Lemon Grove Avenue Indio, CA 92201-2144
Milton M & Rhonda S Taylor Arvie L & Ernestine Mills 82076 Lemon Grove Avenue Indio, CA 92201-2144	Record Owner 82062 Lemon Grove Avenue Indio, CA 92201-2144	Jose & Ana B Cedillo 82050 Lemon Grove Avenue Indio, CA 92201-2144
Nicholas John Loyd 82063 Lemon Grove Avenue Indio, CA 92201-2143	Robert W & Irma P Brooker 82077 Lemon Grove Avenue Indio, CA 92201-2143	Veronica Anayancy Ruiz 82091 Lemon Grove Avenue Indio, CA 92201-2143
Francisca Guadalupe Isidoro 82105 Lemon Grove Avenue Indio, CA 92201-2145	Thomas D & Darlene K Allchin 82117 Lemon Grove Avenue Indio, CA 92201-2145	Robert T & Rosalina Sandoval PO Box 1498 Indio, CA 92202-1498
Jose Ernesto & Chelyn R Quintero 82048 Oleander Avenue Indio, CA 92201-2166	Guillermo Diaz Verdugo 82062 Oleander Avenue Indio, CA 92201-2166	Jess Salais 82076 Oleander Avenue Indio, CA 92201-2166
Benedicto Gutierrez 82090 Oleander Avenue Indio, CA 92201-2166	Elizabeth Q Contreras 82104 Oleander Avenue Indio, CA 92201-2168	Carlos & Kristen Martinez 40869 Paganini Drive Indio, CA 92203-3827
Javier & Gloria Estrada 81784 Villa Giardino Drive Indio, CA 92203-7707	Starfire Group 78669 Alliance Way Palm Desert, CA 92211-3071	Francisco J & Carmen Garcia 82047 Oleander Avenue Indio, CA 92201-2165
Rolando Martinez 82063 Oleander Avenue Indio, CA 92201-2165	Antonio Meza Molina 82077 Oleander Avenue Indio, CA 92201-2165	Rudolph M Aguirre 82091 Oleander Avenue Indio, CA 92201-2165
Ricardo A Madrid 82105 Oleander Avenue Indio, CA 92201-2167	Miguel & Emma Guerrero 82117 Oleander Avenue Indio, CA 92201-2167	Norma N Valdez 82129 Oleander Avenue Indio, CA 92201-2167
William A Lewis 82132 Mountain View Avenue Indio, CA 92201-2158	Edgar T Guillen 82118 Mountain View Avenue Indio, CA 92201-2158	Keith M & Gloria P Gunter 82104 Mountain View Avenue Indio, CA 92201-2158
Cecilia Metzgar 82090 Mountain View Avenue Indio, CA 92201-2156	Paul R & June Aguirre PO Box 647 Indio, CA 92202-0647	William Edric & Merry B Donnelly 82062 Mountain View Avenue Indio, CA 92201-2156
Manuel & Ann C Duran 82050 Mountain View Avenue Indio, CA 92201-2156	John P & Amber N Hitchcock 82063 Mountain View Avenue Indio, CA 92201-2155	Maria Elvia Gomez 82077 Mountain View Avenue Indio, CA 92201-2155
Marvin G & Phyllis McClure 82091 Mountain View Avenue Indio, CA 92201-2155	Ramon Aceves 82105 Mountain View Avenue Indio, CA 92201-2157	David J Torres 82117 Mountain View Avenue Indio, CA 92201-2157
Delgado L M & P C Trust 82129 Mountain View Avenue Chiriaco Summit, CA 92201-2157	GTY Pacific Leasing 555 W 5th Street Los Angeles, CA 90013-1010	David M Romeo 19195 Mystic Pointe Drive, #308 Aventura, FL 33180-4503
Jorge A Zamora 82156 Lemon Grove Avenue Indio, CA 92201-2146	Juan Garcia 81188 Mariposa Cir Indio, CA 92201-6624	Daniel Ramirez Rodriguez 82180 Lemon Grove Avenue Indio, CA 92201-2148

Epifanio & Maria Rojas 45210 Desert View Court La Quinta, CA 92253-4271	Lincoln G Kircher 82204 Lemon Grove Avenue Indio, CA 92201-2188	Jose Vera 82216 Lemon Grove Avenue Indio, CA 92201-2188
Maria Del Meza 82228 Lemon Grove Avenue Indio, CA 92201-2188	Richard F & Janina G Perez 82240 Lemon Grove Avenue Indio, CA 92201-2188	Timoteo & Mercedes Millan 82155 Lemon Grove Avenue Indio, CA 92201-2145
Joe Diaz 82165 Lemon Grove Avenue Indio, CA 92201-2147	Amalia A & Josefina Garcia 82179 Lemon Grove Avenue Indio, CA 92201-2147	Harman Imports Inc. 1612 Range Court Diamond Bar, CA 91765-4318
Gregorio Sustaita PO Box 1902 Indio, CA 92202-1902	Sergio & Graciela Nunez 82221 Lemon Grove Avenue Indio, CA 92201-2100	Ruben Vera 82233 Lemon Grove Avenue Indio, CA 92201-2100
Sylvia M Mendoza 82243 Lemon Grove Avenue Indio, CA 92201-2100	Michael C & Leslie Tyler 82156 Oleander Avenue Indio, CA 92201-2153	Emilio Sanchez 82168 Oleander Avenue Indio, CA 92201-2153
Ana Rosa & Carmen Ayala 82180 Oleander Avenue Indio, CA 92201-2153	Andrew P & Marie E Childers 82192 Oleander Avenue Indio, CA 92201-2153	Thelma E Stulz 82204 Oleander Avenue Indio, CA 92201-2170
Josefina Castaneda 82216 Oleander Avenue Indio, CA 92201-2170	Maria Carranza Rios 82228 Oleander Avenue Indio, CA 92201-2170	Jose H Zapata 82240 Oleander Avenue Indio, CA 92201-2170
Wal-mart R/E Business Trust PO Box 8050 Bentonville, AR 72712-8055	John P Hooten 11111 Katy Freeway, #535 Houston, TX 77079-2110	Raul & Francisca Robledo 82105 Kenner Avenue Indio, CA 92201-2135
Ricardo A Garcia Vizcarra 82117 Kenner Avenue Indio, CA 92201-2135	Hector A Castro 49560 Nieto Street Coachella, CA 92236-1368	DARP 31855 Date Palm No 3 473 Cathedral City, CA 92235
Heriberto Franco & Martha E Torres 82090 Kenner Avenue Indio, CA 92201-2134	Darlene K & John Woodard 82104 Kenner Avenue Indio, CA 92201-2136	Fandango Solar Protection LLC 12156 Lilac Heights Court Valley Center, CA 92082-3319
Shawnee Hop 82132 Kenner Avenue Indio, CA 92201-2136	First Ame Church PO Box 2471 Indio, CA 92202-2471	Octavio Tecuapacho 52143 Genoa Drive Coachella, CA 92236-2640
Harper Family Trust 82278 Oleander Avenue Indio, CA 92201-2170	Francisco Corona 48825 Pomegranate Street Indio, CA 92201-8493	E Eugene & Carma Vorwaller 82306 Oleander Avenue Indio, CA 92201-2172
Gilbert & Mayanin Hodges 12830 6th Street, #59 Yucaipa, CA 92399-2545	Juan & Rosario Rodriguez 82336 Oleander Avenue Indio, CA 92201-2177	Irma D Cantu 82346 Oleander Avenue Indio, CA 92201-2177
Carlos Luna 82358 Oleander Avenue Indio, CA 92201-2177	Nancy Ramirez 82368 Oleander Avenue Indio, CA 92201-2177	Rosalinda Downing 82378 Oleander Avenue Indio, CA 92201-2177
Olivia Martinez 82388 Oleander Avenue Indio, CA 92201-2177	Carlos H Quintanilla 82398 Oleander Avenue Indio, CA 92201-2177	Richard Montez 82408 Oleander Avenue Indio, CA 92201-2174

Jose L Castillo 82420 Oleander Avenue Indio, CA 92201-2174	Juan & Barbara Martinez 82430 Oleander Avenue Indio, CA 92201-2174	Aracelia Castillo PO Box 2137 Chiriaco Summit, CA 92201
Raul & Yolanda Avila 82450 Oleander Avenue Indio, CA 92201-2174	Irma & Jose A Flores 43361 Arabia Street Indio, CA 92201-2107	Hilario Lazaro Soto 82320 Lemon Grove Avenue Indio, CA 92201-2150
Cota Family Trust 82306 Lemon Grove Avenue Indio, CA 92201-2150	J Ricardo Meza 81160 Avenga Court Indio, CA 92201-8614	Rosa E Elizondo 82278 Lemon Grove Avenue Indio, CA 92201-2188
Rafael Arechiga 82264 Lemon Grove Avenue Indio, CA 92201-2188	Esteban Gonzalez 82263 Orange Grove Avenue Indio, CA 92201-2125	Yolanda Uribe 82275 Orange Grove Avenue Indio, CA 92201-2125
Carlos Servin 82291 Orange Grove Avenue Indio, CA 92201-2125	Benito & Alma C Regla 82305 Orange Grove Avenue Indio, CA 92201-2127	Donald Ray & Rizalina Juliet Starkey 80089 Maramar Drive Indio, CA 92203-4854
Maria G Gonzalez Mares 45255 Coldbrook Lane La Quinta, CA 92253-4144	Guillermo Urbalejo Mota 82450 Lemon Grove Avenue Indio, CA 92201-2152	Florentino G & Carmen C Zamora 82440 Lemon Grove Avenue Indio, CA 92201-2152
Albert R Juarez 82430 Lemon Grove Avenue Indio, CA 92201-2152	Israel & Carmen P Pavia 52279 Cesar Chavez Street Coachella, CA 92236-2854	Robert A & Sandra C Hillier 1101 Catalpa Road Arcadia, CA 91007-6022
Erika L Gomez 82398 Lemon Grove Avenue Chiriaco Summit, CA 92201-2182	Ruby R Marruquin 82388 Lemon Grove Avenue Indio, CA 92201-2182	Rogelio & Amparo Herrera PO Box 2296 Indio, CA 92202-2296
Rita S Isquierdo 82368 Lemon Grove Avenue Indio, CA 92201-2182	Simona Delgado Soto 82358 Lemon Grove Avenue Indio, CA 92201-2182	Guadalupe & Norma M Gonzalez 47630 Corta Herrera Indio, CA 92201-6876
Sylvester Bracamontez PO Box 5610 La Quinta, CA 92248-5610	Raymond V & Bertha S Madrid 82335 Orange Grove Avenue Indio, CA 92201-2127	Jorge Manuel & Margarita Rivera 80941 Shenandoah Avenue Indio, CA 92201-5054
Carlos & Mercy Perez 128 Lenore Court Beaumont, CA 92223-7523	Santiago & Ana Servin 82365 Orange Grove Avenue Indio, CA 92201-2127	Mendez Ma Guadalupe Aguilar 82379 Orange Grove Avenue Indio, CA 92201-2127
Morales 79923 Castille Drive La Quinta, CA 92253-8817	Alfredo & Maria R Garcia 82399 Orange Grove Avenue Indio, CA 92201-2127	Guillermo & Maria Morales 82405 Orange Grove Avenue Indio, CA 92201-2129
Berta Madrid Silva 82421 Orange Grove Avenue Indio, CA 92201-2129	Oscar Uribe 82431 Orange Grove Avenue Indio, CA 92201-2129	Blue Runyon PO Box 424 La Quinta, CA 92247-0424
John G Alvarez 82451 Orange Grove Avenue Indio, CA 92201-2129	Juan A & Yazmina Saldivar 82461 Orange Grove Avenue Indio, CA 92201-2129	Arthur Bracamonte 82263 Lemon Grove Avenue Indio, CA 92201-2100
Luis Fermin N Arreola 82275 Lemon Grove Avenue Indio, CA 92201-2100	Roiando D Marroquin-Curruchi 31105 Whispering Palms Trail Cathedral City, CA 92234-5242	Sara V Gonzalez 30600 Desert Rock Road Desert Hot Springs, CA 92241-5176

Fernando Rodriguez 43821 Faye Street Indio, CA 92201-2527	Ignacio A & Ma A Cardenas PO Box 200 Indio, CA 92202-0200	Ricardo Venegas 82345 Lemon Grove Avenue Indio, CA 92201-2187
Lourdes Yadira Urbano 82357 Lemon Grove Avenue Indio, CA 92201-2187	Florentino G & Rocio R Garcia 82365 Lemon Grove Avenue Indio, CA 92201-2187	Israel Huerta 82379 Lemon Grove Avenue Indio, CA 92201-2187
Mario & Marie B Martinez 82389 Lemon Grove Avenue Indio, CA 92201-2187	Delfina Zamora 82399 Lemon Grove Avenue Indio, CA 92201-2187	Mario F Mancillas 82405 Lemon Grove Avenue Indio, CA 92201-2151
Margarita A Moran 82421 Lemon Grove Avenue Indio CA 92201-2151	Jennifer Melinda Gautschi 824311 Lemon Grove Avenue Indio, CA 92201	Susanna Escarsega 83535 Waterford Lane Indio, CA 92203-3127
Albert H & Caritina H Escudero 82421 Crest Avenue Indio, CA 92201-2119	Michael J & Paula G Drumheller 82461 Lemon Grove Avenue Indio, CA 92201-2151	Alexander & Lucila Morales 82450 Orange Grove Avenue Indio, CA 92201-2130
Jesus P & Irma B Fernandez 82440 Orange Grove Avenue Indio, CA 92201-2130	Jesus A & Rosario Perales 82430 Orange Grove Avenue Indio, CA 92201-2130	Enriqueta Ramirez PO Box 2924 Indio, CA 92202-2924
Tonia Bustamante 82408 Orange Grove Avenue Indio, CA 92201-2130	Alexander & Lucila Silva Morales 82398 Orange Grove Avenue Indio, CA 92201-2130	Elia Fieros 82399 Crest Avenue Indio, CA 92201-2117
Brian S Ferguson 81162 Fred Waring Drive #104 Indio, CA 92201-1982	Christine Dagleish 82389 Crest Avenue Indio, CA 92201-2117	Reynaldo M & Maria S Lopez 82431 Crest Avenue Indio, CA 92201-2119
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Esaias F Baca 82441 Crest Avenue Indio, CA 92201-2119	Record Owner 82306 Orange Grove Avenue Indio, CA 92201-2128	Rene Ray & Jessica Lilian Cruz 82316 Orange Grove Avenue Indio, CA 92201-2128
Jose Hernandez 82300 Crest Avenue Indio, CA 92201-2118	Jose Perez Fuertes 86516 Sylmar Lane Coachella, CA 92236	Susano M & Paula Z Zepeda 82346 Orange Grove Avenue Indio, CA 92201-2128
Robert H W & Christy M Haines 459 Oxford Drive Arcadia, CA 91007-2644	Julie Ann Lubke 73075 Amber Street Palm Desert, CA 92260-5990	Salamambo 73111 El Paseo, #204 Palm Desert, CA 92260-4205
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Montie Wayne Clevenger 82325 Crest Avenue Indio, CA 92201-2117	Noel Anquiano PO Box 840 Indio, CA 92202-0840	Annmarie Chiofolo 82336 Crest Avenue Indio, CA 92201-2118

Mike G & Alice P Medina 82346 Crest Avenue Indio, CA 92201-2118	Martin & Diana Caldera 82358 Crest Avenue Indio, CA 92201-2118	Luis G Banuelos 82368 Crest Avenue Indio, CA 92201-2118
Brent W & Adrianna Dexter 5190 Goldstone Court Hemet, CA 92545-6118	Meliton Cabrera Torres 82388 Crest Avenue Indio, CA 92201-2118	Sara Gonzalez 82398 Crest Avenue Indio, CA 92201-2118
Mark G & Karina Lerma 82408 Crest Avenue Indio, CA 92201-2120	Jose & Maria Morales 82420 Crest Avenue Indio, CA 92201-2120	Jose M & Irene L Garza 50550 Calle Quito La Quinta, CA 92253-2825
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Jessie S Hernandez 76655 Florida Avenue Palm Desert, CA 92211-7733	Juan & Yolanda Gomez 80487 Suncastle Road Indio, CA 92201-5262	Javier Tzompantzi 82506 Crest Avenue Indio, CA 92201-2404
Alberto Camarena 81723 Paseo Cielo Indio, CA 92201-3928	Jose T & Teresa Cardenas 82532 Crest Avenue Indio, CA 92201-2404	Richard G & Angelina Martinez 82548 Crest Avenue Indio, CA 92201-2404
Alfred & Kathleen Romero 44890 Calle Santa Barbara La Quinta, CA 92253-8534	Guillermina C Garcia 82570 Crest Avenue Indio, CA 92201-2404	Ana M Hernandez 82584 Crest Avenue Indio, CA 92201-2404
Teofilo Bribiesca Gonzalez 43424 Arabia Street Indio, CA 92201-2110	Ronald A Garcia 82608 Crest Avenue Indio, CA 92201-2406	Fred Luna Espinosa 82620 Crest Avenue Indio, CA 92201-2406
Urbanic 18359 Coastline Drive Malibu, CA 90265-5729	Wal Mart Real Estate Business Trust 1301 S.E. 10th Street Bentonville, AR 72712-7998	At Designs Prop Inc. 42250 Spectrum Street, #A Indio, CA 92203-9508
Chandi & Karan PO Box 2817 Indio, CA 92202-3517	Walmart Real Estate Business 8013 S.E. 10th Street Bentonville, AR 72716	Spectrum Inv. Partners One 81485 Carboneras La Quinta, CA 92253-8218
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RJ Ventures Indio 10990 Wilshire Blvd #1000 Los Angeles, CA 90024-3924	Circle K Stores Inc. 255 E. Rincon Street, #100 Corona, CA 92879-1368	CSP Hospitality LLC 74900 Gerald Ford Drive Palm Desert, CA 92211-2081

Appendix A Section 4(f) De Minimis Findings

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I-10/Monroe Street Interchange Improvement Project

Section 4(f) De Minimis Finding

Submitted Pursuant to 49 USC 303 and 23 USC 138

City of Indio, Riverside County, California

08-RIV-10-PM R53.9/R55.5

EA 0K730/PN 0800000368



April 2020



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.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Terri Kasinga, Chief, Public and Media Affairs, 464 W. 4th Street, 6th floor, San Bernardino, CA 92401-1400; (909) 383-4646; or use the California Relay Service 1-800-735-2929 (TTY to Voice), 1-800-735-2922 (Voice to TTY), 1-800-855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech to Speech), or 711.

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List of Abbreviated Terms

ARB	California Air Resources Board
BMP	best management practices
Caltrans/Department	California Department of Transportation
CFR	Code of Federal Regulations
Channel Bridge	bridge over Coachella Valley Stormwater Channel
City	City of Indio
County	County of Riverside
CVAG	Coachella Valley Association of Governments
DDI	Diverging Diamond Interchange
FHWA	Federal Highway Administration
I-10	Interstate 10
IS/EA	Initial Study/Environmental Assessment
LSEV	low-speed electric vehicle
NRHP	National Register of Historic Places
PM	Post Mile
PS&E	Plans, Specifications, and Estimate
SCAQMD	South Coast Air Quality Management District
SSP	Standard Special Provisions
TDI	Tight Diamond Interchange
TMP	Transportation Management Plan
USC	United States Code

Chapter 1 Introduction

1.1 Section 4(f) of the Department of Transportation Act of 1966

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

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."

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

The proposed project is a transportation project that would receive federal funding and/or discretionary approvals through the U.S. Department of Transportation, Federal Highway Administration (FHWA); therefore, documentation of compliance with Section 4(f) is required.

1.2 Section 4(f) *De Minimis* Impact Evaluation Requirements

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act amended Section 4(f) legislation at 23 USC 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This revision provides that once the U.S. Department of Transportation determines that a transportation use of Section 4(f) property—after consideration of any impact avoidance, minimization, and mitigation or enhancement measures—results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA’s final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and 23 CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the California Department of Transportation (Department) pursuant to 23 USC 326 and 23 USC 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

1.3 Section 4(f) Use

The term *use* is defined in 23 CFR 774.17 in three ways:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute’s preservation as determined by the criteria in §774.13(d); or
- When there is a constructive use¹ of a Section 4(f) property as determined by the criteria in §774.15

¹ A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

Chapter 2 Project Description

The City of Indio (City), in cooperation with the Department and the County of Riverside (County), proposes to reconstruct and widen Monroe Street at Interstate 10 (I-10) to improve the operational performance of the Monroe Street interchange. The Monroe Street interchange is located on I-10 at Post Mile (PM) R54.7, between PM R53.9, approximately 2 miles east of the Jefferson Street interchange, and PM R55.5, approximately 1 mile west of the Jackson Street interchange. The current I-10/Monroe Street interchange configuration is a diamond-type interchange, with signal control at the on- and off-ramp termini. The project would reconstruct Monroe Street at the interchange, including the existing on- and off-ramps, the Monroe Street I-10 overcrossing, and the bridge over the Coachella Valley Stormwater Channel (Channel Bridge). The Monroe Street interchange is a major access point for existing development at the interchange area.

2.1 Purpose

The purpose of this project is to:

- Increase capacity at the I-10/Monroe Street interchange to accommodate the forecast travel demand for the 2045 design year within the City of Indio;
- Accommodate multimodal travel consistent with the City of Indio's *General Plan* and regional plans; and
- Improve operations by addressing existing interchange geometric deficiencies that include: inadequate shoulder width; non-standard curves, cross-falls, and profile grades; and non-standard seismic and scour susceptible bridges over I-10 and Whitewater River.

2.2 Need

The project addresses the following needs, transportation deficiencies, and problems:

- The existing interchange and associated intersections are expected to operate at unacceptable level of service by year 2045 due to forecasted growth in traffic volumes in relation to the current capacity of the interchange;
- Existing gaps in pedestrian and bicycle infrastructure across the interchange break the multi-modal connection between communities and businesses on either side of I-10; and
- Without the proposed improvements, and with anticipated daily traffic growth, the existing Monroe Street and corresponding I-10 ramps will experience increased delays and diminished operations within the interchange.

2.3 Project Alternatives

Three alternatives will be evaluated in the environmental document for the proposed project:

- Alternative 1 – No-Build,
- Alternative 2 – Tight Diamond Interchange, and
- Alternative 4 – Diverging Diamond Interchange.

The proposed project alternatives are described in further detail below.

2.3.1 Alternative 1 – No-Build

Under this alternative, no reconstruction or improvements would be made to the existing I-10/Monroe Street interchange other than routine maintenance.

2.3.2 Alternative 2 – Tight Diamond Interchange (TDI)

This alternative would reconstruct the existing interchange in a tight diamond configuration (refer to Figures 1-6A through 1-6E of the Draft Initial Study/Environmental Assessment [IS/EA]). Improvements include widening Monroe Street, the I-10 overcrossing, the Channel Bridge, and the I-10 ramps. Monroe Street at the I-10 overcrossing and Channel Bridge would accommodate two through lanes in each direction and would include two left-turn lanes at each ramp intersection for access to I-10.

Alternative 2 includes the construction of a 6.5-foot-wide sidewalk and 10-foot-wide Class II, on-street bike/low-speed electric vehicle (LSEV) path located on both sides of Monroe Street along the limits of improvement. The sidewalk and the Class II bike/LSEV path vary in width at the southern and northern join locations.

2.3.3 Alternative 4 – Diverging Diamond Interchange (DDI)

This alternative would reconstruct the existing interchange in a DDI configuration. A DDI is a type of diamond interchange in which the northbound and southbound directions of travel cross to opposite sides between signalized crossover intersections (refer to Figures 1-7A through 1-7E of this Draft IS/EA). The DDI allows for two-phase operations at both signalized crossover intersections. The configuration of the DDI contributes to a safer intersection by reducing vehicle speeds and reducing the number of vehicle conflict points. Improvements include widening Monroe Street, the I-10 overcrossing, the Channel Bridge, and the I-10 ramps. Separate bridge structures would be constructed for each direction of travel for the I-10 overcrossing and the Channel Bridge. Monroe Street at the I-10 overcrossing and Channel Bridge would accommodate two through lanes in each direction.

Alternative 4 includes the construction of a 6.5-foot-wide sidewalk on both sides of Monroe Street along the limits of improvements. As the directions of travel cross over, pedestrians will cross to the inside of the interchange, and will be accommodated on a single 10-foot-wide path between the I-10 ramps. A 10-foot-

wide, on-street Class II bike/LSEV path is proposed on both sides of Monroe Street. The LSEV and bikes users also cross at the signalized crossover intersections and remain separated for each direction of travel.

2.3.4 Common Build Alternative Features

Parcel and Right of Way Impacts

Alternative 2 would permanently affect parcels in all four quadrants of the existing interchange. Alternative 4 would permanently affect parcels in the northwest, northeast, and southeast quadrants of the existing interchange. Alternatives 2 and 4 would both permanently affect parcels on both sides of Monroe Street that are north of the interchange, from the westbound I-10 ramps to Showcase Parkway. South of the interchange, from the Coachella Valley Stormwater Channel to Oleander Avenue, permanent impacts on parcels in the southwest and southeast quadrants would occur under Alternative 2, while Alternative 4 would permanently affect parcels in the southeast quadrant only. Temporary impacts are anticipated in all four interchange quadrants and on both sides of Monroe Street under Alternatives 2 and 4, which includes minimum impacts on two existing gas stations (76 Oil and Mobil), both located in the southwest quadrant of the interchange. Due to the new bridge construction over the Coachella Valley Stormwater Channel, temporary and permanent impacts on the channel and existing right of way are anticipated and coordination with the Coachella Valley Water District would be required throughout the project.

Monroe Street On-Ramp Acceleration Lane and Off-Ramp Deceleration Lanes

Alternatives 2 and 4 include acceleration and deceleration lanes at the westbound on- and off-ramps and a deceleration lane at the eastbound off-ramp to improve traffic operations and to meet Caltrans ramp metering requirements. From the ramp convergence point, the westbound Monroe Street on-ramp acceleration lane length is 1,000 feet long parallel to I-10. From the ramp divergence point east, the westbound Monroe Street off-ramp deceleration lane length is 1,300 feet long parallel to I-10. Both build alternatives also include an eastbound off-ramp deceleration lane at Monroe Street. From the ramp divergence point west, the eastbound Monroe Street off-ramp deceleration lane length is 600 feet long parallel to I-10.

Auxiliary Lane

Alternatives 2 and 4 include an auxiliary lane in the eastbound direction between the Monroe Street on-ramp and the Jackson Street off-ramp. The auxiliary lane is approximately 2,650 feet long as measured from the on- and off-ramp convergent and divergent points parallel to I-10. The auxiliary lane is composed of one standard 12-foot-wide lane with one standard 10-foot-wide shoulder.

Ramp Metering

According to the Caltrans Ramp Metering Design Manual, dated February 2018, only the westbound I-10 on-ramp is planned for ramp metering. The project proposal includes ramp metering on both the I-10 westbound and eastbound on-ramps with two general purpose lanes per the Caltrans Ramp Metering Design Manual, without High-Occupancy Vehicle Preferential Lane.

CV Link

Alternatives 2 and 4 would require realignment of the Coachella Valley Association of Governments' (CVAG's) planned CV Link multi-use trail within the project limits to accommodate the widening of Monroe Street and provide the minimum vertical undercrossing clearance.

Utility Impacts

Utilities anticipated to be affected by widening Monroe Street include relocating two Southern California Gas Company high-pressure gas lines, adjusting two Ventura Sanitary District manhole structures to grade, relocating Imperial Irrigation District underground electric distribution lines, and relocating a 12-inch-diameter Indio Water Authority water line.

Geotechnical Considerations

Geotechnical investigations would be required during final design of the I-10 overcrossing and Channel Bridge interchange improvements. It is anticipated that approximately 50 borings would be required during final design. Infiltration basins are proposed in the undeveloped areas between the on- and off-ramps and I-10.



Figure 1
Regional Vicinity Map
Interstate 10/Monroe Avenue Interchange Improvement Project

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Figure 2
Project Location Map
Interstate 10/Monroe Avenue Interchange Improvement Project

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Chapter 3 List and Description of Section 4(f) Properties

As noted above, resources subject to Section 4(f) consideration include publicly owned lands such as public parks; recreational areas of national, state, or local significance; wildlife and waterfowl refuges; and historic sites of national, state, or local significance.

Resources in the project study area were identified if they were:

- Existing publicly owned recreational and park resources, including local, regional, and state resources;
- Publicly owned wildlife and water fowl refuges and conservation areas;
- Existing public bicycle, pedestrian, and equestrian trails;
- National Register of Historic Places (NRHP) listed or eligible historic sites; or
- NRHP listed or eligible archaeological sites.

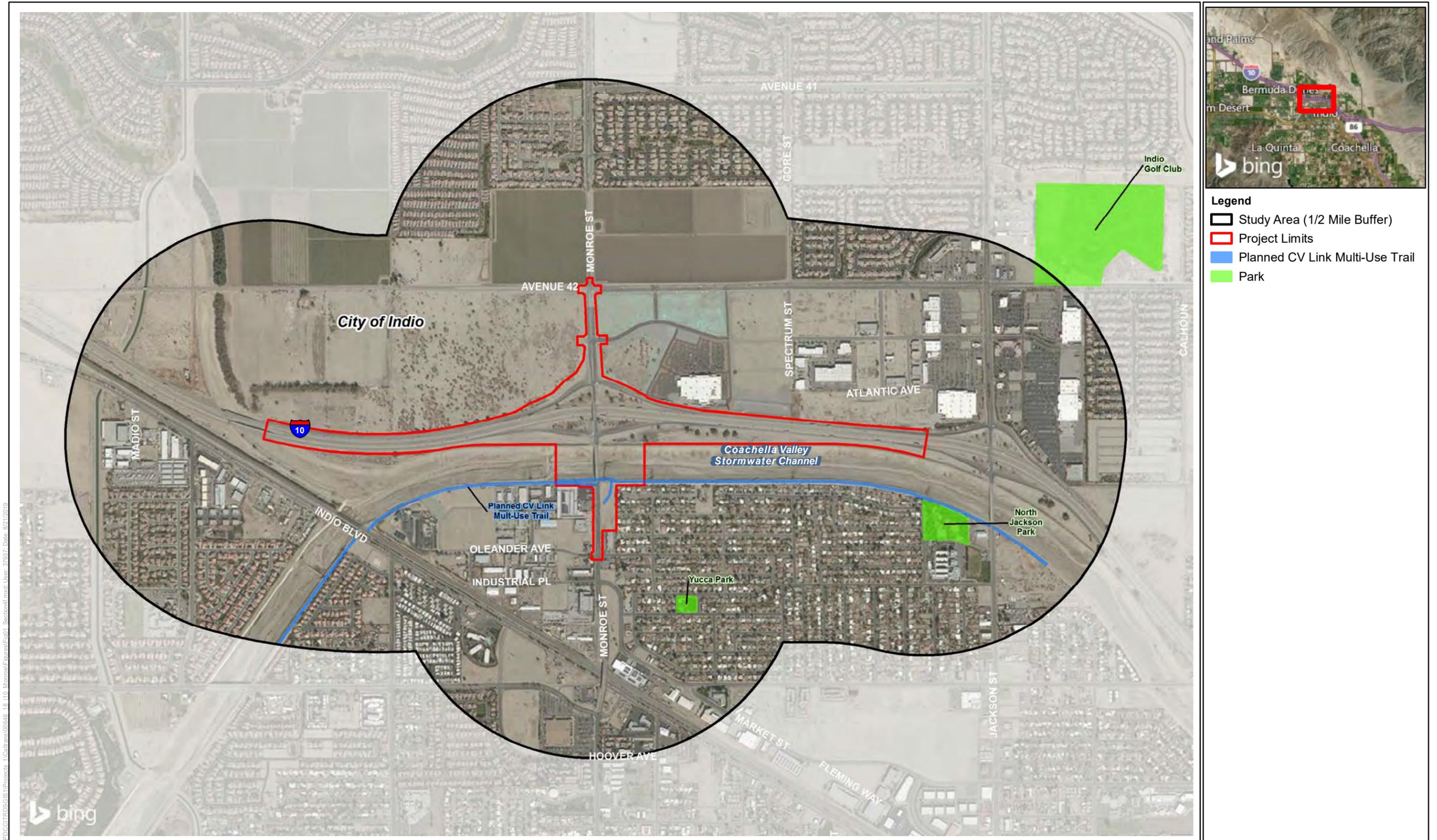
Research was conducted to identify publicly owned parks, public schools, recreational areas, wildlife and waterfowl refuges, and land from historic properties within 0.5 mile of the proposed I-10/Monroe Street Interchange Improvement Project. Based on this research, there are four properties within 0.5 mile of the project corridor that qualify as Section 4(f) resources, and one planned facility (i.e., CV Link multi-use trail) located within 0.5 mile of the project that qualifies as a Section 4(f) resource. The CV Link trail is anticipated to be in operation in early 2021, prior to completion of the I-10/Monroe Street Interchange Improvement Project. There are no NRHP-eligible historic or archaeological sites located within 0.5 mile of the proposed interchange improvement project; therefore, there would be no impacts on NRHP-eligible historic or archaeological sites. Additionally, there are no wildlife or waterfowl refuges within the 0.5-mile buffer, and as such, there would be no impacts on refuges.

A summary of the Section 4(f) resources within 0.5 mile of the proposed I-10/Monroe Street Interchange Improvement Project is provided in Table 3-1, and Figure 3 identifies the Section 4(f) resources within the project study area.

Table 3-1. Parks, Schools, and Recreational Facilities Within 0.5 mile of the Project Site

Facility Name	Address	Facilities	Subject to Section 4(f) Protection?	Distance to Project Limits
North Jackson Park	43200 Towne Street Indio, CA 92201	Playground equipment, softball fields, tennis courts, basketball courts, walking paths, shaded areas with tables, barbecue areas	Yes	0.15 mile
Yucca Park	43605 Yucca Street Indio, CA 92201	Playground equipment, shaded areas with tables, barbecue areas	Yes	0.23 mile
The Lights at Indio Golf Course	83040 Avenue 42, Indio	City-owned par 3 golf course ¹	Yes	0.45
Planned CV Link Multi-Use Trail	N/A	Publicly owned recreational facility used for bicycles, pedestrians, and LSEVs.	Yes	0 (within project area)

Source: The Lights at Indio Golf Course 2018.



- Legend**
- Study Area (1/2 Mile Buffer)
 - Project Limits
 - Planned CV Link Multi-Use Trail
 - Park

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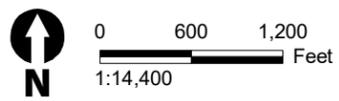


Figure 3
Section 4(f) Resources
Interstate 10/Monroe Avenue Interchange Improvement Project

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Chapter 4 Impacts on Section 4(f) Properties

This section describes the Section 4(f) resources, and the potential use of these resources, within 0.5 mile of the proposed project

4.1 Resources Evaluated Relative to the Requirements of Section 4(f): *De Minimis* Determination

A summary of potential effects is provided in Table 4-1. An assessment has been made as to whether any permanent or temporary occupation of the property would occur, and whether the proximity of the project would cause any access, visual, air quality, noise, vibration, biological, or water quality effects that would substantially impair the features or attributes that qualify the resource for protection under Section 4(f).

The proposed CV Link trail is located within the area of improvements associated with the I-10/Monroe Street Interchange Improvement Project. However, no adverse effects on this resource are anticipated because the trail would not be closed during construction and the uses of the trail that qualify this resource under Section 4(f) would not be adversely affected during or after construction. Therefore, a *de minimis* finding is proposed for the trail.

Table 4-1. Section 4(f) Impact Summary for Build Alternatives

Property Name	Direct Use?	Temporary Occupancy?	Constructive Use?	Comments
Planned CV Link Trail	Yes	No	No	No temporary use of the trail is expected. A small portion of the trail would be realigned as part of the proposed project. Given the proximity of construction, trail users would experience a temporary increase in noise, dust, and visual impacts during construction. These impacts are anticipated to be <i>de minimis</i> in nature.
North Jackson Park	No	No	No	No temporary use of the park is expected. Given the proximity of construction, park users would experience a temporary increase in noise, dust, and visual impacts during construction.
Yucca Park	No	No	No	No temporary use of the park is expected. Given the distance and location of the project from the park, park users may experience a temporary minor increase in noise, dust, and visual impacts during construction.
The Lights at Indio Golf Course	No	No	No	No temporary use of the public golf course is expected. Given the distance and location of the project from the golf course, golfers may experience a temporary minor increase in noise, dust, and visual impacts during construction.

The analysis of potential effects on the Section 4(f) resources described above in Table 4-1 associated with the proposed I-10/Monroe Street Interchange Improvement Project is provided in the following section.

4.1.1 Planned CV Link Trail

Description of the Planned CV Link Trail

The planned CV Link trail will be owned and operated by CVAG. The trail is a proposed 50-mile alternative transportation corridor for bicycles, pedestrians, and LSEVs (up to 25 mile per hour). The purpose of the path is to connect Palm Springs to Coachella, with future connections to reach the Desert Hot Springs and the Salton Sea.² The path will allow for pedestrians, bicyclists, and persons using LSEVs to connect to parks, shopping areas, and schools. Restrooms, drinking fountains, benches, and electric vehicle charging stations will be available throughout the 50-mile-long route. The path will be Americans with Disabilities Act (ADA) compliant, will utilize solar lighting and drought-tolerant landscaping, and will allow for public art spaces and future event space for activities such as organized walks and races.

The planned CV Link trail in relation to the proposed improvements associated with the I-10/Monroe Street Interchange Improvement Project is shown on Figure 3. The I-10/Monroe Street Interchange Improvement Project would alter the Monroe Street Bridge, which crosses over the planned CV Link trail.

Description of Existing Conditions along Planned CV Link Trail

The existing conditions along the alignment of the proposed CV Link trail in the area where it will intersect Monroe Street includes undeveloped (vacant) land along the southerly bank of the Coachella Valley Stormwater Channel.

Project Effects on the Planned CV Link Trail

Construction of the portion of CV Link that will be located in the project area is anticipated to begin in early 2020, prior to construction of the I-10/Monroe Street Interchange Improvement Project, with anticipated completion/operation of the trail in early 2021. Due to the project's proposed structure over the Coachella Valley Stormwater Channel (Whitewater River), the CV Link trail will need to be reconstructed approximately 300 feet on both sides of Monroe Street. Widening of Monroe Street as part of the I-10/Monroe Street Interchange Improvement Project is anticipated to result in the need to relocate rest area amenities (e.g., shade structures and landscaping) associated with CV Link just east of Monroe Street and south of the Coachella Valley Stormwater Channel; the rest area amenities would be relocated in the same general area as a result of the proposed interchange-related improvements. Additionally, the eastside Monroe Street CV Link access ramp will be shifted approximately 200 feet to accommodate project widening. The I-10/Monroe Street Interchange Improvement Project will improve CV Link connectivity by improving pedestrian, bike, and LSEV access on Monroe Street. Refer to Figure 4 and Figure 5, which illustrate the alignment of the trail with and without the proposed interchange improvements for each respective build alternative.

² http://www.coachellavalleylink.com/images/documents/CV_Link_Outreach_Map_8.5_x_14.pdf

Full closure of the trail is not anticipated during construction of the I-10/Monroe Street Interchange Project. Access to the trail, including to and from Monroe Street, would be maintained during construction and after the interchange improvements are completed (i.e., there would be no change in access when comparing trail conditions prior to and after the proposed project is completed) via detours. If detours are necessary then they will be identified during the Plans, Specifications, and Estimate (PS&E) phase of the project. The bridge and CV Link trail construction activities are integrated, and as a result, CV Link trail realignment is anticipated to be accomplished over 18 to 24 months.

The proposed project would not adversely affect the activities, features, or attributes of the trail that afford it protection under Section 4(f). However, during construction, trail users would be exposed to indirect construction activities, such as increased noise through the project area, visual changes from construction equipment, and potential increases in dust and air quality concerns. These indirect impacts on the trail would be temporary in nature, lasting only through the duration of construction in the area, and do not constitute a use under Section 4(f), as none of the attributes that qualify the resource for protection under Section 4(f) would be impacted.

Applicability of Section 4(f)

The proposed project would realign a small portion of the trail. According to the FHWA guidance provided in the Environmental Review Toolkit for Section 4(f) Evaluations, to be considered a *de minimis* impact, the amount of land to be acquired from any Section 4(f) site must not exceed 10 percent of the site. The proposed project would not acquire any land from the resource as the resource would be realigned to accommodate the improvements associated with the I-10/Monroe Street Interchange Improvement Project.

For the reasons outlined above, the impacts on the proposed CV Link trail are considered to be *de minimis*.

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COACHELLA VALLEY
STORMWATER CHANNEL

MONROE STREET

LEGEND

-  MONROE STREET IMPROVEMENTS
-  CV LINK ALIGNMENT WITH INTERCHANGE IMPROVEMENTS
-  CV LINK ALIGNMENT WITHOUT INTERCHANGE IMPROVEMENTS



FEET 0 50 100 200 300

FIGURE 4
CV LINK ALIGNMENT WITH AND WITHOUT INTERCHANGE IMPROVEMENTS, ALTERNATIVE 2 (LOCALLY PREFERRED ALTERNATIVE)

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COACHELLA VALLEY
STORMWATER CHANNEL

MONROE STREET

LEGEND

-  MONROE STREET IMPROVEMENTS
-  CV LINK ALIGNMENT WITH INTERCHANGE IMPROVEMENTS
-  CV LINK ALIGNMENT WITHOUT INTERCHANGE IMPROVEMENTS



FIGURE 5

CV LINK ALIGNMENT WITH AND WITHOUT INTERCHANGE IMPROVEMENTS, ALTERNATIVE 4

I-10 / MONROE STREET INTERCHANGE IMPROVEMENT PROJECT

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4.1.2 North Jackson Park

Description of the North Jackson Park

North Jackson Park is located 0.15 mile south of the southern project limits and is shown on Figure 3. The park contains playground equipment, softball fields, tennis courts, basketball courts, walking paths, shaded areas with tables, and barbecue areas.

Project Effects on the North Jackson Park

The proposed project would not adversely affect the activities, features, or attributes of the park that afford it protection under Section 4(f). The project will not require acquisition or temporary construction easements from North Jackson Park, nor will the project result in temporary access impacts. Therefore, a “use” of this park would not occur as a result of the proposed project.

During construction, park users could potentially be exposed to construction-related activities such as intermittently increased noise through the project area, visual changes from construction equipment, and potential increases in dust and air quality. However, given the distance of North Jackson Park to the project area, and with incorporation of the minimization measures detailed in Chapter 5 of this report, these temporary impacts would not be substantial, lasting only through the duration of construction, and therefore would not result in a “constructive use” as defined under Section 4(f).

Applicability of Section 4(f)

The property is a Section 4(f) property, but no “use” or “constructive use” will occur. Therefore, the provisions of Section 4(f) do not apply in this regard.

4.1.3 Yucca Park

Description of the Yucca Park

Yucca Park is located 0.23 mile south of the southern project limits within the existing residential neighborhood and is shown on Figure 3. The park contains playground equipment, shaded areas with tables, and barbecue areas.

Project Effects on the Yucca Park

The proposed project would not adversely affect the activities, features, or attributes of the park that afford it protection under Section 4(f). The project will not require acquisition or temporary construction easements from Yucca Park, nor will the project result in temporary access impacts. Therefore, “use” of this park would not occur as a result of the proposed project.

During construction, park users could potentially be exposed to construction-related activities, such as intermittently increased noise through the project area, visual changes from construction equipment, and potential increases in dust and air quality. However, given the distance of Yucca Park to the project area, and with incorporation of the minimization measures detailed in Chapter 5 of this report, these temporary

impacts would not be substantial, lasting only through the duration of construction, and therefore would not result in a “constructive use” as defined under Section 4(f).

Applicability of Section 4(f)

The property is a Section 4(f) property, but no “use” or “constructive use” will occur. Therefore, the provisions of Section 4(f) do not apply in this regard.

4.1.4 The Lights Indio Golf Course

Description of the Lights Indio Golf Course

The Lights Indio Golf Course is a public municipal course located 0.45 mile northeast of the northern project limits east of Jackson Street and is shown on Figure 3. The golf course is owned by the City of Indio and managed by Landmark Golf Management, and is a par 3 golf course. It is the only night-lighted golf course in Coachella Valley and contains a full-length driving range, short game practice area, and a fully stocked golf shop.

Project Effects on the Lights Indio Golf Course

The proposed project would not adversely affect the activities, features, or attributes of the golf course that afford it protection under Section 4(f). The project will not require acquisition or temporary construction easements from the golf course, nor will the project result in temporary access impacts on the golf course. A “use” of this golf course would not occur as a result of the project, and therefore provisions of Section 4(f) are not triggered in this regard.

During construction, golf course users could potentially be exposed to construction-related activities, such as intermittently increased noise through the project area, visual changes from construction equipment, and potential increases in dust and air quality. However, given the distance of the golf course to the project area, and with incorporation of the minimization measures detailed in Chapter 5 of this report, these temporary impacts would not be substantial, lasting only through the duration of construction, and therefore would not result in a “constructive use” as defined under Section 4(f).

Applicability of Section 4(f)

The property is a Section 4(f) property, but no “use” or “constructive use” will occur. Therefore, the provisions of Section 4(f) do not apply in this regard.

Chapter 5 Avoidance, Minimization, and/or Mitigation Measures

5.1 Measures to Minimize Harm

Measures have been identified during development of the technical studies and the Draft IS/EA to minimize potential temporary project-related impacts on Section 4(f) properties (i.e., CV Link trail). The following minimization measures would be implemented during construction of the proposed project:

- AQ-1** The construction contractor will comply with South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust), which specifies actions or control measures to prevent, reduce, or mitigate particulate matter emissions generated from construction, demolition, excavation, extraction, and other earthmoving activities.
- AQ-2** Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.
- AQ-3** Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas.
- AQ-4** Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.
- AQ-5** Construction equipment and vehicles will be properly tuned and maintained. Ultra-low-sulfur fuel will be used in all construction equipment as required by California Code of Regulations, Title 17, Section 93114.
- AQ-6** Equipment and materials storage sites will be located as far away from residential and park uses as practical. Construction areas will be kept clean and orderly.
- AQ-7** Track-out reduction measures, such as gravel pads at project access points, will be used to minimize dust and mud deposits on roads affected by construction traffic.
- AQ-8** All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to reduce particulate matter less than 10 microns in diameter (PM₁₀) and deposition of particulate during transportation.
- AQ-9** Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease particulate matter.

- AQ-10** The construction contractor will comply with Caltrans Standard Specifications in Section 14-9.02 and other standard practices according to the California Air Resources Board (ARB) and SCAQMD requirements for air quality restrictions, such as reducing idling time, properly maintaining equipment, and controlling fugitive dust during the construction period
- AQ-11** The construction contractor will comply with Standard Specification 14-9.03 relating to preventing and alleviating dust by applying water, dust palliative, or both and by covering active and inactive stockpiles.
- AQ-12** Construction equipment fleets will be in compliance with Best Available Control Technology requirements.
- AQ-13** All engines or portable engine-driven equipment will be required to obtain permits will obtain either an ARB Portable Equipment Registration or a permit from SCAQMD.
- AQ-14** During construction, dust palliatives will be used as specified in the Department's Standard Specifications, Section 18-1.03A, General.
- NOI-1** To minimize potential construction noise effects, the construction contractor will adhere to best management practices (BMPs) to minimize construction noise levels, including the following:
- a. All equipment will have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
 - b. Construction methods or equipment that will provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used to the greatest possible extent.
 - c. Idling equipment will be turned off.
 - d. Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.
 - e. Temporary noise barriers will be used and relocated, as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.

- f. Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer-recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).
- g. Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City of Indio will occur before construction can be performed in noise-sensitive areas. Per Section 95C.09 of the City of Indio’s Municipal Code, construction noise is exempted from the Noise Control provisions of the City of Indio’s Municipal Code (2018).
- h. Construction lay-down or staging areas will be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (e.g., residences).

NOI-2

It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration:

- a. Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- b. For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.
- c. Conduct vibration monitoring during vibration-intensive activities.

NOI-3

The project will comply with sound control provisions as included in Section 14-8.02, “Noise Control,” of the Department’s Standard Specifications and Special Provisions. The contractor will not exceed 86 A-weighted decibels (dBA) at 50 feet from the job site from

9:00 p.m. to 6:00 a.m. Internal combustion engines will be equipped with the manufacturer-recommended muffler. Internal combustion engines will not be operated on the job site without the appropriate muffler.

- CI--1** A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic impacts during construction. The primary objective of the TMP is to maintain safe movement through the construction zone, as well as minimize traffic delays during the construction period. The TMP will include, but not be limited to: public information communications; information for motorists from changeable message signs or temporary signs; incident management plan that would define parameters and responsibilities to respond to incidents on and adjacent to the construction corridor; construction strategies, such as traffic plans; information regarding construction staging and lane modifications (e.g., reduced lane widths or lane closures); demand management plan to remove traffic from existing routes by using things such as expanded park-and-ride lots, transit service, or transit and ride-share incentives; and the use of alternate routes/detours. In particular, the TMP will ensure that emergency responders have adequate access during all phases of construction.

Appendix B Title VI Policy Statement

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DEPARTMENT OF TRANSPORTATION

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*Making Conservation
a California Way of Life.*

November 2019

**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, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

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

A handwritten signature in blue ink, appearing to read "Toks Omishakin".

Toks Omishakin
Director

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Appendix C Environmental Commitments Record

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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
Section 1602 Streambed Alteration Agreement	California Department of Fish & Wildlife							
Porter-Cologne Act and Clean Water Act (CWA) Section 401 Water Quality Certification	Colorado River Regional Water Quality Control Board							
CWA Section 404 Nationwide Permit	US Army Corps of Engineers							
Section 408 Permit	US Army Corps of Engineers							
National Pollutant Discharge Elimination System (NPDES) Permit	State Water Resources Control Board							
Freeway Agreement	City of Indio, California Department of Transportation							
Federal Highway Administration (FHWA)	Air Quality Conformity Determination							
Coachella Valley Water District (CVWD)	Encroachment Permit							

Date of ECR: April 2020
 Date of ED:
 CEQA – Initial Study (IS)
 NEPA – Environmental Assessment (EA)

ENVIRONMENTAL COMMITMENTS RECORD

(I-10/Monroe Street Interchange Improvement Project)

08-RIV-10
 PM R53.9/R55.5

EA 08-0K730
 PN 0800000368

Environmental Generalist:
 Liana Griebisch

Environmental
 Const. Liaison:
 TBD

Project Phase:
 PA/ED (DED)
 PS&E Submittal _____ %
 Construction
 CEC/CCA

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
Community Impacts										
CI-1: A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic impacts during construction. The primary objective of the TMP is to maintain safe movement through the construction zone, as well as minimize traffic delays during the construction period. The TMP will include, but not be limited to: public information communications; information for motorists from changeable message signs or temporary signs; incident management plan that would define parameters and responsibilities to respond to incidents on and adjacent to the construction corridor; construction strategies, such as traffic plans; information regarding construction	2.1-58	Environmental Document	City of Indio/Caltrans Maintenance/Design/Resident Engineer/Contractor	Prior to and during construction						

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
staging and lane modifications (e.g., reduced lane widths or lane closures); demand management plan to remove traffic from existing routes by using things such as expanded park-and-ride lots, transit service, or transit and ride-share incentives; and the use of alternate routes/detours. In particular, the TMP will ensure that emergency responders have adequate access during all phases of construction.										
<u>Aesthetics/Visual</u>										
AES-1: Limit Construction Directly Adjacent to Residences to Daylight Hours. Construction activities that are directly adjacent to residences will not take place before or past daylight hours (which vary according to season). This would reduce the amount of construction experienced by residential viewers because most construction activities would occur during business hours (when most residents are at work), and would eliminate the need to introduce high-wattage lighting sources to operate in the dark near residences during construction.	2.1-108	Environmental Document	City of Indio/ Contractor/ Caltrans Landscape Architecture	During Construction						

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
AES-2: Minimize Fugitive Light from Portable Sources Used for Construction. The construction contractor will minimize project-related light and glare to the maximum extent feasible, given safety considerations. Color-corrected halide lights will be used. Portable lights will be operated at the lowest allowable wattage and height. For construction occurring on the ground, portable lights will be raised to a height no greater than 20 feet. All lights will be screened and directed downward, toward work activities, and away from the night sky and nearby residents to the maximum extent possible. The number of nighttime lights used will be minimized to the greatest extent possible.	2.1-108	Environmental Document	City of Indio/Caltrans Maintenance/ Design/Resident Engineer/ Contractor	During Construction						
AES-3: Landscape palettes and concept plans will be implemented in consultation with the City, County, and the Department's District Landscape Architect before and during the PS&E phase and will be consistent with guidelines presented in the Interstate 10 Corridor Master Plan, County of Riverside, which was prepared by the Department and dated August 2013.	2.1-109	Environmental Document	City of Indio/ Contractor/ Caltrans Landscape Architecture	Prior to and during construction						
Cultural Resources										
CR-1: If buried cultural resources are encountered during project activities, it is Caltrans' policy that all work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.	2.1-115	Environmental Document, Archaeological Survey Report	City of Indio/ Contractor/ Caltrans Cultural Studies	During all ground-disturbing and construction activities.	SSP 14-2.03					

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
CR-2: In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendant (MLD). The person who discovered the remains will contact the District 8 Division of Environmental Planning; Andrew Walters, DEBC: (909)383-2647 and Gary Jones, DNAC: (909)383-7505. Further provisions of PRC 5097.98 are to be followed as applicable.	2.1-115	Environmental Document, Archaeological Survey Report	City of Indio/ Contractor/ Caltrans Cultural Studies	During all ground-disturbing and construction activities.	SSP 14-2.03					
Water Quality and Storm Water										
WQ-1: The project will comply with Caltrans Standard Specifications for construction site Best Management Practices (BMPs), including complying with U.S. Environmental Protection Agency's (U.S. EPA's) Construction General Permit, discharges of stormwater from the job site, compliance with permits issued by Regional Water Quality Control Board (RWQCB) for National Pollutant Discharge Elimination System (NPDES) Permit, and permits governing stormwater and non-stormwater discharges resulting from construction activities at the job site.	2.2-16	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	13-3.01D(2)					
WQ-2: The project will comply with Caltrans Standard Specifications related to complying with the provisions of the current NPDES General Permit for	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans	Prior to demolition or grading activities, and during all	13-3.01C(2)					

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
Storm Water Discharges Associated with Construction and Land Disturbance Activities, and any subsequent permit, as they relate to construction activities for the project. This will include submission of the permit registration documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) at least 14 days prior to the start of construction activity. The SWPPP will (1) meet the requirements of the Construction General Permit and identify potential pollutant sources associated with construction activities; (2) identify non-stormwater discharges; and (3) identify, implement, and maintain BMPs to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during the project construction. A Notice of Termination will be submitted to SWRCB upon completion of construction and the stabilization of the site.			Environmental Engineering	excavation and construction activities.						

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
WQ-3: The project will comply with Caltrans Standard Specifications related to complying with the provisions of the current General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (<i>De Minimis</i>) Threat to Water Quality as they relate to discharge of non-stormwater dewatering wastes for the project. This will include submitting to the Colorado River RWQCB an NOI at least 60 days prior to the start of construction, and notification of discharge at least five days prior to any planned discharges.	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	13-3.01D(2)					
WQ-4: The project will comply with Caltrans Standard Specifications related to complying with the provisions of the Section 401 Water Quality Certification from the Colorado River RWQCB, a Section 404 permit from the U.S. Army Corps of Engineers (USACE), and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife will be obtained prior to impacts within identified jurisdictional areas	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	13-1.01D(2)					

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
WQ-5: Specifications related to complying with the provisions of the Department's current Statewide NPDES Permit, effective July 1, 2013 (known as the Department's MS4 permit). Project-specific BMPs and any applicable hydromodification features will be incorporated into final design. The BMPs will be properly designed and maintained to target pollutants of concern and reduce runoff from the project site.	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	13-1.01D(2)					
WQ-6: The project will implement design pollution prevention BMPs as required under the Department's MS4 Permit for areas within the state right of way that focus on reducing or eliminating runoff and controlling sources of pollutants.	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	13-1.01D(2)					
WQ-7: The project will implement design pollution prevention BMPs—as required under the County of Riverside Whitewater River Watershed MS4 Permit for areas outside of State right of way that focus on reducing or eliminating runoff and controlling sources of pollutants—as part of the project.	2.2-17	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.						
Geology/Soils/Seismicity/Topography										
GEO-1: The project will implement Caltrans Standard Specifications Sections 13-05 and 21 related to erosion control during construction.	2.2-31	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, demolition or construction activities.	Sections 13-05 and 21					

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
GEO-2: Earthwork will be performed in accordance with the Department's Standard Specifications, Section 19, which require standardized measures related to compacted fill, overexcavation, recompaction, and retaining walls, among other requirements.	2.2-31	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, demolition or construction activities.	Section 19					
GEO-3: Construction will be conducted in accordance with Division III, "Earthwork and Landscape" Section 21-1 through 21-3 of the Department's Standard Specifications, requiring erosion protection and drainage control.	2.2-31	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, demolition or construction activities.	Section 21-1 through 21-3					
Paleontology										
PALEO-1: Prior to the commencement of ground-disturbing activities, a qualified professional paleontologist will be retained to prepare and implement a Paleontological Resources Impact Mitigation Plan (PRIMP) for the project. Full-time monitoring is recommended for construction activities (e.g., grading, excavation, ripping, trenching, etc.), in accordance with criteria set forth by the SVP (2010) and the Department (2016). Monitoring will not be required in areas of previous disturbance or as determined by the qualified paleontologist. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the qualified paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.	2.2-37	Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER)	City of Indio/ Contractor/ Caltrans Cultural Studies/Resident Engineer and Contractor (during construction).	Prior to and during construction	SSP 14-7					

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							Date / Initials	Date / Initials	YES	NO
<p>Monitoring will include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the paleontologist or approved onsite monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected.</p> <p>Additionally, bulk sediment samples from geologic units with high paleontological resource potential will be collected and processed to determine the presence of fine-fraction fossils. McLeod (2018) reports many of the collected fossil specimens from nearby localities are small, isolated elements recovered from screen-washing sediment samples. Thus, it is recommended that sediment samples be collected and hydroprocessed to determine the potential for small fossils.</p>										
<p>PALEO-2: Worker's Environmental Awareness Training. Prior to the start of construction, all field personnel will be briefed regarding the types of fossils that could be found in the project area and the procedures to follow should paleontological resources be encountered. This training will be accomplished at the pre-grade kick-off meeting or morning tailboard meeting and will be conducted by the project paleontologist or his/her representative. Specifically, the training will provide a description of the fossil resources that</p>	2.2-37	PIR/PER	City of Indio/ Contractor/ Caltrans Cultural Studies/Resident Engineer and Contractor (during construction)	Prior to and during construction	SSP 14-7					

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may be encountered in the project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the project paleontologist and onsite monitor(s). The training will be developed by the project paleontologist and may be conducted concurrent with other environmental training (e.g., biological, cultural, and natural resources awareness training, safety training).										
<p>PALEO-3: Fossil Preparation, Curation, and Reporting. Any significant fossils collected during fieldwork will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and prepared for curation. Fossil specimens will be submitted for permanent curation in a museum repository approved by the County. The cost of curation is assessed by the repository and is the responsibility of the project proponent.</p> <p>At the conclusion of laboratory work and curation, a final report will be prepared to describe the results of the paleontological inventory and evaluation. The report will include an overview of the project area geology and paleontology, a description of the field and laboratory methods, a list of taxa</p>	2.2-38	PIR/PER	City of Indio/ Contractor/ Caltrans Cultural Studies and Contractor (during construction)	During construction	SSP 14-7					

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recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If fossils were collected and prepared for curation, a copy of the report will be submitted to the curation institution along with the fossil assemblage.										
Hazardous Waste/Materials										
HAZ-1: All onsite ACM will be abated by a licensed asbestos abatement contractor prior to demolition/renovation activities. Any suspect materials found during future field activities that were not previously sampled will be sampled prior to removal and abated as necessary.	2.2-54	Environmental Document, ISA	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities						
HAZ-2: If the soil in the vicinity of soil sample location B19 (southwest quadrant of the intersection of Monroe Street and 43rd Avenue) is to be excavated and removed from the site, it will need to be disposed of at a landfill as a California hazardous waste.	2.2-54	Environmental Document, ISA	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities						
HAZ-3: Any transformer to be relocated/removed during site construction/demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs.	2.2-54	Environmental Document, ISA	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities						

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
<p>HAZ-4: Comply with the following Department Standard Special Provisions regarding proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility:</p> <ul style="list-style-type: none"> Section 14-11.12, Specifications for removing yellow traffic stripe and pavement markings with hazardous waste residue. Section 36-4, Specifications related to residue containing lead from paint and thermoplastic. Section 84-9.03C, Specifications for removing traffic stripes and pavement marking containing lead. 	2.2-54	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	Sections 14-11.12, 36-4, 84-9.03C					
<p>HAZ-5: Comply with the specifications for handling, removing, and disposing of earth material containing lead.</p>	2.2-54	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.						
<p>HAZ-6: Comply with the specifications for performing work involving residue from grinding or cold planing that contains lead from paint and thermoplastic.</p>	2.2-54	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	Section 36-4					

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HAZ-7: Follow the Department's Standard Specifications, Section 14-11.02, Discovery of Unanticipated Asbestos and Hazardous Substances, in the event unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous waste/materials.	2.2-54	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	Section 14-11.02					
HAZ-8: During construction, solid waste would be disposed of as specified in the Department's Standard Specifications, Section 14-10.01, General.	2.2-54	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to demolition or grading activities, and during all excavation and construction activities.	Section 14-10.01					
Air Quality										
AQ-1: The construction contractor will comply with SCAQMD Rule 403 (Fugitive Dust), which specifies actions or control measures to prevent, reduce, or mitigate PM emissions generated from construction, demolition, excavation, extraction, and other earthmoving activities.	2.2-79	Environmental Document, Air Quality Report (AQR)	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					
AQ-2: Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					

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AQ-3: Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 13					
AQ-4: Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	SSP 13-7					
AQ-5: Construction equipment and vehicles will be properly tuned and maintained. Ultra-low-sulfur fuel will be used in all construction equipment as required by California Code of Regulations, Title 17, Section 93114.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.						
AQ-6: Equipment and materials storage sites will be located as far away from residential and park uses as practical. Construction areas will be kept clean and orderly.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					
AQ-7: Track-out reduction measures, such as gravel pads at project access points, will be used to minimize dust and mud deposits on roads affected by construction traffic.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					

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AQ-8: All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to reduce PM ₁₀ and deposition of particulate during transportation.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					
AQ-9: Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease PM.	2.2-80	Environmental Document, AQR	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18					
AQ-10: The construction contractor will comply with Caltrans Standard Specifications in Section 14-9.02 and other standard practices according to the California Air Resources Board (ARB) and South Coast Air Quality Management District (SCAQMD) requirements for air quality restrictions, such as reducing idling time, properly maintaining equipment, and controlling fugitive dust during the construction period.	2.2-80	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 14-9.02					
AQ-11: The construction contractor will comply with Standard Specification 14-9.03 relating to preventing and alleviating dust by applying water, dust palliative, or both and by covering active and inactive stockpiles.	2.2-80	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 14-9.03					

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AQ-12: Construction equipment fleets will be in compliance with Best Available Control Technology requirements.	2.2-80	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 14-9.02					
AQ-13: All engines or portable engine-driven equipment will be required to obtain permits will obtain either an ARB Portable Equipment Registration or a permit from SCAQMD.	2.2-80	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 14-9.02					
AQ-14: During construction, dust palliatives will be used as specified in the Department's Standard Specifications, Section 18-1.03A, General.	2.2-80	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During any ground disturbance, renovation, demolition or construction activities.	Section 18-1.03A,					
Noise										
NOI-1: To minimize potential construction noise effects, the construction contractor will adhere to BMPs to minimize construction noise levels, including the following BMPs:	2.2-103	Environmental Document, Noise Study Report (NSR)	City of Indio/ Contractor/ Caltrans Environmental Engineering	Design/During any ground disturbance, renovation, demolition or construction activities.	SSP 14-8					

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a. All equipment shall have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.										
b. Construction methods or equipment that will provide the lowest level of noise impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) should be used to the greatest possible extent.										
c. Idling equipment will be turned off.										
d. Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest possible extent.										

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e. Temporary noise barriers will be used and relocated, as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.										
f. Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).										

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g. Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with City of Indio will occur before construction can be performed in noise-sensitive areas. Per Section 95C.09 of the City of Indio's Municipal Code, construction noise is exempted from the Noise Control provisions of the City of Indio's Municipal Code (Indio 2018a).										
h. Construction lay-down or staging areas will be selected in industrially zoned districts. If industrially zoned areas are not available, commercially zoned areas may be used, or locations that are at least 100 feet from any noise-sensitive land use (e.g., residences).										

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NOI-2: It is possible that certain construction activities could cause intermittent localized concern from vibration in the project area. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration:	2.2-104	Environmental Document, NSR	City of Indio/ Contractor/ Caltrans Environmental Engineering	Design/During any ground disturbance, renovation, demolition or construction activities.	SSP 14-8					
a. Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).										
b. For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.										
c. Conduct vibration monitoring during vibration-intensive activities.										

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NOI-3: The project will comply with sound control provisions as included in Section 14-8.02, "Noise Control," of the Department's Standard Specifications and Special Provisions. The contractor will not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.	2.2-104	Environmental Document, NSR	City of Indio/ Contractor/ Caltrans Environmental Engineering	Design/During any ground disturbance, renovation, demolition or construction activities.	Section 14-8.02					
Biological Resources										
BIO-1: Permanent and temporary impacts on jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.	2.3-20	Environmental Document, Natural Environment Study-Minimal Impacts (NES-MI)	City of Indio/ Contractor/ Caltrans Biological Studies	Following approval of ED. Prior to Construction.	Section 14-6					
BIO-2: Prior to construction, the following regulatory approvals must be obtained prior to commencement of any construction activities within the identified jurisdictional areas: (1) USACE CWA Section 404 Permit; (2) Regional Board CWA Section 401 Water Quality Certification; and (3) CDFW Section 1602 Streambed Alteration Agreement.	2.3-20	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Following approval of ED. Prior to Construction.	Section 14-6					
BIO-3: Project materials will not be cast from the project site into nearby habitats and project-related debris, spoils, and trash will be contained and removed to a proper disposal facility.	2.3-30	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	Section 10 or 14					

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BIO-4: All construction equipment will be inspected and cleaned prior to use in the project footprint to minimize the importation of non-native plant material. All mulch, topsoil, and seed mixes used during post-construction landscaping activities and erosion control BMPs will be free of invasive plant species propagules. A weed abatement program will be implemented should invasive plant species colonize the area within the project footprint post-construction.	2.3-30	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	Section 10 or 14					
BIO-5: 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 animal 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 to 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 photographs of the listed species, which will be shown to the employees. Following the education program, the photographs will be posted in the contractor and resident engineer	2.3-58	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	SSP 14-6.03					

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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.										
<p>BIO-6: Construction activities shall not be scheduled to occur during special-status species breeding season identified as February 1 to August 31 within 100 feet (500 feet for raptors and listed species) of all suitable habitat unless one of the following exceptions apply:</p> <ol style="list-style-type: none"> 1. Completed protocol-level surveys conducted by a qualified biologist during the year of implementation determined the site to not be occupied; 2. Noise levels resulting from the project construction activities do not exceed the existing ambient noise level; or 3. If this work window is not feasible, then pre-construction surveys for special-status birds and migratory bird nests within a specified distance of the project impact area will be conducted by a Qualified Biologist. If an active nest is found during the pre-construction nesting bird surveys, then consultation with the USFWS and/or CDFW will be initiated. 	2.3-58	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	SSP 14-6.03					

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BIO-7: If project activities cannot be avoided during the breeding season, a pre-construction nesting bird clearance survey shall be conducted by a qualified biologist for avian species, including burrowing owl, California horned lark, loggerhead shrike, blacktailed gnatcatcher, Crissal thrasher, and Le Conte's thrasher, no more than three days prior to ground breaking or vegetation removal activities to determine the presence of nesting birds. The surveys shall be conducted by a qualified biologist at the appropriate time(s) of day. If an active avian nest is located, a 100-foot "no construction" buffer (500-foot buffer for raptors and listed species) shall be put in place until nesting has ceased or the young have fledged. The qualified biologist shall monitor the nest to ensure that impacts on nesting birds do not occur.	2.3-58	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	SSP 14-6.03					
BIO-8: Prior to implementation of the proposed project, the construction area and adjacent areas within 500 feet of the development footprint, or to the edge of the property if less than 500 feet, will be surveyed by a Qualified Biologist for burrows that could be used by burrowing owl. If a burrow is located, the biologist will determine if the burrow has been used recently or if an owl is present in the burrow. If the burrow is occupied, the burrow will be flagged, and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or a buffer to the edge of the property boundary if less than 500 feet, will be established around the	2.3-58	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	SSP 14-6.03					

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<p>burrow, in accordance with the CVMSHCP. The buffer will be staked and flagged. No construction activities will be permitted within the buffer until the young are no longer dependent on the burrow.</p> <p>If the burrow is unoccupied, the burrow will be made inaccessible to owls, and construction activities may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated, pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following accepted protocols, at least one burrowing owl has been observed occupying a burrow on the site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. A determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat), in coordination with the CDFW. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the CDFW.</p>										

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
<p>BIO-9: Prior to implementation of the proposed Project, a qualified bat biologist shall survey all suitable structures and vegetation for bat roosts within 30 days prior to the start of construction activities. If bats roosts are found within the project impact area, the Qualified Bat Biologist shall identify the bats to the species level and evaluate the colony to determine its size and significance. If any structures house an active maternity colony of bats, construction activities shall not occur during the recognized bat breeding season (March 1 to October 1).</p> <p>If a bat roost is present within the vicinity of the project impact area that does not need to be removed, a qualified bat biologist shall establish a no-disturbance buffer (typically 100 feet) that must be maintained throughout the duration of the project. If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified bat biologist determines that the roost is no longer active.</p> <p>If project activities must occur during non-daylight hours or during the bat breeding season (March 1 to October 1), a qualified bat biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities. Night lighting should be used only within the portion of the project actively being worked on and focused directly on the work area. This measure would minimize visual</p>	2.3-59	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	nSSP 14-6.03					

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
disturbance and allow bats to continue to utilize the remainder of the area for foraging and night roosting. If bats are showing signs of distress, work activities shall be modified to prevent bats from abandoning their roost or altering their feeding behavior. At any time, the qualified biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to roost abandonment. Work shall not resume until corrective measures have been taken or it is determined that continued activity would not adversely affect roost success.										
BIO-10: A qualified biologist shall conduct a pre-construction clearance survey for American badger no more than 3 days prior to the initiation of vegetation removal or ground-disturbing activities to determine if American badger den sites are present within the work area. The clearance survey should cover all areas of suitable habitat that will be directly or indirectly affected by project activities, including areas within 100 feet of the project limits. All potential dens will be assessed using non-intrusive methods (e.g., scope, mirror, camera) to determine the presence of badgers. Dens that are determined to be inactive by the qualified biologist shall be hand excavated and collapsed with a shovel to prevent reoccupation between the time of the clearance survey and construction activities. If badgers are detected, the qualified biologist shall passively relocate badgers out of the work area prior to construction, if	2.3-60	Environmental Document, NES-MI	City of Indio/ Contractor/ Caltrans Biological Studies	Prior to and during construction activities.	SSP 14-6.03					

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
feasible. If an active den is detected within the work area, the den will be avoided until the qualified biologist determines that the den is no longer active.										
Climate Change										
GHG-1: Idling time for lane closure during construction is restricted to 10 minutes in each direction; in addition, the contractor must comply with SCAQMD's rules, ordinances, and regulations regarding air quality restrictions.	3-53	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During demolition or construction activities.						
GHG-2: The project will incorporate the use of energy efficient lighting.	3-53	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During demolition or construction activities.						
GHG-3: Bids will be solicited that include use of energy- and fuel-efficient fleets in accordance to current practices.	3-53	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	Prior to construction. During demolition or construction activities.						
GHG-4: The project will incorporate complete streets components, specifically pedestrian sidewalks, and bicycle and LSEV paths in the shoulder.	3-53	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During Design.						
GHG-5: The project will maintain equipment in proper tune and working condition.	3-53	Environmental Document	City of Indio/ Contractor/ Caltrans Environmental Engineering	During demolition or construction activities.						

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Appendix D Acronyms and Abbreviations

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Appendix D Acronyms and Abbreviations

°F	degrees Fahrenheit
AADT	Annual Average Daily Traffic
AB	Assembly Bill
AB 32	Assembly Bill 32
AB 52	Assembly Bill 52
ACBCI	Agua Caliente Band of Cahuilla Indians
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADI	Area of Direct Impact
ADL	aerially deposited lead
AF	acre-foot
APE	Area of Potential Effect
ARB	Air Resources Board
ASR	Archaeological Survey Report
ASTM	ASTM International
bgs	below ground surface
BLM	Bureau of Land Management
BMP	Best Management Practice
BSA	biological study area
BTU	British thermal unit
CAFE	Corporate Average Fuel Economy
CAP	Climate Action Plan
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CBC	California Building Code
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CDL	Clandestine Drug Labs
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CHL	California Historical Landmarks
CHMIRS	California Hazardous Material Incident Reporting System
CHP	California Highway Patrol
City	City of Indio
CIWQS	California Integrated Water Quality System
CLUP	County Airport Land Use Capability Plan
CMP	corrugated metal pipe
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
County	County of Riverside
County Flood Control	Riverside County Flood Control and Water Conservation District
County Waste	Riverside County Waste Resources Management District
CPHI	California Points of Historical Interest

CREC	controlled recognized environmental condition
CRHR	California Register of Historical Resources
CTP	California Transportation Plan
CVAG	Coachella Valley Association of Governments
CVCC	Coachella Valley Conservation Commission
CVMC	Coachella Valley Mountain Conservancy
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVSC	Coachella Valley Stormwater Channel
CVWD	Coachella Valley Water District
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DEH	Department of Environmental Health
Department	California Department of Transportation
DI-WET	Deionized Water Waste Extraction Test
DO	dissolved oxygen
DP-30	Director's Policy 30
DPP	Design Pollution Prevention
DPR	Department of Pesticide Regulation
DSA	disturbed surface area
DWA	Desert Water Agency
ECHO	Enforcement & Compliance History Information
EDR	Environmental Data Resources
EIC	Eastern Information Center
EMI	Emissions Inventory Data
EO	Executive Order
EPACT92	Energy Policy Act of 1992
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Index System
FIRM	Flood Insurance Rate Map
FMMP	Based on California Department of Conservation's Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
Guidelines	Section 404(b)(1) Guidelines
H&SC	Health and Safety Code
H ₂ S	hydrogen sulfide
HCM	Highway Capacity Manual, 6th Edition
HFC	hydrofluorocarbon
HHS	Department of Health and Human Services
HOT	high-occupancy toll
HOV	high-occupancy vehicle
HPSR	Historic Property Survey Report
HREC	historical environmental condition
HSA	hydrologic subarea
HSWA	Hazardous and Solid Waste Amendments
I-10	Interstate 10
IID	Imperial Irrigation District
Indio General Plan	Indio General Plan 2020
IPCC	Intergovernmental Panel on Climate Change
IWA	Indio Water Authority

LBP	lead-based paint
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
L_{eq}	equivalent noise level
LOS	level of service
LOTB	log of test boring
LSEV	Low Speed Electric Vehicle
MCE	Maximum Considered Earthquake
MEP	Maximum Extent Practicable
mg/cm^2	milligram per square centimeter
mg/kg	milligram per kilogram
mg/L	milligram per liter
MLD	Most Likely Descendant
MMTCO _{2e}	million metric ton of carbon dioxide equivalent
MOE	measure of effectiveness
MOU	Memorandum of Understanding
mph	mile per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSAT	mobile source air toxic
msl	mean sea level
MSWD	Mission Springs Water District
MTBE	methyl tertiary-butyl ether
MU [DA]	Mixed Use, Development Agreement
MWD	Metropolitan Water District
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NES/MI	Natural Environment Study/Minimal Impacts
NFIP	National Flood Insurance Program
NHL	National Historic Landmark
NHMLAC	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
O ₃	ozone
OC	overcrossing
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
PA	Programmatic Agreement

PA&ED	Project Approval and Environmental Document
Pb	lead
pCi/L	picocuries per liter
PDT	Project Development Team
PeMS	Department Freeway Performance Measurement System
PIR/PER	Paleontological Identification Report and Paleontological Evaluation Report
Plan	Multiple Species Habitat Conservation Plan
PM	particulate matter
PM	Post Mile
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
PMP	Paleontological Mitigation Plan
POAQC	project of air quality concern
ppm	part per million
ppt	part per thousand
PRC	California Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Plan
PS&E	Plans, Specifications, and Estimate
PSR	Project Study Report
PSR-PDS	Project Study Report – Project Development Study
R	Revised
RAC	Replenishment Assessment Recharge
RAP	Relocation Assistance Program
RARE	Rare, Threatened, or Endangered Species
RCEM	Road Construction Emissions Model
RCFCD	Riverside County Flood Control and Water Conservation District
RCP	reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
ROG	reactive organic gas
ROW	right of way
RSA	Resource Study Area
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
Safeguarding California Plan	Safeguarding California: Reducing Climate Risk
SB	Senate Bill
SB 32	Senate Bill 32
SB 375	Senate Bill 375
SB 391	Senate Bill 391
SB 97	Senate Bill 97
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLR	sea-level rise
SPGR	Structure Preliminary Geotechnical Report
SPRR	Southern Pacific Railroad
SR-60	State Route 60
SSAB or Basin	Salton Sea Air Basin
SSP	Standard Special Provision
State Parks	California Department of Parks and Recreation
STLC	Soluble Threshold Limit Concentration
SVP	Society of Vertebrate Paleontology

SWMP	Storm Water Management Plan
SWP	State Water Project
SWPPPs	Storm Water Pollution Prevention Plans
SWRCB	State Water Resources Control Board
TCE	temporary construction easement
TCR	Transportation Concept Report
TCWG	Transportation Conformity Working Group
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TMP	Traffic Management Plan
TNM	Traffic Noise Model
TPH-g	total petroleum hydrocarbons gasoline
TSCA	Toxic Substances Control Act
U.S.	United States
U.S. EPA	U.S. Environmental Protection Agency
UCMPDB	University of California Museum of Paleontology's online database
Uniform Act	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGRCP	U.S. Global Change Research Program
UST	underground storage tank
VHD	vehicle-hours delay
VMT	vehicle miles traveled
VOC	volatile organic compound
vpmp	vehicle per lane per mile
WARM	Warm Freshwater Habitat
WCVAP	Western Coachella Valley Area Plan
WDR	Waste Discharge Requirement
WILD	Wildlife Habitat
WPCP	Water Pollution Control Program
WQOs	water quality objectives

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Appendix E References

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Appendix E References

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Appendix F List of Technical Studies

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Appendix F List of Technical Studies

The technical studies listed below were used as supporting documentation in the preparation of this Initial Study/Environmental Assessment. All of the technical studies listed were prepared specifically for the proposed I-10/Monroe Street Interchange Improvement Project.

- *I-10/Monroe Street Interchange Improvement Project Aerially Deposited Lead Report* (October 2018)
- *Amendment Memorandum to the Originally Approved I-10/Monroe Street Interchange Improvement Project Aerially Deposited Lead Report* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Air Quality Report* (December 2019)
- *I-10/Monroe Street Interchange Improvement Project Farmland Technical Memorandum* (August 2019)
- *I-10/Monroe Street Interchange Improvement Project Preliminary Geotechnical Design Report* (November 2018)
- *I-10/Monroe Street Interchange Improvement Project Structure Preliminary Geotechnical Design Report* (October 2018)
- *I-10/Monroe Street Interchange Improvement Project Archaeological Survey Report* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Historic Property Survey Report* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Asbestos and Lead Based Paint Report* (October 2018)
- *I-10/Monroe Street Interchange Improvement Project Location Hydraulic Study* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Natural Environment Study/Minimal Impact* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Jurisdictional Delineation* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Noise Study Report* (October 2019)
- *I-10/Monroe Street Interchange Improvement Project Phase I Initial Site Assessment Report* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER)* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Traffic Analysis Operations Report* (August 2019)

- *I-10/Monroe Street Interchange Improvement Project Scenic Resources Evaluation and Visual Impact Assessment* (August 2019)
- *I-10/Monroe Street Interchange Improvement Project Water Quality Assessment Report* (September 2019)
- *I-10/Monroe Street Interchange Improvement Project Value Analysis Study* (May 2018)
- *I-10/Monroe Street Interchange Improvement Project Stormwater Data Report* (January 2019)
- *I-10/Monroe Street Interchange Improvement Project Draft Project Report* (February 2020)
- *I-10/Monroe Street Interchange Improvement Project Energy Analysis Report* (February 2020)