

I-40 Colorado River Bridge Replacement Project

SAN BERNARDINO COUNTY, CALIFORNIA

MOHAVE COUNTY, ARIZONA

District 8-SBD-40 PM 153.9/154.7 (CA); PM 0.0/0.6 (AZ)

08-0R380, Project 0812000067, Federal Aid Number HAD-CA FHWA 2022_0818_001

Final Environmental Impact Report / Environmental Assessment and Final Section 4(f) Evaluation with Finding of No Significant Impact



**Prepared by the
State of California, Department of Transportation**



December 2023

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General Information About This Document

The California Department of Transportation (Caltrans), in coordination with the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA) with Finding of No Significant Impact for the project located on I-40 in San Bernardino County, California and in Mohave County, Arizona along postmile (PM) 153.9 and PM 154.7 in California and PM 0.0 and 0.6 in Arizona, between National Trails Highway and Oatman Highway. Caltrans is the lead agency under the California Environmental Quality Act (CEQA) and the Federal Highway Administration (FHWA) is the lead agency under the National Environmental Policy Act (NEPA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. The Draft EIR/EA circulated to the public for 45 days between June 14, 2023 and July 28, 2023. An extension was granted on July 28, 2023 to allow the public to review and comment until August 11, 2023. A partial recirculated Draft EIR was circulated to the public for 45 days between August 18, 2023, and October 2, 2023 to provide additional information and clarification on the potential effects of the project on cultural and tribal resources. Comments received during this period are included in Chapter 4. Changes to the document made since the draft document circulation are shown with change bars in the left margin and track changes. Minor editorial changes and clarifications are not shown. Additional copies of this document and the related technical studies are available for review at the Caltrans District 8 Office (464 W 4th Street, San Bernardino, 92401) on weekdays from 8am to 4pm.

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 Caltrans District 8, Attn: Gabrielle Duff, Branch Chief, Environmental Studies 'B' 464 West 4th Street, MS-829, San Bernardino, CA 92401-1400; 909-501-5142 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

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Replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40, near Topock, Arizona.

**FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT
and Final Section 4(f) Evaluation with Finding of No Significant Impact**

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
And
Federal Highway Administration

Cooperating Agencies:
Arizona Department of Transportation
US Army Corps of Engineers
US Coast Guard

Responsible Agencies:
California State Lands Commission

Date


2/20/2024

Date

1/5/2024


Date

Elissa K.
Konove

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Elissa Konove, FHWA
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**FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

FOR

Colorado River Bridge Replacement Project

The Federal Highway Administration (FHWA) and The California Department of Transportation (Caltrans) have determined that Alternative 1 (replace bridge on existing alignment) will have no significant impact on the human and natural environment. This FONSI is based on the attached NEPA/CEQA document which was determined to be an Environmental Assessment (EA)/Environmental Impact Report (EIR) which has been evaluated by FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. The attached EA/EIR provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required per 23 CFR 771.119. FHWA takes full responsibility for the accuracy, scope, and content of the attached EA.

FHWA Division Administrator (HDA-AZ)

Date

Elissa K. Konove

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FHWA Acting Division Administrator (HDA-CA)

Date

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Summary

The project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), in coordination with the Arizona Department of Transportation (ADOT) 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). Caltrans is the lead agency under CEQA and FHWA is the lead agency under NEPA.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA was prepared. The Final EIR/EA includes responses to comments received on the Draft EIR/EA and identifies the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and FHWA will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

S-1 Introduction

Caltrans and FHWA in cooperation with the ADOT, propose to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, Arizona. Please refer to Figure 1.1 and 1.2 for the vicinity and project area maps. Project Description

S-1.1 Purpose and Need

The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system.

The project is needed as the concrete deck of the Colorado River Bridge has begun to deteriorate. There are spalls and delaminations along the outside shoulders, and transverse cracks throughout the transverse top mat rebar. The top mat transverse rebar is exposed and has inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the bridge structures.

S-1.2 Proposed Action

The project will replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40. The project is located in San Bernardino County, California and in Mohave County, Arizona along postmile (PM) 153.9 and

PM 154.7 in California and PM 0.0 and 0.6 in Arizona, between National Trails Highway and Oatman Highway. The total length of the project on I-40 is 1.34 miles. The project work involves bridge replacement, pier installation, bridge demolition, temporary access roads and trestle bridge construction, retaining wall construction, rock slope protection replacement, navigational lighting, and road realignment depending on the build alternative, as well as geotechnical borings to be completed during the design phase. Dependent on the build alternative chosen, the National Trails Highway Undercrossing bridge (Bridge No. 54-0670) may also need to be replaced.

Alternatives

The project is located in San Bernardino County, California and Mohave County, Arizona on I-40. There are three build alternatives, in addition to the No-Build Alternative for the project, and each is summarized below.

Alternative 1 (Existing Alignment)

Build Alternative 1 proposes to construct a new bridge on the existing alignment. The bridge would be a six-span, cast-in-place/pre-stressed (CIP/PS) box girder structure, and 1,294-feet in length, which matches the existing bridge. Pier foundations will be on large diameter cast-in-drilled-hole (CIDG) piles. The 84-foot wide deck will carry two 12-foot lanes, a 5-foot inside shoulder and a 10-foot outside shoulder in each direction. The bridge will also include a Type 60M median and CA ST-75 bridge rails. This alternative will require staging the construction operation in two major stages. Stage 1 will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing bridge. Traffic will be limited to one lane in each direction. Stage 2 shifts traffic to the newly constructed portion of the deck then removes the rest of the existing bridge and builds the second half of the new bridge. This traffic reduction will remain through the length of the construction zone and then transition to the original roadbed. With this alternative, the bridge at National Trails Highway (Bridge No. 54-0670) undercrossing will not need replacing.

Alternative 2 (Northern Alignment)

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will realign to the north of existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. With this alternative, the bridge at National Trails Highway undercrossing would also be replaced. Additionally, a minor realignment is proposed to the Oatman Highway to accommodate the bridge realignment. The proposed bridge would be 1,320-foot in length, consisting of a seven-span CIP/PS box girder structure. Pier foundations would be on large diameter Cast-In-Drilled-Holes (CIDH) piles. The 84-foot wide deck would carry two 12-foot lanes, a 5-foot inside shoulder, and a 10-foot outside shoulder in each direction. The proposed bridge would also include a Type 60M median and CA ST-75 bridge rails.

Alternative 3 (Southern Alignment)

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will realign to the south of existing I-40 centerline and will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging

will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. The bridge at National Trails Highway undercrossing would also be replaced. The proposed bridge would be 1,329 feet in length, consisting of a seven-span CIP/PS box girder structure. Pier foundations would be on large diameter CIDH piles. The 84-foot wide deck would carry two 12-foot lanes, 5-foot inside shoulder, and a 10-foot outside shoulder in both directions. The proposed bridge would also include a Type 60M median and CA ST-75 bridge rails.

Alternative 4, No-Build Alternative

The No-Build Alternative assumes that no improvements will be made to the Colorado River Bridge. Without the planned improvements proposed as part of the project (e.g., rehabilitating and strengthening the existing bridge, or replacing the bridge), the existing bridge will continue to deteriorate, ultimately compromising the integrity and safety of the structure. Also, the load rating of the bridge will not accommodate all permitted vehicle traffic to move goods and people between the two states. As a result, the No-Build Alternative will not meet the purpose and need of the project.

S-2 Project Impacts

A summary of major project impacts were identified for the following environmental resource:

Biological Resources: California Department of Fish and Wildlife (CDFW) Sensitive Natural Communities include blue palo verde woodland, disturbed blue palo verde woodland, arrow weed thicket, and California bulrush marsh. Blue palo verde woodland is limited to Bat Cave Wash on the west side of the Project in California while a disturbed blue palo verde woodland community is found on the railroad embankment east of the Colorado River in Arizona, where it is not considered a sensitive community. California bulrush marsh and arrow weed thickets are also found on the east side of the Project in Arizona where they are not considered sensitive. Removal of these habitats will be avoided, as feasible; however, direct impacts for Project Build Alternatives 1, 2, and 3 (all options except the No-Build Alternative) are anticipated.

Portions of the biological study area (BSA) were considered to have low habitat suitability for three fish species: bonytail chub, flannelmouth sucker, and razorback sucker. All build alternatives were determined to have the potential to impact these species and their habitats.

A habitat assessment for special-status bats was conducted within the BSA and included focused quarterly surveys. Because the I-40 Colorado River Bridge will be completely removed and replaced as part of the Project, and the I-40 Bat Cave Wash Culvert might also be modified or removed, there is potential for “take” from direct mortality and net loss of roosting habitat at those locations unless mitigation and minimization strategies are implemented. Implementation of the strategies recommended in the Bat Management and Mitigation Plan (BMMP) will reduce the potential for adverse effects to bat species, including those with special status, to the greatest extent feasible.

A habitat assessment and focused surveys were conducted for Mojave desert tortoise. The majority of the BSA was determined to be unsuitable as desert tortoise habitat. Portions of the BSA that were considered to contain desert tortoise habitat were classified as low or marginal suitability. Of the suitable habitat present for desert tortoise, approximately the same amount of

habitat would be affected by construction of Build Alternatives 1 and 3, with Build Alternative 2 having the greatest amount of impact.

Furthermore, Caltrans has determined that there may be Take to state-listed species, bonytail chub, razorback sucker, Yuma Ridgway's rail, and California black rail, and therefore, the CDFW incidental take permit is anticipated for the project.

The table below provides a summary of the environmental effects that would result from implementation of the project, and proposed mitigation measures. Mitigation measures were identified to reduce significant impacts under CEQA. For a detailed discussion of the project's environmental impacts under NEPA, please refer to Chapter 2 of this EIR/EA. A discussion of the project's potential impacts under CEQA and other CEQA-related discussions are included in Chapter 3 of this EIR/EA.

Table S 1-1 Summary of Alternatives and Impacts

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
Existing and Future Land Use	ROW Required: 0 TCE Required: 6	ROW Required: 3 TCE Required: 7	ROW Required: 1 TCE Required: 5	No impact	LU-1
Consistency with State, Regional, and Local Plans and Programs	No impact. Alternative will be consistent with regional and local plans and would not increase capacity, enable unplanned development, or stimulate unforeseen development.	No impact. Alternative would be consistent with regional and local plans and would not increase capacity, enable unplanned development, or stimulate unforeseen development.	No impact. Alternative would be consistent with regional and local plans and would not increase capacity, enable unplanned development, or stimulate unforeseen development.	No impact	
Coastal Zone	No impact. The project is not located in a coastal zone.	No impact. The project is not located in a coastal zone.	No impact. The project is not located in a coastal zone.	No impact	
Wild and Scenic Rivers	No impact. There are no state designated wild and scenic rivers located in the project area.	No impact. There are no state designated wild and scenic rivers located in the project area.	No impact. There are no state designated wild and scenic rivers located in the project area.	No impact	
Parks and Recreational Facilities	Access to Havasu National Wildlife Refuge, Moabi Regional Park will remain open during construction. TCE from Bureau of Land Management (BLM).	Access to Havasu National Wildlife Refuge, Moabi Regional Park would remain open during construction. TCE and ROW from BLM.	Access to Havasu National Wildlife Refuge, Moabi Regional Park would remain open during construction. TCE and ROW from BLM.	No impact	
Farmlands	No impact. No farmlands in or adjacent to project area.	No impact. No farmlands in or adjacent to project area.	No impact. No farmlands in or adjacent to project area.	No impact	
Timberlands	No impact. No timberlands in or adjacent to project area.	No impact. No timberlands in or adjacent to project area.	No impact. No timberlands in or adjacent to project area.	No impact	

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
Growth	No impact. This alternative only replaces the existing bridge and will not increase or change access to residences or businesses.	No impact. This alternative proposes to build a new bridge slightly to the north of the existing bridge and will not increase or change access to residences or businesses.	No impact. This alternative proposes to build a new bridge slightly to the south of the existing bridge and will not increase or change access to residences or businesses.	No impact.	
Community Character and Cohesion	No permanent change to community character or cohesion. Temporary impacts to residents and business in project area. 3 TCEs needed on private residential land in Arizona. Access to Colorado River and under Colorado River Bridge to boating will remain open. Colorado River Bridge/ I-40 closed to bicycles for duration of construction and bicyclists will need to be rerouted for duration of construction.	No permanent impacts to community character or cohesion. Temporary and permanent impacts: permanent partial acquisition needed on 3 residential properties in Arizona, short term closure of Oatman Hwy between I-40 and BNSF railroad undercrossing would occur for ~ 10 working days; National Trails Hwy intermittently closed during construction. Permanent acquisition of railroad land north of I-40. Access to Colorado River and under Colorado River Bridge to boating will remain open. Bicycle access on I-40 will remain open but cyclist will intermittently need to be rerouted due to	No permanent impacts to community character or cohesion. Temporary and permanent impacts: 3 permanent partial acquisitions needed on residential land in Arizona. National Trails Hwy intermittently closed during construction. Access to Colorado River and under Colorado River Bridge to boating will remain open. Bicycle access on I-40 Colorado River Bridge will remain open but cyclist will intermittently need to be rerouted due to National Trails Hwy closure.	No impact to community character and cohesion for the No-Build Alternative.	CI-1, CI-2

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
		Oatman Hwy and National Trails Hwy closure.			
Relocations and Real Property Acquisition	No relocations. Temporary impacts only: 1 TCE on BLM land; TCE on BNSF railroad land; 3 TCEs on residential property in Arizona, 1 TCE needed from El Paso Natural Gas Co.	No relocations will occur under this alternative. Permanent and temporary impacts: 1 TCE and Permanent partial acquisition on federal BLM land; TCE and permanent partial acquisition on BNSF railroad land; permanent partial acquisition of land owned by Southwest Water Inc., and El Paso Natural Gas Co. Permanent partial acquisition of	No relocation will occur under this alternative. Permanent and temporary impacts: permanent ROW on federal BLM land; TCE on BNSF railroad land, TCE and ROW on El Paso Natural Gas Co land; 3 permanent partial acquisitions needed on private residential land.	No impact on relocation and real property acquisition from the No-Build alternative	
Environmental Justice	No environmental justice groups were identified within the project area.	No environmental justice groups were identified within the project area.	No environmental justice groups were identified within the project area.	No environmental justice groups were identified within the project area.	
Utilities/Emergency Services	Coordination with PG&E. TCE from BNSF.	Coordination with PG&E. TCE and right-of-way from BNSF. Right of way from Southwest Water Inc. Right-of-way and TCE from El Paso Natural Gas Co.	Coordination with PG&E. TCE from BNSF. Right-of-way and TCE from El Paso Natural Gas Co.	No impact.	UT-1
Traffic and Transportation/Pedestrian and Bicycle Facilities	Two 12-foot lanes, 5-foot inside shoulder, and 10-foot outside shoulder in each	Two 12-foot lanes, 5-foot inside shoulder, and 10-foot outside shoulder in each	Two 12-foot lanes, 5-foot inside shoulder, and 10-foot outside shoulder in each	No construction or improvements would occur.	TR-1

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	<p>direction. Construction in two stages; Stage 1 will remove half of the existing bridge to construct one half of the new bridge allowing traffic on the remaining half of the existing bridge. Traffic will be limited to one lane in each direction. Stage 2 will shift traffic to the newly constructed deck portion, then removal of the existing bridge to build second half of new bridge. Traffic reduction will remain through the length of the construction zone and construction period.</p>	<p>direction. Existing bridge remains fully operational during construction. Staging for transitioning newly realigned bridge to the existing I-40 centerline alignment on both ends of bridge. Bridge at National Trails Highway undercrossing to be replaced and minor realignment to Oatman Highway to accommodate the realignment.</p>	<p>direction. Existing bridge remains fully operational during construction. Staging for transitioning newly realigned bridge to the existing I-40 centerline alignment on both ends of bridge. Bridge at National Trails Highway undercrossing to be replaced.</p>	<p>Therefore, traffic operations would continue as they currently exist. Inside and outside shoulder widths on the bridge would continue to not meet current standards.</p>	
Visual/Aesthetics	<p>Less than significant impact with mitigation. There will be no changes to the height of the bridge or other structural elements. The new bridge will preserve picturesque views of the Colorado River and the new bridge will have enhanced aesthetic elements which will lessen the negative visual impacts to the project corridor. All ground</p>	<p>Less than significant with mitigation. There will be no changes to the height of the bridge or other structural elements. The new bridge will preserve picturesque views of the Colorado River and the proposed bridge will have enhanced aesthetic elements which will lessen the negative visual impacts to the project corridor. This</p>	<p>Less than significant impact with mitigation. There will be no changes to the height of the bridge or other structural elements. The new bridge will preserve picturesque views of the Colorado River and the proposed bridge will have enhanced aesthetic elements which will lessen the negative visual impacts to the project corridor. This</p>	<p>No impact. There will be no change to the visual or aesthetic character of the bridge under the No-Build alternative.</p>	VIS-1

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	disturbance of the surrounding landscape will be returned to its existing condition	alternative will have additional disturbed soils. All ground disturbance of the surrounding landscape will be returned to its existing condition.	alternative will have additional disturbed soils. All ground disturbance of the surrounding landscape will be returned to its existing condition.		
Cultural Resources	Cultural resources within the APE that were not evaluated as a result of this project and are considered to be eligible for inclusion in the NRHP because they can be protected in their entirety through establishment of an ESA. Adverse Effect to TCP.	Cultural resources within the APE that were not evaluated as a result of this project and are considered to be eligible for inclusion in the NRHP because they can be protected in their entirety through establishment of an ESA. Adverse Effect to TCP.	Cultural resources within the APE that were not evaluated as a result of this project and are considered to be eligible for inclusion in the NRHP because they can be protected in their entirety through establishment of an ESA. Adverse Effect to TCP.	No impact.	CR-1, CR-2, CR-3, CR-4, CR-5, CR-6, CR-7, CR-8, CR-9, CR-10, CR-11
Hydrology and Floodplain	No permanent direct or indirect adverse hydrology or floodplain impacts. Temporary erosion and stormwater impact from 3.4 acres of disturbed soils.	No permanent direct or indirect adverse hydrology or floodplain impacts. Temporary erosion and stormwater impact from 16.7 acres of disturbed soils.	No permanent direct or indirect adverse hydrology or floodplain impacts. Temporary erosion and stormwater impact from 14.8 acres of disturbed soils.	No impact	WQ-1, WQ-2, WQ-3, WQ-4
Water Quality and Storm Water Runoff	Temporary and permanent construction impacts from sediments, trash, petroleum products, concrete waste, sanitary waste, chemicals, and pollutants of concern. Temporary erosion and	Temporary and permanent construction impacts from sediments, trash, petroleum products, concrete waste, sanitary waste, chemicals, and pollutants of concern. Temporary erosion and	Temporary and permanent construction impacts from sediments, trash, petroleum products, concrete waste, sanitary waste, chemicals, and pollutants of concern. Temporary erosion and	No impact	WQ-1, WQ-2, WQ-3, WQ-4

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	stormwater impact from 3.4 acres of disturbed soils. Permanent impacts	stormwater impact from 16.7 acres of disturbed soils.	stormwater impact from 14.8 acres of disturbed soils.		
Geology/Soils/Seismic/Topography	Less than significant impacts from seismic activity, soil erosion, loss of topsoil, subsidence, liquefaction, or expansive soils.	Less than significant impacts from seismic activity, soil erosion, loss of topsoil, subsidence, liquefaction, or expansive soils.	Less than significant impacts from seismic activity, soil erosion, loss of topsoil, subsidence, liquefaction, or expansive soils.	No impact	GEO-1, GEO-2, GEO-3, GEO-4
Paleontology	The project site is not within an identified paleontologically sensitive area.	The project site is not within an identified paleontologically sensitive area.	The project site is not within an identified paleontologically sensitive area.	No impact	
Hazardous Waste/Materials	Chromium 6 plume from Topock Compressor Station is in groundwater at western side of project location; Asbestos Containing materials (ACM) identified in shims of Colorado River Bridge; Aerially Deposited Lead (ADL) found within project soils; lead based paint identified on bridge support beams; if guardrails and/or signposts are removed they may contain treated wood, noncommercial or unregulated material may be imported as fill.	Chromium 6 plume from Topock Compressor Station is in groundwater at western side of project location; Asbestos Containing materials (ACM) identified in shims of Colorado River Bridge; Aerially Deposited Lead (ADL) found within project soils; lead based paint identified on bridge support beams; if guardrails and/or signposts are removed they may contain treated wood, noncommercial or unregulated material may be imported as fill.	Chromium 6 plume from Topock Compressor Station is in groundwater at western side of project location; Asbestos Containing materials (ACM) identified in shims of Colorado River Bridge; Aerially Deposited Lead (ADL) found within project soils; lead based paint identified on bridge support beams; if guardrails and/or signposts are removed they may contain treated wood, noncommercial or unregulated material may be imported as fill.	No impact	HAZ-1, HAZ-2, HAZ-3, HAZ-4, HAZ-5, HAZ-6, HAZ-7, HAZ-8
Air Quality	Less than significant	Less than significant	Less than significant	No impact	AQ-1, AQ-2, AQ-3,

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
Noise	Less than significant impact from pile driving with mitigation for groundborne vibration and noise levels	Less than significant impact from pile driving with mitigation for groundborne vibration and noise levels	Less than significant impact from pile driving with mitigation for groundborne vibration and noise levels	No impact	NOI-1, NOI-2
Energy	The project will not result in wasteful or inefficient consumption of energy during construction, nor will the project conflict with a state or local plan for renewable energy or energy efficiency.	The project will not result in wasteful or inefficient consumption of energy during construction, nor will the project conflict with a state or local plan for renewable energy or energy efficiency.	The project will not result in wasteful or inefficient consumption of energy during construction, nor will the project conflict with a state or local plan for renewable energy or energy efficiency.	No impact	
Natural Communities	The project will temporarily disturb 0.28 acre of the blue palo verde woodland sensitive natural community.	The proposed project would temporarily disturb 0.28 acre of the blue palo verde woodland sensitive natural community.	The proposed project would temporarily disturb 0.28 acre of the blue palo verde woodland sensitive natural community.	No impact	NC-1, NC-2, NC-3, NC-4, NC-5, NC-6, NC-7, NC-8
Wetlands and Other Waters	The project will permanently remove and/or temporarily disturb USACE/RWQCB non-wetland waters, WoUS, USACE/RWQCB wetlands, CDFW streambed, and CDFW riparian.	The project would permanently remove and/or temporarily disturb USACE/RWQCB non-wetland waters, WoUS, USACE/RWQCB wetlands, CDFW streambed, and CDFW riparian.	The project would permanently remove and/or temporarily disturb USACE/RWQCB non-wetland waters, WoUS, USACE/RWQCB wetlands, CDFW streambed, and CDFW riparian.	No impact	WET-1, WET-2, WET-3, NC-1, NC-2
Plant Species	The project will have permanent and temporary impacts to 9 non-listed special status plant taxa which have the	The project will have permanent and temporary impacts to 9 non-listed special status plant taxa which have the	The project will have permanent and temporary impacts to 9 non-listed special status plant taxa which have the	No impact	PL-1, PL-2, NC-1, NC-2, NC-3, NC-4, NC-5, NC-7

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	potential to occur within the project site: small-flowered androstephium (<i>Androstephium breviflorum</i>), Emory's crucifixion-thorn (<i>Castela emoryi</i>), sand evening-primrose (<i>Chylismia arenaria</i>), glandular ditaxis (<i>Ditaxis claryana</i>), Reveal's buckwheat (<i>Eriogonum contiguum</i>), Utah milkweed vine (<i>Funastrum utahense</i>), Torrey's boxthorn (<i>Lycium torreyi</i>), three-pointed blazing star (<i>Mentzelia tricuspis</i>), and little-leaved palo verde (<i>Parkinsonia microphylla</i>).	potential to occur within the project site: small-flowered androstephium (<i>Androstephium breviflorum</i>), Emory's crucifixion-thorn (<i>Castela emoryi</i>), sand evening-primrose (<i>Chylismia arenaria</i>), glandular ditaxis (<i>Ditaxis claryana</i>), Reveal's buckwheat (<i>Eriogonum contiguum</i>), Utah milkweed vine (<i>Funastrum utahense</i>), Torrey's boxthorn (<i>Lycium torreyi</i>), three-pointed blazing star (<i>Mentzelia tricuspis</i>), and little-leaved palo verde (<i>Parkinsonia microphylla</i>).	potential to occur within the project site: small-flowered androstephium (<i>Androstephium breviflorum</i>), Emory's crucifixion-thorn (<i>Castela emoryi</i>), sand evening-primrose (<i>Chylismia arenaria</i>), glandular ditaxis (<i>Ditaxis claryana</i>), Reveal's buckwheat (<i>Eriogonum contiguum</i>), Utah milkweed vine (<i>Funastrum utahense</i>), Torrey's boxthorn (<i>Lycium torreyi</i>), three-pointed blazing star (<i>Mentzelia tricuspis</i>), and little-leaved palo verde (<i>Parkinsonia microphylla</i>).		
Animal Species	<p>Permanent direct and temporary impacts to flannelmouth sucker habitat.</p> <p>Temporary impacts to Baja California Tree Frog.</p> <p>Potential impact to burrowing owl</p> <p>Temporary impacts to special status avian species nesting and</p>	<p>Permanent direct and temporary impacts to flannelmouth sucker habitat.</p> <p>Temporary impacts to Baja California Tree Frog.</p> <p>Potential impact to burrowing owl</p> <p>Temporary impacts to special status avian species nesting and</p>	<p>Permanent direct and temporary impacts to flannelmouth sucker habitat.</p> <p>Temporary impacts to Baja California Tree Frog.</p> <p>Potential impact burrowing owl.</p> <p>Temporary impacts to special status avian species nesting and</p>	No impact	<p>AS-1, AS-2, AS-3, AS-4, AS-5, AS-6,</p> <p>NC-1, NC-2, NC-3, NC-5, NC-6, NC-7, NC-8</p> <p>WET-1, WET-2</p> <p>TE-1, TE-2</p>

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	<p>foraging habitat for loggerhead shrike, Crissal thrasher, yellow-breasted chat, Sonoran yellow warbler, Costa's hummingbird, double-crested cormorant, black-tailed gnatcatcher, and yellow-headed blackbird.</p> <p>Direct impacts to special status bats from demolition of the existing bridge. Indirect impacts to bats roosting in Bat Cave Wash.</p> <p>Indirect and direct impacts to Desert Bighorn Sheep.</p> <p>Minimal temporary impacts to American beaver.</p> <p>Temporary impacts to Colorado River cotton rat habitat.</p> <p>Temporary impact to desert pocket mouse habitat.</p> <p>Potential for direct impacts to nesting birds protected by the</p>	<p>foraging habitat for loggerhead shrike, Crissal thrasher, yellow-breasted chat, Sonoran yellow warbler, Costa's hummingbird, double-crested cormorant, black-tailed gnatcatcher, and yellow-headed blackbird.</p> <p>Direct impacts to special status bats from demolition of the existing bridge. Indirect impacts to bats roosting within the BNSF Railroad Bridge.</p> <p>Indirect and direct impacts to Desert Bighorn Sheep.</p> <p>Minimal temporary impacts to American beaver.</p> <p>Permanent and temporary impacts to Colorado River cotton rat habitat.</p> <p>Permanent and temporary impact to desert pocket mouse habitat.</p>	<p>foraging habitat for loggerhead shrike, Crissal thrasher, yellow-breasted chat, Sonoran yellow warbler, Costa's hummingbird, double-crested cormorant, black-tailed gnatcatcher, and yellow-headed blackbird.</p> <p>Direct impacts to special status bats from demolition of the existing bridge. Indirect and direct impacts to bats roosting within the culvert at Bat Cave Wash.</p> <p>Indirect and direct impacts to Desert Bighorn Sheep.</p> <p>Minimal temporary impacts to American beaver.</p> <p>Permanent and temporary impacts to Colorado River cotton rat habitat.</p> <p>Permanent and temporary impact to desert pocket mouse habitat.</p>		

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	Migratory Bird Treaty Act and/or California Fish and Game Code.	Potential for direct impacts to nesting birds protected by the Migratory Bird Treaty Act and/or California Fish and Game Code.	Potential for direct impacts to nesting birds protected by the Migratory Bird Treaty Act and/or California Fish and Game Code.		
Threatened and Endangered Species	Direct permanent and temporary impacts to habitat and /or direct mortality and injury to bonytail chub, razorback sucker, western yellow-billed cuckoo, southwestern willow flycatcher, California black rail, Yuma Ridgeway's rail, Arizona Bell's vireo, monarch butterfly, Mojave desert tortoise, and northern Mexican gartersnake.	Direct permanent and temporary impacts to habitat and /or direct mortality and injury to bonytail chub, razorback sucker, western yellow-billed cuckoo, southwestern willow flycatcher, California black rail, Yuma Ridgeway's rail, Arizona Bell's vireo, monarch butterfly, Mojave desert tortoise, and northern Mexican gartersnake.	Direct permanent and temporary impacts to habitat and /or direct mortality and injury to bonytail chub, razorback sucker, western yellow-billed cuckoo, southwestern willow flycatcher, California black rail, Yuma Ridgeway's rail, Arizona Bell's vireo, monarch butterfly, Mojave desert tortoise, and northern Mexican gartersnake.	No impact	TE-1, TE-2, TE-3, TE-4, TE-5, TE-6, TE-7, TE-8, NC-1, NC-2, NC-3, NC-6, NC-7, PS-1, PS-2, AS-1, AS-2, AS-3, AS-4, AS-5, AS-6
Invasive Species	The project has the potential to introduce invasive species by entering and exiting construction with contaminated equipment, inclusion of invasive species in seed mixtures and mulch, and improper removal and disposal of invasive species.	The project has the potential to introduce invasive species by entering and exiting construction with contaminated equipment, inclusion of invasive species in seed mixtures and mulch, and improper removal and disposal of invasive species.	The project has the potential to introduce invasive species by entering and exiting construction with contaminated equipment, inclusion of invasive species in seed mixtures and mulch, and improper removal and disposal of invasive species.	No impact	NC-1, NC-2, NC-3, NC-7
Wildfire	No impact. The project is not located in a CalFIRE Very	No impact. The project is not located in a CalFIRE Very	No impact. The project is not located in a CalFIRE Very	No impact	

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	High Fire Hazard Severity Zone, and in Arizona the project is located in a low to moderate risk area.	High Fire Hazard Severity Zone, and in Arizona the project is located in a low to moderate risk area.	High Fire Hazard Severity Zone, and in Arizona the project is located in a low to moderate risk area.		
Climate Change	<p>No increase in operation greenhouse gas emissions will result from the project and the project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p> <p>Climate change is expected to increase storm precipitation in the project area by 1.6% by 2085. The project will be adapted to anticipated changes.</p> <p>Climate change is anticipated to increase the average minimum air temperature in the project area by 1.0 degrees Fahrenheit by 2025 and by 3.7 degrees Fahrenheit by 2055, and by 7.2 degrees Fahrenheit by 2085. The project will be adapted to changes in average</p>	<p>No increase in operation greenhouse gas emissions will result from the project and the project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p> <p>Climate change is expected to increase storm precipitation in the project area by 1.6% by 2085. The project will be adapted to anticipated changes.</p> <p>Climate change is anticipated to increase the average minimum air temperature in the project area by 1.0 degrees Fahrenheit by 2025 and by 3.7 degrees Fahrenheit by 2055, and by 7.2 degrees Fahrenheit by 2085. The project will be adapted to changes in average</p>	<p>No increase in operation greenhouse gas emissions will result from the project and the project will not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p> <p>Climate change is expected to increase storm precipitation in the project area by 1.6% by 2085. The project will be adapted to anticipated changes.</p> <p>Climate change is anticipated to increase the average minimum air temperature in the project area by 1.0 degrees Fahrenheit by 2025 and by 3.7 degrees Fahrenheit by 2055, and by 7.2 degrees Fahrenheit by 2085. The project will be adapted to changes in average</p>	The existing bridge is not adapted to anticipated changes in the climate.	<p>GHG-1, GHG-2, GHG-3, GHG-4, GHG-5</p> <p>CC-1, CC-2, CC-3</p>

Potential Environmental Impact	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative	Avoidance, Minimization and/or Mitigation Measures
	minimum and maximum temperatures in the project area.	minimum and maximum temperatures in the project area.	minimum and maximum temperatures in the project area.		

Note. ROW = Right of Way. BLM = Bureau of Land Management. TCE = Temporary Construction Easement. BNSF = Burlington Northern Santa Fe. PG&E = Pacific Gas and Electric. APE = Area of Potential Effect. NRHP = National Register of Historic Places. ESA = Environmentally Sensitive Area. USACE = United States Army Corp of Engineers. RWQCB = Regional Water Quality Control Board. CDFW = California Department of Fish and Game.

S-3 Coordination with Public and Other Agencies

The public was informed of the project during the Notice of Preparation (NOP) period for the EIR/EA which began on November 3, 2020 and ended on December 2, 2020. On November 18, 2020, Caltrans hosted a virtual public scoping meeting/webinar for the proposed project. The scoping meeting provided an opportunity for the public, community, interest groups, and government agencies to obtain information, ask questions, and provide comments regarding the proposed project. The key issues raised during the public scoping meeting included mitigation measures and alternatives, water resources, biological resources, air quality, climate change, cultural resources, recreation, transportation and traffic, and Tribal Cultural Resources. Further details on the comments received during the scoping meeting, as well as other meetings and coordination, can be found in Chapter 4, Comments and Coordination.

S-4 Permits and Approvals Needed

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

Agency	PLAC	Status
United States Fish and Wildlife Service (USFWS)	1. Biological Opinion (Bridge Replacement Project), Formal Section 7 Consultation. 2. Letter of Concurrence (Geotechnical Investigation), Informal Section 7 Consultation	1. Biological Opinion from USFWS for Bridge Replacement Project is delayed to Phase 1, pending design details. 2. Letter of Concurrence expected from USFWS for Geotechnical investigation prior to FED.
U.S. Army Corps of Engineers	Clean Water Act, Section 404 Permit	Application to be submitted after environmental document approval.
California Department of Fish and Wildlife	Section 1600 Agreement for Streambed Alteration Section 2081 Incidental Take Permit	Application to be submitted after environmental document approval.
Regional Water Quality Control Board	NPDES permit Clean Water Act, Section 401 Permit (Water Quality Certification)	Application to be submitted after environmental document approval.
Arizona Department of Environmental Quality	Clean Water Act, Section 401 Permit (Water Quality Certification)	Application to be submitted after environmental document approval.
Bureau of Land Management	Encroachment Permit	To be obtained prior to construction.
U.S. Coast Guard	Coast Guard Bridge Permit issued under the authority of the General Bridge Act of 1946, as amended.	Application to be submitted after environmental document approval
California State Lands Commission	Bridge Lease	Application to be submitted after environmental document approval.

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA), in cooperation with the Arizona Department of Transportation (ADOT), proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, Arizona. Caltrans will be the lead agency for the proposed project under the California Environmental Quality Act (CEQA) and FHWA will be the lead agency under the National Environmental Policy Act (NEPA). The project is located in San Bernardino County, California and Mohave County, Arizona on I-40 between Park Moabi Road and Topock Road. The total length of the project on I-40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.7 in California and PM 0.0 to 0.6 in Arizona. Refer to Figures 1.1 and 1.2 for the project location and project vicinity.

I-40 is a major transcontinental transportation corridor linking southern California with the east coast, spanning eight southern states with a total of 2,554 miles. In the state of California, I-40 begins at the junction with Interstate 15 (I-15) in Barstow, continues eastward and ends in Wilmington, North Carolina. In California, I-40 carries a high volume of truck traffic transporting goods across the nation and a significant volume of recreational trips to the Mojave Desert, the Colorado River, and states to the east.

The Colorado River Bridge (Bridge No. 54-0415) is located along I-40 and originally built in 1966. The bridge is used for interstate travel and goods movement between California and states to the east beginning with Arizona. The bridge is a seven span structure comprised of continuous steel plate girders on reinforced concrete pier walls and reinforced concrete open end seated abutments on steel "H" piles, with the exception of Pier 2 which is supported on a spread footing. The total length of the structure is 1,294 feet. The bridge deck is a cast in place (CIP) reinforced concrete deck. The bridge currently accommodates four 12-foot lanes of traffic (two in each direction) separated by a median barrier. The existing bridge has non-standard 2 foot inside shoulders and 4 foot outside shoulders with Type 2 bridge rails.

Table 1-1, Existing Bridge Geometry

No. of Lanes	Lane Widths	Shoulder Widths		Center Median Width
		Inside	Outside	
4 (2 in each direction)	12 ft	2 ft	4 ft	6 ft

In 1963, an interagency agreement was finalized between the California Department of Public Works and the Arizona Highway Department regarding the planning, construction, and maintenance of the bridge structure. The agreement states that both parties will equally and jointly assume responsibility for the maintenance, policing, repairing, replacing, or reconstructing of this bridge structure. The agreement further states that the division of costs for planning, construction, maintenance, policing, repairing, replacing or reconstructing of the bridge will be shared equally between both states without regard for the actual location of the interstate boundary line in the vicinity of the bridge. In 1987, a subsequent agreement was finalized between the California and Arizona Departments of Transportation. This agreement states that California will assume one half the cost of all maintenance and/or repair work for the bridge

structure and that Arizona will reimburse California for one half of the costs of maintenance or repair and any related engineering work performed. In 2006, another agreement was signed between the two agencies with similar content to the 1987 agreement. It indicated maintenance will include, but is not limited to: routine maintenance, inspection, repair and/or design repair activities and overload permit review. The project is included in the 2021 Federal Transportation Improvement Program (FTIP) and is proposed for funding from the SHOPP Bridge Preservation Program.

1.2 Purpose and Need

1.2.1 Project Purpose

The purpose of the project is as follows:

- To improve the safety and integrity of the bridge structure by addressing the deck deterioration and strengthening the girders to increase the load rating.
- The safety of the traveling public will be enhanced because the standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system.

1.2.2 Project Need

The concrete deck of the Colorado River Bridge has begun to deteriorate. There are spalls and delaminations along the outside shoulders, and transverse cracks throughout the transverse top mat rebar. The top mat transverse rebar are exposed with inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the structure. In addition, the bridge has a permit vehicle rating of PPPGO (purple permit rating up to 9-axle vehicles and reduced permit rating for 11 and 13 axle vehicles).

CAPACITY, TRANSPORTATION DEMAND, AND SAFETY

The traffic data information for I-40 at PM 154.51 is presented in the table below. The traffic data was extracted from the Traffic Engineering Performance Assessment (TEPA) dated January 2016.

Table 1-2, Traffic Data Information

Year	2015	2018	2038
Annual Average Daily Traffic (AADT)	12,700	14,400	30,800
Design Hour Volume (DHV)	1,160	1,250	1,990
Truck Percent in AADT	60%	60%	60%

Source: Caltrans Project Study Report Project-Development Support (PSR-PDS).

As summarized in the table above, the annual Average Daily Traffic (AADT) is expected to increase to 30,800 by year 2038 of which 60 percent will be truck AADT.

Accident data taken from the four year period from January 2009 to December 2012 within the project limits from the Caltrans Traffic Accident Surveillance and Analysis System (TASA) – Transportation System Network (TSN) is summarized in the table below.

Table 1-3, Accident Rates

Accident Rates (per Million Vehicle Miles)						
Limits	Actual			Statewide Average		
Location	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
I-40 East PM 154.51	0.00	0.00	0.56	0.014	0.17	0.36
I-40 West PM 154.51	0.00	0.00	1.12	0.014	0.17	0.36

Source: Project Study Report-Project Development Support (PSR-PDS)

As shown in the table above, the total accident rate on both I-40 East and West at PM 154.51 has a higher total average than the statewide rate of 0.36. Based on the TASA-TSN data, along the project route, the primary accident factors are speeding (33.3%), other than driver (33.3%), and unknown (33.3%) cause. The type of accidents are a result of hit objects (66.7%) and sideswipe accidents (33.3%). The type of objects struck along the project route is the median barrier (33.3%), other objects on the road (33.3%), and one car hitting another car (33.3%).

The safety of the traveling public will be enhanced with the following improvements: standard lane and shoulder widths, a standard median barrier, and a standard bridge railing system.

ROADWAY DEFICIENCY

As previously mentioned, the Colorado Bridge is deteriorating. There are several areas of spalls and delaminations along the outside shoulders, particularly in the westbound direction. There are transverse cracks throughout the bridge that are spaced within the transverse top mat rebar. Several of the top mat transverse rebars are exposed with inadequate concrete cover. The existing deteriorations will worsen over time and ultimately compromise the integrity and safety of the structure. Currently, the bridge load rating for permit vehicles is PPPGO rated (purple permit rating up to 9-axle vehicles and reduced permit rating for 11 and 13 axle vehicles). In addition, based on the current Highway Design Manual (HDM) standards, the inside and outside shoulder widths on the Colorado River Bridge are non-standard.

The project will improve safety and integrity of the Colorado River Bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic.

SOCIAL DEMANDS OR ECONOMIC DEVELOPMENT

I-40 is a major transcontinental transportation corridor linking southern California with the East Coast, spanning a total of 2,554 miles. The Colorado River Bridge is used for interstate travel and goods movement between California, Arizona, and beyond. Based on the San Bernardino County Countywide Plan Policy Plan, Land Use Map for the North Desert Region, the project vicinity, within San Bernardino County, California, is designated as Open Space (OS),

Resource/Land Management (RLM), and Public Facility (PF). Based on the Mohave County 2015 General Plan Countywide Land Use Diagram – Sub Area 7, the project vicinity, in Mohave County, Arizona, is designated as Rural Development Areas (RDA). As detailed below, the project site is surrounded by mostly vacant, open space, the Havasu National Wildlife Refuge and Havasu Wilderness, the Chemehuevi Mountains Wilderness, the Moabi Regional Park, the Topock 66 Restaurant, Bar and Store, and the Pacific Gas & Electric (PG&E) Topock Compressor Station.

- **Havasus National Wildlife Refuge and Havasu Wilderness:** The Havasu Wilderness area lies within the Havasu National Wildlife Refuge which is located along the Colorado River for 30 miles between Needles, California and Lake Havasu City, Arizona to the north and south of I-40. The United States Congress designated the Havasu Wilderness in 1990 and has a total of 17,801 acres, with Arizona containing approximately 14,606 acres and California containing 3,195 acres. Approximately one-third of the Havasu National Wildlife Refuge consists of the Havasu Wilderness. The Havasu National Wildlife Refuge shares its western border with the Chemehuevi Mountains Wilderness area. Hunting is allowed in designated areas as well as hiking; however, camping is not permitted. The Havasu National Wildlife Refuge and Havasu Wilderness are managed by the U.S. Fish and Wildlife Service.
- **Chemehuevi Mountains Wilderness:** The Chemehuevi Mountains Wilderness area encompasses the Chemehuevi Mountains and includes low rolling hills and granite peaks. The United States Congress designated the Chemehuevi Mountains Wilderness area in 1994 and consists of a total of 85,864 acres managed by the U.S. Bureau of Land Management. The Chemehuevi Mountains Wilderness offers recreational activities including hiking, horseback riding, hunting, camping, and backpacking. The Chemehuevi Mountains Wilderness area lies 10 miles southeast of Needles, California along US Highway 95, and south of I-40, in San Bernardino County.
- **Moabi Regional Park (100 Park Moabi Road, Needles, CA):** Located along the banks of the Colorado River, north of I-40, at the California and Arizona state lines, Moabi Regional Park offers recreational opportunities including a campground, fishing, swimming, hiking, picnic areas, boating, and off-road driving. The Moabi Regional Park is part of the San Bernardino County Regional Parks and operated by the Pirate Cove Resort and Marina.
- **Topock 66 Restaurant, Bar and Store (14999 W. Historic Route 66, Topock, AZ):** Located north of I-40, on Historic Route 66, this riverfront restaurant, bar, and store includes a pool, stage for outdoor performances, and RV parking.
- **PG&E Topock Compressor Station:** Located 12 miles east of Needles at 145453 National Trails Highway. This facility compresses natural gas so it can be transported through pipelines to PG&E's customers in northern and central California. The site is also undergoing remediation for groundwater contamination and soil contamination due to historical disposal and waste handling practices that occurred at the site previously.

MODAL INTERRELATIONSHIPS AND SYSTEM LINKAGES

I-40 is a major transcontinental transportation corridor linking southern California with the East Coast, spanning eight southern states with a total of 2,554 miles. The Colorado River Bridge is used for interstate travel and goods movement between California and states to the east beginning with Arizona. In the state of California, I-40 begins at the junction with Interstate 15 in the City of Barstow; I-40 continues eastward and ends in Wilmington, North Carolina. Within California, I-40 carries a high volume of truck traffic transporting goods across the nation and a significant volume of recreational trips to the Mojave Desert, the Colorado River, and states to the east.

The Needles Airport operated by the County of San Bernardino Department of Airports is located approximately 9 miles northeast of the project site. The Needles Airport is a small, general aviation airport with two 100-foot runways located in the city of Needles, California. Services provided at the Needles Airport include fuel, minor airframe, and power plant services. The Needles Airport was originally constructed to support cross country flight but now serves as a general aviation airport for the Colorado River area.

AIR QUALITY IMPROVEMENTS

Currently, I-40 is not designated as a bicycle facility; however, bicycles are allowed on the segment of I-40 that encompasses the project limits because there is not a parallel alternative route. Bicyclists are known to traverse along the U.S. Route 66, and along I-40 between California and Arizona in the vicinity of the project. Depending on alternative, widening the shoulders to standard width will provide shoulder continuity that will allow for safer use by bicycle travelers.

INDEPENDENT UTILITY AND LOGICAL TERMINI

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

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope. Logical termini are defined as rational end points for transportation improvements and rational end points for a review of the environmental impacts. The project will result in a replacement of the Colorado River Bridge which will improve the safety and integrity of the structure by addressing deck deterioration and strengthening girders to increase the load rating. As shown in Figure 1.1. and Figure 1.2, the project limits include the Colorado River Bridge portion along I-40. The logical termini for the project are inclusive of the points at which the bridge ties into the existing I-40.
2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made). The project meets the identified need for improving the safety and integrity of the bridge structure and as an independent project and not dependent on any other projects to meet the identified purpose for the bridge replacement. Therefore, the project demonstrates independent utility.
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. The preliminary design of the project avoids potential conflicts with other

reasonably foreseeable transportation improvements. The proposed project can be constructed independently of other transportation projects in the area, and furthermore, other transportation projects are not dependent on the proposed project for implementation.

1.3 Project Description

This section describes the proposed action and the project alternatives (see Figures 1.4, 1.5, and 1.6) developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. The build alternatives would either replace the bridge north, south, or on the existing bridge alignment as follows:

- Alternative #1: New bridge is built along the existing alignment;
- Alternative #2: New bridge is built just north of the existing alignment;
- Alternative #3: New bridge is built just south of the existing alignment;
- No-Build Alternative: No improvements will be made under this alternative.

The project proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 in San Bernardino County, California and in Mohave County, Arizona. The total length of the project on I-40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.7 in California, and PM 0.0 to 0.6 in Arizona. Geotechnical borings are also proposed to be completed during the design phase (see Figure 1.3). The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic. The deck deterioration on the existing bridge facility is characterized by spalls and delaminations along the outside shoulders, and transverse cracks are present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover.

1.3.1 Alternatives

In addition to the No-Build Alternative, three build alternatives are considered and described in further detail below.

1.3.2 Common Design Features of the Build Alternatives

The pier foundations for each of the build alternatives would be on large diameter CIDH piles. Furthermore, each of the build alternatives would consist of an 84-foot wide bridge deck carrying two 12-foot lanes, a 5-foot inside shoulder, and a 10-foot outside shoulder in each direction. Each build alternative would also feature a Type 60M median and CA ST-75 bridge rails.

A system of temporary trestles will also be constructed along each side and under the existing bridge. These trestles will be used as a work platform for foundation construction, material hauling, falsework erection, and removal of the existing bridge. A 50-foot navigational opening will be provided along the Colorado River on the Arizona side for safe public passage during construction. Access to these trestles will be required from the California and Arizona side. Temporary access roads and temporary retaining walls that lead to the trestles from the California and Arizona side would also be required for each of the build alternatives. The

temporary trestles will initially be installed by a crane operating from the shore. The temporary trestles will be removed at the end of construction.

Geotechnical borings consisting of 13 rotary core (RC) borings are also proposed during the design phase for the build alternatives. The drilling equipment will consist of a drill rig capable of rotary wash methods and the ability to switch to rock core drilling and sampling when the bedrock is reached. The boring locations are anticipated to be at the following locations:

- Northside shoulder of I-40 (RC-20-001, -002, -003, -004, and -005). A one- or two-lane closure will likely be necessary. This will be determined after site reconnaissance.
- Natural ground (RC-20-006, -007, and -008). These locations are accessible by a unpaved road just north of Marina Road, an undercrossing bridge, and a maintenance road under the bridge. If the maintenance road is overgrown with vegetation under the bridge, some vegetation clearance may be necessary prior to drilling.
- Barge (RC-20-009, -010, and -011). These locations will be drilled from the water on a barge. At the boring locations, the method involves setting a casing, hammering the casing approximately 5 feet deep, sealing the inside bentonite, and then drilling through the bentonite seal.
- North of I-40 (RC-20-012, and -013). These locations will be in Arizona, nearest to the road.

In addition, seismic refraction testing will be performed along 3 horizontal lines. The seismic refraction tests are performed by striking a plate on the surface with a sledgehammer or similar device and setting up geophones on the surface along a line. No drilling or subsurface disturbance is necessary to perform the seismic refraction testing.

Each of the build alternatives would also implement new technology in construction materials, especially the evaluation and use of low-energy cement.

This project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

Each project alternative includes the following standardized measures that are included as part of the project description. Standardized measures (such as Best Management Practices [BMPs]) are those measures that are generally applied to most or all Caltrans projects. These standardized or pre-existing measures, allow little discretion regarding their implementation and are not specific to the circumstances of a particular project.

TR-1 A Transportation Management Plan (TMP) will be prepared for the project. The TMP will be implemented to minimize potential traffic congestion caused by temporary lane closures, speed reductions, and the presence of construction personnel and equipment. The TMP will help to

ensure continued emergency access to the project area and nearby properties. The build alternatives would also implement the Storm Water Data Report and Best Management Practices (BMPs) that are feasible into the project. The Colorado River is a navigable waterway that is within the limits of this project and build alternatives, as such, will require coordination with the U.S. Coast Guard. Public access and the ability to navigate on the Colorado River are anticipated not to be limited during construction for the build alternatives.

- CR-1, CR-2** Standard provisions dealing with the discovery of unanticipated cultural materials or human remains will be included in the project plans and specifications.
- AQ-1, AQ-2, AQ-3** The construction contractor must comply with Caltrans' Standard Specifications in Section 14-9 and Erosion Control and Air Quality Best Management Practices (BMPs).
- WQ-3, WQ-4** Construction and Post Construction best management practices (BMP) will be implemented to minimize sedimentation, erosion, and stormwater runoff.

1.3.2.1 ROADWAY IMPROVEMENTS

In summary, the roadway improvements common to Alternatives 1, 2, and 3 include the following:

- Two standard 12-foot lanes, with 10-foot-wide shoulders, a 5-foot center median in both directions, a standard median barrier, and a standard bridge railing system.
- A 25-foot-wide temporary access route on the north side of both the eastbound and westbound approaches.
- A 15-foot-wide temporary access road on the south side of the eastbound approach.
- Construction staging area located immediately southwest of the I-40, near National Trails Highway.
- Temporary retaining walls, temporary trestles, and temporary cross trestle and support during construction.

1.3.2.2 NONVEHICULAR AND PEDESTRIAN ACCESS IMPROVEMENTS

Although I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 that encompasses the project limits because there is not a parallel alternative route for bicyclists to travel. As each of the build alternatives would widen the shoulders to standard width, this would provide shoulder continuity that will allow for safer use by bicycle travelers.

1.3.3 Unique Features of Build Alternatives new

BUILD ALTERNATIVE 1

Build Alternative 1 will replace the bridge on the existing I-40 centerline. This alternative will require staging the construction operation in two major stages and will reduce traffic to one lane in each direction. The first stage will remove half of the existing bridge to construct half of the new bridge, while running traffic on the remaining half of the existing bridge. The second stage will shift traffic to the newly constructed portion of the bridge deck, then remove the remaining existing bridge to build the second half of the new bridge. This build alternative is anticipated to require temporary construction easements (TCEs) as follows:

Table 1-4, Build Alternative 1, Right of Way Summary

State	Parcel	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	6,270	TCE
Arizona	210-48-009	18,705	TCE
Arizona	210-48-005C	15,306	TCE
Arizona	210-48-001	273	TCE
Arizona	210-48-005B	2,403	TCE
Arizona	210-48-008	502	TCE
Notes: TCE=temporary construction easement.			

BUILD ALTERNATIVE 2

Build Alternative 2 would realign the bridge to the north of the existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. Staging would only be necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. With this alternative, the bridge at the National Trails Highway undercrossing would also be replaced. In addition, a minor realignment is proposed to Oatman Highway to accommodate the bridge realignment. This build alternative is anticipated to require additional right-of-way as follows:

Table 1-5, Build Alternative 2, Right of Way Summary

State	Parcel	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	7844; 101	TCE; Permanent Acquisition
Arizona	210-48-009	18,526; 76,537	TCE Permanent Acquisition
Arizona	210-48-010	351	Permanent Acquisition
Arizona	210-48-005C	12,261	Permanent Acquisition
Arizona	210-48-001	270	Permanent Acquisition
Arizona	210-48-005B	395	Permanent Acquisition
Arizona	210-48-008	482	Permanent Acquisition
Arizona	210-47-003	2,594	Permanent Acquisition
Arizona	210-47-002C	580	Permanent Acquisition

Notes: TCE=temporary construction easement.

BUILD ALTERNATIVE 3

Build Alternative 3 would realign the bridge to the south of the existing I-40 centerline and allow the construction of the new bridge to take place while the existing bridge is still operational. Staging would only be necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. With this alternative, the bridge at the National Trails Highway undercrossing would also be replaced. This build alternative is anticipated to require additional right-of-way as follows:

Table 1-6, Build Alternative 3, Right of Way Summary

State	Parcel	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	4,545; 996	Permanent Easement; Permanent Acquisition
Arizona	210-48-009	14,953	TCE
Arizona	210-48-005C	1,930	Permanent Acquisition
Arizona	210-48-001	2,231	Permanent Acquisition
Arizona	210-48-005B	984	Permanent Acquisition
Arizona	210-48-008	2,662	Permanent Acquisition
Arizona	210-47-003	1,136	TCE
Arizona	210-47-002C	415	TCE
Notes: TCE=temporary construction easement.			

1.3.4 Transportation System Management/Transportation Demand Management (TSM/TDM)

Transportation Systems Management (TSM) strategies aim to maximize efficiency of the 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 promotes automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Transportation Demand Management (TDM) focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler’s transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals.

The purpose of the project is to improve the integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permitted vehicle traffic. While I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 that encompasses the project limits. Widening the shoulder to standard

10 feet width will provide shoulder continuity that will allow for safer use by bicycle travelers compared with existing conditions.

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the build alternatives for this project: widening of inside and outside shoulders to standard width.

1.3.5 Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that Caltrans 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 because the project will not require substantial additional right-of-way, will not add additional lanes, and will not increase traffic capacity.

1.3.6 Access to Navigable Rivers

The California Streets and Highways Code Section 84.5 states that during the design hearing process relating to state highway projects that include the construction by Caltrans of a new bridge across a navigable river, there shall be included full consideration of and feasibility of providing a means of public access to the navigable river for public recreational purposes. With implementation of the build alternatives, the construction of a new bridge across the Colorado River will occur. The construction of the project will not prohibit public access to the Colorado River for public recreational purposes and all access currently available will remain available during construction of the project.

1.3.7 No-Build (No-Action) Alternative

The No-Build (No-Action) Alternative assumes that no improvements will be made to the Colorado Bridge. Without the planned improvements proposed as part of the project, the concrete deck of the Colorado Bridge will continue to deteriorate. The existing spalls and delaminations along the outside shoulders, and transverse cracks throughout the transverse top mat rebar will continue to worsen. The top mat transverse rebar will remain exposed with inadequate concrete cover. The deterioration and worsening of these conditions will ultimately compromise the integrity and safety of the bridge structure. In addition, under this alternative, the bridge will continue to accommodate four 12-foot lanes of traffic (two in each direction) separated by a median barrier and non-standard 2-foot inside shoulders and 4-foot outside shoulders with Type 2 bridge rails. As such, this alternative will not upgrade to standard lane and shoulder widths and will not upgrade the bridge rail system.

1.3.8 Comparison of Alternatives

The table below provides a comparison of the No-Build Alternative, and Build Alternatives 1, 2, and 3.

Table 1-7, Comparison of Alternatives

Features	Alternative 1	Alternative 2	Alternative 3	No-Build Alternative
Right of way	TCE: 6 parcels	TCE: 2 parcels, Permanent Partial Acquisition: 8 parcels	TCE: 3 parcels, Permanent Partial Acquisition: 5 parcels, Permanent Easement: 1 parcel	No acquisitions or displacements.
Design	<p>This alternative will consist of:</p> <ul style="list-style-type: none"> -Six-span CIP/PS box girder structure, 1,294-ft in length. -Pier foundations on large diameter CIDH piles. -The 84-ft wide deck will carry two 12-ft lanes, a 5-ft inside shoulder, and 10-ft outside shoulder in each direction. - Type 60M median and CAST-75 bridge rails. 	<p>This alternative would consist of:</p> <ul style="list-style-type: none"> - Seven-span CIP/PS box girder structure, 1,320-ft in length. -Pier foundations on large diameter CIDH piles. -The 84-ft wide deck would carry two 12-ft lanes, 5-ft inside shoulder, and 10-ft outside shoulder in each direction. -Type 60M median and CAST-75 bridge rails. -Bridge at National Trails Highway undercrossing would be replaced. -Minor realignment to Oatman Highway. 	<p>This alternative would consist of:</p> <ul style="list-style-type: none"> -Seven-span CIP/PS box girder structure, 1,329-ft in length. -Pier foundations on large diameter CIDH piles. -The 84-ft wide deck would carry two 12-ft lanes, 5-ft inside shoulder, and 10-ft outside shoulder in each direction. -Type 60M median and CAST-75 bridge rails. -Bridge at National Trails Highway undercrossing would be replaced. 	<p>Traffic operations will continue as they currently exist. The bridge currently accommodates four 12-foot lanes of traffic (two in each direction) separated by a median barrier. The existing bridge would continue to have non-standard 2-foot inside shoulders and 4-foot outside shoulders with bridge rails. Current load rating of the bridge will continue to not accommodate all permit vehicle traffic to move goods and people through the area.</p>
Construction Staging	Construction staging will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing	Existing bridge remains fully operational while new bridge is constructed to the north of the existing I-40 centerline. Staging for transitioning newly realigned bride to the	Existing bridge remains fully operational while new bridge is constructed to the south of the existing I-40 centerline. Staging for transitioning newly realigned bridge to the	No construction involved.

	bridge. Then shift traffic to the newly constructed portion of the deck and remove the rest of existing bridge and build the second half of new bridge. This traffic reduction will remain through the length of the construction zone.	existing I-40 centerline alignment on both ends of bridge.	existing I-40 centerline alignment on both ends of bridge.	
Parks and Recreation	Access to Havasu National Wildlife Refuge, Moabi Regional Park will remain open during construction.	Access to Havasu National Wildlife Refuge, Moabi Regional Park would remain open during construction.	Access to Havasu National Wildlife Refuge, Moabi Regional Park would remain open during construction.	Access to parks and recreational facilities in the area would remain as they currently exist.
Utilities	Coordination with Pacific Gas & Electric (PG&E) on CA side infrastructure	Coordination with PG&E on CA and AZ side for infrastructure	Coordination with PG&E on CA and AZ side for infrastructure.	N/A
Railroad	TCE required from BNSF Railroad	Encroaches onto BNSF Railroad property on AZ side. TCE and right-of-way acquisitions required.	TCE from BNSF Railroad property on the AZ side.	N/A
Estimated Cost	\$85 million	\$95-100 million	\$95-100 million	N/A
Construction Duration	600 working days	600 working days	600 working days	N/A
Source: Initial Site Assessment, Project Study Report. Note: TCE=Temporary Construction Easement.				

As shown in the table above, all three build alternatives would result in four 12-foot lanes of traffic (two in each direction) separated by a median barrier, 5-foot inside shoulder, and 10-foot outside shoulders. Build Alternative 1 will result in the lowest cost and Build Alternatives 2 and 3 would result in the same costs, but higher than Build Alternative 1. The total cost includes all construction and right-of-way costs associated with each alternative. Build Alternative 2 and 3 would also require the bridge at National Trails Highway undercrossing to be replaced. Build Alternative 2 would also require a minor realignment to Oatman Highway to accommodate the bridge alignment.

After the public circulation period, all comments were considered, and Caltrans and FHWA identified an alternative and made the final determination of the project's effect on the environment. Under the California Environmental Quality Act (CEQA), Caltrans has certified that the project complies with CEQA. Caltrans will file a Notice of Determination with the State Clearinghouse that mitigation measures were included as conditions of project approval and that findings were made. FHWA determined the National Environmental Policy Act (NEPA) action does not significantly impact the environment, and the FHWA has issued a Finding of No Significant Impact (FONSI).

1.3.9 Identification of A Preferred Alternative

Alternatives 1, 2, 3, and 4 were presented within the Draft EIR/EA circulated between June 14 and July 28, 2023, and then extended to August 11, 2023. Several comments were received during public circulation of the Draft EIR/EA. Of the comments received, three comments were related to alternative selection with two commenters expressing a preference for Alternative 1 and one commenter preferring either Alternative 2 or 3.

Alternative 1, the preferred alternative, has less impacts on wildlife and vegetation, Right of Way acquisitions and temporary construction easements, and has less impacts to existing infrastructure related to PG&E's Topock Compressor Station Groundwater Remediation Project. In addition, the estimated cost of Alternative 1 is less than both Alternative 2 and 3 (see Section 1.3.8 Table 1-7). Alternatives 2 and 3 have less impact on Traffic and Transportation, however a traffic management plan will be developed to address impacts to traffic, emergency vehicle access, and bicyclists during construction.

After comparing and weighing the benefits of the alternatives and considering potential impacts and comments received during the public review period for the Draft EIR/EA, Caltrans and FHWA, in coordination with the PDT, identified Build Alternative 1, replace on the same alignment as the current bridge, as the Preferred Alternative at a PDT meeting held on October 3, 2023.

1.3.10 Alternative Considered But Eliminated from Further Discussion Prior to Draft Environmental Impact Report/Environmental Assessment (EIR/EA)

The following discussion includes alternatives that were considered during the project development process but was eliminated before the draft environmental document was prepared.

Bridge Deck Replacement Alternative

This alternative would rehabilitate the bridge by deck replacement only and includes strengthening the bridge structure. This alternative proposes to replace the bridge deck, including bridge rails, and strengthen the bridge structure and foundation for permit vehicle traffic. The bridge deck would also be widened to accommodate current standards. This alternative was rejected by the Project Development Team (PDT) and Arizona DOT based on a reduced cost-benefit ratio, long term maintenance issues, and difficulties with emergency lane closures.

1.3.11 Permits and Approvals Needed

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

Table 1-8, Permits and/or Approvals Needed

Agency	PLAC	Status
US Army Corps of Engineers	Section 404 Nationwide Permit	Application to be submitted after environmental document approval.
Regional Water Quality Control Board	National Pollution Discharge Elimination System (NPDES) permit	Application to be submitted after environmental document approval.
	Section 401 Water Quality Certification	
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement Section 2081 Incidental Take Permit	Application to be submitted after environmental document approval.
Arizona Department of Environmental Quality	Clean Water Act, Section 401 Permit (Water Quality Certification)	Application to be submitted after environmental document approval.
Bureau of Land Management	Encroachment Permit	To be obtained prior to construction.
SB County Flood Control Department	Flood Control Channel Work Permit	To be obtained prior to construction.
U.S. Coast Guard	Project concurrence and Bridge Permit	To be obtained prior to construction.
California State Lands Commission	Bridge Lease	Application to be submitted after environmental document.

Figure 1.1, Regional Vicinity Map

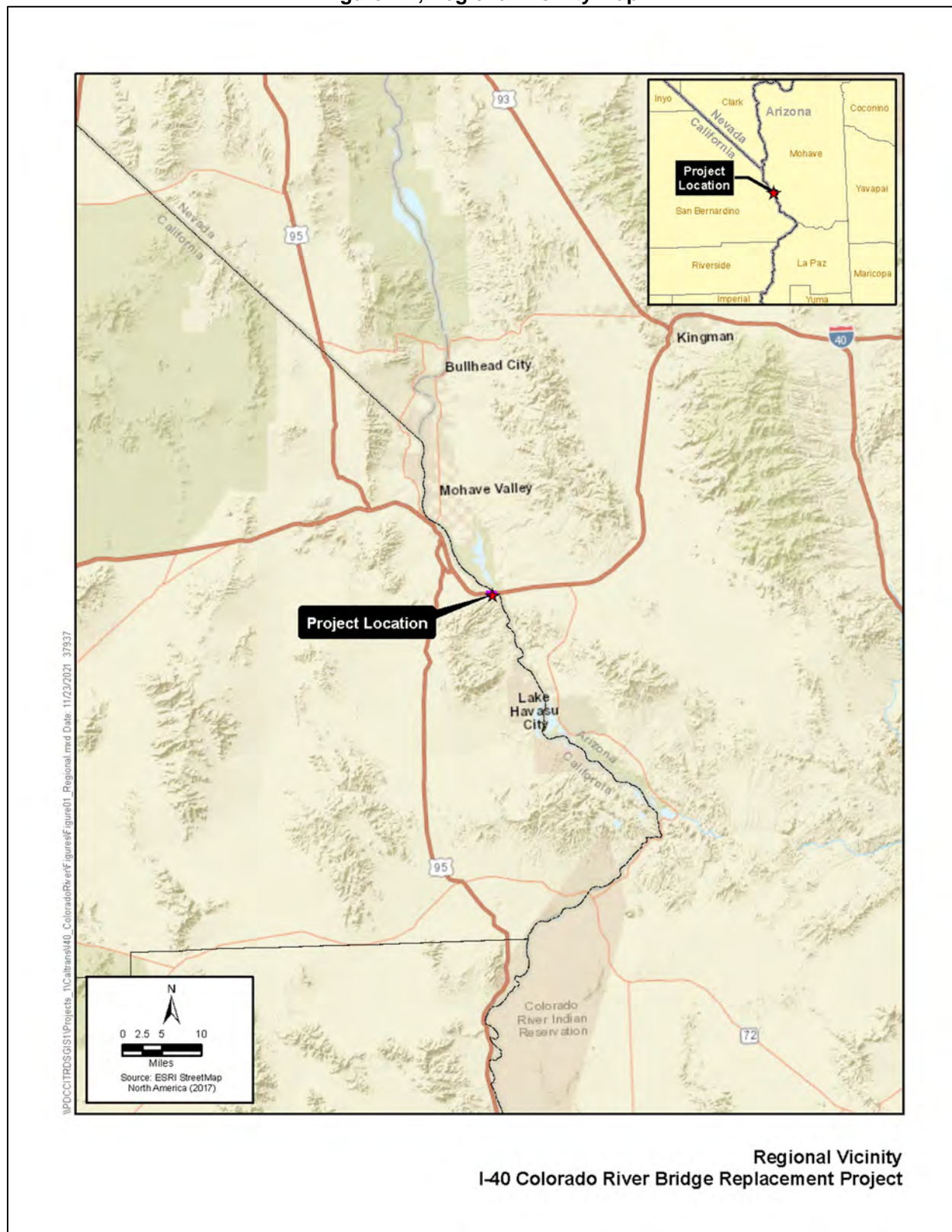
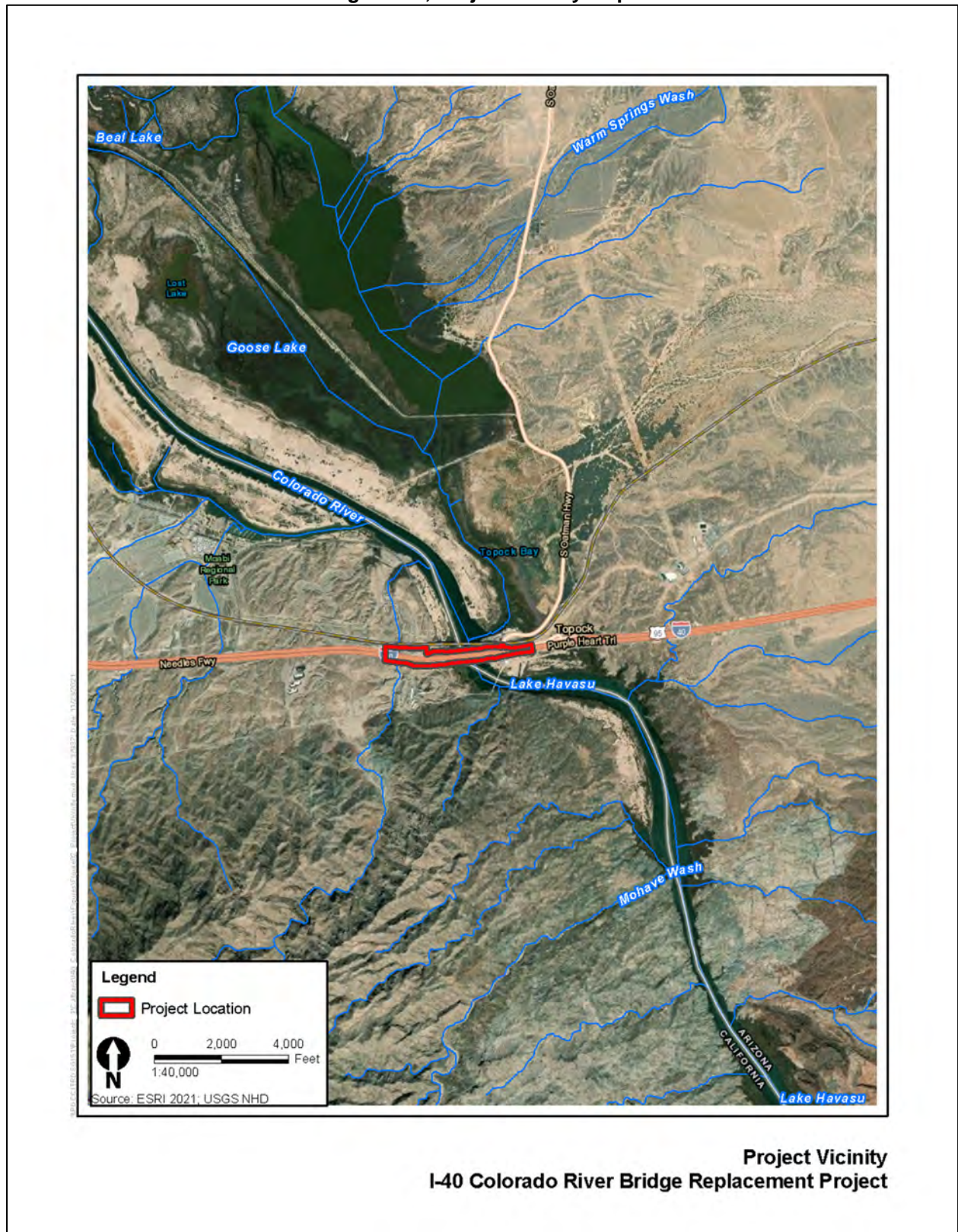


Figure 1.2, Project Vicinity Map



**Project Vicinity
I-40 Colorado River Bridge Replacement Project**

Figure 1.3 Geotechnical Bore Locations

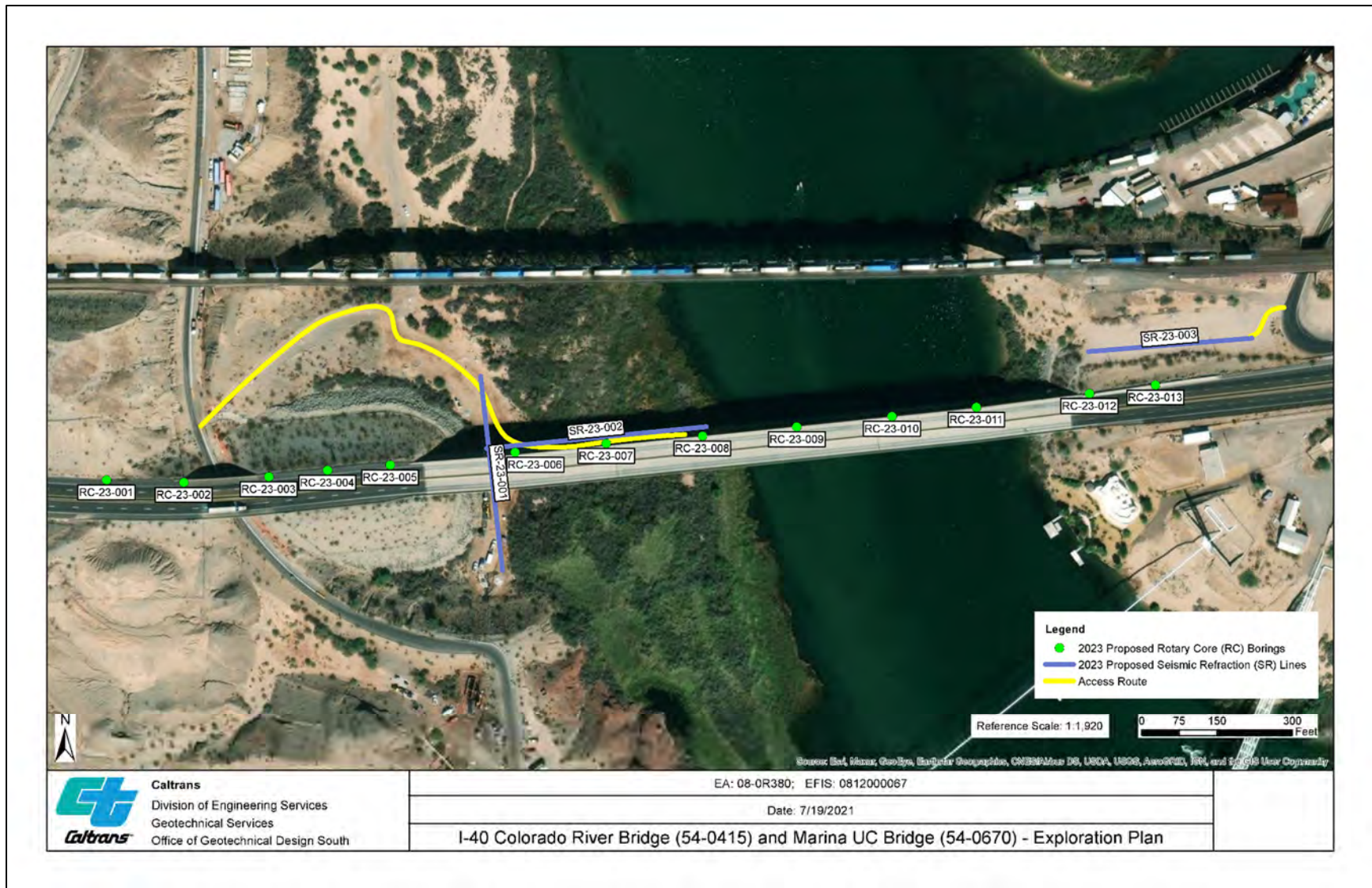


Figure 1.5, Proposed Layout Alternative 2

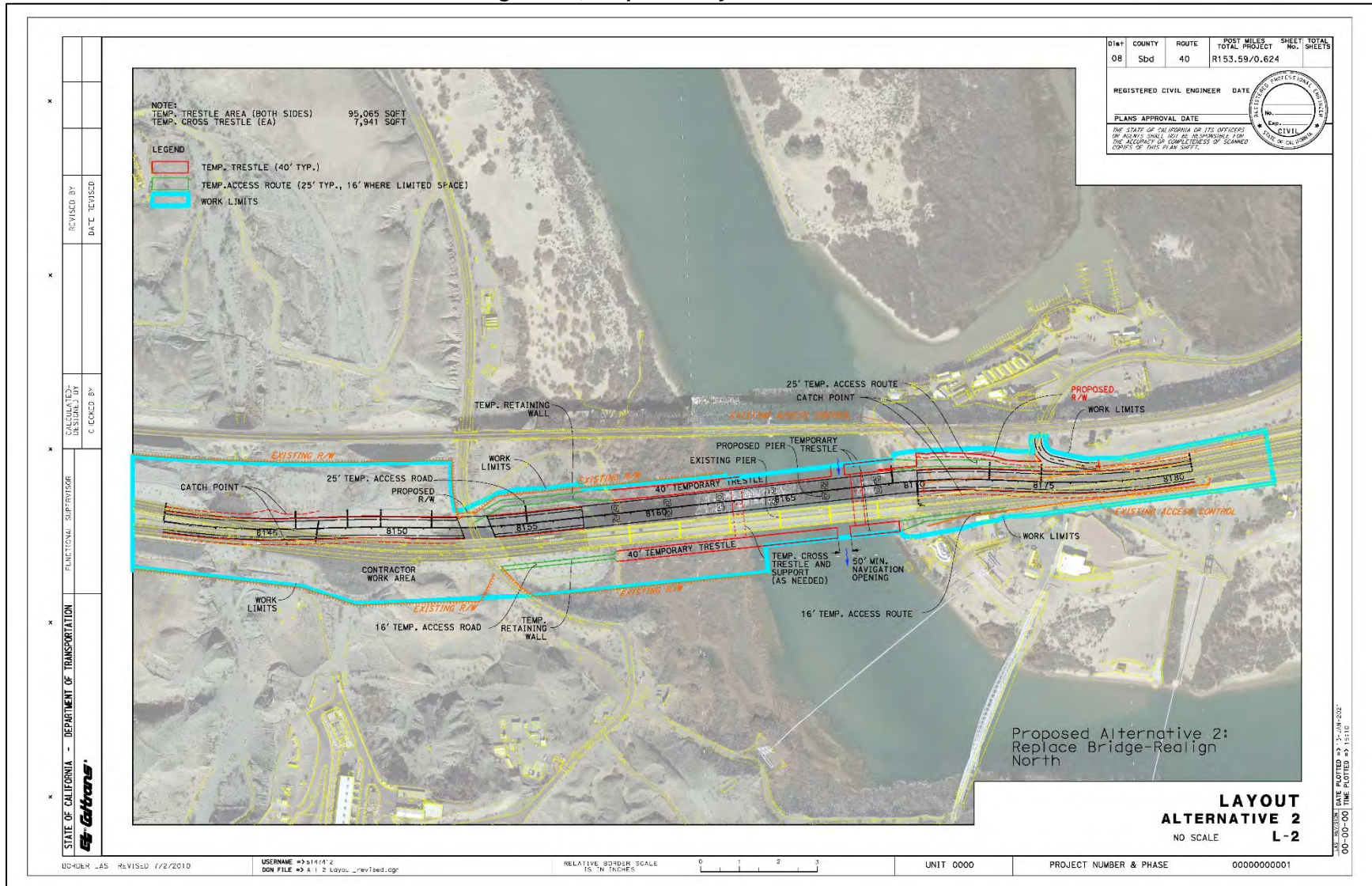
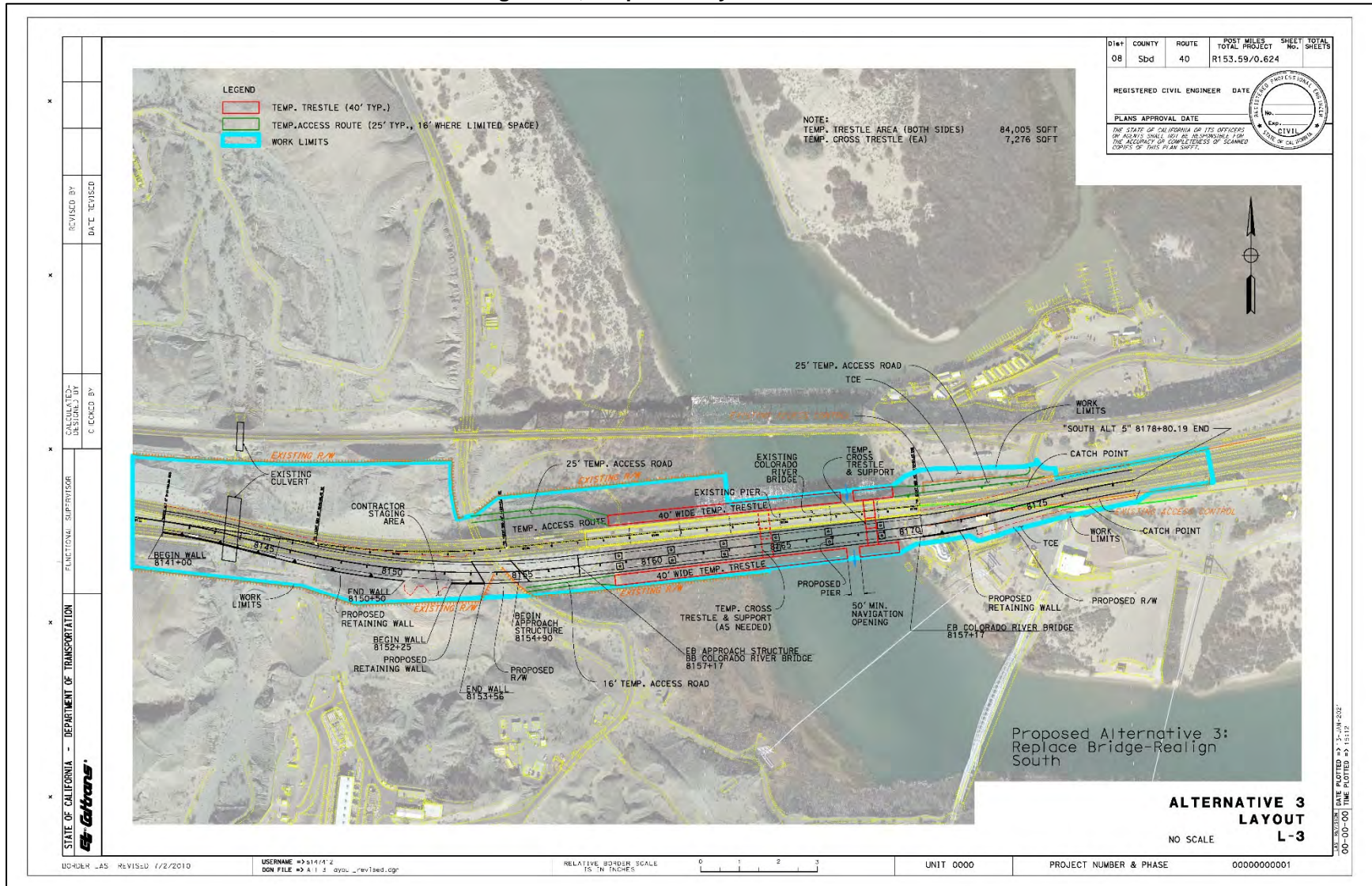


Figure 1.6, Proposed Layout Alternative 3



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

San Bernardino County is not within a Coastal Zone Boundary or Local Coastal Program Area based on the California Coastal Commission. As such there is no potential for adverse impacts to coastal zones.

Wild and Scenic River

The Colorado River was not listed as a Designated River (wild, scenic, or recreational) on the National Wild and Scenic River System in California or Arizona, nor is it designated as a Wild and Scenic River Under Study. Furthermore, the Colorado River is not a Designated River under the California Wild and Scenic Rivers System, nor is it designated a Special River by the California Wild and Scenic Rivers System.

Timberlands

There is no potential for adverse impacts to timberlands as there are no designated timberlands within the project site based on the San Bernardino County General Plan Land Use map and Mohave County General Plan Land Use map. Furthermore, there are no new or additional right-of-way required from a Timber Production Zone (TPZ) and no timberland conversions will be required for the project.

Paleontology

There is no potential for adverse impacts to paleontological impacts because underlying soils in the project area are Holocene alluvium and Anthropocene fill. Based on the San Bernardino County Policy Plan and Mohave County General Plan, the project site is not specifically identified as being within a paleontological resources area or an area having unique geological features.

2.1 Human Environment

2.1.1 Existing and Future Land Use

This section is based on information from the Draft Project Report (Caltrans, 2023a) and Natural Environment Study (NES) (Caltrans, 2023e) prepared for the project.

The project is located approximately 13.9 miles south of the City of Needles, California and 29.7 miles north of Lake Havasu City, Arizona. The project spans the California-Arizona state line at the Colorado River, east of Park Moabi Road and southwest of Mohave County Route 10/Arizona Route 95 and is located between post miles (PM) 153.9 and PM 154.7 in California and PM 0.0 and PM 0.6 in Arizona along I-40. Elevations in the project corridor range from approximately 480 feet above mean sea level (AMSL) at the eastern extent to approximately 565 feet AMSL at the western extent of the project corridor.

The existing land uses within the project corridor is primarily made up of the Havasu National Wildlife Refuge, both to the north and the south of the I-40 bridge. There are a few single-family residences along the shoreline both north and south of the I-40 bridge on the Arizona side. There is also a small commercial resort, Topock66 Resort and Spa, located to the northeast. A gas utility station, the PG&E Topock Compressor Station, is located to the south on the California side.

The San Bernardino County General Plan Land Use Element and the Mohave County General Plan Land Use Element contain land use designations intended to guide future development in the county of San Bernardino and Mohave counties, respectively. The Mojave County Land Use Element establishes a planned pattern for development for the next twenty years, and beyond. It reflects the Mohave County's historical development patterns as well as new development occurring currently. Based on the San Bernardino County Land Use map, land use designations adjacent to I-40 along the project corridor consists of Open Space, Resource Conservation, and Institutional. The Mohave County Land Use map designates land uses adjacent to I-40 along the project as Ag/Vacant Land Non-Profit, Commercial/Real and Improvement, Non-Primary Residence, and Rental Residential (refer to Figure 2.1, 2.2, and 2.3, Land Use maps for each build alternative). Land uses with urban development designations including Institutional, Commercial/Real and Improvement, and Rental Residential are shown in Figure 2.4.

Furthermore, Figure 2.4 also shows there are no farmlands designations within the 0.5-mile project area. The planned land uses for most areas of Mohave County are illustrated in the Land Use Diagrams included in the Mohave General Plan Land Use Element. The project is located within the Countywide Land Use Diagram-Sub Area 7 and designated as Rural Development Area (RDA). This is an area of rural lifestyles, wide open spaces, and few neighbors. Most of the land in Mohave County is included in this area type. Much of the area within this area type is owned by the Federal or State governments.

The projects that are planned, approved, or under construction in the vicinity of the project were identified and listed in the following table.

Table 2-1, Planned Projects in the Project Area

Name	Location	Description	Status
I-40 Regrade Existing Median Project (EA 08-0R142)	16-miles west of City of Needles to California/Arizona state line, in unincorporated San Bernardino County.	Re-grading existing nonstandard I-40 median cross slopes.	Final environmental document completed.
I-40 Median Regrade Project (EA 08-0R141)	Along I-40 from Essex Road Overcrossing to east of Homer Wash Bridge in San Bernardino County.	Regrading the median cross slopes from Post Mile (PM) R100.0 to PM R125.0.	Final environmental document completed.
I-40 Bridge Scour Mitigation Project (EA 08-1G830)	Along I-40 at PM R100.8/R101.8 near Essex in San Bernardino County.	Retrofitting north and south bridges with outrigger bents or replacement of bridges to mitigate scour at Halfway Hills Wash Bridge on I-40.	Final environmental document completed.
Source: Caltrans District 8 website, Current Projects Listings: https://dot.ca.gov/caltrans-near-me/district-8/district-8-current-projects State of California, Governor's Office of Planning and Research, State Clearinghouse CEQAnet Database website: https://ceqanet.opr.ca.gov/			

2.1.1.1 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternative 1

This alternative will replace the existing bridge and construct a new bridge along the existing alignment. This alternative will not require permanent right-of-way but will require the following temporary construction easements (TCEs) in California and Arizona:

Temporary Construction Easements:

- In California: APN 650-16-109;
- In Arizona: APN 210-48-010, 210-48-005C, 210-48-001, 210-48-005B, and 210-48-008.

Land uses adjacent to this alternative will not be affected and will only experience construction traffic during the construction period. The bridge at National Trails Highway undercrossing (Bridge No. 54-0670) will also not need replacing, and no changes in land uses will result with the implementation of this alternative. The TCEs will occur primarily at the edges of the parcels. All land temporarily utilized for construction will be returned to their existing pre-construction condition. As such, no land use conflicts will occur from construction of this build alternative.

Build Alternative 2

This alternative proposes realignment of the bridge to the north of the existing I-40 centerline. This alternative would require TCEs on both the California and Arizona sides as follows:

Temporary Construction Easements:

- In California: APN 650-16-109;
- In Arizona: APN 210-48-009, 210-48-005C, 210-48-001, 210-47-003, 210-48-005B, 210-48-008.

Land uses adjacent to this alternative would not be affected and would only experience construction traffic during the construction period. The bridge at National Trails Highway undercrossing (Bridge No. 54-0670) would be replaced. Additionally, a minor realignment is proposed to Oatman Highway to accommodate the bridge realignment. However, no changes in land uses would result with the implementation of this alternative. The TCEs would occur primarily at the edges of the parcels. All land temporarily utilized for construction would be returned to their existing pre-construction condition (**LU-1**). As such, no land use conflicts would occur from construction of this build alternative.

Build Alternative 3

This alternative proposes realignment of the bridge to the south of the existing I-40 centerline. This alternative would require TCEs on both the California and Arizona sides as follows:

Temporary Construction Easements:

- In California: APN 650-16-109;
- In Arizona: APN 210-48-009, 210-48-005C, 210-48-005B, 210-48-008.

Land uses adjacent to this alternative would not be affected and would only experience construction traffic during the construction period. The bridge at National Trails Highway undercrossing (Bridge No. 54-0670) would be replaced. However, no changes in land uses would result with the implementation of this alternative. The TCEs would occur primarily at the edges of the parcels. All land temporarily utilized for construction would be returned to their existing pre-construction condition. As such, no land use conflicts would occur from construction of this build alternative.

No-Build Alternative

The No-Build Alternative does not include construction associated with bridge replacement. Therefore, the No-Build Alternative would not result in temporary impacts to existing and planned land uses.

Permanent Impacts

Build Alternative 1

The build alternatives will not result in any land use designation changes and will generally be consistent with the San Bernardino County General Plan Land Use Element and the Mohave County General Plan Land Use Element. No right-of-way is required for this build alternative.

Build Alternative 2

This build alternative would require the following right-of-way.

Right of Way Required:

- In California: APN 650-16-109;
- In Arizona: APN 210-48-009, 210-48-010.

The right-of-way required for this alternative is vacant land from parcels owned by the Bureau of Land Management (BLM), Burlington Northern Santa Fe (BNSF) railroad, and Southwest Water Incorporated. No structures or facilities are located on the parcels of the right-of-way required. No changes to land use designations would occur as a result of the right-of-way acquisitions.

Build Alternative 3

This build alternative would require the following right-of-way.

Right of Way Required:

- In California: APN 650-16-109.

The right-of-way required for this alternative is vacant land from parcels owned by BLM. No structures or facilities are located on the parcel of the right-of-way required. No changes to land use designations would occur as a result of the right-of-way acquisition.

2.1.1.2 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Potential temporary adverse impacts to existing land use will be addressed with implementation of standard design feature LU-1, and permanent adverse impact to land use are not anticipated. No avoidance, minimization, and/or mitigation measures are required.

LU-1 Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.

2.1.2 Consistency with State, Regional, and Local Plans and Programs

Regional Transportation Plan/Sustainable Communities Strategy

The project is included for programming in the 2016 State Highway Operation and Protection Program (SHOPP) as a long lead project funded from the Bridge Rehabilitation/Replacement Program. It has also been determined that this project is eligible for Federal-aid funding. The project is also listed in the 2020 financially constrained Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was found to conform by the Federal Highway Administration and Federal Transit Administration. The Southern California Association of Governments (SCAG) 2020 RTP/SCS establishes a transportation vision for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties. The plan expands land use and transportation strategies to increase mobility options to achieve a more sustainable growth pattern. It also charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies and people, to improve the quality of life for the region. SCAG updates the RTP every four years. The design

concept and scope of the project are consistent with the 2020 RTP/SCS and are intended to meet the traffic needs in the area based on local land use plans.

Federal Transportation Improvement Program

The project is programmed in the 2021 Federal Transportation Improvement Program (FTIP). The SCAG 2021 FTIP was prepared to implement projects and programs listed in the RTP. The FTIP provides a listing of all capital transportation projects proposed over a 6-year period for the SCAG region. These funded projects consist of highway improvements, transit, rail, bus facilities, carpool lanes, signal synchronization, intersection improvements, freeway ramps and other transportation improvements.

San Bernardino County, Countywide Plan, Land Use Element

The Land Use Element indicates the best ways to serve the communities, businesses, institutions, and visitors is by focusing new development in and around cities, towns, and communities with access to infrastructure and services, while preserving natural open spaces that defines San Bernardino County. The goals and policies relevant to the project are listed below.

- *Policy LU-2.1: Compatibility with existing uses.* San Bernardino County requires that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods.
- *Policy LU-2.3: Compatibility with natural environment.* San Bernardino County requires that new development is located, scaled, buffered, and designed for compatibility with the surrounding natural environment and biodiversity.

San Bernardino County, Countywide Plan, Transportation and Mobility Element

The San Bernardino County Transportation and Mobility Element provides guidance for the County's responsibility to satisfy the local and subregional mobility needs of residents, visitors, and businesses and addresses access and connectivity among the various communities, cities, towns, and regions, as well as the range and suitability of mobility options including vehicular, trucking, freight, passenger rail, air, pedestrian, bicycle, and transit. Local roadways should be designed to serve projected travel demands and reflect the surrounding environmental and community context. It also recognizes road, freight, and airport design and maintenance are essential for efficient movement of goods and people. The circulation and transportation related goals and policies that are relevant to the build alternatives are described below.

- *Policy TM-1.3: Freeways and highways.* San Bernardino County will coordinate with Caltrans and regional transportation agencies and support the use of state, federal, and other agency funds to improve freeways and highways.
- *Policy TM-4.8: Local bicycle and pedestrian networks.* San Bernardino County supports local bike and pedestrian facilities that serve unincorporated areas, connect to facilities in adjacent incorporated areas, and connect to regional trails. The county prioritizes bicycle and pedestrian network improvements that provide safe and continuous pedestrians and bicyclist access to mobility focus areas, schools, parks, and major transit stops.

- *Policy TM-5.1:* Efficient and sustainable goods movement network. San Bernardino County advocates for the maintenance of a goods movement system in southern California that is efficient and sustainable and that prioritizes public health through the use of zero-emission equipment and infrastructure.

Mohave County 2015 General Plan Land Use Element

The pattern of land uses, including such things as location, mix and density, is a critical component of a community's character. Land use plans for a community have important implications for the quality and cost of public services available to its residents. The Mohave County General Plan establishes a consistent basis for review and action and provides a clear understanding of its development patterns within the Mohave County. The relevant goals and policies are listed below.

- *Goal 25:* To provide for organized planning for coordinating funding, construction, and maintenance for urban infrastructure at locations consistent with planned land uses and with capacities that are adequate to meet the needs of these planned land uses.

Mohave County 2015 General Plan, Transportation Element

The Mohave County 2015 General Plan Transportation Element actively seeks to improve and maintain satisfactory road surface conditions and traffic operations on roads throughout the county. These efforts include seeking a sustainable revenue collection system for transportation funding, establishing a continuous thoroughfare network, and protecting existing and future major roadways from development causing undue safety and operational impacts without consideration for functional access and improvements. The transportation goals and policies that are relevant to the project are listed below.

- *Goal 52:* To plan, construct, and maintain an efficient transportation system that is adequate to meet the mobility needs of County residents and businesses.

2.1.2.1 ENVIRONMENTAL CONSEQUENCES

Build Alternative 1

Implementation of the build alternative will be designed to be consistent with the goals and policies of the San Bernardino County, Countywide Plan and the Mohave County General Plan. The table below summarizes the consistency of the project with state, regional, and local plans and programs.

Build Alternatives 2 and 3

Implementation of Build Alternatives 2 and 3 would not be consistent with the San Bernardino County, Countywide Plan, Land Use Element policy on minimizing negative impacts on existing conforming uses and adjacent neighborhoods, or the Mohave County General Plan, Land Use Element goal for providing construction and maintenance for urban infrastructure, at locations consistent with planned land uses, as these two alternatives would require additional right-of-way from adjacent existing properties.

No-Build Alternative

The existing bridge structure is not consistent with the goals and policies of the San Bernardino County, Countywide Plan or the Mohave County General Plan. The bridge currently accommodates four 12-foot lanes of traffic in each direction separated by a median barrier. The existing bridge currently has non-standard 2-foot inside shoulders and 4-foot outside shoulders. As such, the No-Build Alternative would not meet the objectives of the San Bernardino County, Countywide Plan, Transportation and Mobility Element to improve freeways and highways, and the San Bernardino County’s efforts to prioritize bicycle and pedestrian network improvements that provide safe and continuous pedestrians and bicyclist access to mobility focus areas, such as parks. Furthermore, this alternative would not be consistent with the Mohave County General Plan Land Use Element goals of maintaining urban infrastructure and maintaining an efficient transportation system that is adequate to meet the mobility needs of Mohave County residents and businesses.

Table 2-2, Consistency with State, Regional, and Local Plans and Programs

Policy	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
San Bernardino County, Countywide Plan, Land Use Element				
LU-2.1 Compatibility with existing uses. San Bernardino County requires that new development is located, scaled, buffered, and designed to minimize negative impacts on existing conforming uses and adjacent neighborhoods.	Consistent , this alternative will be within the existing alignment of the existing bridge and compatible with existing and adjacent uses. Only TCE's are proposed with this alternative.	Not Consistent , this alternative proposes realignment of the bridge to the north of the existing I-40 centerline and would require additional right-of-way from adjacent properties, as well as TCEs.	Not Consistent , this alternative proposes realignment of the bridge to the south of the existing I-40 centerline and would require additional right-of-way from an adjacent property, as well as TCEs.	Not applicable, as no construction is proposed.
LU-2.3 Compatibility with natural environment. San Bernardino County requires that new development is located, scaled, buffered, and designed for compatibility with the surrounding natural environment and biodiversity.	Consistent , this alternative will replace an existing bridge located along the same alignment and will be compatible with the surrounding environment.	Consistent , this alternative would replace an existing bridge with a new bridge on a northern alignment and would be compatible with the surrounding environment.	Consistent , this alternative would replace an existing bridge with a new bridge on a southern alignment and would be compatible with the surrounding environment.	Not applicable as no construction is proposed.
San Bernardino County, Countywide Plan, Transportation and Mobility Element				
TM-1.3: Freeways and highways. San Bernardino County will coordinate with Caltrans and regional	Consistent . Federal and state funding is anticipated to be utilized for this alternative.	Consistent . Federal and state funding is anticipated to be utilized for this alternative.	Consistent . Federal and state funding is anticipated to be utilized for this alternative.	Not Consistent . No improvements to I-40 would be made with this alternative.

transportation agencies and support the use of state, federal, and other agency funds to improve freeways and highways.				
TM-4.8: Local bicycle and pedestrian networks. San Bernardino County supports local bike and pedestrian facilities that serve unincorporated areas, connect to facilities in adjacent incorporated areas, and connect to regional trails. The county prioritizes bicycle and pedestrian network improvements that provide safe and continuous pedestrians and bicyclist access to mobility focus areas, schools, parks, and major transit stops.	Consistent. Although I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 within the project limits because there are no parallel alternative routes for bicyclists. Widening the shoulders to standard width will provide shoulder continuity that will allow for safer use by bicyclists.	Consistent. Although I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 within the project limits because there are no parallel alternative routes for bicyclists. Widening the shoulders to standard width would provide shoulder continuity that will allow for safer use by bicyclists.	Consistent. Although I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 within the project limits because there are no parallel alternative routes for bicyclists. Widening the shoulders to standard width would provide shoulder continuity that will allow for safer use by bicyclists.	Not Consistent. The existing inside and outside shoulder widths do not meet current standards.
TM-5.1: Efficient and sustainable goods movement network. San Bernardino County advocates for the maintenance of a goods movement system in southern California that is efficient and sustainable and that prioritizes public health through the use of zero-emission equipment and infrastructure.	Consistent. The permit vehicle load rating will be increased, and standard lane and shoulder widths are proposed.	Consistent. The permit vehicle load rating would be increased, and standard lane and shoulder widths are proposed.	Consistent. The permit vehicle load rating would be increased, and standard lane and shoulder widths are proposed.	Not Consistent. Currently, the inside and outside shoulders do not meet current standards. The current bridge load rating for permit vehicles is PPPGO rated with no Asphalt Concrete on the deck. To maintain the existing deck would require adding a polyester concrete overlay to the deck. This overlay may degrade the load rating for permit vehicles further to an unacceptable level.
Mohave County 2015 General Plan Land Use Element				
Goal 25: To provide for organized planning for	Consistent. This alternative will replace the existing	Not Consistent, this alternative proposes realignment of the	Not Consistent, this alternative proposes realignment of the	Not Consistent. This alternative would result in no

coordinating funding, construction and maintenance for urban infrastructure, at locations consistent with planned land uses and with capacities that are adequate to meet the needs of these planned land uses.	bridge on the same alignment and only TCE's are required.	bridge to the north of the existing I-40 centerline and would require additional right-of-way from adjacent properties, as well as TCEs.	bridge to the south of the existing I-40 centerline and would require additional right-of-way from an adjacent property, as well as TCEs.	bridge replacement and would not result in organized planning or funding of an urban infrastructure.
Mohave County General Plan, Transportation Element				
Goal 52: To plan, construct and maintain an efficient transportation system that is adequate to meet the mobility needs of County residents and businesses.	Consistent. This alternative will improve the safety and integrity of the bridge structure and increase the load rating. Standard shoulder widths are also proposed.	Consistent. This alternative would improve the safety and integrity of the bridge structure and increase the load rating. Standard shoulder widths are also proposed.	Consistent. This alternative would improve the safety and integrity of the bridge structure and increase the load rating. Standard shoulder widths are also proposed.	Not Consistent. The bridge structure would continue to deteriorate and compromise the integrity and safety of the structure.

2.1.2.2 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Build Alternatives 2 and 3 would conflict with 2 goals or policies of relevant regional plans for San Bernardino County and Mohave County. Ongoing coordination would continue to occur with adjacent property owners (BLM, BNSF, and Southwest Water Inc.) regarding right-of-way required for Build Alternatives 2 and 3. No additional avoidance, minimization, or mitigation measures are proposed.

Figure 2.1, Build Alternative 1 Land Use Designation

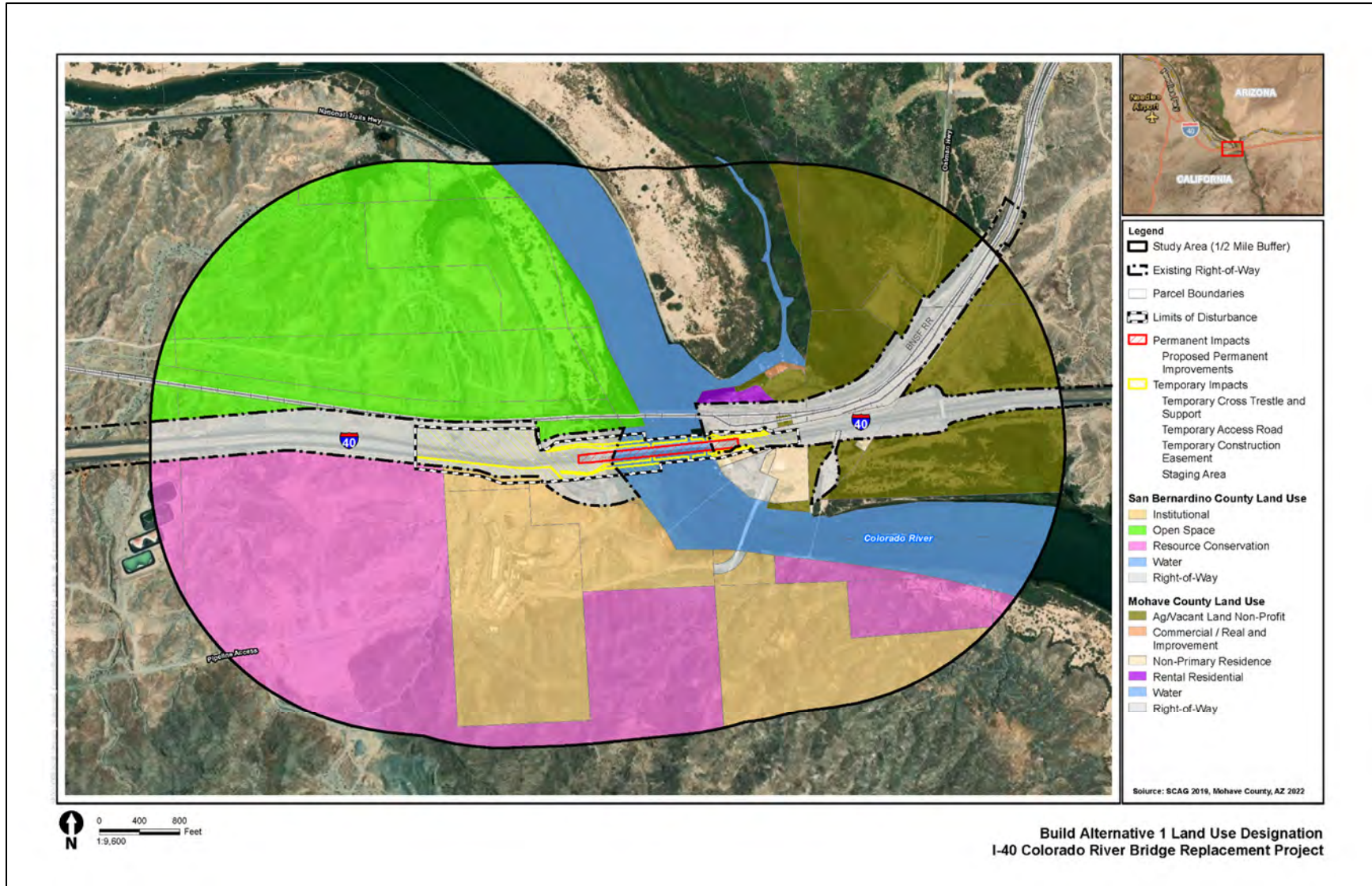


Figure 2.2, Build Alternative 2 Land Use

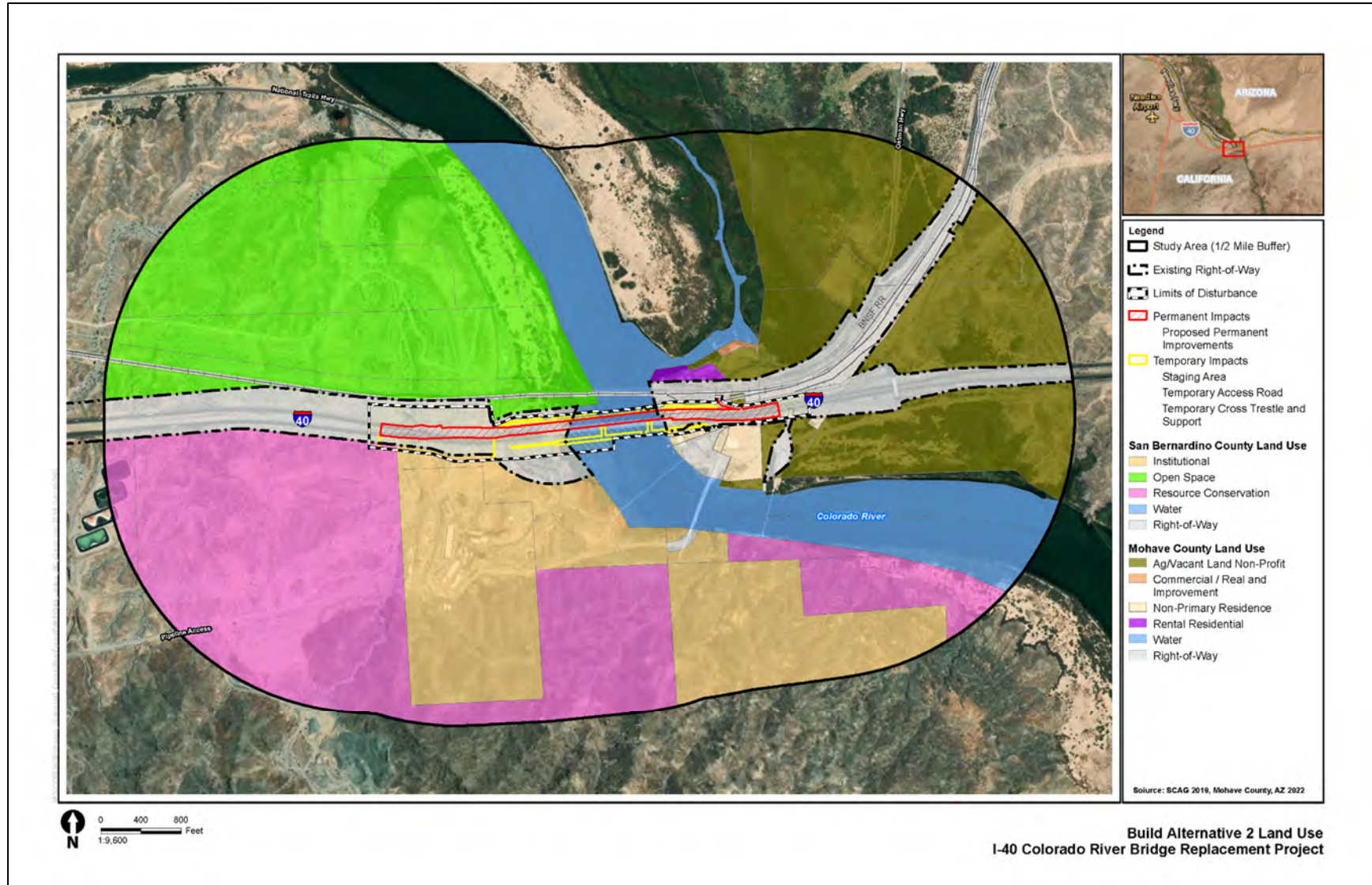


Figure 2.3, Build Alternative 3 Land Use

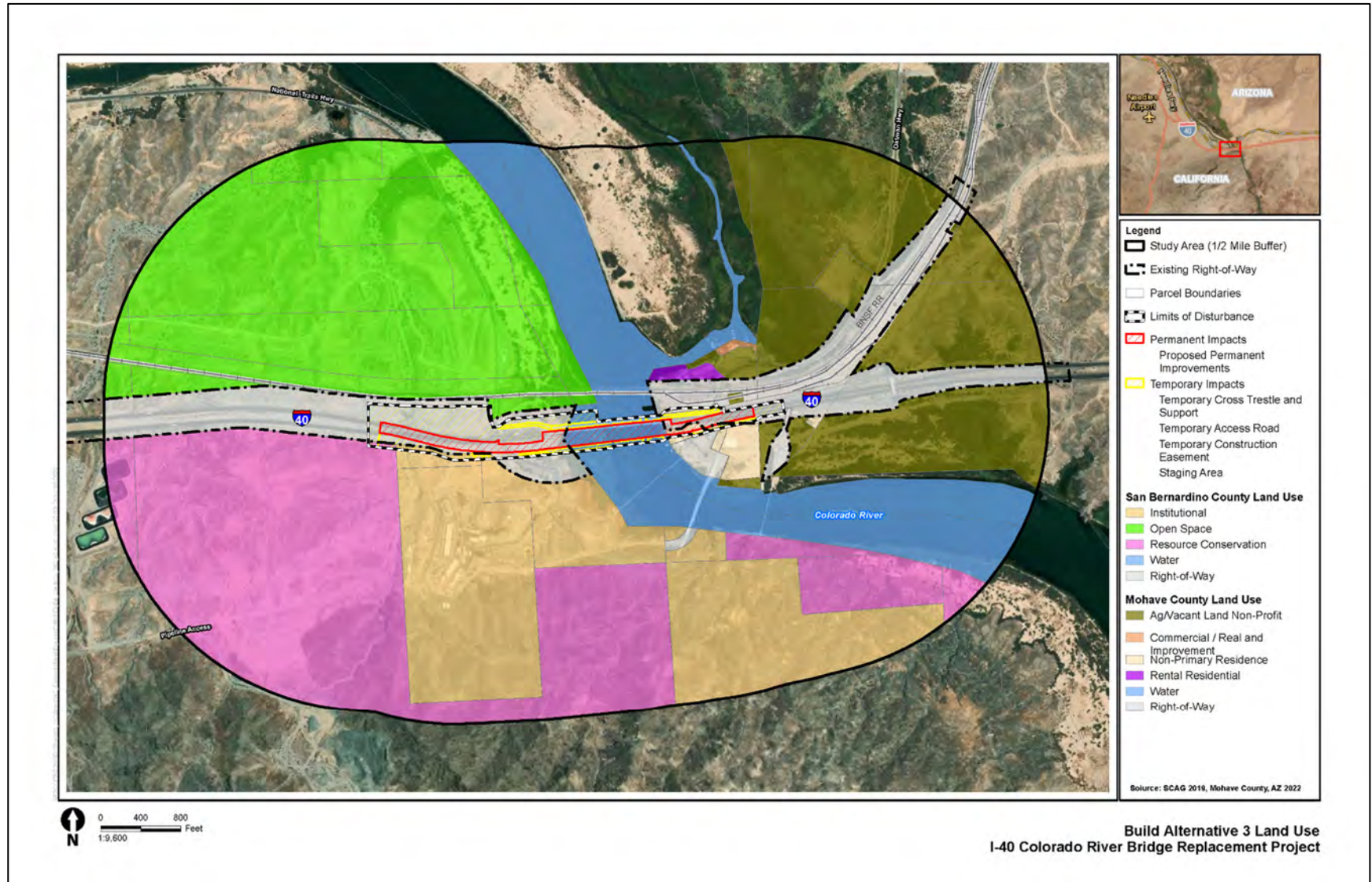
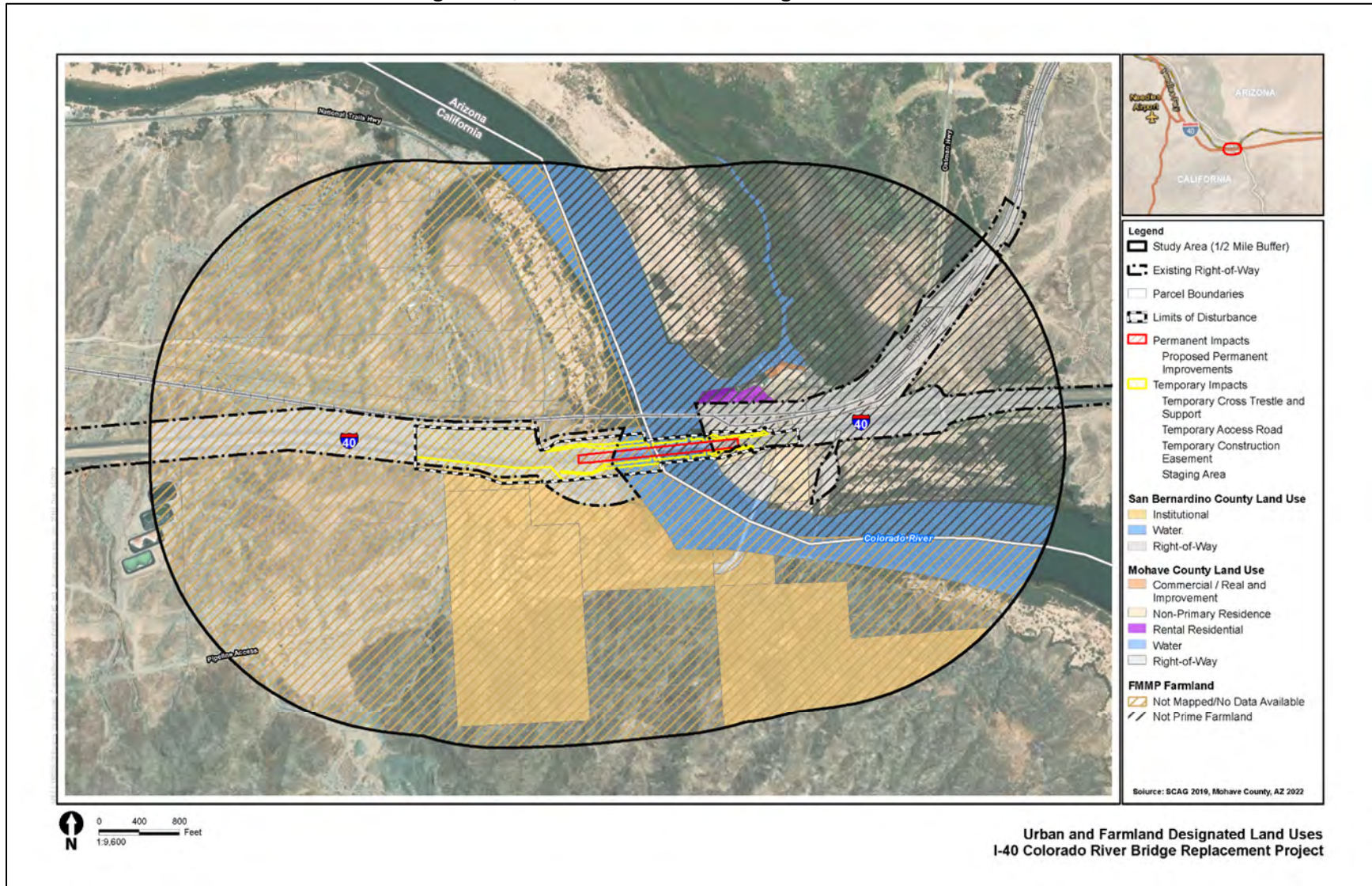


Figure 2.4, Urban and Farmland Designated Land Uses



2.1.3 Parks and Recreational Facilities

2.1.3.1 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.

2.1.3.2 AFFECTED ENVIRONMENT

The following parks and recreational facilities are located within or near the project limits (refer to Figure 2.5):

- **Colorado River:** Approximately 1,450 miles long, the Colorado River is the sixth longest in the United States and passes through seven states and two nations. It supplies water for agriculture, industry, and municipalities as well as providing recreational uses including fishing, whitewater rafting, boating, backpacking, and wildlife viewing.
- **Havasu National Wildlife Refuge and Havasu Wilderness:** The Havasu Wilderness area lies within the Havasu National Wildlife Refuge which is located along the Colorado River for 30 miles between Needles, California and Lake Havasu City, Arizona to the north and south of I-40. The United States Congress designated the Havasu Wilderness in 1990 and has a total of 17,801 acres, with Arizona containing approximately 14,606 acres and California containing 3,195 acres. Approximately one-third of the Havasu National Wildlife Refuge consists of the Havasu Wilderness. The Havasu National Wildlife Refuge shares its western border with the Chemehuevi Mountains Wilderness area. Recreational uses include hiking, fishing, canoeing, kayaking, wildlife observation, and hunting is allowed in designated areas. The Havasu National Wildlife Refuge and Havasu Wilderness are managed by the U.S. Fish and Wildlife Service.
- **Chemehuevi Mountains Wilderness:** The Chemehuevi Mountains Wilderness area encompasses the Chemehuevi Mountains and includes low rolling hills and granite peaks. The United States Congress designated the Chemehuevi Mountains Wilderness area in 1994 and consists of a total of 85,864 acres managed by the U.S. Bureau of Land Management. The Chemehuevi Mountains Wilderness offers recreational activities including hiking, horseback riding, hunting, camping, and backpacking. The Chemehuevi Mountains Wilderness area lies 10 miles southeast of Needles, California along US Highway 95, and south of I-40, in San Bernardino County.
- **Moabi Regional Park:** Located along the banks of the Colorado River, north of I-40, near the California and Arizona state lines, Moabi Regional Park offers recreational opportunities including a campground, fishing, swimming, hiking, picnic areas, boating, and off-road driving. The Moabi Regional Park is part of the San Bernardino County Regional Parks with the Pirate Cove Resort and Marina as the concessionaire.

The Moabi Regional Park, Havasu National Wildlife Refuge, and the Chemehuevi Mountains Wilderness are protected by the Park Preservation Act, as they are all public parks owned and operated by a public agency.

Furthermore, although I-40 is not designated as a bicycle facility, and no marked bicycle lanes are currently located along I-40 within the project limits, bicycles are allowed on the segment of I-40 that encompasses the project limits because there is not a parallel alternative route for bicyclists to travel through the area. According to the input received from the community during the public scoping meeting and in response to the Notice of Preparation for the EIR, bicyclists that use the roadway currently use roadway shoulders where available.

2.1.3.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1, 2, and 3

All build alternatives would result in temporary construction easements (TCEs) from the Bureau of Land Management on assessor parcel number (APN) 650-16-109. The Moabi Regional Park, Havasu National Wildlife Refuge, Chemehuevi Mountains Wilderness area, and the Colorado River are located adjacent to or within 2 miles from the project limits. Although the project will require the use of construction equipment that would generate temporary increases in noise and dust, the noise and dust will not prevent the regular use or enjoyment of Moabi Regional Park, Havasu National Wildlife Refuge, the Chemehuevi Mountains Wilderness area, or the Colorado River because the construction activities will be intermittent and temporary. No adverse noise impacts from construction is anticipated because construction will be conducted in accordance with Caltrans Standard Specifications, Section 14.8-02.

Construction will also result in intermittent traffic delays with implementation of all build alternatives until the project is completed. However, the delays will be temporary and are not anticipated to affect access to the parks and recreational facilities and activities of Moabi Regional Park, Havasu National Wildlife Refuge, Chemehuevi Mountains Wilderness area, and the Colorado River. Furthermore, access to and within Moabi Regional Park, Havasu National Wildlife Refuge, the Chemehuevi Mountains Wilderness area, and Colorado River will remain for the public as currently experienced. As the Colorado River is a navigable waterway that is within the limits of this project, there will be coordination with the United State Coast Guard. Public access and ability to navigate on the Colorado River will not be limited during construction. More information regarding Section 4(f) resources and impacts are included in Appendix A, Section 4(f) Evaluation.

Permanent Impacts

Build Alternative 1

Build Alternative 1 will not require permanent right-of-way of Moabi Regional Park, Havasu National Wildlife Refuge, or Chemehuevi Mountains Wilderness area. This alternative will not result in a substantial change in traffic or traffic patterns that would affect the primary roadways used to access the parks and recreational uses in the area. Furthermore, a notable difference in noise levels will also not be anticipated to occur as the project will not result in additional travel lanes. Although bike paths are not proposed as part of the project, bicyclist safety may improve with the increase in shoulder width to standard conditions.

Build Alternatives 2 and 3

Build Alternatives 2 and 3 would realign the bridge to the north and south of the existing I-40 centerline. These alternatives would result in permanent right-of-way. Build Alternative 2 would require land from BLM (APN 650-16-109), BNSF (APN 210-48-009), and Southwest Water Incorporated (APN 210-48-010). Build Alternative 3 would require land from BLM (APN 650-16-109). In the project vicinity, there are existing roadways that currently travel adjacent to or through Moabi Regional Park, Havasu National Wildlife Refuge, and Chemehuevi Mountains Wilderness area that result in traffic noise. The build alternatives would not result in additional lanes or increase the capacity of I-40 through the project corridor. Noise from traffic would unlikely affect how users interact with and utilize the park, refuge, and wilderness area, because the traffic noise as a result of the project would not be substantially perceptible by people. Similar to Build Alternative 1, although bike paths are not proposed as part of the project, bicyclist safety may improve with the increase in shoulder width to standard conditions as a result of Build Alternatives 2 and 3. Please refer to Appendix A, Section 4(f) Evaluation for additional details.

No-Build Alternative

The No-Build Alternative would not result in impacts on parks and recreational facilities because construction activities would not occur. As such, the No-Build Alternative would continue to have non-standard 2-foot inside shoulder and 4-foot outside shoulder widths. While I-40 is not designated as a bicycle facility, bicyclists currently utilize this segment because no parallel alternative route exists through this area. Bicyclists would continue to navigate the non-standard 4-foot outside shoulder widths, alongside motorists, while traveling through this area with this alternative.

There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966 This project will result in a “use” of one facility as defined by Section 4(f). Please see Appendix A, Section 4(f) for details.

2.1.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Temporary impact areas will be addressed through the implementation of standard design feature **LU-1** for restoration of land used temporarily during construction and preparation of a TMP (**TR-1**) as part of a standard project measure, and compliance with noise-reducing measures (see standard project measure **NOI-1**).

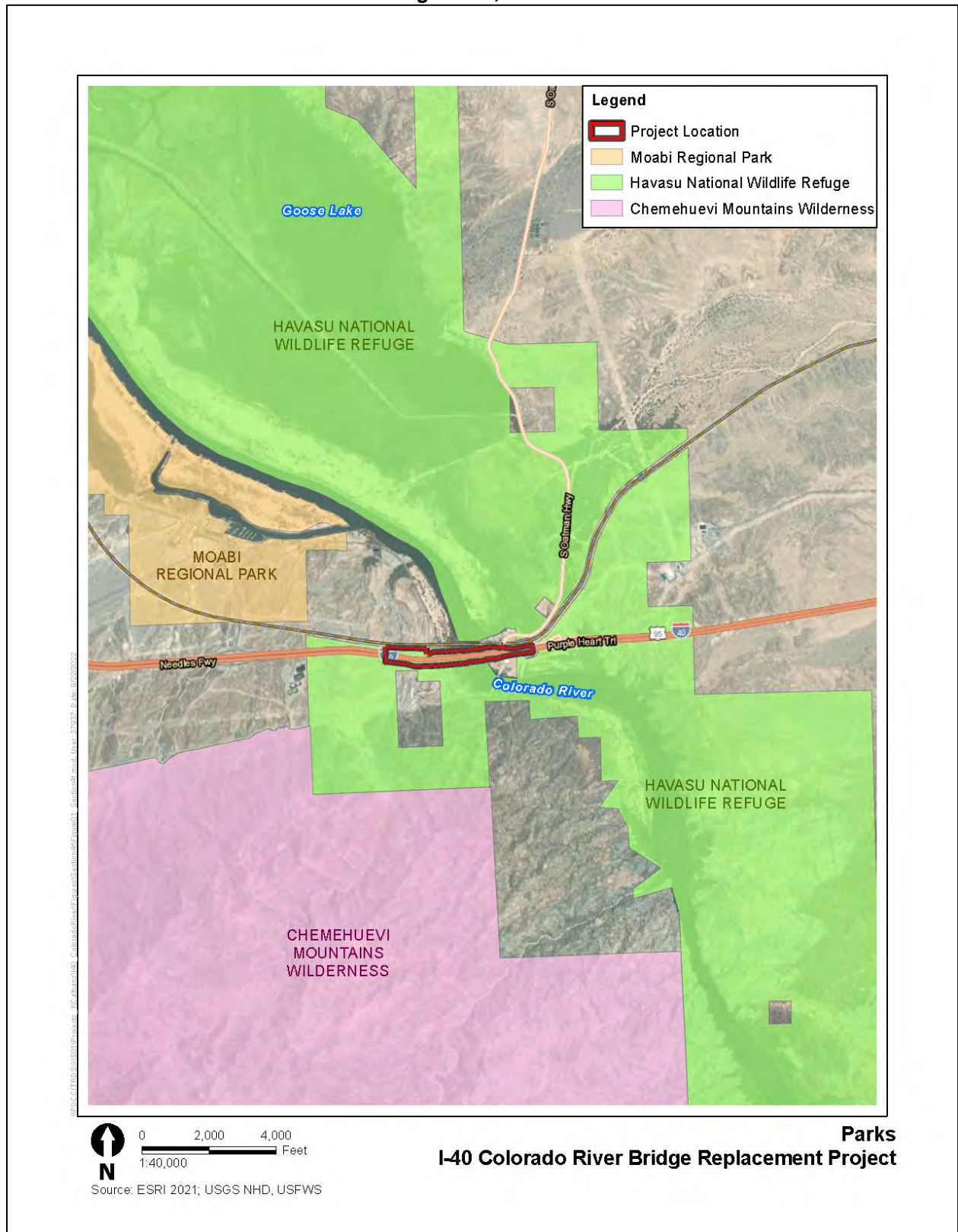
- LU-1:** Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.
- TR-1:** Prior to construction, a Traffic Management Plan (TMP) will be developed that will include the following elements: construction staging plans, public awareness campaigns, and alternate route strategies. In addition, the TMP will address access, circulation, public transportation, and bicycle facilities. Prior to construction, Caltrans will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access and circulation. Caltrans will provide appropriate signage, as needed, throughout construction. The

construction contractor will maintain appropriate signage to direct bicyclists and vehicular traffic of the construction.

NOI-1: Alternatives to Pile Driving. During construction, to the extent, practical alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:

- Jetting,
- Pre-drilling,
- Cast-in-place or auger cast piles,
- Non-displacement piles,
- Pile cushioning,
- Scheduling, and/or
- Using alternative non-impact drivers.

Figure 2.5, Parks



2.1.4 Farmlands

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.

2.1.4.1 AFFECTED ENVIRONMENT

The California Department of Conservation, Office of Land Conservation maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection as part of the Farmland Mapping and Monitoring Program (FMMP). For the purposes of this analysis, FMMP important farmland includes lands identified as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance.

Prime farmland is rural land with the best combination of physical and soil characteristics for the production of crops and used for irrigated agricultural production at some point during the 4 years prior to the mapping date.

Unique farmland is land other than prime farmland that has lesser quality soils that are used for the production of high-value specialty crops (e.g., citrus and nuts) and has been cropped at some time during the 4 years prior to mapping.

Farmland of statewide importance is land that does not qualify as prime or unique farmland and has been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

Farmland of local importance is defined by, and under the authority of, the Board of Supervisors of each county. San Bernardino County defines farmland of local importance as “Farmlands which include areas of soils that meet all the characteristics of Prime, Statewide, or Unique and which are not irrigated. Farmlands not covered by above categories but are of high economic importance to the community. These farmlands include dryland grains of wheat, barley, oats, and dryland pasture.”

The FMMP mapping inventory of lands within the 0.5-mile study area indicates no areas of important farmland designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance (California Department of Conservation 2022). The area within the 0.5-mile area falls outside of the NRCS soils survey and not mapped by the FMMP.

Furthermore, based on the U.S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey map, the project area within Arizona does not include soil types that

are designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland (U.S. Department of Agriculture, 2022).

Williamson Act Contract Land

The California Land Conservation Act of 1965, commonly known as the Williamson Act, provides incentives through reduced property taxes to deter the conversion of agricultural and open space lands. The act enables local governments to enter into contracts with private landowners for promoting the preservation of agricultural land. In return, landowners receive property tax assessments that are based on farming and open space uses instead of property tax assessments based on full market value of the property. Local governments receive an annual subvention (subsidy) of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

There are no lands under Williamson Act contract that occur within the 0.5-mile study area for all build alternatives.

2.1.4.2 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2, and 3 would not involve temporary or permanent impacts on Williamson Act contract lands and would not conflict with existing zoning for agricultural uses. There are no agricultural lands that would be bisected as a result of the project and would not make agricultural lands impractical for continued agricultural uses. Furthermore, given the lack of FMMP important farmland within the study area on the California side, and no soil types being designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland on the Arizona side, adverse impacts on important farmland are not anticipated as a result of Build Alternatives 1, 2 or 3.

2.1.4.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

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

2.1.5 Growth

2.1.5.1 REGULATORY SETTING

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

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

2.1.5.2 AFFECTED ENVIRONMENT

The information in this section is based on the Community Impact Assessment Memorandum and Checklist prepared by Caltrans (Caltrans 2023c; Caltrans 2023d).

The project is located approximately 13.9 miles south of the City of Needles, California, and 29.7 miles north of Lake Havasu City, Arizona. The project spans the California-Arizona state line at the Colorado River, east of Park Moabi Road and southwest of Mohave County Route 10/Arizona Route 95 and is located between post miles (PM) 153.9 and PM 154.7 in California and PM 0.0 and PM 0.6 in Arizona along I-40. The surrounding land is primarily designated as a Rural Development Area (RDA) and much of the surrounding area is owned by Federal and State governments. The area is characterized by wide open spaces and rural development with scattered settlements.

2.1.5.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would maintain the existing transportation facility on I-40. It would not contribute to planned growth in and around the proposed project area.

Build Alternatives 1, 2, and 3

The impacts to growth from Build Alternatives 1, 2, and 3 are the same as the project proposes to replace the existing bridge on the same or similar alignment. The project will not change accessibility, increase capacity, or influence growth. As such, no growth impacts or indirect impacts on growth would occur.

2.1.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation measures are required.

2.1.6 Community Character and Cohesion

2.1.6.1 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.

2.1.6.2 AFFECTED ENVIRONMENT

This section is based on a Community Impact Assessment Memorandum and Checklist that were prepared for the project (Caltrans 2023c; Caltrans 2023d). The study uses a buffer of 0.5 mile as a study area around the project limits. The study area is primarily made up of the USFWS-managed Havasu National Wildlife Refuge and BLM lands, both to the north and the south of the I-40 bridge. The surrounding land is primarily composed of rural open land with native scrub. Industrial and commercial facilities within the project study area include PG&E's Topock Compressor Station located southwest of the I-40 bridge in California and is accessible via National Trails Highway, which is the only paved access to the facility. On the Arizona side is a small utility station owned by Southcoast Water Inc., consisting of a storage tank and a small structure located north of the I-40 adjacent to the BNSF Railroad line. The BNSF railroad bridge and railroad is a dominant industrial feature within the project area and is located to the north of the I-40. Two natural gas transfer pipelines owned by the El Paso Natural Gas Co extend across the Colorado River and connect to the Mojave system in California. One of these pipelines utilizes the National Trails Bridge across the Colorado River south of the project area. The transfer lines are located on the ground surface on the Arizona side south of the I-40 near the shoreline of the Colorado River between two private residential properties.

The project area includes a few single-family residences along the shoreline south of the I-40 bridge on the Arizona side that are primarily part-time residences, and several households are associated with the Topock 66 Colorado River Resort. Demographics of the study area indicate that there are a total of five households with 8 individuals living within 0.5 mile of the project. 4 (50%) individuals are age 65+, 2 (40%) of the housing units are renter-occupied, and 3 (60%) are owner-occupied. The number of the employed population age 16+ in the workforce is 2 (28.5%), 5 are not in the workforce (71%), and one individual (12.5%) lives below the poverty line. Ethnic demographics are 1 (12.5%) person of Hispanic origin and 7 (87.5%) are non-Hispanic white alone individuals. The communities of Golden Shore and Topock are approximately 4 and 5 miles north of the project area and are accessible via Oatman Highway from I-40.

Commercial businesses within the study area include Topock 66 Colorado River Resort and Spa, which has a bar and restaurant, overnight accommodations, and a marina located north of the BNSF Railway and accessed by Oatman Highway off of I-40. There are no schools, churches, hospitals or other community facilities within the project study area.

Bicyclists and pedestrians

U.S. Bicycle Route 66 is a United States Bicycle Route that follows former U.S. Route 66 across the United States from Santa Monica, Ca to Chicago, Il. This route is part of the Adventure Cycling Route network, an advocacy group that has agreements with the California Department of Transportation to allow cyclists to ride sections of I-40 to connect to U. S. Bicycle Route 66. The segment of I-40 in the project area is part of U.S. Bicycle Route 66, a designated 329.8-mile-long route approved by the American Association of State Highway and Transportation Officials in 2021. The segment connects Santa Monica, California to Topock, Arizona, and continues as an undesignated route through Arizona along Oatman Highway to Kingman, AZ. Bicyclists using this route are permitted to cross over the Colorado River on I-40 as there are no other nearby crossings to connect with Oatman Highway and National Trails Highway.

Different options to include bike lanes for the bridge were considered but Caltrans rejected the options as not viable due to the lack of connectivity to local streets on either side of the bridge as well as structural impediments such as interfering with PG&E's remediation monitoring wells on the California side. No bike lanes are proposed for the bridge; however, under all build alternatives, the shoulders will be widened to 10-foot standard shoulders, which is an improvement to the nonstandard 3-foot shoulder on the existing bridge.

Pedestrian traffic will not be impacted in the project area as pedestrians are not allowed on the Colorado River Bridge/I-40.

It is recommended I-40 drivers over the Colorado River Bridge be alerted to the presence of bicycle traffic with the addition of signage on the bridge and/or use of Bicycle Route 66 medallions on the median or other visible locations.

Colorado River Recreational Use

The Colorado River is approximately 1,450 miles long, supplies water for agriculture, industry, and municipalities, and provides for recreational uses, including fishing, rafting, boating, backpacking, and wildlife viewing. Regionally, boating is a popular recreational activity and temporary construction impacts to boaters navigating below the bridge are expected with all build alternatives. To minimize these impacts, a 50-foot-wide navigation channel is proposed for all build alternatives. Access to the river within the project area is located at Topock 66 Colorado River Marina. Access to the marina may have temporary impacts from closures to Oatman Highway under Build Alternative 2; however, alternate routes will be provided during construction. In addition, access to the river from the marina will not be impacted by the construction of the bridge.

2.1.6.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would have no effect on community cohesiveness, housing, economic activity, or employment in the project area.

Build Alternative 1

Build Alternative 1, which proposes to replace the Colorado River Bridge on the current alignment, will result in temporary impacts on residents and businesses in the immediate project area, which includes temporary construction access on BNSF land and on private residences south of the I-40 on the Arizona side; however, access to residences and businesses will remain open during construction. This build alternative does not require the bridge (Marina Rd UC) over National Trails Highway to be rebuilt and National Trails Highway will remain open during construction. This alternative does not require the reconstruction of Oatman Highway and Oatman Highway will remain open during construction. The project will not change the community's character or cohesion.

Homeowners: Temporary construction easements will be necessary for three properties located south of I-40 in Arizona. Access to residences and driveways will remain open with alterations to the existing access.

BNSF Railway Company: Temporary construction easements will be necessary on a portion of BNSF Railway land adjacent to the existing I-40 corridor, north of the I-40 in Arizona. Access to the BNSF facilities will remain open.

El Paso Natural Gas Co: Temporary construction easement will be needed on a portion of El Paso Natural Gas Co land. Access to the gas pipelines will remain open during construction.

U.S. Bicycle Route 66: Build Alternative 1 proposes to replace the bridge on the existing alignment which will result in a 30-month closure of the Colorado River Bridge to bicycles. To mitigate the impact of this closure, bicyclists will need to be rerouted through Needles to cross the Colorado River between California and Arizona during construction. This alternate route does not add length to the segment and passes through the communities of Golden Shores and Topock which have available services.

Build Alternative 2

Build Alternative 2 proposes to replace the Colorado River Bridge just to the north of the existing alignment which would result in temporary and permanent impacts on residents and businesses in the project vicinity. The proposed project would not change the community's character or cohesion, but it would temporarily impact access to businesses in the immediate project vicinity and to communities north of the project area.

Homeowners: Permanent partial acquisitions and temporary construction easements are proposed on four private parcels adjacent to the State right-of-way south of I-40 on the Arizona side. No structures would be removed and no relocation would occur. Access to residences and driveways would remain open during construction with alteration to the existing access.

El Paso Natural Gas Co.: Permanent partial acquisition is proposed on El Paso Natural Gas Co. property. No structures would be removed. Access to the pipelines would remain open throughout construction.

Southwest Water Inc.: Permanent partial acquisition is proposed to reconstruct a section of Oatman Highway between I-40 and BNSF Railway Line. No structures would be impacted.

Topock 66 Colorado River Resort and Spa and communities north of I-40 in Arizona: Temporary closure of Oatman Highway between I-40 and the BNSF railroad undercrossing will occur while this portion of Oatman Highway is redesigned. Access to the Topock 66 Colorado River resort as well as the communities of Golden Shore and Topock approximately 4 and 5 miles north of the project area will be temporarily impacted. The duration of this impact would be approximately ten working days. The impacts will be minimal if detours and public awareness campaigns are provided.

PG&E Topock Compressor Station: This build requires new construction of a bridge over National Trails Highway and the demolition of the Marina Rd UC bridge located in California west of the Colorado River Bridge. New construction and demolition of the old bridge will intermittently close access of National Trails Highway leading to the PG&E Topock Compressor facility during construction. The duration of these closures is approximately 20 days to install falsework for the new bridge and approximately 20 days for demolition of the old Marina Rd UC bridge.

BNSF Railway: Permanent and temporary construction easements will be needed from a portion of BNSF Railway land north of the I-40 in Arizona. The land is adjacent to the existing I-40 alignment and is vacant. No structures belonging to the railroad would be impacted. Access to the railroad track at this location would be closed for approximately 10 working days from I-40.

U. S. Bicycle Route 66: Build Alternative 2 proposes to replace the bridge to the north of the existing alignment. Under this alternative, the I-40 would be open to bicycle traffic on the existing bridge through most of the construction cycle until the demolition of the bridge is scheduled, at which point bicycle traffic would be shifted to the new bridge along with vehicular traffic. There would be temporary closures for bicyclists using U.S. Bicycle Route 66 because Oatman Hwy and National Trails Highway will have intermittent closures during construction. To mitigate the impact of these intermittent closures, bicyclists will need to be rerouted through Needles to cross the Colorado River between California and Arizona during construction. This alternate route does not add length to the segment and passes through the communities of Golden Shores and Topock which have available services.

Build Alternative 3

Build Alternative 3 proposes to replace the Colorado River Bridge just to the south of the existing alignment would result in temporary and permanent impacts on residents and businesses in the project vicinity. In Arizona, permanent acquisitions and temporary construction easements would be needed from both private and commercial properties. No business or homeowners would be relocated because the right-of-way acquisitions are partial and are located adjacent to the existing I-40 corridor. However, several structures would be impacted within the proposed new alignment of the I-40 interstate. The proposed project would not change the community's character or cohesion but would temporarily impact access to the PG&E Topock Compressor facility in California.

Homeowners: Permanent partial acquisitions and temporary construction easements are proposed on four private parcels adjacent to the State right-of-way south of I-40 on the Arizona side. No relocation would occur as residences will not be impacted but outbuildings adjacent to

the existing I-40 corridor would be impacted by the new alignment of I-40. Access to residences and driveways would remain open during construction with alteration to the existing access.

El Paso Natural Gas Co.: Permanent partial acquisition and temporary construction easements are proposed on El Paso Natural Gas Co. property located south of I-40 in Arizona. A small structure near the existing access road would be impacted by the new alignment of I-40. Access to the pipelines would remain open throughout construction.

BNSF Railway Co.: Temporary construction easements are proposed along a portion of land owned by BNSF Railway Company north of I-40 in Arizona. A temporary access route will be constructed to access the project. No structures would be impacted and access to the railroad facility would remain open during construction.

PG&E Topock Compressor Station: This build requires new construction of a bridge over National Trails Highway and demolition of the Marina Rd UC bridge located in California west of the Colorado River Bridge. New construction and demolition of the old bridge will intermittently close access of National Trails Highway to the PG&E Topock Compressor facility during construction. The duration of these closures is approximately 20 days to install falsework for the new bridge and approximately 20 days for demolition of the old Marina Rd UC bridge.

U. S. Bicycle Route 66: Build Alternative 3 proposes to replace the bridge to the south of the existing alignment. Under this alternative, the I-40 would be open to bicycle traffic on the existing bridge through most of the construction cycle until the demolition of the bridge is scheduled, at which point bicycle traffic would be shifted to the new bridge along with vehicular traffic. There would be temporary closures for bicyclists using U.S. Bicycle Route 66 because National Trails Highway will have intermittent closures during construction to rebuild and remove Marina Bridge UC which passes over National Trails Highway. To mitigate the impact of these intermittent closures, bicyclists will need to be rerouted through Needles to cross the Colorado River between California and Arizona during construction. This alternate route does not add length to the segment and passes through the communities of Golden Shores and Topock which have available services.

2.1.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The State's policies on acquiring property will be followed and compensation will be provided for any acquired land or temporary use of land. No relocations are anticipated.

Temporary impacts to residents and businesses during construction will be addressed through the preparation and implementation of a TMP, under standard project measure TRF-1.

TR-1 Prior to construction, a Traffic Management Plan (TMP) will be developed that will include the following elements: construction staging plans, public awareness campaigns, and alternate route strategies. In addition, the TMP will address access, circulation, public transportation, and bicycle facilities. Prior to construction, Caltrans will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access and circulation. Caltrans will provide appropriate signage, as needed, throughout construction. The construction contractor will maintain appropriate signage to direct bicyclists and vehicular traffic around the construction.

Temporary impacts from construction to landscape in the project vicinity will be addressed with the implementation of standard design feature LU-1, and permanent adverse impacts to the surrounding landscape are not anticipated.

LU-1: Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.

Temporary impacts to bicyclists using U. S. Bicycle Route 66 for all build alternatives will be addressed with **CI-1**.

CI-1: A bicycle traffic management plan will be developed to inform the bicycling public of project-related closures on U.S. Bicycle Route 66 including the Colorado River Bridge on I-40; closures of Oatman Hwy; and closure of National Trails Highway, which include but are not limited to a public awareness campaign, signage, and notification of The Adventure Cycling Association of closures and alternate route proposal through Needles. In addition, U.S. Bicycle Route 66 medallions and/or signage will be installed on the bridge warning vehicular traffic of bicyclists using the bridge.

Temporary impacts to recreational boaters using the Colorado River in the project vicinity will be addressed with **CI-2**.

CI-2: In coordination with the U.S. Coast Guard, a navigable channel will remain open under the Colorado River Bridge for the duration of construction. Warning signs will be placed on the Colorado River up and downstream of the Project area and at nearby boat launches prior to construction to ensure public safety.

2.1.7 Relocations and Real Property Acquisition

2.1.7.1 REGULATORY SETTING

Caltrans' 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. Please see Appendix C for a summary of the RAP.

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 Caltran's Title VI Policy Statement.

2.1.7.2 AFFECTED ENVIRONMENT

The information in this section is based on the Community Impact Assessment Memorandum and Checklist (Caltrans 2023c; Caltrans 2023d).

The project proposes to replace the existing Colorado River Bridge with a new bridge to improve the safety and integrity of the bridge structure. The project is located on I-40, spanning the Colorado River between California and Arizona. Four alternatives have been proposed. Alternative 1 proposes to build a new bridge on the existing alignment. Alternative 2 proposes to build a new bridge just north of the existing alignment. Alternative 3 proposes to build a new bridge just south of the existing alignment. Alternative 4 is the No-Build Alternative and no improvements would be made to the existing bridge.

All three build alternatives would have an impact on residential, commercial, and public lands. These impacts cannot be avoided and will differ depending on the chosen alternative. They may include the temporary use of land for construction and equipment staging (temporary construction easements) and the permanent acquisition of some land. The State's policies on acquiring property will be followed and compensation will be provided for any acquired land or temporary use of land. No relocations are anticipated.

Under Alternative 1, the project will not involve any permanent acquisitions. Instead, temporary construction easements will be sought at the edges of parcels adjacent to I-40 and the State right-of-way. These affected parcels include APN 650-16-109 (Federal land) in California, which will be used for equipment staging, and APN 210-48-009 (BNSF railway) in Arizona which will have a temporary access road, located north of the existing alignment. Additionally, temporary construction easements for a temporary access road will be sought at the following private residential and commercial parcels located south of the existing alignment in Arizona: APN 210-48-010, 210-48-005C, 210-48-001, 210-48-005B, and 210-48-008.

Under Alternative 2, the proposed project would involve both permanent acquisitions and temporary construction easements. In California, a Temporary Construction Easement would be required south of the existing alignment for construction and equipment staging on federal land (APN 650-16-109). Additionally, a sliver of permanent acquisition would be required north of the existing alignment in California on federal land (APN 650-16-109). In Arizona, temporary

construction easements and permanent acquisition of a portion of APN 210-48-009 (BNSF railway) would be necessary. The permanent acquisition would be a strip of empty land located between I-40 and the railroad tracks that would be used for the new interstate alignment. However, it is important to note that the train tracks and access to BNSF facilities would not be permanently impacted by the project. In addition, a permanent acquisition of APN 210-48-101 (Southwest Water Inc.) would be required to realign the portion of Oatman Highway between I-40 and the BNSF railroad tracks. Impacts to access through Oatman Highway would be temporary and limited in scope.

Under Alternative 3, the proposed project would involve both permanent land acquisitions and temporary construction easements. In California, a permanent easement and acquisition would be required on federal land for APN 650-16-109. In Arizona, permanent acquisitions and temporary construction easements would be needed from both private and commercial properties, including the acquisition of land from the El Paso Natural Gas Company at APN 210-48-001 south of I-40, and the permanent acquisition of private residential land at APN 210-48-005C, 210-48-005B, and 210-48-008 located south of and adjacent to the existing I-40 alignment. Property acquired under Alternative 3 at APN 210-48-005C would consist of an existing private residential side yard with outbuildings that would be impacted by the new alignment. Relocation and displacement are not anticipated; however, the realignment of the highway would decrease the distance between the affected residence and traffic on I-40, resulting in noise impacts to the property owner. The other private and commercial properties south of I-40 in Arizona at APN 210-48-001 would have permanent land acquisitions adjacent to the existing access road, which would be realigned slightly to the south of the existing access.

2.1.7.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would not require changes to properties in the proposed project area.

Build Alternative 1

Build Alternative 1 will involve the replacement of the Colorado River Bridge on the existing alignment. No permanent acquisitions or relocations will be necessary. Temporary construction easements will be required from federal agencies and commercial and private properties. One temporary construction easement will be needed for equipment staging on federal land south of I-40 where National Trails Highway crosses I-40 in California, and five commercial and residential temporary construction easements will be needed in Arizona. Temporary construction easements will be needed from BNSF Railway Company on the north side of I-40 and El Paso Natural Gas Co on the south side of I-40. Additionally, three temporary construction easements will be required on private residential land south of I-40 in Arizona. The temporary construction easements, associated parcel number, and approximate area in square feet are tabulated in Table 2-3.

Table 2-3, Alternative 1 TCEs

State	Parcel	Owner	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	BLM	6,270	TCE
Arizona	210-48-009	BNSF Railway	18,705	TCE

		Company		
Arizona	210-48-005C	Private Single Family Residence	15,306	TCE
Arizona	210-48-001	El Paso Natural Gas Co	273	TCE
Arizona	210-48-005B	Private Single Family Residence	2,403	TCE
Arizona	210-48-008	Private Single Family Residence	502	TCE
Notes: TCE=temporary construction easement.				

Build Alternative 2

Build Alternative 2 will realign the Colorado River Bridge to the north of the existing I-40 centerline. Both temporary construction easements and permanent acquisitions have been proposed for this alternative. There are no relocations proposed. In California, a Temporary Construction Easement would be required south of the existing alignment for construction and equipment staging on federal land. Additionally, a sliver of permanent acquisition would be required north of the existing alignment in California on federal land. In Arizona, temporary construction easements and permanent acquisition of a portion BNSF Railway land would be necessary. The permanent acquisition would be a strip of empty land located between I-40 and the railroad tracks that would be used for the new interstate alignment. However, it is important to note that the train tracks and access to BNSF facilities would not be permanently impacted by the project. Permanent acquisition of a portion of Southwest Water Inc. would be required to realign a portion of Oatman Highway between I-40 and the BNSF railroad tracks. Impacts to access through Oatman Highway would be temporary and limited in scope. In addition partial acquisition of private residential land would be required on 3 properties in Arizona. The temporary construction easements, associated APN#, and approximate area in square feet is tabulated below in table 2-4.

Table 2-4, Build Alternative 2 TCEs and Acquisitions

State	Parcel	Owner	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	Federal land, BLM	7844; 101	TCE; Permanent Partial Acquisition
Arizona	210-48-009	BNSF Railway Company	18,526; 76,537	TCE Permanent Partial Acquisition
Arizona	210-48-010	Southwest Water Inc	351	Permanent Partial Acquisition
Arizona	210-48-005C	Private Single Family Residence	12,261	Permanent Partial Acquisition
Arizona	210-48-001	El Paso Natural Gas Co	270	Permanent Partial Acquisition
Arizona	210-48-005B	Private Single Family Residence	395	Permanent Partial Acquisition
Arizona	210-48-008	Private Single Family Residence	482	Permanent Partial Acquisition
Arizona	210-47-003	El Paso Natural Gas Co	2,594	Permanent Partial Acquisition

	Notes: TCE=temporary construction easement.
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Build Alternative 3

Under Alternative 3, the proposed project would involve both permanent land acquisitions and temporary construction easements. No relocations are anticipated. In California, a permanent easement and acquisition would be required on federal land. In Arizona, permanent acquisitions and temporary construction easements would be needed from both private and commercial properties, including the acquisition of land from the El Paso Natural Gas Company and the permanent acquisition of private residential land located south of and adjacent to the existing I-40 alignment. Property acquired under Alternative 3 would consist of an existing private residential side yard with outbuildings that would be impacted by the new alignment. The realignment of the highway would decrease the distance between the affected residence and traffic on I-40, resulting in noise impacts on the property owner. The other private and commercial properties south of I-40 in Arizona would have permanent land acquisitions adjacent to the existing access road, which would be realigned slightly to the south of the existing access. The temporary construction easement, acquisitions, associated APN#, and approximate area in square feet is tabulated below in table 2.1.9.3

Table 2-5, Build Alternative 3 TCEs and Acquisitions

State	Parcel	Owner	Approximate Area (square feet)	Type of Acquisition
California	065-016-109	BLM	4,545; 996	Permanent Easement; Permanent Partial Acquisition
Arizona	210-48-009	BNSF Railway Company	14,953	TCE
Arizona	210-48-005C	Private, Single Family Residence	1,930	Permanent Partial Acquisition
Arizona	210-48-001	El Paso Natural Gas Co	2,231	Permanent Partial Acquisition, TCE
Arizona	210-48-005B	Private, Single Family Residence	984	Permanent Partial Acquisition
Arizona	210-48-008	Private, Single Family Residence	2,662	Permanent Partial Acquisition
Notes: TCE=temporary construction easement.				

2.1.7.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are proposed for relocations.

2.1.8 Environmental Justice

2.1.8.1 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 poverty guidelines. For 2023, this was \$30,000 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. Caltrans’ 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.

2.1.8.2 AFFECTED ENVIRONMENT

The information in this section is based on the Community Impact Assessment memorandum prepared for the project (Caltrans 2023c; Caltrans 2023d).

The environmental justice analysis incorporates information from the FHWA’s Environmental Justice Screening Tool, the American Community Survey 2016-2020, and Census Tract data. Caltrans identifies a community as an environmental justice community of concern if the population has been historically disadvantaged or marginalized by environmental hazards and has limited access to resources and decision-making processes that affect their environment. Examples include but are not limited to low-income communities, communities of color, and indigenous communities.

The project area is located within 0.5 mile of five households with a total population of 8. The total area within the study area is approximately 2 square miles. Within the study area, the minority population represents 12% and is not a significant proportion of the total population to qualify as an environmental justice community. The poverty rate within the study area is 2% and is less than the surrounding county of San Bernardino County and Mohave County. Table 2-6 summarizes racial, ethnic, and poverty status and is based on U.S. Census data.

Table 2-6, Summary of Race, Ethnicity, and Poverty Status by Geographic Area

Geography	Black	Native American	Asian	Native Hawaiian or Other Pacific Islander	Non Hispanic	Hispanic	Below Poverty Level	Minority
Study area	0%	4%	0%	0%	92%	8%	2%	12%

San Bernardino County, CA	8%	1%	7%	0%	46%	54%	11%	70%
Mohave County, AZ	1.4%	3.1%	1.4%	0.3%	75.7%	17.7%	18%	23.9%

No groups of people who have been historically disadvantaged or marginalized by environmental hazards and have limited access to resources and decision-making processes that affect their environment, such as minority or low-income populations, have been found to be negatively impacted by the project. As a result, this project is not subject to the provisions of Executive Order 12898.

2.1.8.3 ENVIRONMENTAL CONSEQUENCES

Because no groups of people who have been historically disadvantaged or marginalized by environmental hazards and have limited access to resources and decision-making processes that affect their environment, such as minority or low-income populations, have been found to be negatively impacted by the project there are no environmental consequences to environmental justice from the three build and No-Build alternatives.

2.1.8.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

There are no avoidance, minimization, and/or mitigation measures proposed for environmental justice. Based on the above discussion and analysis, the three build alternative(s) 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.

2.1.9 Utilities/Emergency Services

2.1.9.1 AFFECTED ENVIRONMENT

This section is based on information from the Draft Project Report (Caltrans 2022c), Project Study Report-Project Development Support (Caltrans 2016), and Initial Site Assessment (Stantec 2021) that have been prepared for the project.

Utilities

Utility providers in the project area are summarized in the following table.

Table 2-7, Utility Providers

Utility	Owner
Natural Gas	PG&E, El Paso Natural Gas
Electrical	Transwestern Pipeline Company
Water/Sewer	Southwest Water and Distribution Inc.
Source: Draft Project Report (Caltrans 2022c).	

Fire Protection

Within the California portion of the project, the San Bernardino County Fire Protection District (SBCFPD) provides fire, rescue and emergency medical services to the area. The project is located within Service Zone FP-5 which includes fully staffed firefighters and paramedics, 48 fire stations, and 640 fire suppression personnel. The nearest fire station is Needles Station #32 located at 1113 East Broadway Street in Needles, approximately 10 miles to the north of the project site. A second fire station, the Havasu Landing Station #18 is located at 148808 Havasu Lake Road in Havasu and approximately 16 miles south of the project site.

Within Arizona, the Desert Hills Fire District provides fire services to the project area. The nearest fire stations are Station 1 located at 3983 London Bridge Road, Lake Havasu City, Arizona, and Station 2 located at 4311 Heights Boulevard, Lake Havasu City, Arizona. Both stations are approximately 15 miles south of the project site.

Police

The San Bernardino County Sheriff's Department provides police services to the project area within California. Specifically, the Colorado River Station covers the project area. This station covers the Nevada State line south to Riverside County, and from the Arizona State line on the Colorado River west to Kelbaker Road in San Bernardino County. The station office is located at 1111 Bailey Avenue in Needles. The facility houses a 30-bed jail facility, which takes in arrestees from the San Bernardino Sheriff's Department, and the California Highway Patrol. The station also maintains two resident posts at Parker Dam and Havasu Landing, and a Water Safety Center at Park Moabi Regional Park. Sheriff's personnel are responsible for law enforcement throughout 5,200 square miles of unincorporated areas as well as 90 miles of the Colorado River.

The Mohave County Sheriff's Department provides police services in the project area within Arizona. The nearest Sheriff's Department office is the Mohave Valley Sub Station located at 9880 Vanderslice in Mohave Valley, Arizona, located approximately 8 miles north of the project

site. A second sub station, the Lake Havasu Sub Station, is located at 3500 Highway 95, Lake Havasu City, Arizona and located approximately 15 miles south of the project site. Currently, the Mohave County Sheriff's Office has 83 sworn general positions that provides police and emergency services, as well as search and rescue programs, and boating safety programs.

The California Highway Patrol (CHP) has jurisdiction on freeways in the State of California, including I-40. The nearest CHP station is Station 834 Needles, located at 1916 J Street in Needles, approximately 15 miles north of the project site. This station is part of the CHP Inland Division and patrols I-40, Historic Route 66, SR-62 as well as 7,200 square miles of rural unincorporated San Bernardino County roadways.

2.1.9.2 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1, 2 and 3

Utilities currently located within the bridge structure would be removed and relocated or replaced due to construction of the build alternatives. An updated utility search would be conducted during final design to determine all utilities that would require protection in place, removal, or relocation. The affected utilities would be relocated in accordance with state law, regulations and policies. There would be ongoing coordination between Caltrans, affected agencies, and utility companies in order to minimize potential disruptions of utility service, therefore, no adverse effects on public services would occur. Due to coordination and adherence to regulations and policies, it is not anticipated that any residential utility services would be affected. Standard project feature measure **UT-1** will be incorporated into the build alternatives to minimize the potential temporary adverse effects of the project construction on utilities.

Construction activities associated with the build alternatives would result in temporary, localized, site-specific disruptions to utilities and emergency services in the project area associated with construction traffic changes due to trucks and equipment. However, access would be maintained on I-40 throughout the duration of construction. As previously mentioned, a Traffic Management Plan (TMP) would be prepared for the project and include measures to minimize construction-related traffic and circulation impacts. Coordination would occur with the CHP, San Bernardino County and Mohave County Sheriff's Department, San Bernardino County Fire Protection District, and Desert Hills Fire District to limit delays to emergency services. As the project construction activities would be temporary and would be implemented in a manner that minimizes the effects on utilities and emergency services, no adverse effects are expected as a result of the project.

No-Build Alternative

The No-Build Alternative would not involve any construction activities, and as such, would not have any adverse impacts on utilities or emergency services.

Permanent Impacts

Build Alternatives 1, 2, and 3

Under each of the build alternatives, utilities would be relocated onto the new bridge, including those owned by PG&E on both the California and Arizona side. Geotechnical borings would be conducted within the project's limits of disturbance as needed for design of the project. Additional utilities within the project limits may also be relocated as necessary under each build alternative. As specific information about excavation locations and depth become available, and prior to completion of final design, coordination with the affected utility providers in the vicinity of the project would be completed to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed during final design and construction phases to establish exact procedures and specifications for addressing utilities affected by the project. Changes in the placement of some utilities would be considered permanent, however, any effects during their relocations would be temporary and rectified once relocations and project construction are complete. The relocated utilities would be located on-site within the environmentally evaluated footprint of the project. Standard project measure **UT-1** will avoid or otherwise minimize any impacts to utilities.

The build alternatives would not involve construction of any habitable structures, nor would it induce population growth in the project area, and no additional lanes are proposed that would result in increased traffic capacity. As such, there would be no increased demand for new or expanded emergency facilities or services. Furthermore, implementation of the build alternatives is anticipated to result in a positive effect on emergency services by improving the width of inside and outside shoulders to standard widths, thereby potentially reducing emergency response times and improving emergency vehicle access through the area.

No-Build Alternative

The No-Build Alternative would not involve any replacement of the existing bridge. Due to the absence of any replacement of the bridge, the safety and integrity of the bridge structure would not improve and would continue to deteriorate which may result in long-term impacts to utilities that are currently located on the bridge. Furthermore, the potential benefits to emergency vehicles and emergency response times associated with access and circulation would not occur with the No-Build Alternative.

2.1.9.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following standard project feature will be incorporated to minimize the potential temporary adverse effects of project construction during utilities.

UT-1 During final design, utility relocation plans will be prepared in consultation with affected utility providers for utilities that will need to be relocated, removed, or protected in place. All utility relocation work will be coordinated to ensure minimum disruption to customers in the service areas during construction. All public utility lines, pipes, and cables that are disturbed or removed to accommodate the project will be replaced or relocated within the project limits to continue to meet the needs of residents and business in the community. Utility relocations are anticipated to be completed by the various utility owners prior to or during construction.

2.1.10 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.10.1 REGULATORY SETTING

Caltrans 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.

2.1.10.2 AFFECTED ENVIRONMENT

This section is primarily based on the Draft Project Report (Caltrans 2022c) and the Traffic Data Request Memorandum (Caltrans 2021) prepared for the project.

The Colorado River Bridge was originally built in 1966 and currently accommodates four 12-foot lanes of traffic, two in each direction of travel, separated by a median barrier. As the project aims to improve the safety and integrity of the bridge structure by addressing deck deterioration and strengthening the girders to increase the load rating, the project will not increase the number of travel lanes or result in an increase in traffic capacity from current conditions. The I-40 mainline traffic data is presented in the table below.

Table 2-8, I-40 Mainline Traffic Data

	Year 2020	Year 2031	Year 2041
Annual Average Daily Traffic (AADT)	14,900	21,500	29,200
2-Way Peak Hour Volume (PHV)	1,550	1,730	1,910
One Way PHV	930	1,040	1,150
Directional Split	60%	60%	60%
Truck % in AADT	60%	60%	60%
Truck % in PHV	30%	30%	30%

Source: Traffic Data Request Memorandum

The traffic data for existing conditions and for the No-Build and Build Conditions are shown in the following tables.

Table 2-9, Traffic Data for Existing Conditions

	Segment	Number of Lanes	Total Peak Hour Volume	Auto		Medium Trucks		Heavy Trucks	
				Percent	Volume	Percent	Volume	Percent	Volume
I-40 Mainline Traffic									
Eastbound I-40 (Total)	East of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
Westbound I-40 (Total)	East of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
I-40 Mainline Traffic									
Eastbound I-40 (Total)	West of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
Westbound I-40 (Total)	West of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
I-40 Ramp Traffic									
Westbound On-Ramp	Oatman Highway	1	13	100	13	0	0	0	0
Eastbound Off-Ramp		1 up to 2	14	92.86	13	0	0	7.14	1
Local Road Traffic									
Northbound Oatman Hwy	South of Eastbound I-40 ramps	1	2	15.38	2	0	0	0	0
Northbound Oatman Hwy	Between I-40 ramps	1	12	92.31	12	0	0	0	0
Northbound Oatman Hwy	North of Westbound I-40 ramps	1	57	346.15	45	46.15	6	46.15	6
Southbound Oatman Hwy	South of Westbound I-40 ramps	1	2	15.38	2	0	0	0	0
Southbound Oatman Hwy	Between I-40 ramps	1	38	253.85	33	38.46	5	0	0
Southbound Oatman Hwy	North of Westbound I-40 ramps	1	57	364.29	51	42.86	6	0	0

Table 2-10, Traffic Data for No-Build and Build Alternatives

	Segment	Number of Lanes	Total Peak Hour Volume	Auto		Medium Trucks		Heavy Trucks	
				Percent	Volume	Percent	Volume	Percent	Volume
I-40 Mainline Traffic									
Eastbound I-40 (Total)	East of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
Westbound I-40 (Total)	East of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
I-40 Mainline Traffic									
Eastbound I-40 (Total)	West of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
Westbound I-40 (Total)	West of the AZ/CA Border	2	3,300	70	2,310	3.3	109	26.7	881
Inside Lane		1	1,650		1,596		54		0
Outside Lane		1	1,650		714		55		881
I-40 Ramp Traffic									
Westbound On-Ramp	Oatman Highway	1	14	100	14	0	0	0	0
Eastbound Off-Ramp		1 up to 2	15	93.33	14	0	0	7.14	1
Local Road Traffic									
Northbound Oatman Hwy	South of Eastbound I-40 ramps	1	2	100	2	0	0	0	0
Northbound Oatman Hwy	Between I-40 ramps	1	13	100	13	0	0	0	0
Northbound Oatman Hwy	North of Westbound I-40 ramps	1	60	80	48	6	6	10	6
Southbound Oatman Hwy	South of Wastbound I-40 ramps	1	2	100	2	0	0	0	0
Southbound Oatman Hwy	Between I-40 ramps	1	40	87.5	35	5	5	0	0
Southbound Oatman Hwy	North of Westbound I-40 ramps	1	60	90	54	6	6	0	0

Pedestrian Access, Bicycle Facilities, Transit

While I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 that encompasses the project limits because there are no parallel routes. There are no pedestrian walkways or pedestrian access along I-40 within the project limits. There are also no transit service stops along I-40 within the project limits.

2.1.10.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

BUILD ALTERNATIVES 1

Construction of Build Alternative 1 will result in temporary impacts on traffic and transportation. Construction activities will occur in two stages for this alternative. The first stage will remove half of the existing bridge and constructing half of the new bridge. Traffic will remain on half of the existing bridge and will be limited to one lane in each direction. The second stage will shift traffic to the newly constructed portion of the bridge deck and remove the remaining existing bridge and constructing the second half of the new bridge. Traffic will be limited to one lane in each direction for the duration of the construction period. Emergency access will be accommodated during construction and the project will implement a Traffic Management Plan (TMP) as part of standard project measures. The TMP will include, but not limited to, a public awareness campaign to inform motorists of the construction activities, and coordination with emergency service providers, business owners, and residents along the project corridor regarding construction activities.

Temporary disruptions to bicycle access will occur during project construction. However, these impacts will be temporary and will cease upon completion of construction. Bicycle access will not be permitted on the existing bridge for the duration of construction and an alternate route will be proposed to maintain connectivity.

Build Alternative 2

This alternative proposes to realign the existing I-40 centerline to the north of the existing bridge alignment. The construction of the new bridge to the north would occur while the existing bridge remains fully operational. Staging would be necessary for transitioning the newly realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. This alternative would also require the bridge at National Trails Highway Undercrossing to be replaced. Additionally, a minor realignment is proposed to the Oatman Highway to accommodate the bridge realignment. Emergency access would be accommodated during construction and the project would implement a TMP as part of standard project measures. The TMP would include, but not limited to, a public awareness campaign to inform motorists of the construction activities, and coordination with emergency service providers, business owners, and residents along the project corridor regarding construction activities.

Bicycle access would remain on the existing bridge while the newly proposed bridge is being constructed. Temporary disruptions to bicycle access would occur on Oatman Highway and on National Trails Highway during the reconstruction of Oatman Highway and the Marina Bridge UC. Temporary disruptions to bicycle access would occur transitioning the newly realigned

bridge to the existing I-40 centerline alignment on both ends of the bridge. These impacts would be temporary and would cease upon completion of construction.

Build Alternative 3

This build alternative would realign to the south of the existing I-40 centerline and would allow the construction of the new bridge to occur while the existing bridge is still fully operational. Staging would be necessary for transitioning the newly realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. Under this alternative, the bridge at National Trails Highway Undercrossing would also be replaced. Emergency access would be accommodated during construction and the project would implement a TMP as part of standard project measures. The TMP would include, but not limited to, a public awareness campaign to inform motorists of the construction activities, and coordination with emergency service providers, business owners, and residents along the project corridor regarding construction activities.

Bicycle access would remain on the existing bridge while the new bridge is being constructed. Temporary disruptions to bicycle access would occur on National Trails Highway during the reconstruction of Marina Bridge UC and when transitioning the newly realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. These impacts would be temporary and would cease upon completion of construction.

No-Build Alternative

Under the No-Build Alternative, no construction would occur. As such, no temporary impacts on traffic and transportation, including to bicyclists, would occur under this alternative.

Permanent Impacts

Build Alternatives 1, 2, and 3

Under the build alternatives, no additional lanes will be added and no increase to traffic capacity is assumed. The forecast conditions would be the same for the build alternatives and the No-Build Alternative. The project is classified as Category 4B, as defined in Chapter 8, Section 5 of the Project Development Procedures Manual (PDPM). Projects within Category 4B are defined as projects that do not require substantial new right-of-way and do not substantially increase traffic capacity.

As previously mentioned, the Colorado River Bridge was originally built in 1966. In its current state, the concrete deck of the bridge has begun to deteriorate. There are spalls and delaminations along the outside shoulders, and transverse cracks throughout the top mat transverse rebar. The top mat transverse rebar are also exposed with inadequate concrete cover. These conditions are expected to worsen over time and ultimately compromise the integrity and safety of the bridge structure. The existing bridge also has non-standard 2 foot inside shoulders and non-standard 4 foot outside shoulders. The build alternatives would improve the safety and integrity of the bridge structure by addressing the deck deterioration and strengthening the girders to increase vehicle load ratings. The build alternatives would also enhance the safety of the traveling public with standard lane and shoulder widths as well as an upgraded bridge railing system.

No-Build Alternative

The No-Build Alternative does not include any construction to the existing bridge. The No-Build Alternative forecast conditions would be the same as the build alternatives.

2.1.10.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Temporary impacts on traffic and transportation, as well as bicycle facilities during construction will be addressed through the preparation and implementation of a TMP, under standard project measure **TR-1**.

TR-1 Prior to construction, a Traffic Management Plan (TMP) will be developed that will include the following elements: construction staging plans, public awareness campaigns, and alternate route strategies. In addition, the TMP will address access, circulation, public transportation, and bicycle facilities. Prior to construction, Caltrans will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access and circulation. Caltrans will provide appropriate signage, as needed, throughout construction. The construction contractor will maintain appropriate signage to direct bicyclists and vehicular traffic of the construction.

2.1.11 Visual/Aesthetics

2.1.11.1 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 incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

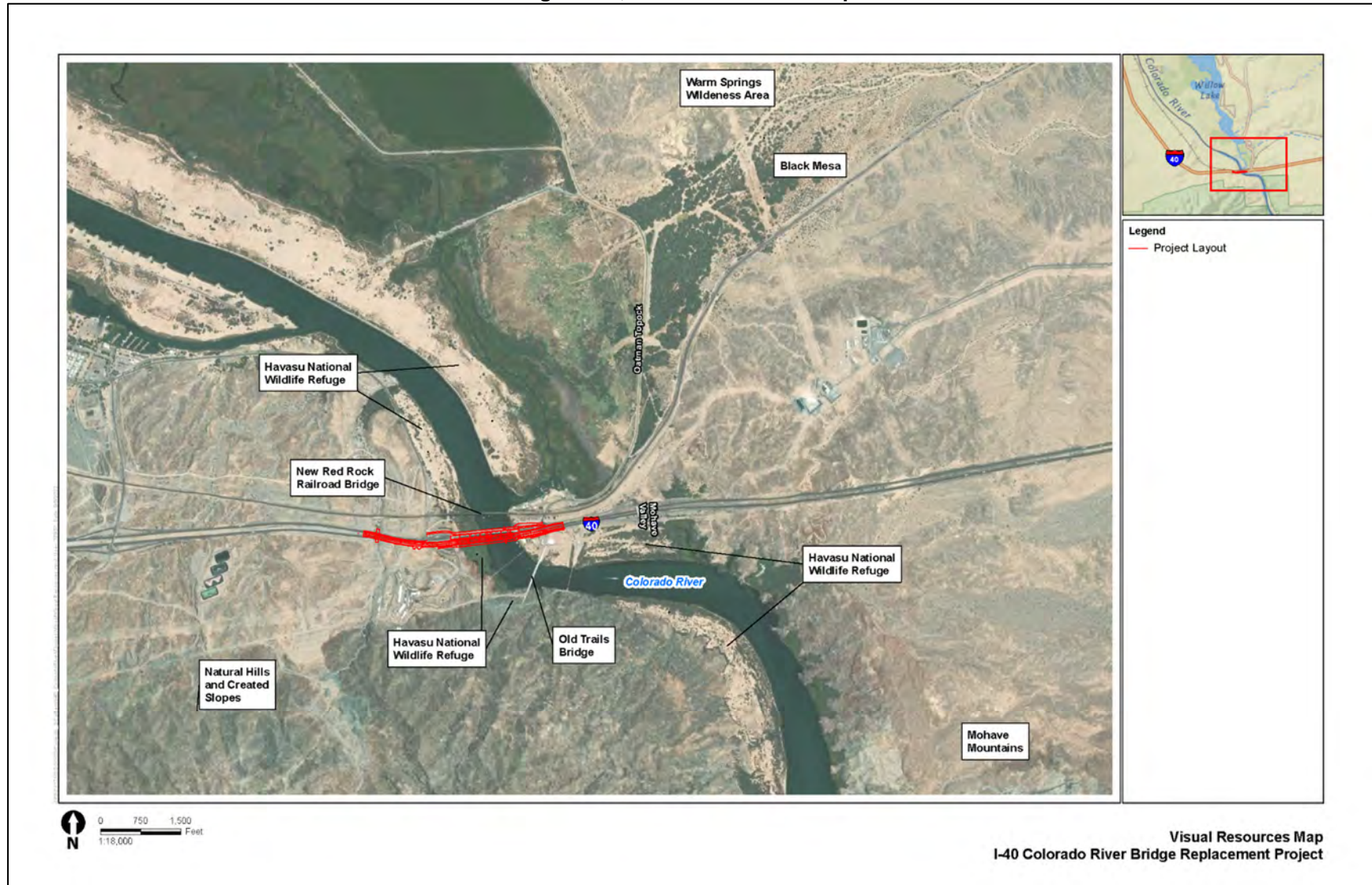
2.1.11.2 AFFECTED ENVIRONMENT

This section is based on the Visual Impact Assessment (VIA) prepared by Caltrans Department Landscape Architect on July 12, 2022. The VIA identified visual resources in the project area, analyzed the amount of change that would occur as a result of the project, and how the affected public would respond to or perceive the changes.

The landscape of the immediate area is defined by the Colorado River with its shoreline and surrounding flood plains. There are California native shrub groupings dotting the natural low hills and formed slopes, with the riparian landscape denser along the shoreline. The Havasu National Wildlife Refuge is located to the north and south of the project site. There are a few single-family residences along the shoreline both to the north and south of the bridge on the Arizona border side. A small commercial resort, the Topock 66 Colorado River Resort and Spa, is located to the northeast along Oatman Highway/Historic Route 66. A natural gas utility station, the PG&E Topock Compressor Station, is located to the south on the California side. The bridge is also flanked on each side by two picturesque bridges, with notable mountain ranges and peaks viewed in the distance (refer to Figure 2.6 for visual resources in the area).

I-40 is also listed on the State Scenic Highway Eligibility list as eligible, not officially designated. Other notable scenic resources within the corridor include the Old Trails Bridge, which was added to the National Register of Historic Places in 1988.

Figure 2.6, Visual Resources Map



Key Views

The project corridor was divided into three key views, Key View 1 Intermediate, Key View 2 Distant, and Key View 3 Bridge/Surrounding Landscape. Each of the key views, as described below, has its own visual character and visual quality.

- **Key View 1, Intermediate Key View:** These views are primarily to the north and south and seen while traveling along eastbound and westbound. Collectively, these elements provide visual interest while traveling on I-40 through the project area.
 1. New Red Rock Railroad Bridge to the north;
 2. Old Trails Bridge to the south (listed on the National Register of Historic Places in 1988);
 3. Colorado River with mostly undeveloped shoreline and Havasu National Wildlife Refuge to both the north and south of I-40.
 - **Key View 2, Distant (skyline) Key Views:** This includes views from the bridge to notable visual elements in the distance (skyline) while traveling east:
 1. To the northeast: Hualapai Mountain Range visible beyond the closer Black Mesa of the Warm Springs Wilderness area;
 2. To the southeast: The Needles rock pinnacles on the northwestern extreme of the Mohave Mountains with Old Trails Bridge in the foreground.
- Views from the bridge to notable visual elements while traveling west:
1. Naturally formed low hills and graded slopes for road cut and bridges.
- **Key View 3, Bridge/Surrounding Landscape Key Views:**
 1. View of the I-40 bridge consists of a standard bridge design which lacks enhanced aesthetic features that are visually appealing, unique, or reflect any cultural or community elements. This key view of the bridge does not provide enhanced visual character or quality.
 2. Mature riparian landscape along the shorelines: This key view of the riparian landscape provide enhanced visual character and quality.

Visual Resources

The visual resources of the project setting are defined and identified by assessing its visual character and visual quality in the project corridor.

- **Visual Character:** The visual character includes attributes such as form, line, color, texture, and used to describe, not evaluate a visual resource. Changes in visual character can be identified by how visually compatible a proposed project would be with the existing condition by using visual character attributes as an indicator. The existing I-

40 bridge, along with the two bridges that flank it (New Red Rock Railroad Bridge and Old Trails Bridge), are notable corridor elements. The replacement bridge will be compatible with the visual character of the corridor. The long horizontal bridge deck is also visually compatible with the horizontal lines of the flood plains and the water's surface of the Colorado River that immediately surround the project area. The existing visual character of the distant surrounding area is mainly comprised of visual contrasts. The northeast view of the undulating Warm Springs Wilderness area and Hualapai Mountains is in contrast with the repeating truss bridge pattern. The southeast view consists of the smooth, straight lines of the Old Trails Bridge in the foreground which sharply contrasts with the dark reddish color of the distant rock pinnacles of the northwestern extreme of the Mohave Mountains. The overall visual character of the bridge deck would remain the same in terms of size, scale, form, and lines as the existing bridge. However, the bridge support piers will change from six wide solid walls set perpendicular to the length of the deck to five sets of two bent column piers with Build Alternative 1. Build Alternative 2 and 3 would consist of 6 sets of columns.

- Visual Quality: The existing I-40 bridge has a standard design with structural deterioration and does not contribute to the visual quality of the project corridor. The visual quality of the existing corridor will be altered with implementation of the proposed project through the addition of memorable and distinctive aesthetic elements of the replacement bridge.

Viewers

The population affected by the project is composed of viewers, which are people whose views of the landscape may be altered by the project due to the landscape changing or their perception that the landscape has changed. There are two major types of viewer groups for highway projects: highway neighbors and highway users. Each viewer group has its own particular level of viewer exposure and viewer sensitivity, resulting in different visual concerns for each group.

Highway Neighbors

Highway neighbors are people who have views to the road. They can be subdivided into different viewer groups by land use. For the proposed project, the following highway neighbors were considered:

- Residential property owners;
- Commercial property owners/employees;
- Commercial property visitors;
- Utility station employees; and
- River travelers (i.e., boat tours and private boaters)

Highway Users

Highway users are people who have views from the roadway. They can be subdivided into different viewer groups by mode of travel or by reason for travel. This includes pedestrians, bicyclists, transit riders, car drivers and passengers, and truck drivers. Mode of travel can include categories such as tourists, commuters, and haulers. For the project, the following highway user were considered:

- Tourists – traveling by vehicle and bicycles; and
- Business travelers – commuters and haulers.

Viewer Exposure

Viewer exposure is a viewer's ability to see a particular object. Viewer exposure has three attributes that include location, quantity, and duration. Location relates to the position of the viewer in relation to the object being viewed. Quantity refers to how many people see the object. Duration refers to how long a viewer is able to keep an object in view. High viewer exposure helps predict that viewers will have a response to a visual change.

Bridge and Highway Neighbors

- The residents and commercial property owner/employees share similar high viewer exposure from their adjacent location, quantity of people, and duration of time.
- The commercial property visitors view exposure is low. Although the quantity has the potential to be high, the view duration would be limited to their length of the visit.
- The view exposure from the utility station employees would be classified as moderate. The daily on-site employees have a direct view of the bridge. However, their duration would be limited to their weekly work hours.
- River travelers would share a moderate view exposure having the closest views but would be limited in both quantity and duration.

Bridge and Highway Users

- All highway users would share the same direct location and duration. Drivers and bicyclists would have a low view exposure based on lower quantity of people and frequency. Business travelers would have a moderate view exposure due to the higher quantity of people and frequency of trips.

Viewer Sensitivity

Viewer sensitivity is a measure of the viewer's recognition of a particular object. It has three attributes that include activity, awareness, and local values. Activity relates to the preoccupation of viewers and their engagement in observing their surroundings. Awareness relates to the focus of the view. The more specific the awareness, the more sensitive a viewer is to change. Local values and attitudes also affect viewer sensitivity. If the viewer values aesthetics in general or if a specific visual resource has been protected by local, state, or national designation, it is likely that viewers will be more sensitive to visible changes.

- High viewer sensitivity groups: The directly adjacent residents, commercial property owner, river boat tour owners, and river travelers would all have a heightened level of engagement, focus, and sensitivity to the bridge replacement.
- Moderate viewer sensitivity groups: Driving and cycling tourist and commercial property visitors would have a high level of focus and engagement. However, their sensitivity to visual change would be less due to their temporary exposure to the bridge.

- Low viewer sensitivity groups: Commercial property and utility station employees, along with business travelers, would share a low level of viewer sensitivity. They are not likely to be focused, engaged or sensitive to any visual changes.

2.1.11.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1, 2 and 3

Implementation of the project will subject viewers to construction related vehicles, accessing of those vehicles, and staging areas with construction materials and equipment. The construction staging area for all three alternatives is located on the southwest portion of the project site. The construction phase will expose surfaces, construction debris, equipment, temporary structures, and truck traffic to viewers. A system of trestles will also be constructed along each side and under the existing bridge. The trestles will be used as a work platform for foundation construction, material, hauling, falsework erection, and for the removal of the existing bridge. A 50-foot opening will be provided for river navigation during construction. Temporary access roads to access the trestles will also be required from the Arizona and California sides. Construction vehicles, temporary structures and trestles, equipment, and staging of construction materials will be visible to motorists, bicyclists, commercial property and utility station employees and visitors, residents, river boat tour owners and river boat travelers. These temporary, construction-related impacts will be short term and will cease upon project completion. Adherence to Caltrans Standard Specifications for Construction will minimize visual impacts during the construction phase.

No-Build Alternative

The No-Build Alternative does not include any bridge replacement and thus no construction improvements in the project area. The existing visual setting would remain as it currently exists and would not result in any temporary visual impacts as no construction would occur.

Permanent Impacts

Visual impacts are determined by assessing changes to the visual resources and predicting viewer responses to those changes. The three key views were analyzed that most clearly demonstrated the change in the project's visual resources. The key views also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity. The three key views were analyzed for each of the proposed build alternatives and described below.

Build Alternative 1

Key View 1 Intermediate and Key View 2 Distant (skyline): The proposed replacement bridge deck, median barrier, and bridge railings will be very similar in overall width, height, and form to the existing bridge structure. The open sky view aspect currently experienced will be retained with implementation of Build Alternative 1, thus the visual character and quality of the intermediate and distant key views from the proposed bridge will be mostly unaffected. However, with the replacement of the deteriorated bridge deck, open rail design, and enhanced

aesthetic features, the visual character and visual quality will be greatly improved compared with existing conditions. The resulting level of visual resource change can be described as moderate-low.

Tourists and travelers will have a moderate-high viewer response to this build alternative. Although the duration of their exposure will be limited, their focus, engagement and sensitivity to visual change will result in notable viewer responses. Business travelers will be rated with a low viewer response as they will not be focused on the views or engaged with their surroundings and thus will not be sensitive to visual change. The resulting viewer response for all highway travelers can be described as moderate.

Key View 3, Bridge/Surrounding Landscape Key Views: With the similar scale, position, and open sky aspect of the replacement bridge for this build alternative, the views beyond the bridge will not change, except for the support piers. The existing bridge has solid wall piers that contribute to an outdated appearance. As the river contour bends to the north and south, the existing solid wall piers also impede the views of river travelers through and beyond the bridge from a distance. Implementation of Build Alternative 1 will result in the proposed sets of bent piers, which will add style and openness and increase both the visual character and visual quality of the bridge. This substantial visual resource change will be a result of the open rail design and enhanced aesthetic elements of Build Alternative 1. The overall level of visual resource change has the potential to be moderate-high.

Furthermore, the combined viewer response of an improved bridge with updated bent piers, decorative open railing designs, and aesthetics that reflect the local culture, the overall viewer response level will be considered moderate-high.

Build Alternatives 2 and 3

Key View 1 Intermediate and Key View 2 Distant (skyline): Build Alternatives 2 and 3 would have little effect on the intermediate and distant views from the proposed bridge. With the bridge location realigned to either the north or south, the frame of the key views would shift but would not be diminished. Therefore, the visual resource change and viewer response would remain the same.

Key View 3, Bridge/Surrounding Landscape Key Views: Build Alternatives 2 and 3 would have little effect on the views to the bridge. The visual resource change and viewer response would remain similar to Build Alternative 1. However, there would be considerable regrading and landscaping disruptions involved with both alternatives. Upon the existing bridge being removed, the area would show signs of regrading and restorative landscape measures. Specifically, Build Alternative 2 would disturb a large area of natural riparian landscape, resulting in a visual resource change and viewer response of moderate-high. Implementation of Build Alternative 3 would also result in the bridge structure much closer in proximity to the residential properties, who would have the highest level of sensitivity to the project. This would result in a visual resource change of moderate-high and the viewer response would be high.

No-Build Alternative

The No-Build Alternative would not result in replacement of the existing bridge structure. As it exists currently, the existing bridge does not compliment or reflect the built, natural, or cultural richness of the surrounding area. Furthermore, the existing outdated bridge would continue to deteriorate and negatively impact the visual integrity of the area.

2.1.11.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Temporary and permanent adverse impacts to visual resources will be addressed by the following measure.

- VIS-1** All ground disturbance in the surrounding landscape will be returned to its existing condition or visual quality with concurrence of the District Landscape Architect.

2.1.12 Cultural Resources

2.1.12.1 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).

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 Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)¹ between Caltrans and SHPO, effective January 1, 2015.

In addition, title to submerged resources within the lands of California, including archaeological sites and historic or cultural resources is vested in the State and under the jurisdiction of the State Lands Commission (Pub. Resources Code, § 6313). The Commission requests that lead

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

agencies consult Commission staff should any cultural resources on State lands be discovered during construction of the proposed Project.

2.1.12.2 AFFECTED ENVIRONMENT

This section is based on the Historic Property Survey Report (HPSR) (Caltrans, 2022g), Archaeological Survey Report (ASR) (Statistical Research Inc., and Caltrans, 2022a), Historical Resources Evaluation Report (HRER) (Statistical Research Inc., and Caltrans, 2022b), Addendum to the HPSR and Finding of Adverse Effect (FOE) (Caltrans, 2023f), and Memorandum of Agreement (MOA) (FHWA, 2023) prepared for the project.

Area of Potential Effects (APE)

The Area of Potential Effects (APE) includes all areas where potential direct or indirect impacts to historic properties could occur as a result of construction, operation, or maintenance. The APE for the project consists of land located along I-40 from PM 153.9 to PM 154.7 in San Bernardino County, and from PM 0.0 to 0.6 in Mohave County, Arizona. The overall size of the APE is approximately 73.7 acres, with 24.8 acres located in Arizona and 48.9 acres located in California. The APE was established from the direct Project footprint, or Area of Direct Impact (ADI) and includes all cut and fill limits and all work for construction staging, plus additional areas to account for potential indirect effects such as noise, vibration, or settling impacts. The horizontal APE is 1.2 miles long and generally corresponds with the Caltrans and ADOT right-of-way. However, the APE has been expanded to encompass both archaeological and built-environment resources that are either within or adjacent to the project footprint to account for any potential indirect effects to these resources. The vertical extent of the APE is four feet below ground level for the roadbed. The maximum depth of the APE is 110 feet below ground level for the piles and bents within the Colorado River for the new bridge. The maximum extent of the APE is 45 feet above the original bridge deck to account for lighting, barriers, and signs on the new bridge deck.

Native American Consultation

On January 27, 2020, the Native American Heritage Commission (NAHC) was contacted to initiate a search of the Sacred Lands File (SLF). On February 7, 2020, the NAHC responded stating a negative SLF search, along with a list of Native American contacts. Coordination also occurred with the ADOT Historic Preservation Specialist which provided a list of contacts that should be contacted as part of the project. The following tribes were sent consultation initiation letters on June 4, 2020.

Hopi (Stewart Koyiyumyewa, Tribal Historic Preservation Officer)

The Hopi Tribe was sent the consultation initiation letter on June 4, 2020 and responded on June 15, 2020, stating the Tribe wished to consult on the project if it was determined that it had the potential to adversely affect prehistoric resources and notified of any cultural deposits discovered during construction. A project update with summary letters and updated footprint was sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022 and March 30, 2022. The Finding of Effect (FOE) was made available on June 30, 2022 and follow up letters sent on July 18, 2022 and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation

remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Hualapai (Dr. Damon R. Clarke, Tribal Chairman, Peter Bungart, Tribal Historic Preservation Officer)

The consultation initiation letter was sent on June 4, 2020 and follow up email was sent on August 6, 2020. The Tribe responded on November 6, 2020 stating that the Tribe defers consultation to the Fort Mojave and Chemehuevi Tribes. The Tribe requested to be contacted if human remains are found during construction but had no further concerns with the project.

Yavapai-Prescott (Greg Glassco, Compliance Officer, Robert Ogo, Acting President, and Linda Ogo, Director of the Cultural Research Department)

The consultation initiation letter was sent on June 4, 2020 and a response received on June 16, 2020 stating the Tribe wished to consult on the project and review the survey report once completed. A project update with summary letters and updated footprint maps were sent to the Tribe on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent to the Tribe on March 10, 2022 and March 30, 2022. The FOE was made available on June 30, 2022 with follow up letters sent on July 18, 2022 and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Moapa Band of Paiute Indians (Vickie Simmons, Tribal Chairperson)

The consultation initiation letter was sent on June 4, 2020 and follow up email sent on August 6, 2020. A project update with summary letters and updated footprint maps were sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022 and a follow up sent on March 30, 2022. The FOE was made available on June 30, 2022 with follow up letters sent on July 18, 2022, and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Chemehuevi Indian Tribe (Charles Wood, Tribal Chairman)

The consultation initiation letter was sent on June 4, 2020 and follow up email sent on August 6, 2020. A project update with summary letters and updated footprint maps were sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022 and a follow up sent on March 30, 2022. The FOE was made available on June 30, 2022 with follow up letters sent on July 18, 2022, and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Colorado River Indian Tribes (Dennis Patch, Tribal Chairman)

The consultation initiation letter was sent on June 4, 2020 and a response was received on June 24, 2020 requesting that all prehistoric sites be avoided and their desire to continue

consultation. A project update with summary letters and updated footprint maps were sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022 and a follow up sent on March 30, 2022. The FOE was made available on June 30, 2022 with follow up letters sent on July 18, 2022, and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Fort Mojave Indian Tribe (Timothy Williams, Tribal Chairman, Linda Otero, Director of the Aha-Makav Cultural Society of the Fort Mojave Indian Tribe)

The consultation initiation letter was sent on June 4, 2020, and a phone call from Ms. Otero was received on June 22, 2020, requesting the consultation initiation letters be resent. The letters were resent the same day. An email from Ms. Otero was received on June 24, 2020, requesting contact information for FHWA and the Caltrans District 8 Director. The requested information was provided on June 25, 2020. On July 2, 2020, Ms. Otero sent a letter to the Caltrans D8 Director stating that the original bridge construction never considered its effects on the Mojave People and that all work in the area should automatically be an adverse effect. On August 6, 2020, Caltrans sent an email to Ms. Otero explaining that the project was in the early stages and that the Tribe would be consulted with during the entire process.

A project update with a summary letter and updated footprint maps was sent to Ms. Otero on November 17, 2020. A teleconference meeting between FHWA, Caltrans and the Tribe was held on March 24, 2021. Ms. Otero identified the entire project area as sensitive and stated that she looked forward to reviewing the project cultural reports. A project update letter was sent to Ms. Otero on November 24, 2021, and a third update packet including the first draft copies of the project inventory and evaluation reports were sent to Ms. Otero for Tribal review on March 10, 2022.

Ms. Otero provided comments on the draft report May 25, 2022, asking for clarification on the locations of certain sites and restating the general sensitivity of the area. On June 13, 2022, Ms. Otero sent an email to Caltrans stressing that Alternative 4, the No Build Alternative, is the Tribe's preferred alternative. Revised project reports were sent to Ms. Otero on June 30, 2022. On September 15, 2022, Ms. Otero sent an email with additional comments about the project finding, asking that the Topock Maze be added to the California Register of Historic Places, and that an Environmentally Sensitive Area (ESA) Action Plan and evaluation document be sent to her for her review.

Caltrans responded to Ms. Otero on December 19, 2022, via letter addressing the Tribe's comments in detail, providing a new link to the ESA action plan and evaluation document which had been sent to her on June 30, explaining the industry standard methods which had been used to identify the cultural sensitivity of the area, and mentioning that the Topock Maze has been on the California Register of Historic Places since 1978. Since that time, Caltrans has attempted to contact Ms. Otero asking for a meeting on January 4, January 24, and January 26, 2023.

On March 3, 2023, CA SHPO concurred with the eligibility determinations for several sites within the project footprint but requested additional information about the tangible and intangible effects mentioned by the Tribe.

On March 9, 2023, Caltrans sent an email to Ms. Otero with maps of the Mojave traditional territory, proposed Topock sacred area, and the project footprint to ask for additional consultation with the Tribe to help describe the effects the project would have on the tangible and intangible qualities of the landscape as considered under Section 106. On March 29, 2023, Ms. Otero emailed Caltrans to ask for a field meeting at the project location to discuss the Tribal perspective of the landscape.

On May 2, 2023, Caltrans met with Tribal representatives, including Ms. Otero, the consulting archaeologist Dawn Hubbs, former Tribal Chairwoman Nora MacDonald, and Mojave artist and teacher, Paul Jackson at the Pipa AhaMaKav Cultural Center in Mohave Valley Arizona.

On July 19, 2023, Caltrans, FHWA, CA SHPO, and the Fort Mojave Indian Tribe met via videoconference to further discuss the Tribal perspective of the landscape and how the Project potentially impacts it.

On August 4, 2023, a draft addendum to the Finding of Effect was submitted to the Tribe. After SHPO concurrence on the addendum to the FOE, a draft Memorandum of Agreement (MOA) was submitted to the Tribe on August 23, 2023. A revised draft MOA was provided to the Tribe on September 27, 2023 and the Tribe provided comments on October 12, 2023. A revised version was then submitted on October 17, 2023. The Fort Mojave Indian Tribe signed the MOA on October 27, 2023.

Twenty-Nine Palms Band of Mission Indians (Darrel Mike, Tribal Chairman, Anthony Madrigal, Tribal Historic Preservation Officer)

The consultation initiation letter was sent on June 4, 2020, and project update with summary letters and updated footprint maps were sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022 and a follow up sent on March 30, 2022. The FOE was made available on June 30, 2022 with follow up letters sent on July 18, 2022, and August 5, 2022. No response has been received. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Fort Yuma Quechan Tribe (Jill McCormick, Tribal Historic Preservation Officer)

The consultation initiation letter was sent on August 11, 2020. A project update with summary letters and updated footprint maps were sent on November 17, 2020 and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022. A response letter was received on March 14, 2022 stating no comments on the project and deferring to the Fort Mojave Tribe. The Tribe will continue to receive project updates and consultation remains ongoing. The Tribe will have the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction.

Government and Historical Society Consultation

Initial letters and follow up communication were sent out to the following local parties including land management agencies, regulatory agencies, local museums, and historical societies located in California and Arizona.

Army Corps of Engineers (Daniel Grijalva, Archaeologist)

A consultation initiation letter was sent on October 26, 2020 and project update letter was sent on November 16 2021. An update letter was sent on March 10, 2022 and follow up letter on March 30, 2022 indicating the inventory and evaluation reports were available. The FOE was made available on June 30, 2022 and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

Arizona State Museum (Shannon Plumber, Arizona Antiquities Act Administrator, Permits Office Manager, Dr. Patrick Lyons, Director)

A consultation initiation letter was sent on October 26, 2020 and November 16, 2021. A response was received on November 17, 2021 from the museum requesting to be a consulting party. The inventory and evaluation reports were sent on March 10, 2022 comments received from the museum on April 11, 2022. The comments will be addressed in a separate document as part of the Arizona State Museum's permitting requirements. The FOE was made available on June 30, 2022 and follow up letters sent on July 18, 2022 and August 5, 2022. The museum responded on July 22, 2022 stating their concurrence with the finding of No Adverse Effect.

Arizona Historical Society (James Burns, Executive Director)

A consultation initiation letter was sent on October 26, 2020 and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022 and March 30, 2022. A response was received on March 31, 2022 requesting to review the environmental report and FOE. The FOE was made available on June 30, 2022 and follow up letters were sent on July 18, 2022 and August 5, 2022. No comments have been received.

Bureau of Land Management, Lake Havasu District (Collin Price, Archaeologist)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022, and March 30, 2022. A response was received on March 30, 2022, indicating no mail was received. The original letter was resent again on March 30, 2022. The FOE was made available on June 30, 2022, and follow up letters were sent on July 18, 2022 and August 5, 2022. No comments have been received.

California Historic Route 66 Association (Glen Duncan, President)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022, and March 30, 2022. The FOE was made available on June 30, 2022 and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

California Route 66 Preservation Foundation (Jim Conkle, President)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022, and March 30, 2022. The FOE was made available on June 30, 2022 and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

California State Lands Commission (Nicole Debroski, Chief Division of Environmental Planning and Management)

The California State Lands Commission was identified as a potential consulting party as a respondent to the Notice of Preparation. A response was received on December 2, 2020, requesting a submerged resources survey through their database, and language reflecting submerged lands, shipwrecks, archaeological sites, historic and cultural resources are vested in the state and under jurisdiction of the California State Lands Commission, and that consultation continue with local Native American groups. A submerged resources survey request was sent to the California State Lands Commission on August 10, 2021, and a response was received the same day indicating negative results for known resources within the project area.

Mohave Museum of History and Arts (Bill Wales, President)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022, and March 30, 2022. The FOE was made available on June 30, 2022, and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

Mojave River Valley Museum (Robert Hilburn, President)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter indicating the inventory and evaluation reports were available for review was sent on March 10, 2022, and March 30, 2022. The FOE was made available on June 30, 2022, and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

National Park Service, Route 66 Corridor Preservation Program (Kaisa Barthuli, Program Manager)

A consultation initiation letter was sent on July 15, 2021, and a response received on December 16, 2021, requesting clarification of the project. A response and map were sent on December 20, 2021. The inventory and evaluation reports were sent on March 10, 2022, and follow ups on March 30, 2022, and April 18, 2022. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

National Historic Route 66 Federation (David Knudson, President)

Previously known as the Route 66 Historical Association. A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter was sent on March 10, 2022, and March 30, 2022 indicating the inventory and evaluation reports were available for review. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

Needles Regional Museum

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter was sent on March 10, 2022, and March 30, 2022 indicating the inventory and evaluation reports were available for review. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

Pacific Gas & Electric (Jennifer Darcangelo, Tribal and Cultural Resource Land Consultant)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter was sent on March 10, 2022, and March 30, 2022 indicating the inventory and evaluation reports were available for review. A response was received on March 30, 2022 requesting to review the documents and requested documents were sent the same day. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

San Bernardino Historical Society

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. An update letter was sent on March 10, 2022, and March 30, 2022 indicating the inventory and evaluation reports were available for review. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

United States Coast Guard (Carl Hausner, Chief Bridge Section)

A consultation initiation letter was sent on October 26, 2020, and November 16, 2021. A response was received on November 26, 2020, requesting to be a cooperating agency under NEPA and for technical reports and consultation. An update letter was sent on March 10, 2022, and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review. A response requesting the documents was received on April 4, 2022. The reports were sent on April 7, 2022. The FOE was made available on June 30, 2022, and follow up letters sent on July 18, 2022 and August 5, 2022. A response was received on June 30, 2022, indicating the documents were accessed. No other comments have been received.

United States Fish and Wildlife Service, Lake Havasu Refuge (Linda Miller)

A consultation initiation letter was sent on October 26, 2020, and October 27, 2020. An update letter was sent on November 16, 2021. The inventory and evaluation reports were sent on March 10, 2022, and response received on March 15, 2022 with a request for the reports. The reports were made available on the same day. The FOE was made available on June 30, 2022, with follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received.

Advisory Council on Historic Preservation (Mandy Ranslow)

A formal consultation letter was sent on October 26, 2020, with an update letter sent on March 10, 2020. A response was received on March 14, 2022, indicating a new point of contact. A follow up email was sent on March 30, 2022. The FOE was made available on June 30, 2022, and follow up letters sent on July 18, 2022 and August 5, 2022. No comments have been received. On September 13, 2023, FHWA submitted a revised finding of effect with supporting documentation to the ACHP. On October 11, 2023, the ACHP responded and indicated that because they did not respond within 15 days with a decision regarding our nonparticipation, they assume that the Federal Highway Administration has continued the consultation to resolve adverse effects. The ACHP also stated that pursuant to 36 CFR § 800.6(b)(1)(iv), FHWA needed to file the final Section 106 agreement document, developed in consultation with the Arizona and the California SHPO's and any other consulting parties, and related documentation

with the ACHP at the conclusion of the consultation process. The executed Memorandum of Agreement was submitted to the ACHP on November 9, 2023.

Arizona State Historic Preservation Office

A formal consultation initiation letter was sent on October 26, 2020. FHWA/Caltrans continued consultation by submitting the DOE to Arizona SHPO on August 16, 2022. The Arizona SHPO concurred with the finding of No Adverse Effects on September 14, 2022. In a letter dated August 4, 2023, the FHWA sent the HPSR and FOE HRSP HPSR Addendum and requested that the Arizona SHPO concur with the APE Delineation, identification of historic properties located within the Undertaking's APE, Evaluation of resources, and proposed Finding of Adverse Effect for the Undertaking. The Arizona SHPO concurred with the APE and Finding of Adverse Effect in a letter dated August 28, 2023. A draft MOA was submitted to the Arizona SHPO on August 29, 2023 and comments were received from the Arizona SHPO on September 11, 2023. A revised draft MOA was submitted to the Arizona SHPO on September 27, 2023 and a meeting to discuss MOA comments was held on October 2, 2023 with Caltrans, FHWA, and the Arizona and California SHPO. A second meeting was held on October 5, 2023 to continue discussion on the MOA. On October 10, 2023, the Arizona SHPO provided comments on the draft MOA and a revised version was submitted on October 16, 2023. The Arizona SHPO signed the MOA on October 18, 2023.

California State Historic Preservation Office

A formal consultation initiation letter was sent on October 26, 2020. FHWA/Caltrans continued consultation by submitting the DOE to SHPO on August 16, 2022. Consultation remains ongoing. On December 19, 2022, Caltrans sent a letter to the Fort Mojave Tribe and CA SHPO addressing each of the Tribe's comments and providing details on the methodologies used by Caltrans/FHWA to determine the finding for the project. On March 3, 2023, CA SHPO concurred with the eligibility determinations for several sites within the project footprint but requested additional information about the tangible and intangible effects mentioned by the Tribe before SHPO could concur on the finding for the project. During a videoconference between Caltrans, FHWA, CA SHPO, and the Fort Mojave Indian Tribe on July 19, 2023, the Tribe reiterated the points made during the May 2, 2023 meeting with Caltrans for the benefit of CA SHPO and FHWA staff. In brief, the Tribe considers their placement on the reservation, construction of the railroads in the 1800s, the original building of the Colorado River Bridge in the 1960s, and the effects on the landscape by the PG&E Compressor Station and the resulting toxic soil removal efforts which are currently ongoing south of the I-40 right-of-way, to be part of a single continuous series of adverse effects on the Mojave people.

In a letter dated August 4, 2023, the FHWA sent the HRSP and FOE Addendum and requested that the California SHPO concur with the APE Delineation, identification of historic properties located within the Undertaking's APE, Evaluation of resources, and proposed finding of Adverse Effect for the Undertaking. The California SHPO concurred with the Undertaking's APE, Evaluation of resources, and proposed finding of Adverse Effect for the Undertaking in a letter dated August 15, 2023.

On August 29, 2023, the draft Memorandum of Agreement (MOA) was submitted to the California SHPO. The California SHPO provided comments on the draft MOA on September 12, 2023. A revised version was then provided to the California SHPO on September 27, 2023. On October 2, 2023, a meeting was held with Caltrans, FHWA, and the Arizona and California SHPOs to discuss comments on the draft MOA. On October 4, 2023, the California SHPO

submitted comments on the draft MOA and the revised version was returned by FHWA on October 5, 2023. A second meeting to discuss comments with Caltrans, FHWA, and the Arizona and California SHPOs was held on October 5, 2023. The revised MOA was submitted to the California SHPO on October 16, 2023. On November 9, 2023 the MOA was executed with signatories, Arizona FHWA, California FHWA, Arizona SHPO, and California SHPO.

Records Search

As the project is located within California and Arizona, records searches were conducted in each state. For California, a records search with the South Central Coastal Information Center (SCCIC) was conducted. For Arizona, the records search was conducted online with Arizona State University's AZSITE, which provides a consolidated informational network of recorded cultural resources. The SCCIC identified 174 previously recorded cultural resources, 8 of which were mapped within the APE. The Arizona records search identified 10 previously recorded resources within 0.5-mile of the APE, with four of those resources intersecting the APE. A pedestrian survey of the APE was conducted on June 8 and 9, 2021. A total of 8 cultural resources were encountered. These resources include four previously recorded resources in California (CA-SBR-000219, CA-SBR-11910/H, CA-SBR-12642H, and CA-SBR-13791H), one new site in Arizona (SRI-2), and three resources spanning the state line [CA-SBR-2910, and AZ I:15:156 (ASM), CA-SBR-6693H/AZI:14:334 (ASM), and P-36-027678]. No new resources were recorded on the California side of the project. The pedestrian survey also determined several resources identified in the records searches were mis-plotted or otherwise not located within the APE including historical-period walls, trails, footings, and pits (CA-SBR-13792H), the remains of a cellar [AZL7:19(ASM)], isolated resource (P-36-023220) fragments of refractory (heat-resistant) material. Based on the survey, none of these resources intersects the APE and are either mis-plotted or located outside of the APE.

The Colorado River Bridge (54-0415) and Marina Road Undercrossing (54-0670) bridges are listed as Category 5 bridges (previously determined not eligible for listing in the NRHP). As such, none of the bridges are subject to evaluation.

The following cultural resources within the APE were previously determined eligible for inclusion in the NRHP and those determinations remain valid:

- CA-SBR-000219. Topock Maze/Topock Traditional Cultural Property consists of a complex of three (3) loci containing intaglio or geoglyphs. Locus A (18 acres) is located immediately to the south of the I-40 right-of-way and locus B (11 acres) and locus C (6 acres) are located to the north of the BNSF/ATSF railroad which is beyond the ADI. The maze is a large intaglio or geoglyph consisting of parallel windrows of dark desert-pavement gravels piled up from the surrounding desert pavement surface. The site is listed on both the NRHP and CRHR under Criterion D/4. CA-SBR-00219 was reevaluated in the HPSR Addendum dated August 2023 and determined to be eligible for the NRHP under Criterion A as well as Criterion D. CA-SBR-000219. Topock Maze/Topock Traditional Cultural Property is part of a larger maze complex, with only the main portion of the maze (Locus A) within the APE. Locus A covers approximately 17.7 acres and located south of I-40, between PM 153.9 and PM 154.2, south of the western end of the APE. The maze is a large intaglio or geoglyph consisting of parallel windows of dark desert pavement gravel, piled on the surrounding desert pavement surface. The site is listed on both the NRHP and CRHR under Criterion D.

- CA-SBD-6693H/AZI:14:334. BNSF/ATSF Railroad. This resource consists of a segment of the BNSF railroad that extends through the APE. The segment includes a series of railroad tracks, a bridge over Route 66 in California and over Oatman Highway in Arizona, and a culvert/tunnel beneath the tracks on the California side of the project area. This resource was determined eligible for listing in the NRHP (Criterion A) with California SHPO in 1994.
- Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66 (NOTH/66) CA and AZ. CA-SBR-2910 and AZ I:15:156 (ASM). This resource consists of five different sections or alignments of NOTH/66. This historic route runs through the project area toward Needles, California to the northwest and Topock and Oatman, Arizona to the north. The resources on the California side consist of the alignment of the road and guard rails, culvert, road signs, and trash scatter. The resource continues into Arizona where it is recorded as AZ I:15:156 (ASM) and consists of an asphalt-paved segment of Oatman Highway. Generally, NOTH/66 within California is considered eligible for the NRHP and CRHP under Criteria A and C. However, multiple segments within the California portion of the APE have been previously evaluated and SHPO concurred upon, with varying levels of NRHP status. The Arizona portion of NOTH/66 was evaluated and found to be eligible for the NRHP under Criteria A and C.
- Old Trails Arch Bridge (P-36-027678). This resource is 832 feet in length and 20 feet in width and is a steel-trussed, single-span, center-hinged, through type arch bridge. The bridge was constructed in 1916 and functioned as an automobile bridge along the NOTH (designated Route 66 in 1926) until 1947, when the bridge was decommissioned, and traffic was redirected to the newly repurposed Red Rock Bridge. In 1948, the roadway of the bridge was removed, and the bridge was incorporated into the design of the EPNG interstate natural gas pipeline. Currently, the bridge supports natural gas pipelines as they traverse the Colorado River from Arizona to the Topock Compressor Station in California. The resource was evaluated and listed in the NRHP in 1988 under Criterion A and C.

The following cultural resources are within the APE and were evaluated as a result of this project and are not eligible for inclusion in the NRHP.

- CA-SBR-13791H. This resource consists of a 164 foot-by-65 foot-7 inch scatter of railroad related debris including locomotive firebox bricks, railroad timber, spikes, bolts, tie plates, fragments of asbestos, and historical-period kitchen refuse. The site is located along the slope of a terrace overlooking the western shoreline of the Colorado River and is actively eroding downslope and is highly scattered. This site is recommended as not eligible for the NRHP and CRHP.
- CA-SBR-12642H. This resource consists of a 10 foot long-by-1 foot-11.5 inch wide formed and poured concrete footing located on a terrace overlooking the western shoreline of the Colorado River. This footing constitutes the last remaining component of the Red Rock Bridge, a railroad bridge constructed across the Colorado River in 1890 that was ultimately converted into a highway bridge as part of the Route 66 system in 1947. The bridge was abandoned and dismantled during the 1970s. The site is recommended as not eligible for the NRHP and CRHP.

- CA-SBR-11910/H. This resource consists of a multicomponent archaeological site composed of a small, discrete prehistoric lithic scatter and three foxholes, a rock cairn, two concentrations of insulator glass fragments, and pieces of historical period refuse. The historic component only is recommended as not eligible.
- SRI 2. This resource consists of approximately a 30 foot diameter, 80 foot tall steel water tank located on the Arizona side of the APE, adjacent to the BNSF railroad tracks. This site is currently recommended as not eligible for the NRHP and CRHP.

There are cultural resources within the APE that were not evaluated as a result of this project and are considered to be eligible for inclusion in the NRHP because they can be protected in there entirely through the establishment of an Environmentally Sensitive Area (ESA).

- CA-SBR-11910/H. This archaeological site is a small, discrete lithic scatter on desert pavement consisting of cobble, five pieces of debitage, and two waterworn cobbles, all composed of quartzite. The historic component consists of three foxholes, a rock cairn, two concentrations of insulator glass fragments, and historical period refuse. The site record does not indicate if the site was evaluated for its eligibility listing in the NRHP or CRHR.
- AZ L7:81(ASM). This highly disturbed site consist of discrete, prehistoric isolate lithic scatter located upon a highly disturbed tract of land between the extended northern shoulder and pull out area of AZ-95 Oatman to Topock Highway, and the BNSF railroad. The site has not been evaluated for the NRHP but will be treated as eligible and protected in its entirety through the establishment of an ESA.

2.1.12.3 ENVIRONMENTAL CONSEQUENCES

The records search, surveys, and evaluation efforts resulted in six Historic Properties in the APE. Four of these including Topock Maze (CA-SBR-219), NOTH/Route 66, Atchison, ATSF/BNSF, and Old Trails Arch Bridge (P-36-027678) have been previously determined eligible for the NRHP, and two (CA-SBR-11910/H and AZ L:7:81) will be considered eligible for the NRHP under Criterion D for the project. Caltrans / FHWA analyzed the potential effects of the Undertaking on the six Historic Properties identified in the APE in accordance with the NHPA Section 106 Criteria of Adverse effect in 36 CFR 800.5 as follows:

Topock Maze (CA-SBR-219)

The affects to this property are the same under Build Alternative 1, 2, and 3. This historic property has been previously determined eligible for the NRHP under Criterion D and the resource can be protected through the establishment of an ESA. As part of the consultation efforts with the Fort Mojave Tribe, the AhaMaKav Cultural Society indicated that the Tribe considers the maze to be part of a Traditional Cultural Property and prefers the maze to be referred to as the Topock Maze/Topock Traditional Cultural Property. The Tribe also stated their view that the maze is part of a larger spiritual landscape which is central to their traditional lifeways and the land holds special significance in both tangible and intangible ways. No project related work is currently proposed at any of the three loci. This property is located well away from the ADI and was brought into the APE out of an abundance of caution due to the cultural sensitivity of the area and to ensure there was no inadvertent damage to the site. The site will

be protected in its entirety through the establishment of an ESA to ensure there are not direct effects to this property from construction related activities. The physical features of this site will be protected through the establishment of the ESA. The setting will change as the existing bridge will be removed and a new bridge will be constructed in its place, however, this effect will be temporary. Although the proposed bridge will be slightly taller and longer, it is of similar construction and is being constructed in roughly the same location as the existing bridge. Therefore, there would be no new indirect effects upon this property's setting or character. Furthermore, the project will not change the intangible characteristics of the Topock Maze/Topock Traditional Cultural Property. The build alternatives would not affect the Topock Maze/Topock Traditional Cultural Property's functions within the Fort Mojave Tribe's beliefs and lifeways. As such, the build alternatives would have No Adverse Effect on the Topock Maze/Topock Traditional Cultural Property (CA-SBR-219).

Subsequent consultation efforts with the Fort Mojave Indian Tribe have resulted in a reanalysis of *Nyo-Haive-Kee-Matche-Eve* (Topock Maze) and a determination that CA-SBR-219 is eligible for the NRHP under Criterion A as well as Criterion D. For the purposes of this project, the boundaries of the three known archaeological loci for CA-SBR-219 is shown on the APE with the understanding that the TCP covers the entire APE. Further, it is recognized that additional efforts beyond the scope of a single project would be required to formally document the Topock TCP. The Topock Maze (CA-SBR-219) consists of a complex of three (3) loci containing intaglio or geoglyphs. There are no physical remains of the Maze complex within the Caltrans right-of-way as the interstate was cut below the natural ground surface during construction in the mid-1960s.

Topock Maze Traditional Cultural Property

The purpose of this discussion is to expand the characterization of the existing Topock Maze conceived as a single archaeological site into a Traditional Cultural property of which Topock Maze is an integral and important nexus. The Tribe's view that the Maze is part of a larger spiritual landscape which is central to their traditional lifeways and that the land holds special significance in both tangible and intangible ways. An especially powerful element of the TCP is the Colorado River itself. The Topock Intaglio itself described above and the Colorado River are its most salient and discernable features.

In sum, Caltrans/FHWA has determined that the project will have an Adverse Effect on the Topock TCP because of anticipated indirect effects including the sound of demolition of the current Colorado River Bridge, the operation of heavy equipment, and other general construction noise, as well as potentially additional dust and construction activities within the Colorado River.

The project will result in the *introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant features* (v). Any visual, atmospheric, or audible effect from the demolition of the current Colorado River Bridge and construction of the new bridge will be temporary in nature limited to the duration of the project. Change to the Colorado River will be minimal and limited to the period of construction as the existing bridge is being replaced by one of similar scope and scale.

The range of possible effects to this property are the same under Build Alternative 1, 2, and 3.

CA-SBR-11910/H

The effects to this property are the same under Build Alternatives 1, 2, and 3. The prehistoric portion of this site is being treated as eligible for the NRHP under Criterion D as the resource can be protected in its entirety through the establishment of an ESA. No work is proposed at this location, however, out of an abundance of caution and to protect against direct and inadvertent effects, this small lithic scatter will be protected in its entirety through the ESA. As such, there will be No Adverse Effect on this resource.

AZ L:7:81 (ASM)

The effects to this property are the same under Build Alternatives 1, 2, and 3. This historic property is being treated as eligible for the NRHP under Criterion D as the resource can be protected in its entirety through the establishment of an ESA. No project work is proposed at this location, however, out of an abundance of caution this small lithic scatter will be protected in its entirety through the establishment of an ESA. As such, the build alternatives will have No Adverse Effect on this resource.

NOTH/Route 66, Segments 4 and 5

The NOTH/Route 66 Segments 4 and 5 are located within the APE with Segment 4 located within the ADI on the California side and Segment 5 located outside of the ADI in Arizona. Segments 4 and 5 are eligible under Criteria A and C, with Segment 4 consisting of approximately 1,600 feet of roadway within the APE and Segment 5 consisting of approximately 100 feet of roadway within the APE. Segment 4 is a local access road currently in fair condition, and Segment 5 is part of the Oatman Highway and used for regular traffic, currently in good condition. Each of the build alternatives are analyzed separately below, as the effect to each segment varies based on build alternative.

- Build Alternative 1

There is no work proposed at any locations within the ADI or APE on either segment. However, there is potential for the segments to be affected as the resource may potentially be utilized as part of the construction haul road and as an access point to temporary roads to be constructed to the north and south of the existing fill used as part of the approach to the Colorado River bridge. This potential construction related traffic is not anticipated to damage the road but incidental damage to the roadbed may occur during hauling and moving construction vehicles to temporary roads or staging and storage areas.

If the roadbed is damaged as part of the construction process, the repair work will be conditioned to reflect an in-kind replacement of the pavement (measure CR-5) with similar components of the existing road surface. A second condition (measure CR-7) states that the repair work will not modify the horizontal or vertical dimensions of the roadbed structure or realign portions of the resource. The overall character of the property will not change as the conditions will ensure the road is repaired in a manner consistent with current conditions. The overall character of the property will also be preserved as the proposed bridge is of similar size and scale of the existing bridge. As such, Build Alternative 1 will have No Adverse Effect on the NOTH/Route 66 Segments 4 and 5.

- Build Alternative 2 and 3

With Build Alternative 2 and 3, the effects to Segment 5 will be the same as discussed under Build Alternative 1 and would result in No Adverse Effect for that segment. As such, the analysis will examine the effects to Segment 4 under Build Alternatives 2 and 3. With Build Alternatives 2 and 3 there is potential for Segment 4 to be affected as the resource may potentially be utilized as part of the construction haul road and as an access point to temporary roads to be constructed to the north and south of the artificial fill used as part of the approach to the Colorado River bridge. Incidental damage to the roadbed may occur through the use of the road as part of construction hauling and moving construction vehicles to the temporary roads or staging and storage areas. If the roadbed is damaged as part of the construction process, the repair work would reflect an in-kind replacement of the pavement (measure CR-5). The repair work would also not modify the horizontal or vertical dimensions of the roadbed structure or realign portions of the resources (measure CR-7). With Build Alternative 2 and 3, the Marina Road Undercrossing would be removed and a new bridge, either slightly to the north (Build Alternative 2) or south (Build Alternative 3) would be constructed. The Marina Road Undercrossing is not part of the historic property (Segment 4) but crosses above the linear resource, and the work on the bridge has the potential to affect the resource located below. Part of the demolition of the bridge is the removal of piers in close proximity to one of the character defining features of Segment 4, the 1950's guardrail. There is the potential for partial removal of the 1950s guardrail. Modern Midwest Guardrail System (MGS) would be installed to meet current safety standards and to protect the new bridge from vehicular collisions. The installation of MGS would be conditioned (measure CR-6) to either be stained or painted white to match the 1950s guardrail, if the original cannot be salvaged and replaced, and be of similar massing, size and scale. The potential loss of the 1950s guardrail is an effect to Segment 4, however, this effect does not rise to the level of adverse as there are other associated road features that are present along this segment which would continue to convey the character and feeling of this property. As such, Build Alternatives 2 and 3 would have No Adverse Effect on Segment 4 and 5.

ATSF/BNSF CA-SBR-6693H (P-36-006693)/AZ I:14:334 (ASM)

This property is a continually utilized and maintained railroad line by BNSF. The effects to this property include the raised bed, trestle bridge, and two overcrossings over NOTH/66 and the Oatman Highway, are the same for Build Alternatives 1, 2, and 3. No work is proposed at this location, and it is outside of the ADI for the project. As such, the build alternatives would have No Adverse Effect.

Old Trails Arch Bridge (P-36-027678)

The effects to this property are the same under Build Alternatives 1, 2, and 3. This resource was previously used as an automobile bridge that crossed the Colorado River, but was converted in 1948 to carry natural gas and continues to function in this capacity currently. This resource is located within the APE but outside of the ADI and located between 350 to 1,150 feet to the south of the Colorado River Bridge. As such, the build alternatives would have No Adverse Effect on this resource.

In summary, there are six Historic Properties located within the APE: Topock Maze/Topock Traditional Cultural Property CA-SBR-219 (recommended as eligible for the NRHP under both Criterion A and Criterion D), BNSF/ATSF Railroad (previously determined individually eligible under Criterion A), NOTH/66 and Old Trails Arch Bridge (previously determined to be eligible

under Criteria A and C), the prehistoric portion of CA-SBR-11910/H and AZ L:7:81 (ASM) (treated as eligible under Criterion D as they can be protected in place with establishment of ESA. Based on the application of the Criteria of Adverse Effect, Caltrans/FHWA has determined that the Undertaking will result in a Finding of No Adverse Effect on five (5) Historic Properties, and an adverse effect on one Historic Property. Thus, FHWA has determined that a Finding of Adverse Effect is appropriate for the Undertaking as a Whole. FHWA/Caltrans initiated consultation on the DOE with the Arizona and California SHPOs on August 3, 2023. The California SHPO concurred with the project eligibility determinations on August 15, 2023. The Arizona SHPO concurred on the Finding of Adverse Effect on August 28, 2023.

On August 23, 2023, the draft Memorandum of Agreement (MOA) was submitted to the Fort Mojave Indian Tribe and to the Arizona and California SHPOs on August 29, 2023. In mid-September, the Arizona and California SHPOs provided comments on the draft MOA. A revised version was then provided to the two SHPOs and the FMIT on September 27, 2023. On October 2, 2023, a meeting was held with Caltrans, FHWA, and the Arizona and California SHPOs to discuss comments on the draft MOA. On October 4, 2023, the California SHPO submitted comments on the draft MOA and the revised version was returned by FHWA on October 5, 2023. A second meeting to discuss comments with Caltrans, FHWA, and the Arizona and California SHPOs was held on October 5, 2023. On October 10, 2023, the Arizona SHPO provided comments on the draft MOA, followed by FMIT who submitted comments on October 12, 2023. The revised MOA was submitted to the Arizona and California SHPOs on October 16, 2023 and to the FMIT on October 17, 2023. On November 9, 2023 the MOA was executed with signatories, Arizona FHWA, California FHWA, Arizona SHPO, and California SHPO. The FMIT, and invited signatory, signed the MOA on October 27, 2023. Pursuant to 36 CFR § 800.6(b)(1)(iv), the executed Memorandum of Agreement was submitted to the ACHP on November 9, 2023.

As a result of the above ongoing consultation between Caltrans on behalf of FHWA, the Fort Mojave Indian Tribe, and the California and Arizona SHPOs offices, the overall finding for the undertaking was elevated to a Finding of Adverse Effect for both tangible and intangible effects on the Topock Maze Traditional Cultural Property. In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) has been prepared in order to mitigate these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories. The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places. Consultation and active engagement with the Fort Mojave Indian Tribe will continue throughout the life of the undertaking in order to achieve the stipulations outlined in the MOA. The MOA has a duration of five years and can be amended by any signatory party.

There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project vicinity. However, this project will not “use” those properties as defined by Section 4(f). Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.

No-Build Alternative

The No-Build Alternative would not adversely affect cultural resources.

2.1.12.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following standard project features **CR-1 through 4** will be implemented to avoid or minimize potential effects on previously undocumented cultural materials or human remains.

- CR-1** Stop work if buried cultural resources are encountered during construction until a qualified archaeologist can evaluate the nature and significance of the find. 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. In the event that human remains, including isolating, disarticulated bones or fragments, are discovered during construction-related activity, cease work in the vicinity of the human remains.

- CR-2** In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 50 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 Descendent (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.

- CR-3** Environmentally Sensitive Areas (ESAs) exist and shall protect resources in place for the duration of the Project. The ESAs will be marked on Plans and delineated in the field by an Archaeologist from the Department.

- CR-4** An Archaeological Monitor will be assigned to monitor construction related activities within the Archaeological Monitoring Area (AMA). No work shall occur within the AMA unless the Archaeological Monitor is present. If archaeological resources are discovered within the AMA, compliance is required with Standard Plans Section 14-2.02.

The Measures **CR-5** through **7** below would lessen the effect to the NOTH/Route 66 Segments 4 and 5:

- CR-5** Repair of the pavement on CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway/Route 66 (NOTH/66) CA and AZ Segments 4 and 5 will be conducted according to the Secretary of the Interior's Standards (SOIS): Any pavement repair will conform to the existing profile, width, etc. Similar or identical paving techniques as the existing will be utilized such as materials type and aggregate size. Paving plans and specifications shall be reviewed and approved by the Caltrans PQS Principal Architectural Historian for compliance.

CR-6 The historic period 1950s guardrails impacted by the project will be salvaged and re-used as practical. If guardrail cannot be reused, stained or painted Midwest Guardrail System type will be used. If guardrail cannot be salvaged, an alternative rail will be chosen in consultation with the Caltrans PQS Principal Architectural Historian to ensure that it is compatible with the massing, size, scale, and architectural features of the 1950s guardrail to protect the historic integrity of the property and its environment.

CR-7 The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and Specifications shall be reviewed by Caltrans PQS Principal Architectural Historian for compliance.

Measures **CR-8** and **CR-9** relate to submerged cultural and paleontological resources discovered during construction that are within the jurisdiction of the California State Lands Commission.

CR-8 The California State Lands Commission has stated that they have jurisdiction over submerged archaeological, historical, and paleontological resources within the State of California. If submerged cultural or paleontological resources are encountered during construction Caltrans will consult with applicable stakeholders that have jurisdiction, including but not limited to the State Lands Commission.

CR-9 The California State Lands Commission has requested that the final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the Commission and this statement is to be included in the project's Mitigation Monitoring Program.

FHWA/Caltrans consulted with the Fort Mojave Indian Tribe regarding mitigation of adverse effects to CA-SBR-00219/Topock Maze/Topock Traditional Cultural Property through the preparation of an Memorandum Of Agreement (MOA) between FHWA, the California State Historic Preservation Office, and the Arizona State Historic Preservation Office. The MOA was executed on November 9, 2023. The following measure has been added to the project:

CR-10: The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places.

In addition, the following measure was added to the Addendum to the HPSR and Finding of Adverse Effect (FOE) (Caltrans, 2023f) to mitigate adverse effects to CA-SBR-00219/Topock Maze/Topock Traditional Cultural Property.

CR-11: Tribal monitors will work alongside the archaeological monitors during construction related activities within the archaeological monitoring area (AMA)

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

This section is based on the Scoping Questionnaire for Water Quality Issues (Caltrans 2022b) and the Location Hydraulic Study and Summary Floodplain Encroachment Report (Caltrans 2023a) prepared for the project.

The project is located in San Bernardino County, California and Mohave County, Arizona along I-40. The receiving waterbodies for the project are the Colorado River, Lake Havasu, Mohave Wash, and various unnamed blue-line streams. The existing beneficial uses of the Colorado River include warm freshwater habitat (WARM), non-contact water recreation (REC-2), municipal and domestic supply (MUN), groundwater recharge (GWR), agricultural supply (AGR), industrial service supply (IND), wildlife habitat (WILD), water contact recreation (REC-1), cold freshwater habitat (COLD), aquaculture (AQUA), hydropower generation (POW), and rare, threatened, or endangered species (RARE).

Flood hazard areas identified on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) maps are identified as a Special Flood Hazard Area. These Special Flood Hazard Areas are defined as the area that would be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. Special Flood Hazard Areas are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99,

Zone AR, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. The project area is identified on FEMA FIRM map numbers 06071C5705H and 04015C5675H. As the project is adjacent to and will be built over the Colorado River, it is primarily within an area designated as Flood Hazard Area indicating the 1 percent annual chance flood (i.e., 100-year flood) Zone A, Without Base Flood Elevation (BFE) and Regulatory Floodway. The project proposes to replace the existing Colorado River Bridge, which will require work within the Colorado River.

2.2.1.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1, 2, and 3

Temporary hydrologic impacts associated with construction activities could occur as a result of stormwater runoff. Potential temporary impacts could occur during construction of the bridge structure and excavations. The acreage of clearing and grubbing activities during construction are anticipated to be approximately 1.5 acres for Build Alternative 1, 2 acres for Build Alternative 2, and 2.2 acres for Build Alternative 3. Furthermore, the acreage of disturbed soils areas are anticipated to be approximately 3.4 acres for Build Alternative 1, 16.7 acres for Build Alternative 2, and 14.8 acres for Build Alternative 3. Exposed soils could result in potential for erosion and downstream transport of sediments. With implementation of the Construction General Permit, the build alternatives would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement construction best management practices (BMPs) to reduce pollutants of concern in stormwater runoff. The construction BMPs will include erosion control, sediment control, and general good housekeeping BMPs that will minimize erosion, retain sediment on-site, and prevent spills. As such, the build alternatives would not result in temporary water quality impacts related to floodplains. Compliance with standard project measures **WQ-1** to **WQ-4**, which include BMPs required as part of the Section 401 certification, 404, municipal separate storm sewer system permit process, and construction BMPs identified in the SWPPP will minimize the potential for erosion and water pollution during construction.

No-Build Alternative

The No-Build Alternative would not involve any construction, and no direct or indirect adverse hydrology or floodplain impacts would occur.

Permanent Impacts

Build Alternatives 1, 2, and 3

The existing Colorado River Bridge was originally built in 1966. The bridge is a seven span structure comprised of continuous steel plate girders on reinforced concrete pier walls and reinforced concrete open-end seated abutments on steel "H" piles, with the exception of Pier 2 which is supported on a spread footing. Build Alternative 1 proposes a six span Cast-In-Place/Pre-Stressed (CIP/PS) Box Girder structure with pier foundations on large diameter Cast-In-Drilled-Hole (CIDH) piles. Build Alternative 2 and 3 proposes a seven span CIP/PS Box Girder structure with pier foundations on large diameter CIDH piles. The build alternatives have been designed so that 100-year storm flows would be conveyed and would not result in any new flooding. The proposed bridge structure would also be expected to accommodate predicted storm events.

There are no stormwater drainage structures on the existing bridge and no such drainage structures are proposed to be constructed with implementation of Build Alternatives 1, 2, and 3. The profile of the proposed bridge will slope from west to east and potential runoff will be collected on the outside shoulders of the proposed bridge. Similar to existing conditions, the runoff from the new bridge will be conveyed on the north and south sides of the bridge and flow east for each of the build alternatives.

The build alternatives would not result in flood-related interruption of emergency services or routes along I-40. The build alternatives would provide a more reliable highway. Operation of the build alternatives would not result in interruption of emergency services or routes and would improve access through the region, including access for emergency services. As such, there would be no substantial flood-related risks to life or property associated with implementation of the build alternatives.

No-Build Alternative

With the No-Build Alternative, there would be no replacement of the bridge structure over the Colorado River. Consequently, there would be no adverse impacts on hydrology and floodplains in the project area. The existing surface and groundwater hydrology and floodplains would remain the same. There would be no indirect adverse impacts on downstream hydrology or flooding because there would be no construction activities associated with this alternative.

2.2.1.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of the following standard water quality protection measures (**WQ-1 to WQ-3**) required as part of the Section 401 and 404 processes will ensure the protection of water quality during operation of the project, and implementation of **WQ-4** will ensure the protection of water quality during construction of the project.

- WQ-1** **401 Certification.** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.
- WQ-2** **404 Permit.** The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.
- WQ-3** **Post Construction BMPs.** Post-construction best management practices will be implemented to the maximum extent practicable, consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and applicable waste discharge requirements in place at the time of project approval.
- WQ-4** **Construction SWPPP.** The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction.

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 source² unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (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

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

discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent³ standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in 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. RWCQB are

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

responsible for 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 Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ 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.

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

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

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

Construction General Permit

The Construction General Permit Order 2009-0009-DWQ, has been administratively extended until a new order is adopted and becomes effective. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to

this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer (QSD). The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges. BMPs are intended to reduce impacts to the maximum extent practicable (MEP), which is a standard created by Congress to allow regulators the flexibility necessary to tailor programs to the site-specific nature of municipal stormwater discharges. The SWPPP is required to be implemented and monitored regularly by a Qualified SWPPP Practitioner. Reducing impacts to the MEP generally relies on BMPs that emphasize pollution prevention and source control, with additional structural controls as needed. The Construction General Permit requires that specific minimum BMPs are incorporated into the SWPPP, depending on the project's sediment risk to receiving waters based on the project's erosion potential and receiving water sensitivity to sediment.

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 Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with disturbed soil area less than one acre.

Section 401 Permitting

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

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

Regional and Local Requirements

San Bernardino and Mohave County Municipal NPDES Permit

The NPDES section administers the National Pollutant Discharge Elimination System (NPDES) program for the County of San Bernardino and the San Bernardino County Flood Control District

(NPDES 2023). This stormwater management program is mandated by the Federal Clean Water Act and is implemented by the State Water Resources Control Board and has the goal of preventing pollutants from entering our lakes, streams, rivers, and oceans through stormwater runoff. The Flood Control District, the County, and 16 incorporated cities in the Santa Ana River watershed are Co-permittees under a stormwater discharge permit, issued by the State of California through the Santa Ana Regional Water Quality Control Board. The San Bernardino County Flood Control District has been designated “*Principal Permittee*” under the MS4 Permit.

Mohave County, as a Municipal Separate Storm Sewer System operator under Phase II of the National Pollutant Discharge Elimination System (NPDES) Stormwater program of the Environmental Protection Agency (EPA), is empowered to regulate stormwater by the authority of the Clean Water Act, 33 U.S.C. Sec. 1251 et seq. As a small MS4, the County is required by the Federal Water Pollution Control Act of 1972, commonly known as the Clean Water Act (as amended), to implement and enforce a program to improve, to the maximum extent practicable, the quality of stormwater in the County's stormwater conveyance system within the unincorporated urbanized areas of the County (Mohave County Flood Control District 2018). This ordinance ensures that the County is compliant with its Arizona Pollutant Discharge and Elimination System (AZPDES) Permit requirements by establishing methods for controlling the introduction of Pollutants into the County's municipal separate storm sewer system (MS4).

Summary of Applicable NPDES Permits

Part of the project area is California Department of Transportation (Caltrans) right-of-way and part of the project area is outside of Caltrans right-of-way. However, as stated in the July 2021 *Scoping Questionnaire for Water Quality Issues Colorado River Bridge Rehabilitation/Replacement at Interstate 40 Project*, the proposed project will comply with the Caltrans MS4 Permit and will implement BMPs as required. The Caltrans MS4 Permit addresses operational impacts of projects within Caltrans jurisdiction. The Construction General Permit addresses construction impacts of the project and is applicable to all construction projects that disturb greater than 1 ac of soil. Therefore, the entire project area is subject to the requirements of both the Caltrans MS4 Permit and the Construction General Permit.

2.2.2.2 AFFECTED ENVIRONMENT

This section is based on the July 2021 *Scoping Questionnaire for Water Quality Issues Colorado River Bridge Rehabilitation/Replacement at Interstate 40 Project (Caltrans 2022b)*.

- **Watersheds**

The project area is located within the Colorado River Basin Region. The Region covers approximately 13,000,000 acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It is bounded on the east by the Colorado River; to the south by the Republic of Mexico; the west by the Laguna, San Jacinto, and San Bernardino Mountains; and to the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain Ranges (Colorado River Regional Water Quality Board 2020). The proposed project site is within the southern portion of the Havasu-Mohave Lakes Watershed.

- **Present Beneficial Uses**

Agricultural use is the predominant beneficial use of water in the Colorado River Basin Region, with the major use located in the Coachella, Imperial, and Palo Verde Valleys. The second highest (beneficial) use is the use of water for municipal and industrial purposes, while the third major category of beneficial use consists of recreational use of surface waters.

- **Surface Waters**

There are no drainage structures on the existing bridge. In addition, no drainage structures are proposed to be constructed as part of the project, thus, runoff would likely be collected on the shoulders (10 feet wide) of the new bridge. The profile of the bridge slopes from the State of California towards the State of Arizona. As a result, runoff would be conveyed to the north and south sides of the bridge in the State of Arizona, similar to what occurs in the existing conditions.

- **Beneficial Uses**

The existing beneficial uses of Colorado River include:

- WARM: Warm Freshwater Habitat (for fish amenable to reproduction in warm water)
- REC-1: Water Contact Recreation
- REC-2: Non-Body-Contact Recreation (boating/fishing)
- MUN: Municipal and Domestic Supply
- GWR: Groundwater Recharge
- AGR: Agricultural Supply
- IND: Industrial Service Supply
- WILD: Wildlife Habitat
- COLD: Cold Freshwater Habitat (limited to reach from Parker Dam to the Nevada State Line)
- AQUA: Aquaculture
- POW: Hydropower Generation
- RARE: Rare, Threatened, or Endangered Species
- **Surface Water Quality**

Water quality objectives that apply to all surface waters within the Colorado River Basin Region include: (1) aesthetics qualities, (2) tainting substances, (3) toxicity, (4) temperature, (5) pH, (6)

dissolved oxygen, (7) dissolved oxygen, (8) suspended solids and settleable solids, (9) total dissolved solids, (10) bacteria, (11) biostimulatory substances, (12) sediment, (13) turbidity, (14) radioactivity, (15) chemical constituents, (16) pesticides wastes and (17) salinity. The receiving waterbodies for the proposed project are the Colorado River, Lake Havasu, Mohave Wash, and various unnamed blue-line streams. The proposed project site will occur within the reach of the Colorado River between the California-Nevada border to Lake Havasu, which is listed for 303(d) impairment and has an approved TMDL for toxicity (anticipated to be completed in 2025). Lake Havasu is also adjacent to the proposed project site but is not listed for 303(d) impairment and has no established TMDLs.

- **Groundwater**

The project site is in the Needles Valley Groundwater Basin. The basin underlies the portion of Mohave Valley that lies in eastern San Bernardino County. It is bounded by the Colorado River on the east and by nonwater-bearing rocks of the Dead Mountains on the northwest, of the Sacramento Mountains on the southwest, of the Chemehuevi and Whale Mountains on the south. The Mojave Valley, and its underlying groundwater basin, extends into Nevada and Arizona. The surface is drained by Piute Wash eastward to the Colorado River. Water levels are generally between 9 and 12 feet below ground surface (bgs) and under natural conditions, groundwater flows eastward through the basin toward the Colorado River.

Beneficial Uses of Groundwater

The present or potential beneficial uses of ground waters in the Colorado River Basin include:

- MUN: Municipal and Domestic Supply
- AGR: Agricultural Supply
- IND: Industrial Supply
- **Groundwater Quality**

Ground water quality in the Colorado River Basin Region varies significantly with depth of well perforations, existing water levels, geology, hydrology and several other factors. The Regional Water Board's goal is to maintain the existing water quality of all nondegraded ground water basins. However, ground water that is pumped generally returns to the basin after use with an increase in mineral concentrations such as total dissolved solids (TDS), nitrate etc., that are picked up by water during its use. Under these circumstances, the Regional Water Board's objective is to minimize the quantities of contaminants reaching any ground water basin.

According to the California Department of Water Resources (2004), the Needles Valley Groundwater Basin specifically, is characterized by sodium chloride or sodium calcium sulfate in character. TDS content is higher near the Colorado River and averages 1,222 mg/L in floodplain deposits; whereas, TDS content averages 917 mg/L in older alluvial deposits more than one-half mile from the river.

2.2.2.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1,2, and 3

Pollutants of concern during construction of the Build Alternatives include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil will be exposed and there will be an increased potential for soil erosion compared to existing conditions. During construction activities, the acreage of disturbed soils areas are anticipated to be approximately 3.4 acres for Build Alternative 1, 16.7 acres for Build Alternative 2, and 14.8 acres for Build Alternative 3 and would be associated with clearing and grubbing activities, specifically. During construction, there is also a potential for construction-related pollutants to be spilled, leaked, or transported via storm runoff into drainages adjacent to the project area and thereby into downstream receiving waters. Construction related pollutants with the potential to impact water quality include: chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste. However, adherence with the SWRCB's *Construction General Permit* will minimize potential adverse effects. The project will comply with the Construction General Permit by preparing and implementing a SWPPP (the SWPPP is listed as standard water quality protection measures **WQ-4** in section 2.2.1 *Hydrology and Floodplain*) to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include BMPs to control the pollutants (e.g., Sediment Control, Catch Basin Inlet Protection, Construction Materials Management, and Non-Storm Water BMPs). All work will adhere to construction site BMP requirements specified in the latest edition of the California Department of Transportation (Caltrans) Storm Water Quality Handbooks: *Construction Site Best Management Practices Manual* to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed.

Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces. As described above, the project will be required to obtain coverage under the Construction General Permit, which will require the development and implementation SWPPP, which includes BMPs to regulate stormwater runoff, including measures to prevent soil erosion (including silt fences, straw wattles, sediment traps, gravel sandbag barriers, etc.), loss of topsoil, and sediment control. Construction BMPs will be designed to retain sediment and other pollutants on the project site so they would not reach receiving waters, storm water discharges and authorized non-stormwater discharges are not anticipated to cause or contribute to any violations of applicable water quality standards or objectives, or to adversely impact human health or the environment. In addition, because Construction BMPs will be designed to retain sediment and other pollutants on the project site so they would not reach receiving waters, runoff during construction would not contain pollutants in quantities that would create a condition of nuisance or adversely affect beneficial uses of nearby waters.

In addition, a Section 401 Water Quality Certification and a Section 404 Nationwide Permit (as part of standard water quality protection measures **WQ-1** and **WQ-2** described in section 2.2.1 *Hydrology and Floodplain*) will be obtained for the project for impacts to jurisdictional waters. The USACE and RWQCB may specify additional measures in these permits to reduce water quality impacts. When Construction BMPs are properly designed, implemented, and maintained

to address pollutants of concern and measures specified in the Section 401 and 404 permits are implemented, pollutants of concern would be retained on the project site so they would not reach receiving waters; therefore, no adverse water quality impacts are anticipated during construction of the Build Alternatives.

Construction dewatering is expected to occur as needed. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. However, as discussed above, Construction BMPs will be implemented to target these pollutants of concern, minimizing the potential contribution to existing 303(d) impairment within the Colorado River. Construction BMPs along with permanent Design Pollution Prevention and treatment BMPs will be identified (and updated) in the Storm Water Data Report (SWDR) during the Project Approval and Environmental Document (PA&ED) and Plans, Specifications, and Estimate (PS&E) phases of the project. With the implementation of Construction BMPs, the Build Alternatives would not result in any water quality impairments during construction.

Consequently, with compliance with the requirements of the Construction General Permit, 401 Permit, and 404 Permit (as part of standard water quality protection measures **WQ-1** and **WQ-2**) and implementation of Construction BMPs, the Build Alternatives would not result in any adverse impacts to water quality or storm water runoff during operation.

No-Build Alternative

The No-Build Alternative does not include any improvements to the Colorado Bridge. No construction activities, such as grading or excavation, would occur. Therefore, no soil would be disturbed, and there would be no increase in the potential for soil erosion or sedimentation compared to existing conditions. Additionally, there would be no increased risk of spills from construction equipment or materials use.

Permanent Impacts

Build Alternatives 1,2, and 3

Pollutants of concern during operation of the Build Alternatives include suspended solids/sediments, nutrients, pesticides, heavy metals, oil and grease, toxic organic compounds, and trash and debris. Design and operation of the proposed project shall comply with the provisions of the NPDES Permit, Statewide Storm Water Permit, Waste Discharge Requirements (WDRs) for the Caltrans MS4 Permit or any subsequent permit. This permit is applicable to the portions of the project area within and outside of Caltrans right-of-way. Caltrans approved Treatment and Design Pollution Prevention BMPs shall be implemented within and outside of Caltrans right-of-way to the maximum extent practicable. Treatment BMPs shall be sized and designed to retain and infiltrate the water quality volume and will not result in an increase in velocity or volume of downstream flow. Treatment BMPs can include infiltration basins and biofiltration swales, while Design Pollution Prevention BMPs can include preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization and replanting of vegetation) concentrated flow conveyance systems, and low-impact design (LID) efforts

The project will comply with the Caltrans MS4 Permit for the portions of the project area within and outside Caltrans right-of-way. Caltrans-approved Treatment BMPs and Design Pollution Prevention BMPs will be implemented to reduce the discharge of pollutants of concern to the

MEP for improvements proposed within the project limits. As mentioned previously, temporary Construction BMPs and permanent Design Pollution Prevention and treatment BMPs will be identified and updated in the SWDR during the PA&ED and PS&E phases.

The proposed project site will occur within the reach of the Colorado River listed for 303(d) impairment and has an approved TMDL for toxicity. As mentioned, construction BMPs, permanent Design Pollution Prevention and treatment BMPs will be identified and updated in the SWDR, therefore, operation of the Build Alternatives would not contribute to any existing water quality impairments. Treatment BMPs will be implemented both within and outside Caltrans right-of-way to target pollutants of concern. With implementation of Treatment and Design Pollution Prevention BMPs, the Build Alternatives will not result in any adverse impacts to water quality or storm water runoff during operation.

As mentioned under section 2.2.2.3 *Temporary Impacts* above, the acreage of disturbed soils areas associated with the Build Alternatives are anticipated to be approximately 3.4 acres for Build Alternative 1, 16.7 acres for Build Alternative 2, and 14.8 acres for Build Alternative 3. Therefore, construction of Build Alternative 2 would result in a greater potential for soil erosion and downstream sedimentation and contamination to occur. However, the duration of construction would be the same length for all Build Alternatives; therefore, the potential for construction-related pollutants to spill, leak, and/or affect on-site drainages and downstream receiving waters would be the same, and implementation of BMPs to prevent contamination from reaching nearby water bodies under all Build Alternatives.

No-Build Alternative

The No-Build Alternative does not include any improvements to the Colorado Bridge. Routine maintenance activities would be similar to those occurring in the existing condition. Under the No-Build Alternative, there would be no increase in impervious area. Furthermore, treatment BMPs would not be implemented, and storm water would remain untreated. The No-Build Alternative would not result in an increase in storm water runoff or long-term pollutant loading compared to existing conditions; therefore, no permanent impacts to water quality or storm water runoff would occur.

2.2.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of standard water quality protection measures, **WQ-1** and **WQ-2**, required as part of the Section 401 and 404 processes will ensure the protection of water quality during operation of the project, and implementation of **WQ-3** and **WQ-4** will ensure the protection of water quality during and after construction of the project.

- WQ-1** **401 Certification.** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.
- WQ-2** **404 Permit.** The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.
- WQ-3** **Post Construction BMPs.** Post-construction best management practices will be implemented to the maximum extent practicable, consistent with the

requirements of the National Pollutant Discharge Elimination System (NPDES) permit and applicable waste discharge requirements in place at the time of project approval.

WQ-4 Construction SWPPP. The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction.

2.2.3 Geology/Soils/Seismic/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 Caltrans’ 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

This section discusses the existing geologic and soils conditions within the project area and provides an analysis of the potential impacts of the project that are related to geology and soils. This section is based in part on the *Initial Site Assessment, SBD-40 Replace or Rehabilitate Colorado River Bridge* prepared by Stantec in November of 2021 (Stantec 2021).

Topography

According to the United States Geologic Survey’s (USGS) *topoView* National Geologic Map database (U.S. Geological Survey 2022), the project area slopes gently downward to the east. The western boundary has an approximate elevation of 600 feet while the eastern boundary, beyond the Colorado River, is identified as being approximately 500 feet.

Groundwater and Hydrogeology

Depth to groundwater below the surface varies between 60 feet below ground surface (bgs) in low lying areas to 110 feet bgs at higher elevations. Groundwater occurs at shallower depths with proximity to the Colorado River. Onsite natural groundwater gradients are generally west-to-east, however, groundwater flow direction to the west of the Colorado River is influenced by groundwater extraction activities in the area. Groundwater elevation or flow direction data was

not available for the eastern portion of the project site; however, groundwater likely flows toward the Colorado River.

Regional Geology

The project site is located on the California-Arizona border at the east boundary of the Mojave Desert California Geomorphic Province and the west boundary of the Basin and Range Geological Province of Arizona. The Peninsular Ranges province is characterized by northwest trending valleys. The northwest trending valleys of the province are subparallel to faults branching off of the San Andreas Fault. The Basin and Range province consists of the Sonoran Desert, Salton Trough, Mexican Highland, and the Sacramento sections. The mountains in the southern portion of the province have a slightly lower elevation than those found in the northern part of the Basin and Range province.

Soils

The project area is underlain by Holocene and Anthropocene age artificial fill below the west bridge abutment. Dredged sands are also mapped below the west side of the bridge within the river bottom. Upper Miocene age fanglomerate and intermediate-age piedmont alluvium are mapped further to the west of the west bridge abutment. Holocene and Anthropocene age artificial fill is identified below the highway and the bridge abutment to the east. Gneiss-clast conglomerate and floodplain and deltaic deposits are to the north and south of the east bridge abutment.

Geologic Hazards

Faulting and Seismicity

The purpose of the Alquist-Priolo Geologic Hazards Zones Act, as summarized in the Department of Conservation Division of Mines and Geology's Special Publication 42 (SP 42), is to "prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." As indicated by SP 42, the "the State Geologist...is required to delineate 'Earthquake Fault Zones' (EFZs) along known active faults in California. Cities and counties affected by the zones must regulate certain development 'projects' within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting." Ground shaking and secondary effects, including, but not limited to, landslides, ground cracking, and settlement, are possibilities throughout California and depend on local geology and the distance between the project area and the causal fault. Because of the project's location in relation to nearby active faults, the project site is likely to be subject to ground shaking in the event of a major earthquake. The nearest fault in California is approximately 330 feet southwest of the Colorado River Bridge and is characterized as an unnamed thrust fault. The next closest faults are the Needles graben faults located 6 miles to the northeast in Mohave County, Arizona.

Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced ground shaking. The susceptibility of a site to liquefaction is a function of soil type, the water content of granular sediments, and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silt, sand, and silty sand within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena may include lateral spreading, ground oscillation, loss of bearing strength, subsidence, and buoyancy effects. According to the Stantec 2021 ISA, depth to groundwater is mostly dependent on surface topography and varies between 60 feet bgs to 110 feet bgs. However, groundwater also occurs at shallower depths with proximity to the Colorado River. Due to shallow depth of groundwater in areas and soil conditions described above, there is some potential for liquefaction to occur.

Soil Instability

Compressible/collapsible soils are those that undergo settlement upon wetting, even without the application of additional load, which occurs when water weakens the bonds between soil particles and reduces the bearing capacity of that soil (known as hydrocompaction). Soils with these characteristics are typically associated with alluvial fans, windblown materials, or colluvium. Soil compression/collapse can occur when the land surface is saturated to depths greater than those reached by typical rain events. The project area is underlain by artificial fill, dredged sands, conglomerate and floodplain and deltaic deposits and thus, there is potential for compression to occur

Land subsidence is a gradual settling or sudden sinking of the surface, owing to subsurface movement of Earth materials, and generally occurs in areas where fluid (petroleum and groundwater) removal has occurred; in arid areas (this is due to hydrocompaction of loose near-surface soils). According to the USGS's *Areas of Land Subsidence in California* and the Arizona Department of Water Resources' *Land Subsidence Areas in Arizona* (California Water Science Center 2022; Arizona Department of Water Resources 2022), the project site is not located in an area of recorded subsidence.

Seismically-Induced Landslides

Landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and earth materials are too weak to support themselves. Earthquake-induced landslides may also occur due to seismic ground shaking. According to the USGS *The National Map Viewer*, the project site does not feature areas with steep slopes. The elevation on both east and west sides of the Colorado River (within the project footprint) is identified at 520 feet above sea level.

Tsunamis, Seiches and Inundation

A tsunami, or seismically generated sea wave, is generally created by a large, distant earthquake occurring near a deep ocean trough. A seiche is an earthquake induced wave in a confined body of water such as a lake or reservoir. Due to the distance to the open ocean from the project area, the possibility of tsunamis is considered low. Goose Lake (which is approximately 1.4 miles north of the project) is lower in elevation (per *The National Map Viewer*). As such, the potential for seiches from Goose Lake to affect the project area is considered unlikely. According to the Mohave County Flood Control District's *FEMA Map Viewer* (*Mohave County Flood Control District 2022a*), the project area is located in a FEMA Flood Zone Designation *Zone A*. (*Mohave County Flood Control District 2022b*) *Zone A* includes areas

subject to inundation by the 1-percent-annual-chance flood event. No detailed hydraulic analyses have been performed in Zone A, and mandatory flood insurance purchase requirements and floodplain management standards apply in these areas.

2.2.3.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

Build Alternatives 1, 2 and 3

Construction activities for the project under all alternatives would disturb soil and alter existing landforms. As such, temporary impacts occurring during construction could include the increased possibility of soil erosion. Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces. However, the contractor would be required to obtain NPDES coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (Construction General Permit) (California State Water Resources Control Board 2020) and the AZPDES Construction Activity General Permit (ADEQ Arizona Department of Environmental Quality 2021). The Construction General Permit and Construction Activity General Permit would require the development and implementation of a SWPPP, which includes BMPs to regulate stormwater runoff, including measures to prevent soil erosion (typical construction BMPs can include silt fences, straw wattles, sediment traps, gravel sandbag barriers, etc.) and loss of topsoil. Erosion management would be implemented during and after construction, as exposed slopes would be treated to avoid dust and sediment erosion.

In addition, any temporary excavations (including temporary shoring) will be designed for surficial and deep-seated stability once the means of construction are determined. During the Plans, Specifications, and Estimates (PS&E) phase of the project, a detailed geotechnical investigation and preparation of a Foundation Report would be conducted. The findings from these geotechnical investigations would be incorporated into the final project design. Refer to **GEO-1** and **GEO-2**.

No-Build Alternative

As there would be no construction activities associated with the No-Build Alternative, no temporary impacts are anticipated to occur.

Permanent Impacts

Build Alternatives 1, 2 and 3

Ground Rupture

As previously mentioned, the nearest fault in California is approximately 330 feet southwest of the Colorado River Bridge as an unnamed thrust fault. The next closest faults are the Needles graben faults located 6 miles to the northeast in Mohave County, Arizona. Thus, the potential for adverse effects associated with fault rupture within the project site is considered low.

Seismic Ground Shaking

The project is located in a seismically active area due to faults in the region. Seismic events from one or more of these regional faults could result in strong ground shaking. As such, the project area could periodically experience ground acceleration as the result of moderate to large seismic events and structures constructed as part of the project could be potentially subject to substantial impacts related to seismic ground shaking. The project would be designed in accordance with the requirements of Caltrans, the Arizona Department of Transportation (ADOT) and the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications and California Amendments in order to minimize ground-shaking impacts. In addition, a detailed project-specific geotechnical investigation and Foundation Report would be conducted prior to construction and would ensure that geologic (including the potential for seismic phenomena) and soils conditions are considered in project design.

Secondary Effects of Seismic Shaking

Liquefaction

Liquefaction occurs when saturated, low-density, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking. As described above, depth to groundwater varies mostly between 60 feet bgs to 110 feet bgs, however shallower depths occur with proximity to the Colorado River, making the potential for liquefaction possible. However, the project would be designed in accordance with the requirements of Caltrans and the ADOT. In addition, a detailed project-specific geotechnical investigation and Foundation Report would be conducted prior to construction and would ensure that geologic and soils conditions are considered in project design.

Seismic Densification

Ground accelerations generated from a seismic event can produce settlements in dry or moist sands (granular earth materials) with relatively low density. The near surface loose soil deposits susceptible to such seismically induced settlement will be generally removed and recompacted during grading. As such, the potential seismic densification is anticipated to be minimal or less than 2 inches for surface structures. However, as described in Project Feature **GEO-4**, additional evaluation of seismic densification, based on actual field data for the proposed structure, would be performed in future phases of project development. Therefore, no adverse impacts related to seismic densification are anticipated.

Compressible Soils

Compressible soils are generally composed of soils that undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon in which the soils undergo a significant decrease in volume with an increase in moisture content, with or without an increase in external loads. Buildings, structures, and other improvements may be subject to excessive settlement-related distress when compressible soils or collapsible soils are present. As described above, the project area is underlain by artificial fill, dredged sands, conglomerate and floodplain and deltaic deposits, as such, it is possible that soils in the project area could experience consolidation.

However, the project would be designed in accordance with the requirements of Caltrans and the ADOT. In addition, a detailed project-specific geotechnical investigation and Foundation Report would be conducted prior to construction and would ensure that geologic and soils conditions are considered in project design. Therefore, no adverse impacts related to compressible soils are anticipated.

Expansive Soils

Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content, as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. The project area is underlain by artificial fill, dredged sands, conglomerate and floodplain and deltaic deposits, thus it is possible that soils with potentially expansive characteristics exist in the project area. However, the project would be designed in accordance with the requirements of Caltrans and ADOT. In addition, a detailed project-specific geotechnical investigation and Foundation Report would be conducted prior to construction and would ensure that geologic and soils conditions are considered in project design. Therefore, no adverse impacts related to expansive soils are anticipated.

Seismically Induced Landslides

As mentioned above, the project site does not feature areas with steep slopes and the elevation on east and west sides of the Colorado River is identified at 520 feet asl. The potential for seismically induced landslides is considered low for the project area due to the relatively flat topography. Therefore, no adverse impacts related to seismically induced landslides are anticipated.

Seismically Induced Inundation

Strong seismic ground motion can cause dams and levees to fail, resulting in damage to structures and properties located downstream of those water retention facilities. Goose Lake is approximately 1.4 miles north of the project and thus, there are no dams or substantial bodies of water on, in the immediate vicinity of the project area. However as described above, the project area is located in a FEMA Flood Zone Designation *Zone A*, which includes areas subject to inundation by the 1-percent-annual-chance flood event.

Tsunamis and Seiches

Due to its distance from large bodies of water, the project area is not at risk of tsunamis. Goose Lake, which is approximately 1.4 mi north of the project, is at a lower elevation than the project area. As such, the potential for seiches on Goose Lake to affect the project area is considered low. Therefore, no adverse impacts related to tsunamis or seiches are anticipated.

Corrosive Soils

Corrosive soils contain constituents or physical characteristics that react with concrete (water-soluble sulfates) or ferrous metals (e.g., chlorides, low percentage of hydrogen levels, and low electrical resistivity). The chemical reaction weakens these materials and can damage building components, sidewalks, and roadways. No subsurface investigation or laboratory testing has been conducted during the preliminary engineering phase of this project to date. Thus, the potential for soil corrosion effects on the project structures will be investigated during final design (**GEO-3**). If recommended by the geotechnical investigation to be prepared during PS&E, final design will include design features related to corrosive soils.

No-Build Alternative

The No-Build Alternative does not include replacement of the Colorado River Bridge. Thus, the No-Build Alternative would not change the topography in the project area; therefore, no permanent impacts related to geology and soils would occur.

2.2.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

- GEO-1** **Geotechnical Design Report.** During the Plans, Specifications, and Estimates (PS&E) phase, the implementing agency will ensure that a licensed geologist and engineer prepares a design-level geotechnical investigation prior to construction. The investigation will include subsurface soil sampling, laboratory analysis of samples collected to determine soil characteristics and properties and an evaluation of the laboratory testing. Recommendations based on the results will be used in the design specifications for the project. The report will include recommendations to avoid potential risks associated with seismic hazards (including ground shaking and fault rupture, seismically induced landslides, and liquefaction, and the other seismic effects described in this section), in accordance with the requirements of the Seismic Hazards Mapping Act. The geotechnical study will provide detailed project-specific recommendations for design and construction, and implementation of those recommendations will be required during construction. The project-specific findings and recommendations of the geotechnical investigation will be submitted to the California Department of Transportation (Caltrans) for review and approval and will be incorporated into the final design of the identified preferred alternative.
- GEO-2** **Foundation Report.** During the PS&E phase, a detailed Foundation Report specific to the project will be prepared. The project-specific findings and recommendations will be submitted to Caltrans for review and approval. Those findings and recommendations will be incorporated into the final design of the identified preferred alternative.
- GEO-3** **Corrosive Soil Testing.** During PS&E, representative soil samples will be tested for pH, sulfate content, chloride, content, and minimum electrical resistivity as

part of the final Foundation Report investigation for the project area pursuant to Caltrans Corrosion Guidelines. If corrosive soils are found, appropriate material recommendations will be incorporated into the final design of the identified preferred alternative or design variation.

Furthermore, the following standard design feature will be incorporated as additional evaluation of seismic densification:

GEO-4 **Seismically Induced Settlements.** During PS&E, seismically induced settlement will be evaluated based on new embankment fill thickness and geometry. If there is potential for seismically induced settlement, these findings will be incorporated into the final design of the identified preferred alternative.

2.2.4 Hazardous Waste/Materials

2.2.4.1 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 (RCRA). 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.

2.2.4.2 AFFECTED ENVIRONMENT

The hazardous materials discussion is based on the following technical reports prepared for the project.

- Initial Site Investigation prepared by Stantec Consulting Services, Inc, (2021)
- Site Investigation Report prepared by Stantec Consulting Services, Inc (2023)
- Initial Site Assessment (ISA) Checklist, prepared by Caltrans (2023b)

Hazardous Materials

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health or the environment. Under California Code of Regulations (CCR) Title 22, the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity, (2) ignitability, (3) corrosivity, and (4) reactivity (CCR Title 22, Chapter 11, and Article 3). A hazardous material is defined in CCR Title 22 as:

[a] substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (CCR Title 22 Section 66260.10).

Hazardous materials in various forms can result in death, serious injury, long-lasting health effects, or damage to buildings, homes, and other property. Hazards to human health and the environment can occur during the production, storage, transportation, use, or disposal of hazardous materials. Hazardous materials are often released as a result of motor vehicle or equipment accidents, underground or aboveground storage tank failure, or because of chemical accidents during industrial use. Hazardous substances released into the environment have the potential to leach into soils, surface water, and groundwater. Hazardous materials are commonly used in commercial, agricultural and industrial applications.

Initial Site Assessment

An Initial Site Assessment (ISA) was conducted by Stantec in November of 2021. The ISA report was prepared on behalf of Caltrans District 8 to support of the acquisition of property necessary for the replacement or rehabilitation of the Colorado River Bridge. The objective of the ISA was to perform appropriate inquiry into the past uses within the project area and evaluate potential recognized environmental conditions (RECs) associated with said uses.

According to the ISA, four RECs were identified to be associated with the project site, they are the following:

- *Aerially Deposited Lead (ADL)* – The ISA identified the potential for lead-impacted soil resulting from the historical combustion of leaded gasoline prior to the leaded gasoline ban in the mid-1990s. The I-40 corridor has existed as a transportation corridor pre-dating the leaded gasoline ban.

- *BNSF Railway* – The ISA identified the potential to encounter impacted soils as a result of historical railway use in the area immediately north of the project site.
- *PG&E Topock Compressor Station* - From 1951 to 1964, the Topock Compressor Station's cooling tower wastewater (impacted with hexavalent chromium) was discharged into the *Bat Cave Wash* adjacent to the compressor station site. Subsequently, treated wastewater was discharged into ponds for storage and evaporation, until chromium use was discontinued in 1985. Environmental investigations conducted at the site identified elevated levels of various contaminants in soil within and adjacent to the project area and within the existing Caltrans right-of-way. Contaminants include heavy metals (including the aforementioned hexavalent chromium), sodium, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), and dioxins/furans. Further, a hexavalent chromium groundwater plume extends below the west portion of the project area.
- *Bridge Abutment Fill* - Artificial fill is located below and adjacent to the existing west and east bridge abutments. Aerial photographs reviewed during the preparation of the ISA show that fill was brought in during the construction of the bridge in the mid-to-late 1960s. The origin of the fill is unknown.

The following Environmental Risks were also identified during the preparation of the ISA:

- *Asbestos Containing Materials (ACMs) and Lead Based Paint (LBP)* – There is potential for ACMs to exist in structures to be demolished as part of the project. In addition, there is yellow and black striping inside the I-40 lanes, and white lane striping is located along highway outside shoulders. Other painted structures such as utility valves, traffic bollards, and a shed are present within the project area.
- *Discarded Railroad Ties* - A pile of railroad ties was observed during the preparation of the ISA in the southeast portion of the project area, adjacent to the Oatman Highway. The material of the railroad ties were not mentioned in the ISA.

Hazardous Materials Sites

Sites where hazardous chemical compounds have been released into the environment can pose threats to human and ecologic systems' health. Both historic and current activities may result in the release, leak, or disposal of toxic substances on or below the ground surface, where they can then contaminate soil and ground water. Disturbance of the ground through grading or excavation can result in exposure of these chemicals to construction personnel and the public. Improper handling of contaminated sites may result in further exposure via airborne dust, surface water runoff, or vapors.

A regulatory agency database search report was obtained via Environmental Data Resources Inc. (EDR) as part of the preparation of the ISA. Eight sites were identified in the ISA with some potential to impact the project area. They were:

- **Topock Compressor Station** located at 140 Park Moabi Road, Needles CA. The Topock Compressor Station facility was identified with historical releases related to multiple contaminants from PG&E's cooling tower waste/wash water. The site is

identified as a REC and discussed in more detail above under *Initial Site Assessment*. The site was listed with a potential to impact the project.

- **Topock Groundwater Extraction Site** located at Highway I-40 and Park Moabi Road, Needles CA. The site was identified as a groundwater extraction site involved in the remediation of contaminated groundwater extending below the project area. The site was listed with a potential to impact the project.
- **PG&E Bat Cave Wash Project** located at Highway 40, 14 miles east, Needles CA. The site was identified as a site with historical releases related to multiple contaminants from PG&E's cooling tower waste/wash water. The site was listed with a potential to impact the project.
- **Pacific Gas and Electric Measure Station** located 15 miles from Needles off of Highway I-40, Needles CA. The site was not identified with any historical releases or violations. The site was not considered a potential risk to the project.
- **USF&W – Havasu National Wildlife Refuge** located in Topock, CA. The site was listed in the AZ Leaking Underground Storage Tank (AZ LUST) database. However, the release was to soil only, and contaminant concentrations appear to be within applicable regulatory screening levels. The site was not considered a potential risk to the project.
- **San Bernardino Co – Park** located on Park Moabi Road, Needles, CA. The site was listed in the CA Leaking Underground Storage Tank (CA LUST) database. However, the LUST listing indicates that the site was granted closure by the Colorado River Basin Regional Water Quality Control Board in August of 2006. The site was not considered a potential risk to the project.
- **Santa Fe Railway Company** located in Topock, CA. The site was listed with a 1,000-gallon diesel UST that was removed from the facility. The site was granted closure in August of 1993. The site was not considered a potential risk to the project.
- **Topock Marina** located on 14999 Historic Route 66, Topock, CA. The site was listed in the AZ LUST database. The site was listed with a release that impacted both soil and groundwater. However, contaminant concentrations appear to be within applicable regulatory screening levels. The site was not considered a potential risk to the project.

Aerially Deposited Lead

Aerially deposited lead is a common hazardous materials issue near long-standing roadways. Soils adjacent to major roadways often contain elevated concentrations of lead. The lead deposition is the result of airborne particulates and surface water runoff associated with tailpipe emissions prior to the time lead was phased out of vehicle fuels. Lead is generally found within 30 feet of the edge of the pavement and within the top six inches of the soil.

As mentioned above, the ISA identified the potential for lead-impacted soil resulting from the historical combustion of leaded gasoline. The I-40 corridor has existed as a transportation corridor pre-dating the leaded gasoline ban and was identified as a REC in the ISA. Exposure of

construction workers or future site occupants to lead in soil could result in adverse health effects, depending on the duration and extent of exposure.

A Site Investigation (SI) was conducted by Stantec in January 2023. The SI report (Stantec 2023) was prepared at the request of the California Department of Transportation (Caltrans) District 8 to evaluate:

1. whether excavated soil generated during the construction activities will result in the need for special handling or disposal (as defined by Title 22 of the California Code of Regulations) and;
2. whether special measures will be necessary to manage asbestos containing materials (ACM) and lead-based paint (LBP) during planned improvement activities for the Project Area bridges.
3. Caltrans will provide information from this report to the contractor for waste profiling and disposition, worker health and safety, and compliance with federal, state, and local regulations. Based on the findings in the SI report, ADL exists in soil within the Project Area.

The Project work should be conducted under a lead compliance plan prepared by the contractor. The soil may be re-used or disposed as unregulated material in accordance with conditions of the ADL Agreement (2016a). Additional testing and requirements may be imposed by other agencies for disposition or re-use outside the highway system Right-of-Way (R/W).

Hazardous Building Materials

Hazardous materials, such as lead and asbestos, may be found in building materials if disturbed during demolition activities. Lead compounds were commonly used in interior and exterior paints until they were banned in 1978. Prior to the 1980s, building materials often contained asbestos fibers, which were used to provide strength and fire resistance until they were banned. Demolition of buildings has the potential to release lead particles, asbestos fibers, and/or other hazardous materials to the air where they may be inhaled by construction workers and the general public. Federal, State, and local requirements also govern the removal of asbestos or suspected ACMs, including the demolition of structures where asbestos is present. The Mojave Desert Air Quality Management District (AQMD) in California and the Arizona Department of Environmental Quality's Air Quality Division provides clearance for demolition projects.

As previously mentioned, there is potential for Asbestos Containing Materials (ACMs) to exist in structures to be demolished as part of the project. In addition, yellow and black striping inside I-40 lanes and striping along highway outside shoulders were identified in the ISA as potentially containing lead. Other painted structures within the project area that could potentially contain lead include utility valves, traffic bollards, and a shed.

ACM abatement is required by a licensed ACM abatement contractor prior to renovation, refurbishing, or demolition activities. The following are general requirements for ACM abatement.

- Removal and disturbance of ACMs shall be performed in accordance with DOSH requirements. (e.g.; CCR Title 8, Section 341.9 and 1529).

- If non-hazardous, Category 1 ACMs should become friable, they will be reclassified as a hazardous waste. Such ACMs will require special packaging and transportation by a Department of Toxic Substances Control (DTSC) registered hazardous waste transporter.
- Segregation and disposal of asbestos waste at a landfill permitted to accept hazardous RACM waste.

Compliance with all other local, state, and federal regulations and requirements associated with the disturbance, management, handling, and disposal of ACM.

Notification to the local air quality management district (Mojave Desert Air Quality Management District [MDAQMD]) will need to be made for all renovation and demolition activities unless exempt from notification requirements based on square feet of surface area to be removed. The contractor is required to comply with all other agency notifications and requirements for demolition and construction.

Lead-based paint

Silver red paint was found on the bridge's metal support beams/frame/SW beam South facing by the amount of approximately 10,000 SQFT with a lead concentration of 840,000.00 mg/kg which if stripped, the silver red paint on the support beams and stripping media likely qualifies as a RCRA hazardous waste. This paint may pose a hazard to workers during removal, scraping, cutting or torching leaded paint components. The contractor is responsible for implementing a monitoring program and protective measures to protect workers and the public from exposure to leaded materials. Requirements for protecting workers who may be exposed to lead are provided in Title 8 CCR, Section 1532.1.

The SI report recommended that the paint be disposed with the bulk material intact. If disposed with the bulk material, the painted bulk waste may be handled and disposed as a non-hazardous waste. If the paint is separated from the substrate by flaking, scraping, grinding, stripping, etc., the paint should be containerized, characterized, and disposed in accordance with State, Federal, and local laws and regulations to a disposal facility permitted to receive such waste. The contractor is responsible for characterizing, handling and disposing of leaded paint materials in accordance with current laws and regulations.

2.2.4.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2 and 3

Hazardous Materials Handling

Construction activities arising from implementation of the project would involve the handling of hazardous materials such as fuels, solvents, paints, oils, and grease, materials that are typically used in construction projects. The handling of hazardous materials would be compliant with applicable regulations such as those described under section 2.2.4.1 *Regulatory Setting*. The regulations mentioned cover hazardous materials–related topics such as proper personal protective equipment, transport, handling, and disposal, etc.

Although hazardous materials would be handled during construction, these materials are typically used in construction projects. Moreover, these hazardous materials are generally used in small amounts and any potential construction-related hazardous releases or emissions would be from such commonly used materials as those previously mentioned and would not include substances listed in 40 CFR 355 Appendix A: *Extremely Hazardous Substances and Their Threshold Planning Quantities*. Releases involving common construction hazardous materials would be small and localized and spills that may occur would be contained and cleaned according to the Safety Data Sheet (SDS) in the appropriate manner (OSHA 2012). A hazardous material SDS would include accidental release clean-up measures such as appropriate techniques for neutralization, decontamination, cleaning or vacuuming, and absorbent materials, etc.

Moreover, any project requiring greater than 1 acre of soil disturbance would be required to obtain coverage under both the California State Water Resources Control Board's Construction General Permit Order No. 2009-0009-DWQ and the Arizona Department of Environmental Quality's Construction Activity General Permit. Both permits would require the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate and prevent contamination of stormwater runoff. Construction BMPs can include the following:

- Maintenance activities, maintenance schedules, and long-term inspection procedures to minimize release of oils and fuels from construction equipment.
- Controls for reducing or eliminating the discharge of pollutants.
- Procedures for the proper disposal of waste.

Although hazardous material releases during construction cannot feasibly be eliminated, the requirements of existing regulatory programs would minimize potential adverse effects.

Hazardous Material Sites

A hazardous materials site with a potential for contaminated soil and/or groundwater exists adjacent to the project area. A summary of the hazardous materials sites located adjacent to the project area are included in section 2.2.4.2 *Affected Environment*. As mentioned, the Topock Compressor Station's cooling tower wastewater was discharged into the Bat Cave Wash adjacent to the compressor station site from 1951 to 1964. Subsequently, treated wastewater was discharged into ponds for storage and evaporation until 1985. Additionally, a hexavalent chromium groundwater plume extends below the western portion of the project area. Investigations conducted onsite (Stantec 2023) identified levels of various contaminants in soil, within and adjacent to the project area and within the existing Caltrans right-of-way. Contaminants identified in the investigations include Title 22 heavy metals, sodium, PAHs, TPH, PCBs, and SVOCs. However, none of the reported concentrations of contaminants with the exception of arsenic was above residential and commercial human health screening levels. However, arsenic occurs naturally in California soils and levels (2.5 to 7.8 mg/kg) are consistent with DTSC Southern California regional upper bound background arsenic concentrations of 12 mg/kg. (Stantec, 2023).

Construction activities as part of the project could encounter contaminated groundwater or contaminated soils associated with the historical operation of PG&E Topock Compressor Station. However, implementation of measure **HAZ-1** and **HAZ-8** would protect construction

personnel and the surrounding environment from the potential adverse effects associated with encountering contaminated groundwater or contaminated soils during construction activities.

As part of the implementation of measure **HAZ-1**, a groundwater sampling program will be conducted if construction work requires infrastructure that will enter groundwater or generate wastewater or saturated soils as a result of construction activities, further assessment (via sampling) should be conducted at the locations where such work would occur. If construction dewatering is required, an evaluation of plume migration and treatment and disposal shall be conducted.

Furthermore, monitoring wells as part of existing groundwater remediation activities located within the project area will need to be preserved during construction activities, however, if removal is necessary due to construction, wells will need to be abandoned and reinstalled under purview of the RWQCB.

Hazardous Building Materials and Aerially Deposited Lead

Construction activities associated with the project would involve the demolition of existing buildings and structures; therefore, hazardous structural materials such as lead-based paint and asbestos may be encountered during these activities. The Site Investigation (Stantec, 2023) detected concentrations of asbestos in the leveling shims of the Colorado River Bridge. Implementation of measures **HAZ-2** and **HAZ-3** would require an Asbestos Compliance Plan (ACP) and NESHAP notification. In addition, lead paint was identified on the metal support beams of the Colorado River Bridge during the Site Investigation. Measure **HAZ-5** will be implemented to mitigation impacts from lead paint.

The IS report (Stantec, 2023) identified the presence of aerially deposited lead (ADL) in soil resulting from the historical combustion of leaded gasoline along the I-40 corridor. The presence of ADL in soils may pose a potential concern to the environment and on-site workers during construction activities and may result in disposal consideration if removed off site. As part of measure **HAZ-4**, a lead compliance plan will be required by the contractor.

If project work included the removal and/or upgrade of guard rail or removal of signposts, **HAZ-6** will be implemented for the disposal of treated wood waste. In addition, a pile of railroad ties was observed in the southeast portion of the project area adjacent to Oatman Highway. As railroad ties are typically treated with creosote and chromated copper arsenate (for preservation), they require proper removal and disposal (prior to construction) in accordance with applicable laws and regulations.

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.

2.2.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of the following avoidance, minimization, and mitigation measures would ensure that impacts involving hazards and hazardous materials would not be adverse.

Handling of ACM waste would be conducted consistent with California Department of Transportation Standard Special Provision (SSP) 14-11.16, while LBP would be handled according to NSSP 14-11.17.

- HAZ-1 Groundwater Sampling Program** If construction work requires infrastructure that will enter groundwater or generate wastewater or saturated soils as a result of construction activities, further assessment (via sampling) should be conducted at the locations where such work would occur. If construction dewatering is required, an evaluation of plume migration and treatment and disposal shall be conducted according to SSP 13-3_A10-21-22.
- HAZ-2 Asbestos Containing Material (ACM)** If ACM is found in construction material, handling and disposal of the excavated material shall be determined based on the findings in the survey report and the preparation and implementation of an Asbestos Compliance Plan would address the presence of ACM in construction material within the survey area, how to handle them, proper disposal and the health and safety of construction workers according to SSP 14-11.16.
- HAZ-3 Asbestos Containing Material (ACM)** NESHAP notification required for Asbestos Containing Materials (ACM) according to SSP 14-9.02.
- HAZ-4 Aerially Deposited Lead (ADL)** For all earth material containing lead, a lead compliance plan (LCP) is required that would address the presence of ADL in soils within the project area, how to handle them, proper disposal and the health and safety of construction workers according to SSP 7-1.02K(6)(j)(iii).
- HAZ-5 Lead Based Paint** Lead paint found on bridge support beams or encountered during structure demolition may pose a hazard to workers during removal, scraping, cutting or torching leaded paint components. The contractor is responsible for implementing a monitoring program and protective measures to protect workers and the public from exposure to leaded materials. The handling and disposal would be addressed in the Lead Compliance Plan, to be prepared and implemented for the project according to NSSP 14-11.17.
- HAZ-6 Treated Wood Waste** If project work includes the removal and/or upgrade of guardrail system or removal of signposts, use SSP 14-11.14 for the proper removal and disposal of treated wood waste.
- HAZ-7 Local Material** If local material such as rock, gravel, earth, structure backfill, pervious backfill, imported borrow, and culvert bedding, is obtained from a (1) noncommercial source, or (2) source not regulated under California jurisdiction, submit a local material plan for each material at least 60 days before placing the material per SSP 6-1.03B.

HAZ-8

General Hazardous Waste. Due to historical operation of PG&E Topock Compressor Station prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. To protect workers during construction, discolored soil and potential waste debris encountered during construction should be tested for metals, dioxin, PCB, and asbestos containing material within California limits from the end of the bridge deck to the Park Moabi Road exit.

2.2.5 Air Quality

2.2.5.1 REGULATORY SETTING

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 (CARB), 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 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 scope⁴ 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.

2.2.5.2 AFFECTED ENVIRONMENT

California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards. The project site is located in San Bernardino County within an area of the Mojave Desert Air Basin (MDAB), which includes portions of Kern, Los Angeles, Riverside, and San Bernardino Counties. The air quality regulations in the project region of the MDAB are administered by the Mojave Desert Air Quality Management District (MDAQMD).

Climate and Meteorological Conditions

The weather and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight and the type of winds at the surface and above the surface. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 ft elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 ft). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

⁴ "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south.

The Needles climatological station, maintained by the Western Regional Climate Center, is near the project site and representative of meteorological conditions near the project site. The average maximum temperature varies from 63.8°F in December to 108.9°F in July. The annual average rainfall is 4.44 inches, falling mainly during the winter months.

Attainment Status

Regional air quality is monitored by MDAQMD and CARB. These 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 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. Table 2-11 provides the state and federal ambient air quality standards and the attainment status of the project region of the MDAB.

Table 2-11, State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O ₃) ²	1 hour 8 hours	0.09 ppm 0.070 ppm	-- ⁴ 0.070 ppm (4 th highest in 3 years)	High concentrations irritate lungs. Long-term exposure could 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 volatile organic compounds (VOCs) could also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG)/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.	Federal: Nonattainment (Severe-15) (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon	1 hour	20 ppm	35 ppm	CO interferes with	Combustion	Federal:

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Monoxide (CO)	8 hours 8 hours (Lake Tahoe)	9.0 ppm ¹ 6 ppm	9 ppm --	the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	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 State: Attainment
Respirable Particulate Matter (PM ₁₀) ²	24 hours Annual	50 µg/m ³ 20 µg/m ³	150 µg/m ³ -- ² (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Nonattainment (Moderate) State: Nonattainment
Fine Particulate Matter (PM _{2.5}) ²	24 hours Annual 24 hours (conformity process ⁵) Secondary Standard (annual; also for conformity process ⁵)	-- 12 µg/m ³ -- --	35 µg/m ³ 12.0 µg/m ³ 65 µg/m ³ 15 µg/m ³ (98 th percentile over 3 years)	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 and 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.	Federal: Attainment State: Nonattainment

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Nitrogen Dioxide (NO ₂)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm ⁶ (98 th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of storm water. Part of the "NO _x " group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Federal: Attainment State: Attainment
Sulfur Dioxide (SO ₂)	1 hour 3 hours 24 hours Annual	0.25 ppm 0.04 ppm	0.075 ppm ⁷ (99 th percentile over 3 years) 0.5 ppm ⁹ 0.14 ppm 0.030 ppm (for certain areas)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/Unclassified State: Attainment/Unclassified
Lead (Pb) ³	Monthly Calendar Quarter Rolling 3-month average	1.5 µg/m ³	1.5 µg/m ³ (for certain areas) 0.15 µg/m ³ ¹¹	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. ADL from older gasoline use could exist in soils along major roads.	Federal: Attainment/Unclassified State: Attainment
Sulfate	24 hours	25 µg/m ³		Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	State Only: Attainment/Unclassified

Pollutant	Averaging Time	State ⁹ Standard	Federal ⁹ Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
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.	State Only: Attainment/ Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%		Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the FCAA 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. Would potentially be related more to aerosols than to solid particles.	State Only: Attainment/ Unclassified
Vinyl Chloride ³	24 hours	0.01 ppm		Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	State Only: Attainment/ Unclassified

1. Notes: Based on the ARB Air Quality Standards chart (ARB 2016).
2. ¹ State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise.
3. ² Federal standards are "not to exceed more than once a year" or as described above.
4. ³ ppm = parts per million
5. ⁴ Prior to June 2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the San Francisco Bay Area.
6. ⁵ Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³. 24-hour PM_{2.5} NAAQS tightened October 2006; was 65 µg/m³. Annual PM_{2.5} NAAQS tightened from 15 µg/m³ to 12 µg/m³ December 2012 and secondary annual standard set at 15 µg/m³.
7. ⁶ µg/m³ = micrograms per cubic meter.
8. ⁷ The 65 µg/m³ PM_{2.5} (24-hr) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. The 15 µg/m³ annual PM_{2.5} standard was not revoked when the 12 µg/m³ standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, U.S. EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no-build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.
9. ⁸ Final 1-hour NO₂ NAAQS published in the *Federal Register* on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

10. ⁹ U.S. EPA finalized a 1-hour SO₂ standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of September 2012.
11. ¹⁰ Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
12. ¹¹ 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 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.
13. ¹² Lead NAAQS are not considered in Transportation Conformity analysis.

The project site is in the eastern portion of the MDAB. The monitoring station closest to the project site is the Mojave National Preserve Station. As the Mojave National Preserve Station only monitors O₃, the remaining pollutant concentrations were obtained from the Barstow and Victorville Stations. As shown in Table 2-12, the O₃ concentrations are over the state and federal standards, the PM₁₀ concentrations are over the state and federal standards, and the PM_{2.5} concentrations are over the federal standards.

If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated as unclassified.

Table 2-12, Air Quality Measured at Ontario and Upland Monitoring Stations.

Pollutant	Standard	2018	2019	2020
Ozone – Mojave National Preserve Station				
Max 1-hour concentration (ppm)		0.103	0.088	0.100
Number of days exceeded: State	0.09 ppm	6	0	2
Max 8-hour concentration (ppm)		0.096	0.077	0.094
Number of days exceeded:				
State:	0.070 ppm	79	19	30
Federal:	0.070 ppm	79	19	30
PM₁₀ – Barstow Station				
Max 24-hour concentration (µg/m ³)		101.3	209.5	213.5
Number of days exceeded:				
State:	50 µg/m ³	N/A	N/A	N/A
Federal:	150 µg/m ³	0	1	1
Maximum annual concentration (µg/m ³)		27.3	24.8	33.3
Exceeded:				
State:	20 µg/m ³	Yes	Yes	Yes
PM_{2.5} – Victorville Station				
Maximum 24-hour concentration (µg/m ³)		32.7	17.8	48.4
Number of days exceeded: Federal	35 µg/m ³	0	0	4
Maximum annual concentration		8.7	7.0	10.4
Exceeded:				
State:	12 µg/m ³	No	No	No
Federal:	12 µg/m ³	No	No	No
Nitrogen Dioxide – Barstow Station				
Maximum 1-hour concentration (ppm)		0.059	0.060	0.063
Number of days exceeded:				
State:	0.18 ppm	0	0	0
Federal:	100 ppb	0	0	0
Maximum annual concentration (ppm)		0.015	0.013	0.014
Exceeded:				
State:	0.030 ppm	No	No	No
Federal:	53 ppb	No	No	No
Source: EPA, 2022 and CARB, 2022.				
Notes:				
N/A= Not applicable due to insufficient data.				

2.2.5.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives

Conformity

The project is exempt from all emissions analysis per Table 2 of 40 CFR 93.126 under safety improvements (e.g., shoulder improvements, widening narrow pavements or reconstructing bridges [no additional travel lanes]) along an existing roadway. The project would not increase the capacity of the existing roadway or include the installation of traffic signals. Accordingly, no coordination with SCAG's Transportation Conformity Working Group is required for this project.

Regional Emissions

Because the project falls under the exempt project category, no analysis is required or has been undertaken. This project has been determined to generate minimal air quality impacts related to the long-term emission of criteria pollutants.

Mobile Source Air Toxics

According to FHWA's October 2016 Updated Interim Guidance on mobile-source air toxics (MSAT), FHWA has identified three levels of analysis:

1. No analysis for exempt projects or projects with no potential for meaningful MSAT effects.
2. Qualitative analysis for projects with low potential MSAT effects.
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Because the project falls under the exempt project category, no analysis is required or has been undertaken related to the emission of MSAT. This project has been determined to generate minimal air quality impacts related to criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the No-Build Alternative.

Moreover, U.S. EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with U.S. EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (FHWA 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Temporary Construction Impacts

During construction, short-term air quality degradation could occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include CO, nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly emitted particulate matter (PM₁₀ and PM_{2.5}), and toxic air contaminants such as diesel exhaust

particulate matter. Ozone is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, grading, improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM₁₀, PM_{2.5}, and small amounts of CO, SO₂, NO_x, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM₁₀ emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs, and some soot particulate (PM₁₀ and PM_{2.5}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO₂ is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 parts per million sulfur), so SO₂-related issues due to diesel exhaust will be minimal.

Some phases of construction, particularly asphalt paving, could result in short-term odors in the immediate area of each paving site(s). Such odors would quickly disperse to below detectable levels as distance from the site(s) increases.

Most of the construction impacts on air quality are short term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following standardized measures, some of which could also be required for other purposes such as storm water pollution control, will reduce any air quality impacts resulting from construction activities.

The construction contractor must comply with Caltrans' Standard Specifications in Section 14:

- **Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.**
- **Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.**

- **The construction contractor must comply with Mojave Desert Air Quality Management District Rule 403 (Fugitive Dust). Compliance measures shall include the following:**
- **Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a “no visible dust” criterion either at the point of emissions or at the right-of-way line, depending on local regulations.**
- **Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.**
- **Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.**
- **Track-out reduction measures—such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic—will be used.**
- **All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.**
- **Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.**
- **Mulch will be installed, or vegetation planted, as soon as practical after grading to reduce windblown particulate in the area.**
- **A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.**
- **Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.**
- **Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel, as required by California Code of Regulations Title 17, Section 93114.**
- **To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.**

Construction Conformity

Construction activities will not last for more than 5 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)).

No-Build Alternative

Under the No-Build Alternative, there would be no changes to the project area. No air quality impacts would occur.

2.2.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following Air Quality measures would be implemented to minimize potential impacts, as stated in Section 14-9, "Air Quality," of Caltrans' 2018 Standard Specifications and Special Provisions.

- AQ-1** Fugitive Dust: Contractor must abide by Caltrans' provisions in Section 14-9, Air Quality of the 2020 Standard Specifications and Special Provisions.
- AQ-2** Implement and follow Erosion Control and Air Quality Best Management Practices (BMPs).
- AQ-3** Comply with AQMD rule 403 for Fugitive Dust and Caltrans Standard Specification Section 14-9.

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.

2.2.6 Noise and Vibration

2.2.6.1 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 Caltrans), 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). The following table (Table 2.13) lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2-13, Noise Abatement Criteria

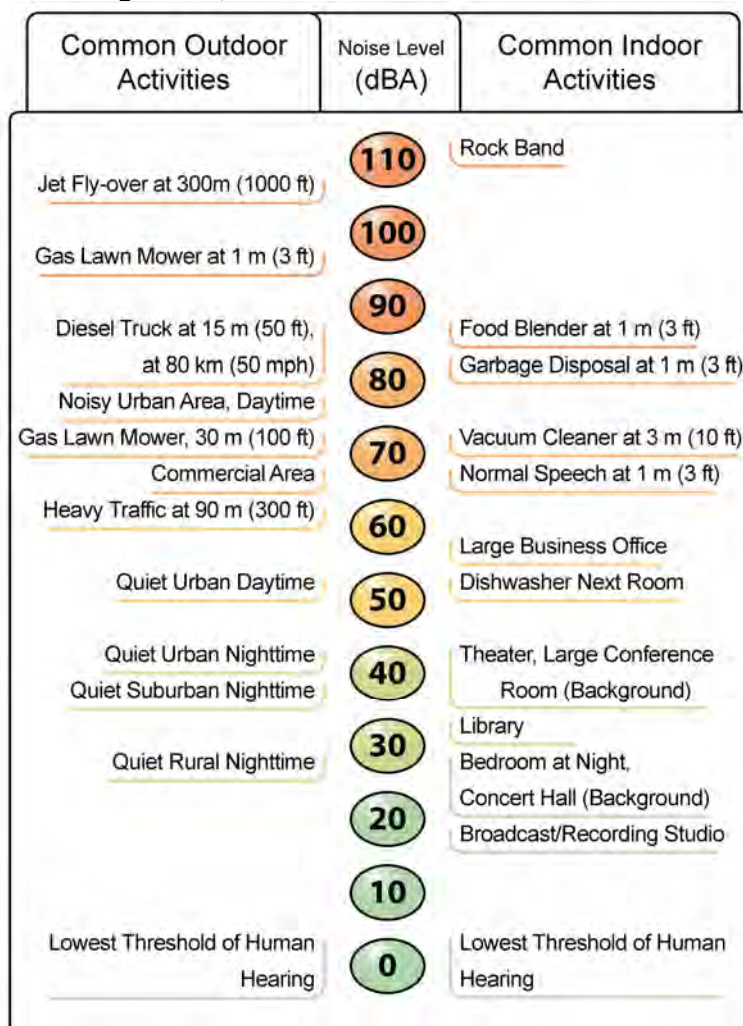
Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to 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,

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
		utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

¹ Includes undeveloped lands permitted for this activity category.

The following figure 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.

Figure 2.7, Noise Levels of Common Activities



According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2020*, 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) 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.

Caltrans' *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).

2.2.6.2 AFFECTED ENVIRONMENT

The primary sources used in the preparation of this section are the *Noise Study Report* (Caltrans 2022a) and the *Noise Abatement Decision Report* (Caltrans 2022d), which are hereby incorporated by reference.

Basics of Sound

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted or annoying sound that is typically associated with human activity and that interferes with normal activities. Sound levels are measured and expressed in decibels (dB). The human ear does not respond uniformly to sounds at all frequencies, being less sensitive to low and high frequencies than to medium frequencies, which correspond with human speech. In response, the A-weighted noise level (or scale) has been developed. This A-weighted sound level is called the "noise level," which is referenced in units of dBA. Noise is measured on a logarithmic scale; a doubling of sound energy results in a three-dBA increase in noise levels. The human ear, however, does not typically notice changes in noise levels of less than 3 dBA. The equivalent noise level (L_{eq}) is the average A weighted sound level measured over a given time interval. L_{eq} can be measured over any time period, but is typically measured for one-hour periods and is expressed as $L_{eq}(h)$.

Methodology

FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway at a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment of the highway. The following projects are also considered to be Type I projects:

- The addition of a through-traffic lane. This includes the addition of a through-traffic lane that functions as a high-occupancy vehicle (HOV) lane, high-occupancy toll (HOT) lane, bus lane, or truck climbing lane;

- The addition of an auxiliary lane, except when the auxiliary lane is a turn lane;
- The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange,
- Restriping existing pavement for the purpose of adding a through traffic lane or an auxiliary lane,
- The addition of a new weigh station, rest stop, ride-share lot, or toll plaza or substantial alteration to such features.

The project is determined to be a Type I project under this definition, and therefore the entire project area, as defined in the environmental document, is a Type I project. Under 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR 772 requires that the project sponsor “consider” noise abatement before adoption of the final NEPA document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project as well as the identification of noise impacts for which no apparent solution is available.

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the project. Land uses in the project area were categorized by land use type; Activity Category, as defined in Table 2.13, Noise Abatement Criteria; and the extent of frequent human use. Noise measurements were conducted along the alignment using one Larson Davis Model LxT sound-level meter (SLM) and one Larson Davis Model 831 SLM (serial numbers 0004005 and 0003786, respectively). All procedures for conducting noise measurements required by the Caltrans’ Technical Noise Supplement (TeNS) were followed during field measurements. All relevant traffic data from each short-term measurement were classified and counted using video recordings and/or manual traffic counts gathered in the field for use in calibrating the project noise model.

Traffic noise levels were predicted using the FHWA Traffic Noise Model (TNM), version 2.5. This computer model is based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Key geometric inputs for the TNM were ground type and the locations of roadways, shielding features (e.g., topography and buildings), noise barriers, and receivers.

For the purposes of the analysis, it was assumed (based on current Caltrans practices) that the GP lanes would run at an LOS C/D capacity of 1,650 vehicles per hour per lane (vphpl) at the design speed (70 mph within California and 75 mph within Arizona). Traffic along the on- and off-ramps was modeled using an average of the traffic counted during field measurements to account for all traffic on the facility. The traffic mix (percent auto, medium trucks, and heavy trucks) was taken from the Traffic Data Request Memorandum (Caltrans 2021) prepared by Caltrans.

Abatement was considered at any modeled receptors which approached or exceeded the NAC for the respective Land Use Activity Category or was predicted to have a substantial increase (12 dB or more increase during the Design Year relative to the existing traffic noise level). Abatement in the form of noise barriers, ranging in height from 8 through 16 feet at the edge of shoulder, was considered in the analysis. The reasonable allowance for each noise barrier found to be feasible and meet the design goal (7 dB insertion loss) was calculated (based on

\$107,000 per benefitted receptor) and compared to the engineer's cost to construct the noise barrier. If the reasonable allowance was within a 10 percent contingency of the cost to construct the barrier, the barrier was considered reasonable to construct and was conditionally included as abatement in this environmental document (conditional upon approval of the benefitted receptors during the voting process).

Existing Land Use and Project Study Areas

As required by the Protocol, all developed land uses were evaluated in the noise analysis. Land uses in the study area fall under Activity Categories B and G. However, the focus was on outdoor locations with frequent human use that would benefit from a lowered noise level. Accordingly, the impact analysis focused on locations with defined outdoor activity areas, in this case residential backyards. Areas of frequent human use located along the project study corridor/alignment fall under Activity Categories B and G. The project study corridor was broken down into four segments and are discussed below:

- NAA 1** This NAA is located on the north side of I-40, west of the Colorado River. Land uses in this area are industrial (Activity Category F) and undeveloped land (Activity Category G). The terrain in this area is generally rough and varied, including steep slopes and elevations that range from substantially below the grade of I-40 to substantially above the grade of I-40.
- NAA 2** This NAA is located on the south side of I-40, west of the Colorado River. Land uses in this area are industrial (Activity Category F) and undeveloped land (Activity Category G). The terrain in this area is generally rough and varied, including steep slopes and elevations that range from substantially below the grade of I-40 to substantially above the grade of I-40.
- NAA 3** This NAA is located on the north side of I-40, east of the Colorado River. Land uses in this area are industrial (Activity Category F) and undeveloped land (Activity Category G) adjacent to I-40, with residential (Activity Category B) and commercial (Activity Category E) land uses farther to the north, across the BNSF railroad. The area nearest to the freeway is generally flat and at grade with I-40. The railroad is higher than the surrounding land use and has a grade-separated crossing with Oatman Highway. The land on the north side of the railroad slopes down toward the Colorado River to the north.
- NAA 4** This NAA is located on the south side of I-40, east of the Colorado River. Land uses in this area are residential (Activity Category B), industrial (Activity Category F), and undeveloped land (Activity Category G). The land adjacent to the freeway is generally at grade with I-40 and then slopes down toward the Colorado River to the south and west.

Existing Noise Measurements

Noise measurements were conducted at 4 short-term (20 minutes in duration each) locations and two long-term (i.e., measurements taken at 1-minute intervals for 24 hours or more) locations along the project alignment between September 29, 2021, through September 30, 2021 using Caltrans-approved methodology for measuring noise. The noise measurement locations are identified in Figures 2.16, 2.17, and 2.18.

Noise monitoring sites (ST01.01, ST02.01, ST04.01, and ST04.02) were selected to be representative of ambient noise conditions near the I-40 project corridor. Table 2.14 summarizes the results of the short-term noise monitoring conducted in the project study area.

Table 2-14, Summary of Short-Term Measurements

Receiver	Address	Land Uses/ Activity Category	Start Date/Time	Duration (minutes)	Leq (dBA)
ST01.01	--	Undeveloped/G	09/29/2022 10:56 – 11:16	20	63.5
			09/29/2022 11:25 – 11:45	20	63.4
ST02.01	--	Undeveloped/G	09/29/2022 10:56 – 11:16	20	68.7
			09/29/2022 11:25 – 11:45	20	69.2
ST04.01	15310 W. Historic Route 66	Residential/B	09/29/2022 12:23 – 12:43	20	60.8
			09/29/2022 12:53 – 1:13	20	61.2
ST04.02	15146 W. Historic Route 66	Residential/B	09/29/2022 12:23 – 12:43	20	63.3
			09/29/2022 12:53 – 1:13	20	63.0
A fifth field measurement (ST03.01) was conducted, however this measurement was conducted for reporting purposes only and was not used for model validation. Measurements ST01.01 and ST02.01 were conducted simultaneously. Measurements ST04.01 and ST04.02 were conducted simultaneously. Source: ICF, 2021.					

Long-term monitoring was conducted at two locations (LT02.01 and LT03.01) along the project alignment. The long-term measurement locations, peak hour noise levels and times, and quietest hour noise levels and times at each measurement location are shown in Table 2.15 below.

Table 2-15, Long-Term Noise Measurement Data Summary

Site ID	NAA	Measurement Location	Date	Peak Noise Hour Leq (dBA)	Quietest Hour Leq (dBA)
LT02.01	2	Undeveloped	09/29/2021 through 09/30/2021	76.1 (1:00 – 2:00 PM)	72.2 (3:00 – 4:00 AM)
LT03.01	3	Undeveloped		71.3 (2:00 – 3:00 and 4:00 – 5:00 PM)	66.5 (4:00 – 5:00 AM)
Source: Noise Study Report, 2022.					

The long-term noise measurement sites were selected to document the diurnal traffic noise pattern, which was dominated by traffic noise on I-40. The purpose of the long-term noise measurements was to determine the changes in noise levels within the project area throughout a typical day. The long-term sound level data were collected over 24-hour periods between Wednesday, September 29, 2021, and Thursday, September 30, 2021. The results of the long-term monitoring are summarized in Table 2.16 and Table 2.17 and Figure 2.8 and Figure 2.9.

Table 2-16, Hourly Results from Long-Term Measurement at Site LT02.01

Date	Beginning Hour	Hourly dBA (L_{eq}[h])	Difference from Loudest Hour
9/29/2021	10:00 a.m.	75.8	-0.3
	11:00 a.m.	75.4	-0.7
	12:00 p.m.	75.9	-0.2
	<i>1:00 p.m.</i>	<i>76.1</i>	<i>0.0</i>
	2:00 p.m.	75.9	-0.2
	3:00 p.m.	75.5	-0.6
	4:00 p.m.	75.7	-0.4
	5:00 p.m.	75.7	-0.4
	6:00 p.m.	74.6	-1.5
	7:00 p.m.	74.2	-1.9
	8:00 p.m.	74.0	-2.1
	9:00 p.m.	73.4	-2.7
	10:00 p.m.	73.1	-3.0
	11:00 p.m.	72.8	-3.3
9/30/2021	12:00 a.m.	73.0	-3.2
	1:00 a.m.	72.2	-3.9
	2:00 a.m.	73.0	-3.1
	3:00 a.m.	72.2	-3.9
	4:00 a.m.	73.4	-2.7
	5:00 a.m.	74.7	-1.4
	6:00 a.m.	75.1	-1.0
	7:00 a.m.	75.6	-0.5
	8:00 a.m.	75.7	-0.4
	9:00 a.m.	75.7	-0.4
Maximum		<i>76.1</i>	<i>0.0</i>
Minimum		72.2	-3.9
Note: Daily worst-hour noise level is in <i>bold and italics</i> .			

Figure 2.8, Hourly Results from Long-Term Measurement at Site LT02.01

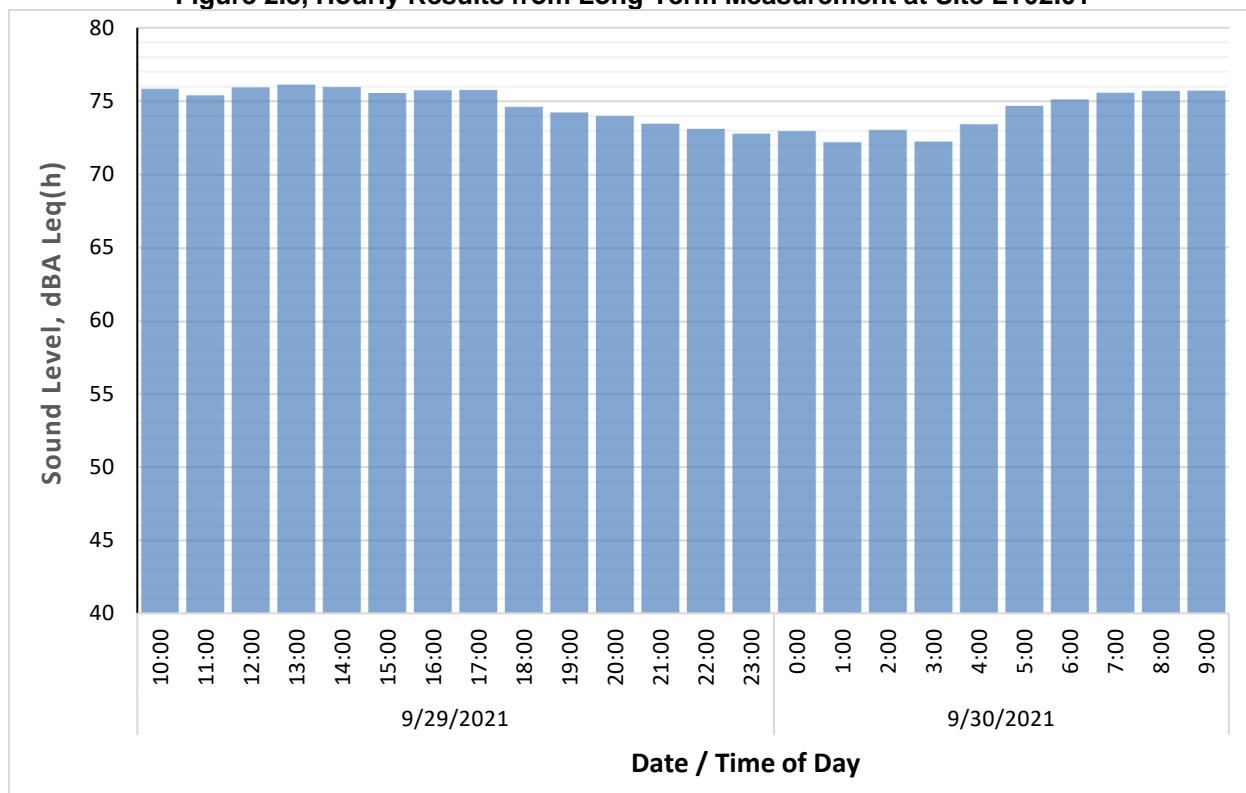
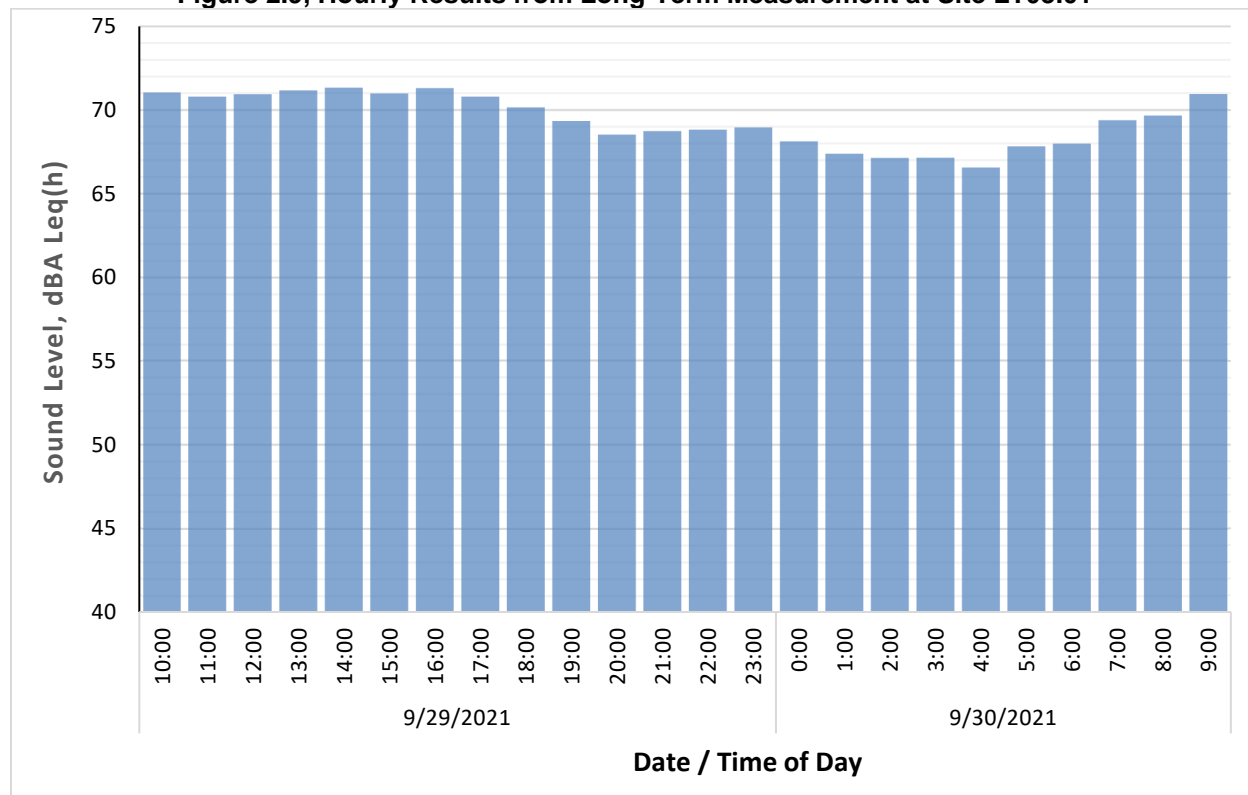


Table 2-17, Hourly Results from Long-Term Measurement at Site LT03.01

Date	Beginning Hour	Hourly dBA (Leq[h])	Difference from Loudest Hour
9/29/2021	10:00 a.m.	71.0	-0.3
	11:00 a.m.	70.8	-0.5
	12:00 p.m.	70.9	-0.4
	1:00 p.m.	71.1	-0.2
	2:00 p.m.	71.3	0.0
	3:00 p.m.	71.0	-0.3
	4:00 p.m.	71.3	0.0
	5:00 p.m.	70.8	-0.5
	6:00 p.m.	70.1	-1.2
	7:00 p.m.	69.3	-2.0
8:00 p.m.	68.5	-2.8	

	9:00 p.m.	68.7	-2.6
	10:00 p.m.	68.8	-2.5
	11:00 p.m.	68.9	-2.4
9/30/2021	12:00 a.m.	68.1	-3.2
	1:00 a.m.	67.4	-3.9
	2:00 a.m.	67.1	-4.2
	3:00 a.m.	67.1	-4.2
	4:00 a.m.	66.5	-4.8
	5:00 a.m.	67.8	-3.5
	6:00 a.m.	68.0	-3.3
	7:00 a.m.	69.4	-1.9
	8:00 a.m.	69.6	-1.7
	9:00 a.m.	70.9	-0.4
Maximum		71.3	0.0
Minimum		66.5	-4.8
Note: Daily worst-hour noise levels are in <i>bold and italics</i> .			

Figure 2.9, Hourly Results from Long-Term Measurement at Site LT03.01



Noise Model Calibration

TNM 2.5 was used to compare measured traffic noise levels with modeled noise levels at field measurement locations using the traffic count data collected at the time of the noise

measurements. Table 2.18 compares measured and modeled noise levels at each measurement location. Good agreement (within ± 2 dB) was achieved between the measured and modeled results at most model receivers.

For modeled locations that did not show good agreement (greater than ± 2 dB), model results were adjusted using K-factors for existing and future peak-noise-hour traffic noise results, as applicable. Table 2.18 shows which adjustment factors were applied to each respective modeling receiver. If the absolute value of the K-factor was less than 2 dB, then the TNM 2.5 modeling result was not adjusted.

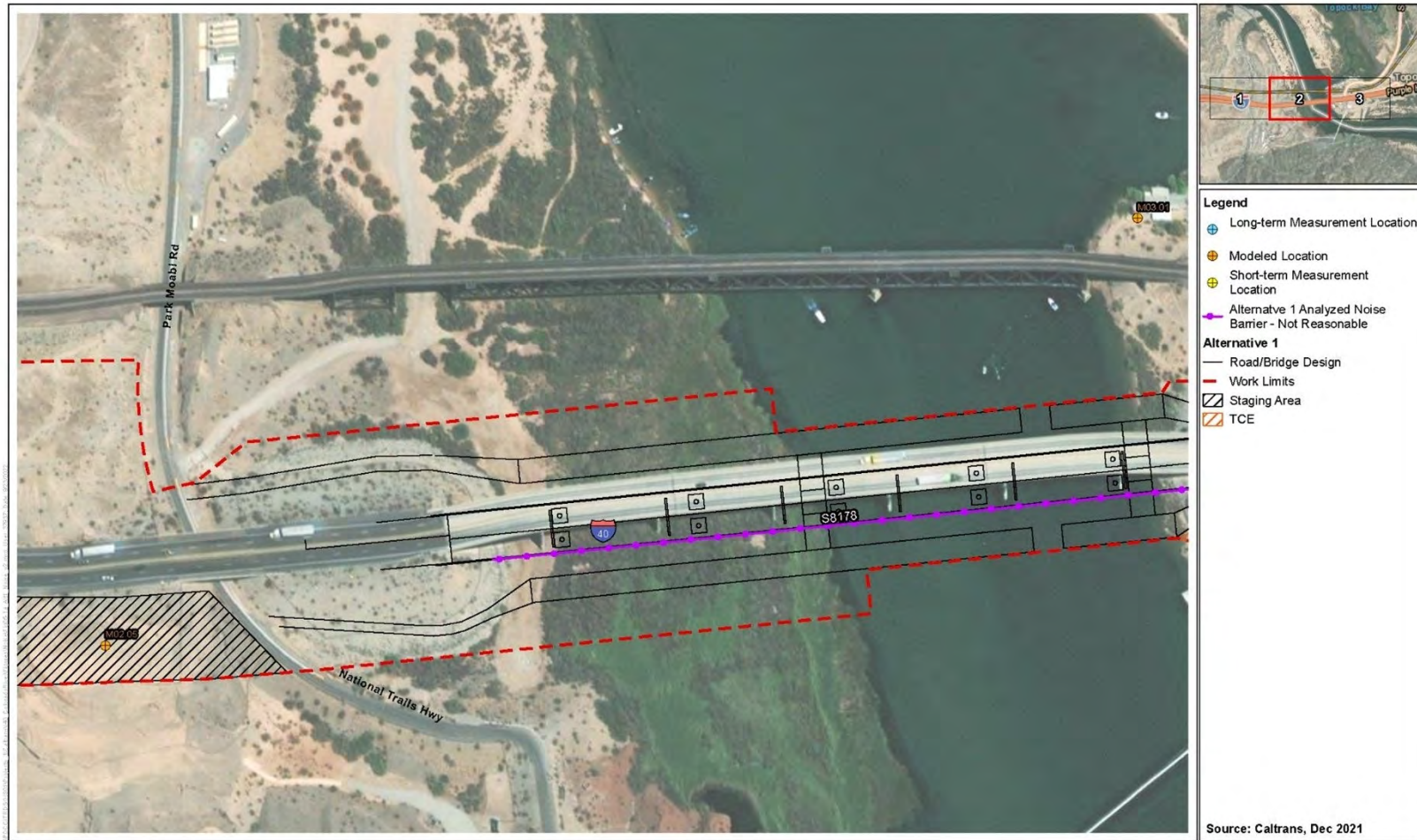
Table 2-18, Comparison of Measured and Modeled Sound Levels in the TNM

Measurement Site	Area	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured minus Predicted (dB)	K-Factor Used	K-Factor Applied to Additional Modeled Receiver(s)
ST01.01 (M01.04)	1	63.5	65.5	-2.0	-2.0	M01.01 through M01.03, and M01.05
	1	63.4	65.8	-2.4		
ST02.01 (M02.04)	2	68.7	71.2	-2.5	-2.2	M02.01 through M02.03, and M02.05
	2	69.2	71.4	-2.2		
ST04.01 (M04.01)	4	60.8	61.4	-0.6	0.0	N/A
	4	61.2	61.6	-0.4		
ST04.02 (M04.02)	4	63.3	65.8	-2.5	-2.5	M04.03 and M04.04
	4	63.0	65.5	-2.5		

Figure 2.10, Alternative 1 Noise Measurement and Modeling Locations



Figure 2.11, Alternative 1 Noise Measurement and Modeling Locations



Alternative 1 Noise Measurement and Modeling Locations
I-40 Colorado River Bridge Replacement Project

Figure 2.12, Alternative 1 Noise Measurement and Modeling Locations

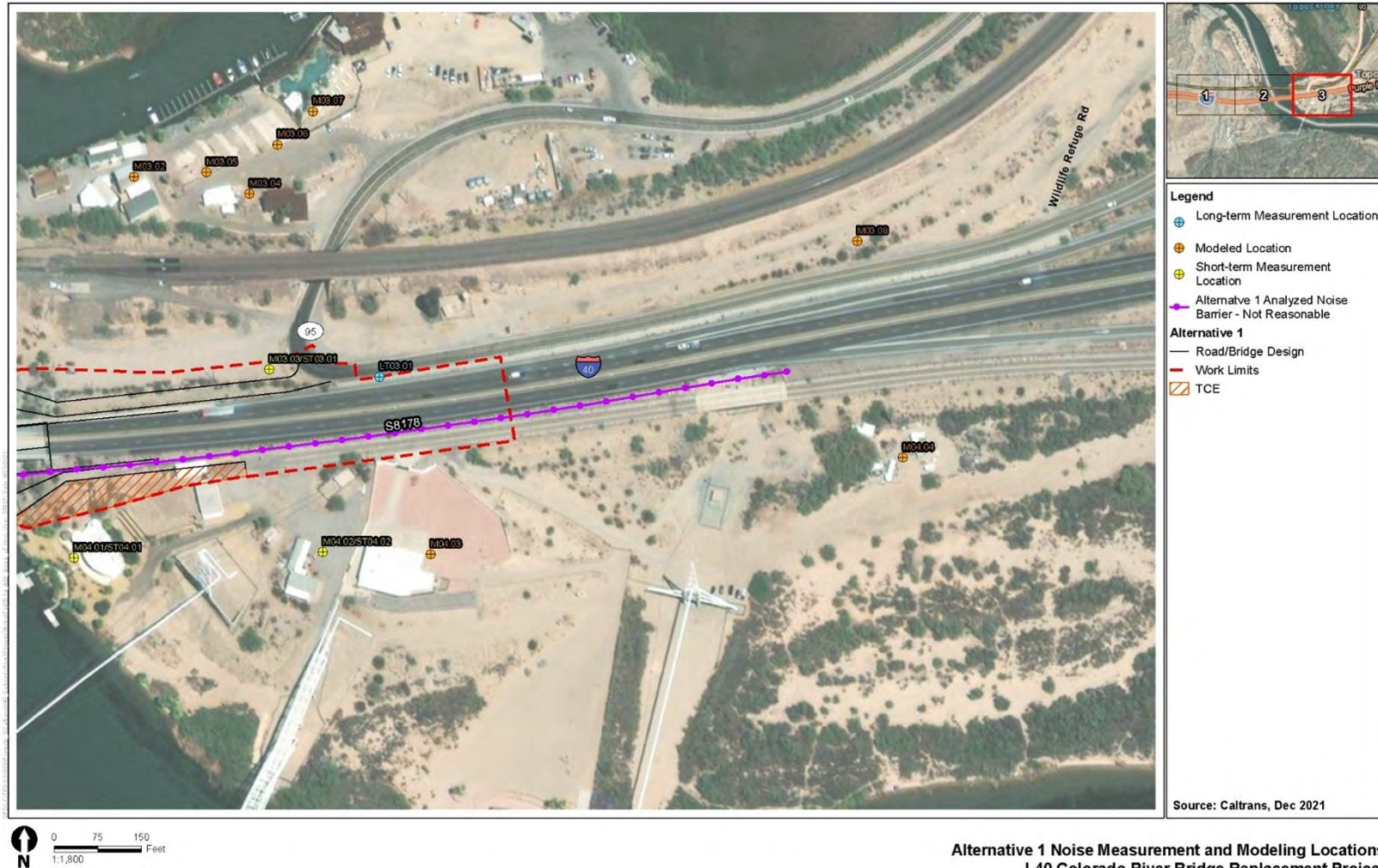


Figure 2.13, Alternative 2 Noise Measurement and Modeling Locations



Figure 2.14, Alternative 2 Noise Measurement and Modeling Locations



Alternative 2 Noise Measurement and Modeling Locations
I-40 Colorado River Bridge Replacement Project

Figure 2.15, Alternative 2 Noise Measurement and Modeling Locations

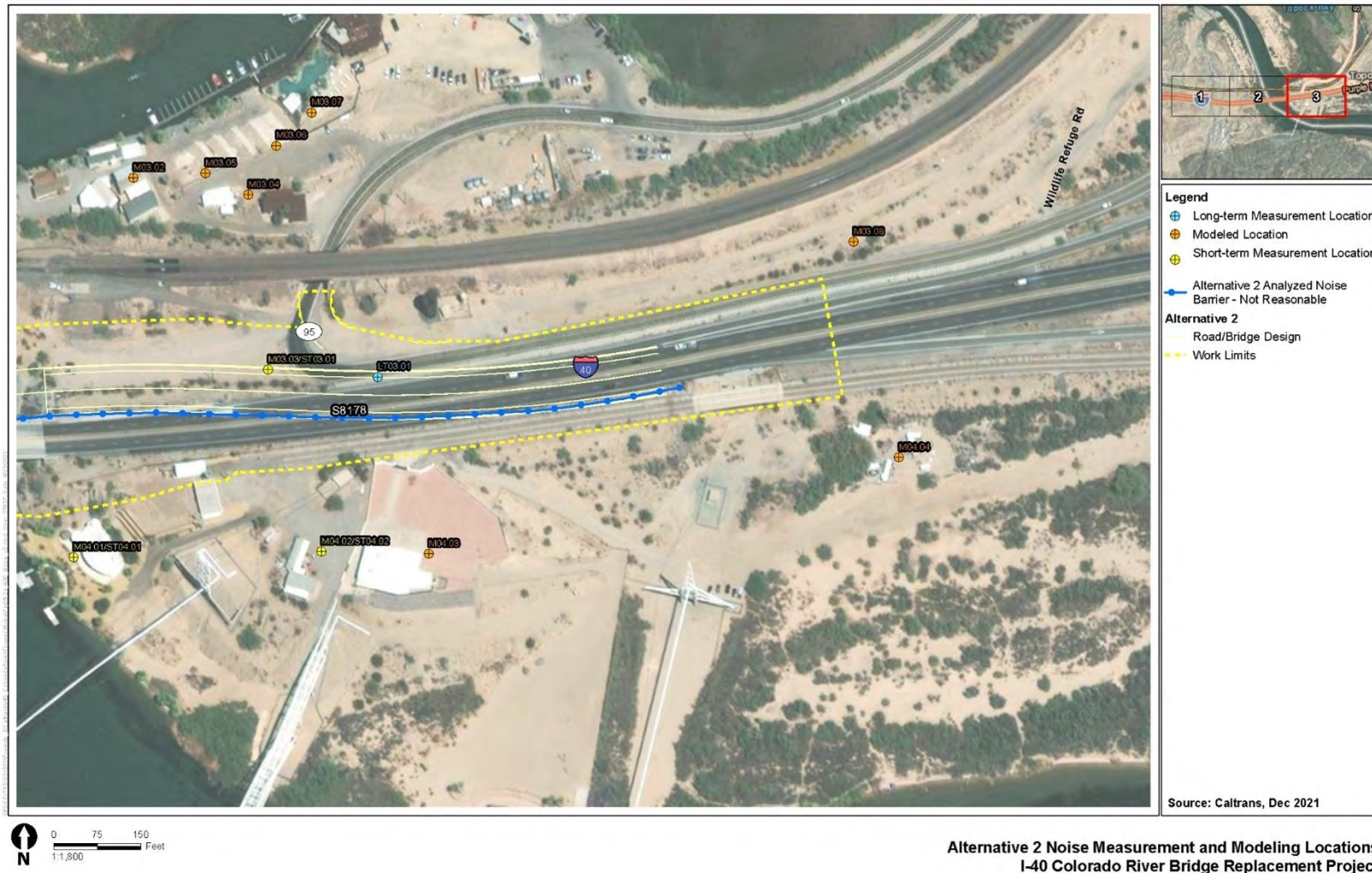


Figure 2.16, Alternative 3 Noise Measurement and Modeling Locations



Figure 2.17, Alternative 3 Noise Measurement and Modeling Locations

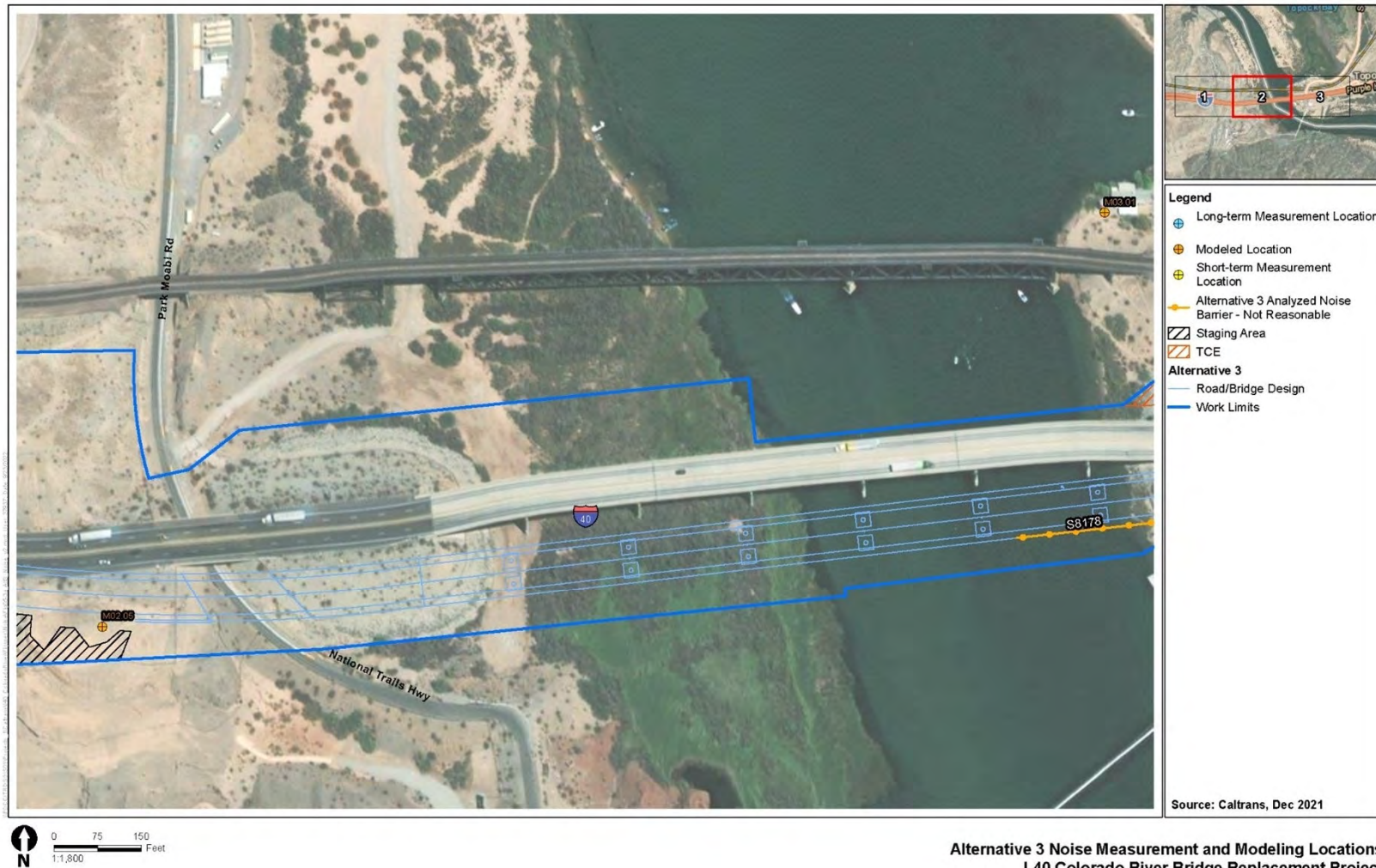


Figure 2.18, Alternative 3 Noise Measurement and Modeling Locations



Alternative 3 Noise Measurement and Modeling Locations
I-40 Colorado River Bridge Replacement Project

2.2.6.3 ENVIRONMENTAL CONSEQUENCES

As discussed above, the project is classified as a Type I project under 23 CFR 772.11. The discussion below outlines the potential environmental consequences associated with the No-Build and Build Alternatives.

No-Build Alternative

Under the No-Build Alternative, no changes would be made to the Colorado River Bridge or I-40 in the project area. This Alternative would not satisfy the project's purpose and need because it would not improve the Colorado River Bridge's structural integrity or the bridge's load rating to accommodate all permitted vehicle traffic. Also, this alternative would not improve safety, or movement of people and goods between the two states. However, describing and analyzing a No-Build Alternative helps decision-makers and the public compare the impacts of approving the proposed project against the consequences of not approving the project.

No-Build traffic noise level results presented in Table 2.20 indicate that three modeled locations representative of three Activity Category B receptors, would approach or exceed the respective noise abatement criteria (67 dBA Leq (h) [B]). No abatement would be provided for impacts under the No-Build alternative.

Temporary

Build Alternatives 1, 2, and 3

During construction of the build alternatives, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications (SS 14-8.02). The SS 14-8.02 establishes that noise not exceed 86 dBA at a distance of 50 feet from the job site between the hours of 9:00 p.m. and 6:00 a.m.

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally raise noise levels on access roads leading to the project construction site. The pieces of heavy equipment for grading and construction activities would be moved on-site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. A high single-event noise exposure potential at a maximum level of 87 dBA maximum noise level (L_{max}) from trucks passing at 50 feet would exist. However, the projected construction traffic would be minimal when compared with existing traffic volumes on I-40 and the associated noise level change would not be perceptible. Therefore, construction-related worker commutes and equipment transport noise impacts would be short-term and would not be adverse.

The second type of short-term noise impact would be from construction activities. Construction is performed in distinct steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels along the project alignment as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2.19 lists typical construction equipment noise levels (L_{max})

recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

Table 2-19, Typical Construction Equipment Noise Levels

Type of Equipment	1. Range of Maximum Sound Levels	3. Suggested Maximum Sound Levels for Analysis
	2. (dBA Lmax at 50 feet)	4. (dBA Lmax at 50 feet)
Pile Drivers	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	74 to 84	80
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Cranes	79 to 86	82
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Dozers	77 to 90	85
Tractors	77 to 82	80
Front-End Loaders	77 to 90	86
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 89	86
Trucks	81 to 87	86
dBA = A-weighted decibels Lmax = maximum instantaneous noise level Source: Bolt, Beranek & Newman 1987.		

Typical noise levels at 50 feet from an active construction area could reach 91 dBA Lmax during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavation machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower power settings.

Construction is expected to require the use of earthmovers, bulldozers, paving machines, water trucks, dump trucks, concrete trucks, rollers, and pickup trucks. Noise associated with the use of construction equipment is estimated to be between 79 and 89 dBA Lmax at a distance of 50 feet from the active construction area for the grading phase. As seen in Table 2.19, the maximum noise level generated by each earthmover is assumed to be approximately 86 dBA Lmax at 50 feet from the earthmover in operation. Each bulldozer would generate approximately 85 dBA

L_{max} at 50 feet. The maximum noise level generated by water trucks and pickup trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 50 feet from an active construction area). In addition to the standard construction equipment, the project would require the use of pile drivers. As shown in Table 2.19, pile driving generates noise levels of up to 96 dBA L_{max} at 50 feet.

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with applicable local noise standards and Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications.

Permanent

Traffic noise levels were predicted using the FHWA TNM, version 2.5. The project meets the criteria for a Type 1 Project (a vertical or horizontal change to the location of the alignment), and the TNM model included the project design for all three build alternatives. Traffic volumes modeled along the mainline were modeled at a maximum capacity of 1,650 vphpl at the design speed (70 mph within California and 75 mph within Arizona) under the existing and No-Build conditions and all three build alternatives. Table 2.20 below shows the design-year build conditions traffic noise level results. The results of the traffic noise analysis indicate that predicted traffic noise levels for the Design Year (2051) would: approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B land uses within Areas 4 under all three build alternatives. Receptors where traffic noise levels are predicted to approach or exceed the NAC during the Design Year Build condition are discussed in more detail below:

Build Alternative 1

NAA 1 (North Side of I-40 West of the Colorado River) – Build Alternative 1

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 1 would range from 72 dBA Leq(h) at modeled location M01.04 to 78 dBA Leq(h) at modeled location M01.01 under the Design Year Build conditions. Design Year with project noise levels are not predicted to increase relative to existing worst-hour traffic noise levels. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 1 and noise abatement does not need to be considered.

NAA 2 (South Side of I-40 West of the Colorado River) – Build Alternative 1

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 2 would range from 74 dBA Leq(h) at modeled location M02.02 to 76 dBA Leq(h) at modeled locations M02.03 and M02.05 under the Design Year Build conditions. Design Year with project noise levels are not predicted to increase relative to existing worst-hour traffic noise levels. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 2 and noise abatement does not need to be considered.

NAA 3 (North Side of I-40 East of the Colorado River) – Build Alternative 1

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 3 would range from 50 dBA Leq(h) at modeled locations M03.04 to 80 dBA Leq(h) at modeled

location M03.03 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -1 (a 1 dB decrease) to no change. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 3 and noise abatement does not need to be considered.

NAA 4 (South Side of I-40 East of the Colorado River) – Build Alternative 1

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 4 would range from 61 dBA Leq(h) at modeled locations M04.04 to 68 dBA Leq(h) at modeled location M04.02 and M04.03 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -1 dB (a 1 dB decrease) to no change. Based on their land use category, three modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are predicted to occur in NAA 4 and noise abatement was considered.

Three modeled locations (M04.01 through M04.03) are predicted to approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B land uses during the Design Year. In accordance with Caltrans guidance, Table 2.20 provides a comparison between the Design Year Build condition and two soundwalls (S8176 and S8178) considered as abatement. Additional discussion of these soundwalls is discussed in below.

Table 2-20, Noise Levels for Existing, No-Build, and Build Alternative 1

Receiver ID	Measurement Location	Area	Barrier ID	Existing (2020) Noise Level (dBA)	Design Year (2045) Noise Level without Project (No-Build) (dBA)	Design Year (2045) Noise Level with Project (Build) (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Noise Abatement				
								8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M01.01	--	1	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M01.02	--	1	--	77	77	77	No	--	--	--	--	--	--	--	--	--	--
M01.03	--	1	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M01.04	ST01.01	1	--	72	72	72	No	--	--	--	--	--	--	--	--	--	--
M01.05	--	1	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M02.01	--	2	--	75	75	75	No	--	--	--	--	--	--	--	--	--	--
M02.02	--	2	--	74	74	74	No	--	--	--	--	--	--	--	--	--	--
M02.03	--	2	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M02.04	ST02.01	2	--	75	75	75	No	--	--	--	--	--	--	--	--	--	--
M02.05	--	2	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M03.01	--	3	--	65	65	65	No	--	--	--	--	--	--	--	--	--	--
M03.02	--	3	--	52	52	51	No	--	--	--	--	--	--	--	--	--	--
M03.03	--	3	--	80	80	80	No	--	--	--	--	--	--	--	--	--	--
M03.04	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.05	--	3	--	53	53	53	No	--	--	--	--	--	--	--	--	--	--
M03.06	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.07	--	3	--	53	53	52	No	--	--	--	--	--	--	--	--	--	--
M03.08	--	3	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M04.01	ST04.01	4	S8176	68	68	67	Yes	67	67	67	67	67	No	No	14	\$321,000	\$4,098,967
M04.02	ST04.02	4		68	68	68	Yes	67	65	62	61	60	Yes	No	16	\$321,000	\$4,684,533
M04.03	--	4		68	68	68	Yes	67	66	64	62	61	Yes	--	--	--	--
M04.04	--	4		61	61	61	No	61	60	60	60	60	No	--	--	--	--
M04.01	ST04.01	4	S8178	68	68	67	Yes	67	67	67	67	67	No	No	14	\$214,000	\$8,021,956
M04.02	ST04.02	4		68	68	68	Yes	67	65	62	61	60	Yes	No	16	\$214,000	\$9,137,950
M04.03	--	4		68	68	68	Yes	67	66	63	62	61	Yes	--	--	--	--
M04.04	--	4		61	61	61	No	60	60	60	60	60	No	--	--	--	--

Sources: I-40 Colorado River Bridge Replacement Project Noise Study Report, April 2022; and I-40 Colorado River Bridge Replacement Project Noise Abatement Decision Report, May 2022.

Build Alternative 2

NAA 1 (North Side of I-40 West of the Colorado River) – Build Alternative 2

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 1 would range from 75 dBA Leq(h) at modeled locations M01.04 and M01.05 to 78 dBA Leq(h) at modeled location M01.01 under the Design Year Build conditions. Design Year with project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by up to 3 dB. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 1 and noise abatement does not need to be considered.

NAA 2 (South Side of I-40 West of the Colorado River) – Build Alternative 2

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 2 would range from 73 dBA Leq(h) at modeled location M02.05 to 76 dBA Leq(h) at modeled location M02.03 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -3 dB (a 3 dB increase) to no change. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 2 and noise abatement does not need to be considered.

NAA 3 (North Side of I-40 East of the Colorado River) – Build Alternative 2

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 3 would range from 50 dBA Leq(h) at modeled locations M03.06 to 78 dBA Leq(h) at modeled location M03.08 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by no change to a 1 dB increase. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 3 and noise abatement does not need to be considered.

NAA 4 (South Side of I-40 East of the Colorado River) – Build Alternative 2

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 4 would range from 61 dBA Leq(h) at modeled locations M04.04 to 67 dBA Leq(h) at modeled location M04.03 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -3 dB (a 3 dB decrease) to no change. Based on their land use category, three modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are predicted to occur in NAA 4 and noise abatement was considered.

Two modeled locations (M04.02 and M04.03) are predicted to approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B land uses during the Design Year. In accordance with Caltrans guidance, Table 2.21 provides a comparison between the Design Year Build condition and two soundwalls (S8176 and S8178) considered as abatement. Additional discussion of these soundwalls is discussed below.

Table 2-21, Noise Levels for Existing, No-Build, and Build Alternative 2

Receiver ID	Measurement Location	Area	Barrier ID	Existing (2020) Noise Level (dBA)	Design Year (2045) Noise Level without Project (No-Build) (dBA)	Design Year (2045) Noise Level with Project (Build) (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Noise Abatement				
								8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M01.01	--	1	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M01.02	--	1	--	77	77	77	No	--	--	--	--	--	--	--	--	--	--
M01.03	--	1	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M01.04	ST01.01	1	--	72	72	75	No	--	--	--	--	--	--	--	--	--	--
M01.05	--	1	--	76	76	75	No	--	--	--	--	--	--	--	--	--	--
M02.01	--	2	--	75	75	75	No	--	--	--	--	--	--	--	--	--	--
M02.02	--	2	--	74	74	74	No	--	--	--	--	--	--	--	--	--	--
M02.03	--	2	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M02.04	ST02.01	2	--	75	75	74	No	--	--	--	--	--	--	--	--	--	--
M02.05	--	2	--	76	76	73	No	--	--	--	--	--	--	--	--	--	--
M03.01	--	3	--	65	65	65	No	--	--	--	--	--	--	--	--	--	--
M03.02	--	3	--	52	52	53	No	--	--	--	--	--	--	--	--	--	--
M03.03	--	3	--	80	80	--	No	--	--	--	--	--	--	--	--	--	--
M03.04	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.05	--	3	--	53	53	54	No	--	--	--	--	--	--	--	--	--	--
M03.06	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.07	--	3	--	53	53	53	No	--	--	--	--	--	--	--	--	--	--
M03.08	--	3	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M04.01	ST04.01	4	S8176	68	68	65	No	65	65	65	65	65	No	No	16	\$321,000	\$4,018,300
M04.02	ST04.02	4		68	68	66	Yes	65	65	64	60	59	Yes	--	--	--	--
M04.03	--	4		68	68	67	Yes	67	67	65	62	62	Yes	--	--	--	--
M04.04	--	4		61	61	61	No	61	61	61	61	61	No	--	--	--	--
M04.01	ST04.01	4	S8178	78	78	78	No	65	65	65	65	65	No	No	16	\$321,000	\$7,702,773
M04.02	ST04.02	4		77	77	77	Yes	65	65	64	60	59	Yes	--	--	--	--
M04.03	--	4		76	76	76	Yes	67	67	65	62	62	Yes	--	--	--	--
M04.04	--	4		72	72	75	No	61	60	60	60	60	No	--	--	--	--

Sources: I-40 Colorado River Bridge Replacement Project Noise Study Report, April 2022; and I-40 Colorado River Bridge Replacement Project Noise Abatement Decision Report, May 2022.

NAA 1 (North Side of I-40 West of the Colorado River) – Build Alternative 3

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 1 would range from 72 dBA Leq(h) at modeled location M01.04 to 78 dBA Leq(h) at modeled location M01.01 under the Design Year Build conditions. Design Year with project noise levels are not predicted to increase relative to existing worst-hour traffic noise levels. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 1 and noise abatement does not need to be considered.

NAA 2 (South Side of I-40 West of the Colorado River) – Build Alternative 3

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 2 would range from 74 dBA Leq(h) at modeled location M02.02 to 80 dBA Leq(h) at modeled location M02.05 under the Design Year Build conditions. Design Year with project noise levels are predicted to increase relative to existing worst-hour traffic noise levels by no more than 4 dB. Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 2 and noise abatement does not need to be considered.

NAA 3 (North Side of I-40 East of the Colorado River) – Build Alternative 3

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 3 would range from 50 dBA Leq(h) at modeled locations M03.02, M03.04 and M03.06 to 78 dBA Leq(h) at modeled location M03.08 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -4 dB to no change (0 dB). Based on their land use category, no modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are not predicted to occur in NAA 3 and noise abatement does not need to be considered.

NAA 4 (South Side of I-40 East of the Colorado River) – Build Alternative 3

The traffic noise modeling results indicate that future worst-hour traffic noise levels within NAA 4 would range from 61 dBA Leq(h) at modeled locations M04.04 to 71 dBA Leq(h) at modeled location M04.02 under the Design Year Build conditions. Design Year with project noise levels are predicted to change relative to existing worst-hour traffic noise levels by -2 dB to 3 dB. Based on their land use category, three modeled receivers are predicted to approach or exceed any NAC. Therefore, traffic noise impacts are predicted to occur in NAA 4 and noise abatement was considered.

Three modeled locations (M04.01 through M04.03) are predicted to approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B land uses during the Design Year. In accordance with Caltrans guidance, Table 2.22 provides a comparison between the Design Year Build condition and two soundwalls (S8176 and S8178) considered as abatement. Additional discussion of these soundwalls is discussed below.

Table 2-22, Noise Levels for Existing, No-Build, and Build Alternative 3

Receiver ID	Measurement Location	Area	Barrier ID	Existing (2020) Noise Level (dBA)	Design Year (2045) Noise Level without Project (No-Build) (dBA)	Design Year (2045) Noise Level with Project (Build) (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)					Noise Abatement				
								8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M01.01	--	1	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M01.02	--	1	--	77	77	77	No	--	--	--	--	--	--	--	--	--	--
M01.03	--	1	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M01.04	ST01.01	1	--	72	72	72	No	--	--	--	--	--	--	--	--	--	--
M01.05	--	1	--	76	76	75	No	--	--	--	--	--	--	--	--	--	--
M02.01	--	2	--	75	75	75	No	--	--	--	--	--	--	--	--	--	--
M02.02	--	2	--	74	74	74	No	--	--	--	--	--	--	--	--	--	--
M02.03	--	2	--	76	76	76	No	--	--	--	--	--	--	--	--	--	--
M02.04	ST02.01	2	--	75	75	75	No	--	--	--	--	--	--	--	--	--	--
M02.05	--	2	--	76	76	80	No	--	--	--	--	--	--	--	--	--	--
M03.01	--	3	--	65	65	63	No	--	--	--	--	--	--	--	--	--	--
M03.02	--	3	--	52	52	50	No	--	--	--	--	--	--	--	--	--	--
M03.03	--	3	--	80	80	76	No	--	--	--	--	--	--	--	--	--	--
M03.04	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.05	--	3	--	53	53	51	No	--	--	--	--	--	--	--	--	--	--
M03.06	--	3	--	50	50	50	No	--	--	--	--	--	--	--	--	--	--
M03.07	--	3	--	53	53	52	No	--	--	--	--	--	--	--	--	--	--
M03.08	--	3	--	78	78	78	No	--	--	--	--	--	--	--	--	--	--
M04.01	ST04.01	4	S8176	68	68	66	Yes	66	66	66	66	66	No	No	12	\$214,000	\$3,857,608
M04.02	ST04.02	4		68	68	71	Yes	68	67	63	62	61	Yes	No	14	\$321,000	\$4,500,535
M04.03	--	4		68	68	69	Yes	68	68	66	63	62	Yes	No	16	\$321,000	\$5,143,485
M04.04	--	4		61	61	61	No	61	61	61	61	60	No	No	--	--	--
M04.01	ST04.01	4	S8178	68	68	66	Yes	62	62	61	61	60	Yes	No	12	\$107,000	\$3,023,213
M04.02	ST04.02	4		68	68	71	Yes	68	67	63	62	61	Yes	No	14	\$214,000	\$3,527,081
M04.03	--	4		68	68	69	Yes	68	68	66	63	62	Yes	No	16	\$214,000	\$4,030,950
M04.04	--	4		61	61	61	No	61	61	60	60	60	No	No	--	--	--

Sources: I-40 Colorado River Bridge Replacement Project Noise Study Report, April 2022; and I-40 Colorado River Bridge Replacement Project Noise Abatement Decision Report, May 2022.

2.2.6.4 AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

For modeled locations that were found to approach or exceed the representative NAC, TNM 2.5 was used to model noise barriers and determine the insertion loss (noise reduction) provided. For all barriers were analyzed from eight to 16 feet in two-foot increments. Barriers were analyzed to determine their ability to meet the feasibility requirement (ability to provide 5 dB insertion loss at modeled locations) and the reasonableness requirement (ability to provide 7 dB insertion loss [design goal] at one modeled location as well as the cost to construct the barrier).

Based on the studies completed to date, Caltrans considered the following noise abatement measures, and intends to incorporate noise abatement in the form of the noise barriers that were found to be both feasible and reasonable:

Build Alternative 1 - NAA 4 (South Side of I-40 East of the Colorado River)

During the Design Year, modeled locations M04.01 through M04.03 are predicted to experience noise levels of 67 to 68 dBA $L_{eq}(h)$, which would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for Activity Category B land uses (residential). Therefore, two noise barriers (identified as Barrier S8176 and S8178) in Figures 2.11 and 2.12) were evaluated. Each barrier was evaluated in two-foot increments from eight through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.20 by barrier height.

Barrier S8176

Barrier S8176 is considered feasible at heights of 12 to 16 feet and would meet the design goal at height of 14 to 16 feet. Reasonableness allowances for each barrier height that was found to be feasible and meet the design goal are \$214,000. The current estimated construction cost for the two wall heights which met the design goal would be \$4,098,967 (14 feet) and \$4,684,533 (16 feet). Therefore, Barrier S8176 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8176 as abatement as part of the project.

Barrier S8178

Barrier S8178 is considered feasible at heights of 12 to 16 feet and would meet the design goal at height of 14 to 16 feet. Reasonableness allowances for each barrier height that was found to be feasible and meet the design goal are \$321,000. The current estimated construction cost for the two wall heights which met the design goal would be \$8,021,956 (14 feet) and \$9,167,9504 (16 feet). Therefore, Barrier S8178 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8178 as abatement as part of the project.

Build Alternative 2 - NAA 4 (South Side of I-40 East of the Colorado River)

During the Design Year, modeled locations M04.02 and M04.03 are predicted to experience noise levels of 66 and 67 dBA $L_{eq}(h)$, which would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for Activity Category B land uses (residential). Therefore, two noise barriers (identified as Barrier S8176 and S8178), in Figure 2.11 and Figure 2.12 were evaluated. Each barrier was evaluated in two-foot increments from eight through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.21 by barrier height.

Barrier S8176

Barrier S8176 is considered feasible at heights of 14 to 16 feet and would meet the design goal at a height of 16 feet. Reasonableness allowances for the barrier height that was found to be feasible and meet the design goal are \$214,000. The current estimated construction cost for the two wall heights which met the design goal would be \$4,018,300 (16 feet). Therefore, Barrier S8176 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8176 as abatement as part of the project.

Barrier S8178

Barrier S8178 is considered feasible at heights of 14 to 16 feet and would meet the design goal at a height of 16 feet. Reasonableness allowances for the barrier height that was found to be feasible and meet the design goal are \$214,000. The current estimated construction cost for the two wall heights which met the design goal would be \$7,702,773 (16 feet). Therefore, Barrier S8178 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8178 as abatement as part of the project.

Build Alternative 3 - NAA 4 (South Side of I-40 East of the Colorado River)

During the Design Year, modeled locations M04.01 through M04.03 are predicted to experience noise levels of 66 and 71 dBA $L_{eq}(h)$, which would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for Activity Category B land uses (residential). Therefore, two noise barriers (identified as Barrier S8176 and S8178) in Figure 2.14 and Figure 2.15 were evaluated. Each barrier was evaluated in two-foot increments from eight through 16 feet in height. The calculated noise reductions and reasonable allowances are summarized in Table 2.22 by barrier height.

Barrier S8176

Barrier S8176 is considered feasible at heights of 12 to 16 feet and would meet the design goal at heights of 12 to 16 feet. Reasonableness allowances for the barrier height that was found to be feasible and meet the design goal are \$214,000. The current estimated construction cost for the three wall heights which met the design goal would be \$3,023,213 (12 feet), \$3,527,081 (14 feet) and \$4,030,950 (16 feet). Therefore, Barrier S8176 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8176 as abatement as part of the project.

Barrier S8178

Barrier S8178 is considered feasible at heights of 12 to 16 feet and would meet the design goal at heights of 12 to 16 feet. Reasonableness allowances for the barrier height that was found to be feasible and meet the design goal are \$321,000. The current estimated construction cost for the two wall heights which met the design goal would be \$3,857,608 (12 feet), \$4,500,535 (14 feet) and \$5,143,485 (16 feet). Therefore, Barrier S8178 was found not to be reasonable from a cost perspective. Based on studies completed to date, Caltrans does not intend to incorporate Barrier S8178 as abatement as part of the project.

2.2.7 Vibration

The primary source used in this section is the Noise Study Report (Caltrans 2022a) and the Noise Abatement Decision Report (Caltrans 2022d) prepared for the I-40 Colorado River Bridget Replacement Project, which is hereby incorporated by reference.

Fundamentals of Vibration

Groundborne vibration is an oscillatory motion of the soil with respect to the equilibrium position and can be quantified in terms of velocity or acceleration. Groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are heavy construction equipment (such as blasting and pile driving), steel-wheeled trains, and heavy trucks on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Groundborne vibration can be described in terms of peak particle velocity (PPV). PPV is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The unit of measurement for PPV is inches per second (in/s). For transient vibration sources (single isolated vibration events such as blasting), the human response to vibration varies from barely perceptible at a PPV of 0.04 in/s, to distinctly perceptible at a PPV of 0.25 in/s, and severe at a PPV of 2.0 in/s. For continuous or frequent intermittent vibration sources (such as impact pile driving or vibratory compaction equipment), the human response to vibration varies from barely perceptible at a PPV of 0.01 in/s, to distinctly perceptible at a PPV of 0.04 in/s, and severe at a PPV of 0.4 in/s (Caltrans 2020). If a person is engaged in any type of physical activity, vibration tolerance increases considerably.

Methodology

Construction-related vibration was analyzed using data and modeling methodologies provided in Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020). This guidance manual provides typical vibration source levels for various types of construction equipment, as well as methods for estimating the propagation of groundborne vibration over distance. Potential vibration impacts are assessed based on peak levels, rather than a long-term average level. The source-to-receptor distances have been calculated to identify the thresholds for damage and annoyance included in the table below.

Table 2-23, Guidelines Vibration Damage Potential Threshold Criteria

	Max PPV (In/s)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Table 2-24, Guidelines Vibration Annoyance Potential Criteria

	Max PPV (In/s)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

The following equation from the guidance manual was used to estimate the PPV levels at the closest receivers due to pile driving:

$$PPV_{rec} = PPV_{ref} \times (25/D)^n \times (E_{equip}/E_{ref})^{0.5}$$

where PPV_{rec} is the PPV at a receiver; PPV_{ref} is the reference PPV at 25 feet from the pile driver (0.65 in/s); D is the distance from the pile driver to the receiver, in feet; and n is a value related to the vibration attenuation rate through ground. A value of 1.3 was included for n because the existing as-built plans for the Colorado River Bridge indicate loose sands and gravel within the riverbed (refer to Attachment A, Log of Test Borings). E_{ref} is rated energy of a reference pile driver in foot-pounds (ft-lbs); as defined in the guidance manual, the reference energy rating is 36,000 ft-lbs. E_{equip} is the rated energy of the actual impact pile driver in foot-pounds. For the purposes of the analysis, it is assumed that the pile driver would produce a maximum rated energy of 122,410 ft-lbs which is considered a worst-case scenario.⁵

Existing Land Use

As discussed above, areas where vibration-sensitive receptors and structures which could be affected by vibration would include the residential structures located in NAA 4. Accordingly, this analysis focuses on the residential land uses located adjacent to the bridge and project alignment. There are three modern/newer residential structures close to the project alignment. All three structures were developed between 1981 and 2001 (Zillow property search). There are no historic buildings or any other vibration-sensitive land uses in the project vicinity.

Existing Sources of Vibration

Existing sources of vibration near the vibration-sensitive structures (homes) in the project area appear to be limited to trucks along the I-40 alignment and therefore are assumed to be negligible. A BNSF railroad is north of I-40; however, it is more than 250 feet north of the Colorado River Bridge and more than 400 feet north of the homes adjacent to I-40. This is well outside the suggested screening distance of 200 feet for potential freight locomotive vibration impacts provided by the Federal Transit Administration's Transit Noise and Vibration Impact

⁵ The determination to use this value as a worst-case scenario was agreed upon with Caltrans noise and vibration specialists and is based on a DELMAG D46-32 impact pile driver

Assessment Manual (Federal Transit Administration 2018). As a result, existing groundborne vibration from rail operations is expected to be negligible at the homes closest to the project.

2.2.7.1 ENVIRONMENTAL CONSEQUENCES

The discussion below outlines the potential environmental consequences associated with the No-Build and Build Alternatives.

No-Build Alternative

Under the No-Build Alternative, no changes would be made to the Colorado River Bridge or I-40 in the project area. Existing sources of vibration would remain and no vibration associated with construction would occur. As discussed above, this Alternative would not satisfy the project's purpose and need because it would not improve the Colorado River Bridge's structural integrity or the bridge's load rating to accommodate all permitted vehicle traffic. Also, this alternative would not improve safety, or movement of people and goods between the two states.

Build Alternative 1 (Pile Driving)

As discussed, Build Alternative 1 would replace the bridge on the existing alignment. The three closest vibration-sensitive receptors (Residences A/Modeled Noise Receptor M04.01/ST04.01, B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03 in the southeastern quadrant) would be approximately 114, 480, and 600 feet, respectively, (as shown in Figure 2.12) from the closest temporary trestle where pile driving would occur. Tables 2.25 and 2.26 also show the distance to each receptor and the calculated vibration levels for damage and annoyance.

Table 2-25, Assessment of Potential Building Damage with Build Alternative 1

Receiver	Distance to Structure (feet)	Calculated Vibration Level (PPV in/s)	Vibration Damage Criteria (PPV in/s) ¹	Exceedance
Residence A/Modeled Noise Receptor M04.01/ST04.01	114	0.17	0.5	No
Residence B/Modeled Noise Receptor M04.02/ST04.02	480	0.03	0.5	No
Residence C/Modeled Noise Receptor M04.03	600	0.02	0.5	No

Levels of vibration are calculated using the equation $PPV_{rec} = PPV_{ref} \times (25/D)^n \times (E_{equip}/E_{ref})^{0.5}$ as described above.
¹ Based on the criteria for continuous/frequent intermittent sources.

Table 2-26, Assessment of Potential Human Annoyance with Build Alternative 1

Receiver	Distance to Structure (feet)	Calculated Vibration Level (PPV in/s)	Vibration Annoyance Criteria (PPV in/s) ¹	Exceedance
Residence A/Modeled Noise Receptor M04.01/ST04.01	114	0.17	0.04	Yes
Residence B/Modeled Noise Receptor M04.02/ST04.02	480	0.03	0.04	No
Residence C/Modeled Noise Receptor M04.03	600	0.02	0.04	No

Levels of vibration are calculated using the equation $PPV_{rec} = PPV_{ref} \times (25/D)^n \times (E_{equip}/E_{ref})^{0.5}$ as described above.
¹ Based on the criteria for continuous/frequent intermittent sources.

Build Alternative 2 (Pile Driving)

Build Alternative 2 would replace the bridge and realign it to the north of the existing I-40 centerline. While Alternative 2 would relocate the bridge to the north of its existing alignment, the temporary trestle would be in the same location as Alternative 1. Therefore, the analysis discussed under Build Alternative 1 above would be applicable for Build Alternative 2.

For Build Alternatives 1 and 2, and as shown in Tables 2.25 and 2.26 above, impact pile driving from construction of the replaced or relocated bridges would result in a vibration level of 0.17 in/s PPV at the closest vibration-sensitive receptor (Residence A/Modeled Noise Receptor M04.01/ST04.01). This vibration level would not exceed the vibration criterion of 0.5 in/s PPV for potential building damage; however, it would exceed the vibration criterion of 0.04 in/s PPV for potential human annoyance. Predicted groundborne vibration levels at the other two nearby vibration-sensitive receivers (Residence B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03) would be below both the damage and annoyance thresholds. It should be noted that, according to calculations, the maximum distance at which structural damage may occur would be 50 feet from pile driving. Therefore, because the closest pile would be 114 feet from the nearest vibration-sensitive receptor, damage is not anticipated.

Build Alternative 3 (Pile Driving)

Build Alternative 3 would replace the bridge and realign it to the south of the existing I-40 centerline. The three closest vibration-sensitive receptors (Residences A/Modeled Noise Receptor M04.01/ST04.01, B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03 in the southeastern quadrant) in the southeastern quadrant) would be approximately 86, 450, and 570 feet, respectively, from the closest temporary trestle where pile driving would occur. Figure 2.18 shows the locations of the closest residences. Tables 2.27 and 2.28 show the anticipated vibration levels at each residence.

Table 2-27, Assessment of Potential Building Damage with Build Alternative 3

Receiver	Distance to Structure (feet)	Calculated Vibration Level (PPV in/s)	Vibration Damage Criteria (PPV in/s) ¹	Exceedance
Residence A/Modeled Noise Receptor M04.01/ST04.01	86	0.24	0.5	No
Residence B/Modeled Noise Receptor M04.02/ST04.02	450	0.03	0.5	No
Residence C/Modeled Noise Receptor M04.03	570	0.02	0.5	No

Levels of vibration are calculated using the equation $PPV_{rec} = PPV_{ref} \times (25/D)^n \times (E_{equip}/E_{ref})^{0.5}$ as described above.
¹ Based on the criteria for continuous/frequent intermittent sources.

Table 2-28, Assessment of Potential Human Annoyance with Build Alternative 3

Receiver	Distance to Structure (feet)	Calculated Vibration Level (PPV in/s)	Vibration Annoyance Criteria (PPV in/s) ¹	Exceedance
Residence A/Modeled Noise Receptor M04.01/ST04.01	86	0.24	0.04	Yes
Residence B/Modeled Noise Receptor M04.02/ST04.02	450	0.03	0.04	No
Residence C/Modeled Noise Receptor M04.03	570	0.02	0.04	No

Levels of vibration are calculated using the equation $PPV_{rec} = PPV_{ref} \times (25/D)^n \times (E_{equip}/E_{ref})^{0.5}$ as described above.
¹ Based on the criteria for continuous/frequent intermittent sources.

For Build Alternative 3, and as shown in Tables 2.27 and 2.28 above, impact pile driving from construction of the replaced or relocated bridges would result a vibration level of 0.24 in/s PPV at the closest vibration-sensitive receptor (Residence A/Modeled Noise Receptor M04.01/ST04.01). This vibration level would not exceed the vibration criterion of 0.5 in/s PPV for potential building damage; however, it would exceed the vibration criterion of 0.04 in/s PPV for potential human annoyance. Predicted groundborne vibration levels at the other two nearby vibration-sensitive receivers (Residence B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03) would be below both the damage and annoyance thresholds. It should be noted that, according to calculations, the maximum distance at which structural damage may occur would be 50 feet from pile driving. Therefore, because the closest pile would be 86 feet from the nearest vibration-sensitive receptor, damage is not anticipated.

Conventional Construction Equipment

In addition to pile drivers, the project alternatives would use conventional construction equipment, including large bulldozers (and other heavy earthmoving equipment that produces similar vibration levels, such as graders and backhoes), trucks loaded with soil or construction materials, and jackhammers. Reference vibration levels, at a distance of 25 feet, for each of these equipment types are provided in the table below.

Table 2-29, Reference Vibration Levels for Conventional Construction Equipment

Equipment	Reference PPV at 25 Feet (in/s)	Vibration Levels at Closest Sensitive Receptor (PPV in/s)
Large bulldozer	0.089	0.16
Loaded truck	0.076	0.13
Jackhammer	0.035	0.06

The following equation from Caltrans' guidance manual was used to estimate the PPV levels at the closest receivers caused by conventional construction equipment:

$$PPV_{rec} = PPV_{ref} \times (25/D)^n$$

where PPV_{rec} is the PPV at a receiver; PPV_{ref} is the reference PPV at 25 feet for each piece of equipment; D is the distance from the equipment to the receiver, in feet; and n is a value related to the vibration attenuation rate through ground. A value of 1.1 is suggested for attenuation rate through the ground.

Based on the project alignment, it is anticipated that conventional construction equipment could be as close as 15 feet from the nearest vibration-sensitive receptor (Residence A/Modeled Noise Receptor M04.01/ST04.01) had Alternative 3 been chosen as the preferred alternative. Alternatives 1 and 2 would be no closer than 100 feet from Residence A/Modeled Noise Receptor M04.01/ST04.01. None of these pieces of equipment would exceed the damage criteria of 0.5 PPV. However, vibration levels may exceed the annoyance threshold of 0.04 PPV at Residence A under Alternative 3. Therefore, while damage from conventional construction equipment is not anticipated, levels of vibration could be noticeable at the nearest vibration-sensitive receptor.

Permanent

No permanent or long-term impacts are anticipated as the project would not result in new or increased vibration sources.

2.2.7.2 AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

The potential vibration impacts from pile driving were evaluated using methods and criteria provided in Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020) and assumptions used for similar construction projects. For pile driving, the potential for building damage from vibration at locations close to the activity is not expected. However, levels

of vibration from pile driving are anticipated to exceed the distinctly perceptible threshold and may lead to human annoyance if the closest residence is occupied during construction.

The following measures will be implemented to minimize the adverse effects of pile driving as described in **NOI-1**:

NOI-1: Alternative to Pile Driving.

During construction, to the extent, practical alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:

- Jetting,
- Pre-drilling,
- Cast-in-place or auger cast piles,
- Non-displacement piles,
- Pile cushioning,
- Scheduling, and/or
- Using alternative non-impact drivers.

Additionally, attempts should be made to avoid and/or minimize the adverse vibration effects from construction activities while developing a process to avoid and, if necessary, address problems identified by the public that can arise from construction activities, even when the levels of vibration are well below the levels at which damage to structures or excessive annoyance to humans are expected to occur. Caltrans will take the following standard design features as described in **NOI-2** to avoid and minimize impacts on adjacent structures:

NOI-2

- Prior to the start of construction, conduct a preconstruction survey to document the existing condition of nearby structures. The preconstruction survey may consist of but is not limited to documentation of nearby structures using high-definition video, photographs of the existing structures, or any other method to document existing damage or defects.
- Notify surrounding vibration-sensitive land uses of the expected schedule for pile driving activities.
- During pile driving operations, monitor and record vibration from the activity. Monitor and record PPVs near sensitive receptors identified while the highest vibration-producing activities are taking place.
- Schedule pile driving activities during times of maximum human activity and avoid pile driving during times of extreme quiet (nighttime) to the greatest extent practical.
- When especially egregious activities are expected to be conducted at night, arrange motel rooms for residents living adjacent to the proposed activity when protracted vibrations approaching 0.20 in/s are expected at their residences.
- Respond to and investigate complaints from nearby vibration-sensitive receptors.

- Subsequent to construction, conduct a postconstruction survey to confirm that construction-related damage did not occur at nearby structures.

2.2.8 Energy

This section describes existing conditions and the applicable regulatory requirements related to energy and energy service systems as well as the project's potential for energy impacts on people or the surrounding environment.

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

Unless otherwise noted, the information in this section is based on direct energy consumption from mobile sources associated with the construction of the project and the Sacramento Metropolitan Air Quality Management District Road Construction Emission Model (version 9.0), which provides estimated carbon dioxide equivalent (CO₂e) emission for the construction period. Construction period greenhouse gas emissions were converted to equivalent gallons of diesel fuel and million British thermal units (MMBTUs). Fuel consumption for mobile sources was estimated using the carbon dioxide (CO₂) emission outputs by converting CO₂e emissions estimated using the rate of CO₂ emissions per gallon of combusted diesel (10.21 kilograms/gallon) (EPA 2022). The estimated fuel consumption was converted to British Thermal Units (BTUs), assuming an energy intensity of 138,700 BTU per gallon of diesel (BTS 2021). The worst-case daily construction activities were modeled. The maximum daily energy consumptions are predicted values for the worst-case scenario and do not represent the daily energy consumption that would occur for every day of construction. Energy-related impacts resulting from the two build alternatives would be less than those identified below.

No quantification of operational energy requirements was undertaken because there would be only negligible differences between existing conditions and each of the build alternatives with respect to energy consumption in the project area. The project would accommodate existing traffic demand, but it would not create new demand, directly or indirectly. In addition, no land use changes, or parking additions would occur as a result of project implementation.

2.2.8.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, there would be no changes to the project area. Therefore, construction activities are not expected to take place and the I-40 bridge would remain in its present condition. No impacts on energy resources would be expected.

Build Alternatives

Under Build Alternatives 1 through 3, energy would be required during the construction period for operation of construction equipment and construction worker vehicle trips (i.e., commuting or hauling). The project would use a minimal amount of diesel and gasoline for construction vehicles and other energy-consuming equipment during demolition, grading, and construction. Construction-related energy effects would likely be greatest during the site preparation phase because of energy use associated with the excavation, handling, and transport of soils to and from the site. Natural gas is not anticipated to be required during construction of the project. There are no unusual project characteristics that would necessitate the use of construction equipment, building materials, or methods that would be less energy efficient than at comparable construction sites in the region or state. It is noted that construction fuel use is temporary and would cease upon completion of construction activities.

The overall construction energy use for each of the Build Alternatives is included below in Table 2.30.

Table 2-30, Project Energy Requirements during the Construction Period

Overall Construction Energy Use	Diesel Fuel Use (gallons)	MMBTU
Build Alternative 1	480,900	66,700
Build Alternative 2	500,300	69,400
Build Alternative 3	496,900	68,900

Source: SMAQMD Road Construction Emissions Model, Version 9.0.0 modeling and conversion calculations.
Notes: All figures have been rounded to the nearest 100.

Overall, California's diesel demand is projected to grow from 3.7 billion gallons in 2015 to 4.7 billion gallons in 2030 (California Energy Commission 2017). Although diesel fuel would be consumed by construction vehicles and equipment, the fuel consumption would be temporary in nature and represent only a negligible increase in regional demand, an insignificant amount relative to the 3.7 billion gallons consumed in 2015. Comparing the calculated diesel fuel demand for the Build Alternatives to the statewide diesel demand of 3.7 billion gallons in 2015 yields the following: Build Alternative 1 would represent 0.013 percent of the statewide diesel demand, Build Alternative 2 would represent 0.014 percent of the statewide diesel demand, and Build Alternative 3 would represent 0.013 percent of the statewide diesel demand. The diesel demand was compared to the 2015 statewide diesel demand to produce more conservative (i.e., higher) percentages of statewide demand compared to the projected diesel demand of 4.7 billion gallons in 2030. Regardless, the diesel demand of the build alternative is insignificant compared to the statewide diesel demand. Given the extensive network of fueling stations throughout the project vicinity and the short-term (2.3-years) construction period, no new or expanded sources of energy or new infrastructure would be required to meet the energy demand associated with project construction.

Following the completion of construction activities, there would be negligible changes in energy consumption because the build alternatives would not result in changes in land uses that would allow additional visitors to be accommodated. The project would accommodate existing traffic demand, but it would not create new demand, directly or indirectly. Therefore, operational energy requirements were not quantified.

Energy-related impacts occurring as a result of project implementation would be less than significant under CEQA and no adverse effect under NEPA. The project would not result in a wasteful, inefficient, or unnecessary consumption of energy.

2.2.8.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

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

2.2.9 Biological Environment

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, fish passage, 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 2.2.15). Wetlands and other waters are also discussed below (Section 2.2.11).

2.2.9.1 REGULATORY SETTING

MAP 21 (Public Law Section 113-159) and FAST Act (Public Law Section 114-94)

The Moving Ahead for Progress in the 21st Century Act (MAP 21), and its continuation under the Fixing America's Surface Transportation Act (FAST Act), provides federal funding for surface transportation. It is the first national transportation law to incorporate the authority for state, federal, local, and tribal land managers, as well as researchers, to use program funds to reduce the number of wildlife-vehicle collisions and improve connectivity among habitats that have been disrupted by roads.

Senate Bill 857/California Fish and Game Code Section 5901, Fish Passages

Section 5901 of the California Fish and Game Code (CFG Code) stipulates that it is unlawful to construct or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede the passage of fish up and down a stream. Senate Bill 857 was adopted in 2005 to amend Section 5901. It requires Caltrans to prepare an annual report to the state legislature regarding barriers to anadromous fish passage and remediation. The bill requires Caltrans to complete assessments of potential barriers to anadromous fish passage prior to commencing any project that uses state or federal transportation funds and submit the assessments to California Department of Fish and Wildlife (CDFW) for inclusion in the CalFish database. The bill also requires projects to be constructed without presenting barriers to fish passage and remediation for existing barriers on the state highway system.

Assembly Bill 498/California Fish and Game Code Section 1797.5

Assembly Bill (AB) 498 was adopted to amend CFG Code Section 1797.5. It describes the state's policy to promote voluntary protection for functioning wildlife corridors and habitat strongholds in order to enhance the resiliency of wildlife and their habitats to climate change, protect biodiversity, and allow for the migration and movement of species by providing connectivity between habitat lands wherever feasible and practicable. This includes, but is not limited to, acquisition or protection of wildlife corridors through conservation easements, installation of wildlife-friendly or directional fencing, siting of mitigation and conservation banks in areas that provide habitat connectivity, and the provision of roadway wildlife undercrossings, overpasses, culverts, and bridges that allow wildlife movement between habitat areas.

Assembly Bill 2785/California Fish and Game Code Sections 1930, 1932, 1920.5, and 1932.5

AB 2785 was adopted to amend Sections 1930 and 1932 of the CFG Code and add Sections 1930.5 and 1932.5. The bill requires the CDFW to investigate, study, and identify the areas in the state that are the most essential wildlife corridors and habitat linkages and prioritize vegetative data development in those areas. AB 2785 also requires the CDFW to develop and maintain a database that identifies the areas that are essential for maintaining habitat connectivity. Furthermore, it requires the CDFW to actively pursue grants and cost-sharing opportunities with local, state, and federal agencies as well as private entities that use the data sets and benefit from their creation and maintenance.

Local and Regional Requirements

Lower Colorado River Multi-Species Conservation Plan

The Lower Colorado River Multi-Species Conservation Plan (LCR MSCP) is a 50-year regionally coordinated conservation program that focuses on conserving species and habitats along the lower Colorado River. The current program area extends more than 400 miles of the lower Colorado River, from Lake Mead to the southernmost border with Mexico. It includes the historic 100-year floodplain along the lower Colorado River, along with lakes Mead, Mohave, and Havasu. The program works toward the recovery of species currently listed under the Federal Endangered Species Act (FESA) and reducing the likelihood of additional species being listed. The program accommodates current water and power production and aims to optimize future federal and non-federal water and power development opportunities by providing FESA compliance through the implementation of a Habitat Conservation Plan (HCP). The HCP is intended to meet all the regulatory requirements necessary for the U.S. Fish and Wildlife (USFWS) to issue a section 10(a)(1)(B) permit to allow incidental take of threatened and endangered species affected by specified non-federal agency activities, known as covered activities, within the LCR MSCP planning area.

The LCR MSCP identified 27 species, referred to as Covered Species, for which the FESA section 10(a)(1)(B) incidental take permit has been granted to signatories to the plan if they comply with its requirements. Of the 27 covered species, six are listed as threatened or endangered under the FESA. The HCP also includes the LCR MSCP, which aims to avoid, minimize, and fully mitigate the incidental take of covered species due to implementation of covered activities to the maximum extent practicable. Conservation measures are specific actions designed to achieve goals for covered species and are directed toward creation of species habitat, maintenance of existing species habitat, and augmentation of species populations. In some instances, additional species-specific conservation measures are required elements of the LCR MSCP to ensure achievement of the LCR MSCP goals.

The approval of the LCR MSCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue take authorizations for all species covered by the LCR MSCP, including state- and federally-listed species, as well as other identified sensitive species or their habitats. Implementation of covered activities, however, may require compliance with other appropriate federal and state laws and regulations, including but not limited to the Clean Water Act (CWA), Fish and Wildlife Coordination Act 21, Migratory Bird Treaty Act (MBTA), NEPA, and CEQA. Compliance with these laws and regulations may include mitigation in addition to that provided in the LCR MSCP. Neither Caltrans nor ADOT are permittees to the LCR MSCP.

2.2.9.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section was based upon the January Revised November 2023 Natural Environment Study (NES) prepared for the project (Caltrans 2023e). References used in the NES are not carried over into this section. The analysis in this document focuses on those species and habitats that occur or have the potential to occur in the Biological Study Area (BSA).

Several references were used to determine what natural vegetation communities of concern are present. The California Natural Diversity Database (CNDDDB) tracks natural communities of concern by CDFW.

Study Areas

The BSA includes all areas that could potentially be directly or indirectly impacted by the project. The BSA is composed of a combination of three build alternative boundaries, considered the Project Impact Area (PIA), and a 600-foot buffer distance from these limits (Figures 2.19, 2.20, and 2.21). All surveys and analyses were conducted within these limits, with the exception of the jurisdiction waters delineation (50-foot buffer) (see Section 2.2.11), desert tortoise habitat assessment and focused survey (300-foot buffer) (see Section 2.2.14), and the small mammal habitat assessment (300-foot buffer).

The BSA is located within the Mojave Desert Region. This region exhibits greater temperature ranges and more extreme elevational relief than the Sonoran Desert to the south. At the Needles Airport, CA reporting station, approximately eight miles northwest of the BSA, the average winter low temperature is 44.2°F and the average summer high temperature is 106.7°F, and the average annual precipitation is approximately 4.62 inches. Based on the average rainfall totals for the California Data Exchange Center Needles Station, the 2018/2019 and 2019/2020 rain years were above average, and the 2017/2018 and 2020/2021 wet season was below average. Variability of climate and precipitation levels from year to year is typical for the Mojave Desert, where natural rainfall may not occur for several years at a time. A summary of the rainfall patterns recorded during the rainy seasons prior to the survey is provided in Table 2.31.

Table 2-31, Rainfall Data Summary for the Project Area

Season	Station	Total Precipitation (inches)
2017-2018	NDL	1.26
2018-2019	NDL	6.29
2019-2020	NDL	6.81
2020-2021	NDL	0.40

NDL = California Data Exchange Center Needles Station

Elevations in the project corridor range from approximately 480 feet above mean sea level (amsl) at the eastern extent to approximately 565 feet amsl at the western extent. Topography within the BSA consists of rolling hills to the west, the Colorado River floodplain, and several man-made features that contain steep grades. Both I-40 and the BNSF railroad are built on

elevated surfaces that were artificially created upon a natural rocky peninsula in order to match the elevations of their respective bridges. Each of these man-made features contains a degree of paved surfaces and modified topography. The Colorado River crosses through the middle portion of the BSA and is composed of open water within the main channel. Riparian habitats are present along the riverbanks and floodplain, as well as within Topock Marsh in the northeastern portion of the BSA. The western portion of the BSA is mostly open space that is comprised of native upland desert scrub habitats whereas the eastern portion of the BSA consists primarily of developed and disturbed land cover types. The location of the existing I-40 bridge is within a natural pinch point where a wider portion of the Colorado River floodplain narrows and enters a narrowing gorge to the south. The floodplain area to the north contains extensive agricultural areas, inhabited communities, parks, and the Havasu National Wildlife Refuge. Man-made features within the BSA include the BNSF railroad, I-40, the PG&E facility, Park Moabi, and the Topock Marina (formerly Topock Bay). Aquatic features within the BSA include the Colorado River and Bat Cave Wash. The Colorado River is a perennial feature that supports marsh and riparian habitats and flows north to south. Bat Cave Wash is an earthen, ephemeral feature that experiences intermittent flows following large storm events and drains south to north from the Chemehuevi Mountains to the Colorado River (see Section 2.2.11 for details).

Approximately three and a half miles south of the project is the Topock Gorge that exhibits varying terrain and steep rocky walls. Underlying geology of the area is largely Quaternary-aged alluvial deposits with some older conglomerates. Six soil units, or types, have been mapped within the BSA: Gunsight very gravelly sandy loam, 10 to 40 percent slopes; Lagunita sand, 0 to 1 percent slopes; Marshes; Water-Riverwash; Rillito-Gunsight; and Rositas-Ripley-Indio-Gilman. Of these soil types, one sub-type, Riverwash, contains hydric components or is considered hydric (where associated with streambed landforms). Riverwash corresponds to the location of the historic Colorado River floodplain within the BSA. Soil types found within the BSA are illustrated on Figure 6 of the NES.

Vegetation Communities within the Biological Study Area

Vegetation mapping data and descriptions were completed in 2020 and updated in 2021. Dominant vegetation communities within the BSA consisted of upland desert scrub and riparian communities. In total, 10 natural vegetation communities occur within the BSA: creosote bush desert scrub (*Larrea tridentata* alliance), creosote bush-white bursage desert scrub (*Larrea tridentata-Ambrosia dumosa* alliance), blue palo verde woodland (*Parkinsonia florida* association and disturbed *Parkinsonia florida* association), common reed marsh (*Phragmites australis* alliance), arrow weed thicket (*Pluchea sericea* alliance), narrowleaf willow thicket (*Salix exigua* alliance), California bulrush marsh (*Schoenoplectus californicus* association), catclaw acacia-desert lavender-chuparosa scrub (*Senegalia greggii-Condea emoryi-Justicia californica* shrubland alliance), tamarisk thicket (*Tamarix* spp. alliance), and cattail marshes (*Typha* [*angustifolia*, *domingensis*, *latifolia*] herbaceous alliance). In addition, five land cover types were detected within the BSA: developed, disturbed, ornamental, sparsely vegetated, and open water. Vegetation communities and land use are further described below and are depicted in Figures 2.22, 2.23, and 2.24.

Table 2-32, Vegetation Communities and Land Cover Types within the BSA

Vegetation Community/Land Cover Type	Alliance or Association	CDFW Sensitive Natural Community (Global Rank/State Rank)*	CDFW Sensitive Natural Community*	AZ Area (acre)	CA Area (acre)	Total Area (acre)
Creosote bush desert scrub	<i>Larrea tridentata</i> alliance	G5/S5	N	0.47	70.19	70.66
Creosote bush-white bursage desert scrub	<i>Larrea tridentata</i> - <i>Ambrosia dumosa</i> alliance	G5/S5	N	1.05	-	1.05
Blue palo verde woodland	<i>Parkinsonia florida</i> association	G4/S4	Y	-	2.26	2.26
(Disturbed) blue palo verde woodland	<i>Parkinsonia florida</i> association	G4/S4	Y	3.46	-	3.46
Common reed marsh	<i>Phragmites australis</i> alliance	GNR/SNR	N	-	3.85	3.85
Arrow weed thicket	<i>Pluchea sericea</i> alliance	G4/S3	Y	5.65	-	5.65
Narrowleaf willow thicket	<i>Salix exigua</i> alliance	G5/S4.2	N	0.47	-	0.47
California bulrush marsh	<i>Schoenoplectus californicus</i> association	GNR/S3S4	Y	2.19	-	2.19
Catclaw acacia-desert lavender-chuparosa scrub	<i>Senegalia greggii</i> - <i>Condea emoryi</i> - <i>Justicia californica</i> shrubland alliance	G4/S4	N	-	0.79	0.79
Tamarisk thicket	<i>Tamarix</i> spp. alliance	GNA/SNA	N	3.42	10.23	13.65
Cattail marshes	<i>Typha [angustifolia, domingensis, latifolia]</i> herbaceous alliance	G5/S5	N	0.32	-	0.32
Developed lands	N/A	N/A	N/A	39.50	15.97	55.47
Disturbed	N/A	N/A	N/A	-	2.18	2.18
Ornamental	N/A	N/A	N/A	0.22	-	0.22
Sparsely vegetated	N/A	N/A	N/A	2.10	1.21	3.31
Open water	N/A	N/A	N/A	23.00	6.46	29.46

*Based on CDFW Sensitive Natural Communities List updated Aug 18, 2021

Creosote Bush Desert Scrub (*Larrea tridentata* Alliance)

Creosote bush desert scrub is characterized by widely spaced individuals or clusters of creosote (*Larrea tridentata*) along with a sometimes diverse community of associated shrub species, including white bursage (*Ambrosia dumosa*), brittlebrush (*Encelia farinosa*), and ratany (*Krameria bicolor*); cacti such as beavertail (*Opuntia basilaris* var. *basilaris*) and silver cholla (*Cylindropuntia echinocarpa*); and herbs such as desert trumpet (*Eriogonum inflatum*). Gullies and washes feature more mesic species such as blue palo verde (*Parkinsonia florida*), sweetbush (*Bebbia juncea*) and saltbushes (*Atriplex* spp.). Creosote bush desert scrub is a common community in both the Mojave and Sonoran deserts of the American Southwest. Based upon the species observed, the BSA exhibits a more Sonoran affinity. Within the BSA, creosote bush desert scrub dominates the majority of the west side of the Colorado River and is present both north and south of I-40.

Creosote Bush – White Bursage Scrub (*Larrea tridentata* – *Ambrosia dumosa* Alliance)

Creosote bush-white bursage scrub is characterized with creosote bush and white bursage co-dominant in the shrub layer and are common desert scrub forms in both the Mojave and Sonoran deserts. A small patch of this vegetation community was detected within the BSA on the south side of I-40 on the eastern side of the Colorado River.

Blue Palo Verde Woodland (*Parkinsonia florida* Association)

Blue palo verde woodland is co-dominated by desert ironwood (*Olneya tesota*) and/or blue palo verde, or either species is dominant, in the tree or tall shrub canopy with desert willow (*Chilopsis linearis*), ocotilla (*Fouquieria splendens*), honey mesquite (*Prosopis glandulosa*), screwbean mesquite (*Prosopis pubescens*), and smoketree (*Psoralea spinosa*). Shrubs may include cheesebush (*Ambrosia salsola*), fairyduster (*Calliandra eriophylla*), California snake bush (*Colubrina californica*), California barrel cactus (*Ferocactus cylindraceus*), desert lavender (*Hyptis emoryi*), chuparosa (*Justicia californica*), wolfberry (*Lycium andersonii*), Baja desert thorn (*Lycium brevipes*), catclaw acacia (*Senegalia greggii*), jojobe (*Simmondsia chinensis*), silver cholla, brittlebrush, white bursage, sweetbush, or creosote. Trees are <50 feet tall and the canopy is open to continuous. The shrub layer is intermittent or open and the herbaceous layer is sparse with seasonal annuals.

Within the BSA, blue palo verde woodland is found along Bat Cave Wash in the western portion of the BSA to both the north and south of I-40. This represents a diverse habitat, with blue palo verde being the dominant tree. Other commonly occurring species include four-wing saltbush (*Atriplex canescens*), sweetbush, desert lavender, creosote, ratany, honey mesquite, wolfberry, and brittlebrush.

The blue palo verde woodland community is designated as sensitive by CDFW.

Disturbed Blue Palo Verde Woodland (Disturbed *Parkinsonia florida* Association)

A naturalized blue palo verde woodland community can be found on the steep slopes on the north side of the BNSF railroad embankment east of the river. This disturbed community also hosts numerous salt cedar and is associated with other shrubs such as quail bush (*Atriplex lentiformis*), four-wing saltbush, and creosote bush, with a dense to light understory of nonnative invasive grasses and herbaceous annuals.

Common Reed Marsh (*Phragmites australis* Alliance)

Common reed (*Phragmites australis*) is a native grass species, and forms dense, typically monospecific stands, although patches of tamarisk (*Tamarix* spp.) and other species such as

the nonnative giant reed (*Arundo donax*) may be present within the vegetation community. Within the BSA, common reed marsh is found along the low sandy terraces along the west side of the river, mostly south of the BNSF trestle.

Arrow Weed Thicket (*Pluchea sericea* Alliance)

Arrow weed (*Pluchea sericea*) is dominant or co-dominant in the shrub canopy with iodine bush (*Allenrolfea occidentalis*), Torrey's saltbush (*Atriplex torreyi*), mule fat (*Baccharis salicifolia*), desert baccharis (*Baccharis sergiloides*), narrowleaf willow (*Salix exigua*), bush seepweed (*Suaeda moquini*), four-wing saltbush, quail bush, and tamarisk. Emergent trees may be present at low cover, including Fremont's cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), or honey mesquite. Shrubs are <17 feet and the canopy is intermittent to continuous. The herbaceous layer is sparse with seasonal annuals. Arrow weed is a shrub typically associated with drier margins of wetlands or those that are seasonally inundated. It can form loose open stands to more often impenetrably dense stands. In the BSA, this vegetation community is mostly limited to the low sandy terrace of the river on the east side south of the highway. Arrow weed is dominant but local patches of tamarisk or honey mesquite are common, and open areas host a suite of small annual herbs.

In California, arrow weed thicket is considered a CDFW sensitive natural community. However, this vegetation community was only detected within the Arizona side of the BSA; no extensive stands were observed on the California side.

Narrowleaf Willow Thicket (*Salix exigua* Alliance)

Narrowleaf willow is a small, typically narrowly erect tree that can form dense stands in association with wetlands. Within the BSA, a large stand is located on the northeast side in the Topock Marsh. Narrowleaf willow is dominant but local patches of tamarisk, arrow weed, and willow species are common.

California Bulrush Marsh (*Schoenoplectus californicus* Association)

Hardstem bulrush (*Schoenoplectus acutus*) and/or California bulrush (*Schoenoplectus californicus*) is dominant or co-dominant in the herbaceous layer with Indian hemp (*Apocynum cannabinum*), mosquito fern (*Azolla filiculoides*), alkali bulrush (*Bolboschoenus maritimus*), western hedge bindweed (*Calystegia sepium*), water hyacinth (*Eichhornia crassipes*), western goldenrod (*Euthamia occidentalis*), rose mallow (*Hibiscus lasiocarpus*), California hemp (*Hoita macrostachya*), marsh pennywort (*Hydrocotyle ranunculoides*), rice cutgrass (*Leersia oryzoides*), floating water primrose (*Ludwigia peploides*), bugleweed (*Lycopus americanus*), dotted smartweed (*Persicaria punctata*), broadfruit bur reed (*Sparganium eurycarpum*), arrow grass (*Triglochin* spp.), narrowleaf cattail (*Typha angustifolia*), southern cattail (*Typha domingensis*), broadleaf cattail (*Typha latifolia*), stinging nettle (*Urtica dioica*), and common reed. Emergent trees and shrubs may be present at low cover, including trees white alder (*Alnus rhombifolia*), Gooding's black willow (*Salix gooddingii*), and Fremont's cottonwood and shrubs common buttonbush (*Cephalanthus occidentalis*), California rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), narrowleaf willow, and arroyo willow. Herbs are <13 feet and cover is intermittent to continuous.

Within the BSA, California bulrush marsh forms monospecific stands along the margins of the Colorado River, and most notably within the small portion of the Topock Marsh on the northeast side of the BSA, where it has some patches of common reed along the margin and borders a thin strip of arrow weed along the Oatman-Topock Highway on the south side and a stand of narrowleaf willow on the west side.

In California, California bulrush marsh is considered a CDFW sensitive natural community. However, this vegetation community was only detected within the Arizona side of the BSA; no extensive stands were observed on the California side.

Catclaw Acacia-Desert Lavender-Chuparosa Scrub (*Senegalia greggii*-*Condea emoryi*-*Justicia californica* Shrubland Alliance)

This community is found within the southwest portion of the BSA, branching from the Bat Cave Wash in the south. Catclaw acacia-desert lavender-chuparosa scrub is characterized by a diverse community of shrubs that can include Mojave yucca (*Yucca schidigera*), cheesebush, sweetbush, beavertail, and creosote with occasional emergent trees such as desert willow and blue palo verde.

Tamarisk Thicket (*Tamarix* spp. Alliance)

Tamarisk (or salt cedar) is a nonnative and invasive shrub or small tree species and is commonly found along water courses, washes, and wetlands. It can occur as an emergent in seasonally inundated wetlands. It forms open to dense monospecific stands. No understory herb layer is typically present in denser stands. In the BSA, this vegetation class is limited to the lower sandy terraces of the river and along lower slopes of road embankments. Other shrub or tree species (e.g., blue palo verde, arrow weed, or mesquite) may occur in openings or along edges. Stands or patches of tamarisk may be embedded within stands of other vegetation as well. In the BSA, the identified tamarisk species was *Tamarix ramosissima*, though other invasive species (*T. gallica* and *T. parvifolia*) have been documented regionally along the Colorado River.

A small stand of mature Athel tamarisk (*Tamarix aphylla*) was found on the eastern edge of the BSA. Athel tamarisk grows to be a large tree. Although nonnative, it is not considered as invasive as its sister species. It is often utilized as a windbreak on the edges of agricultural fields, and large individuals are generally associated with old homesteads or other human development.

Cattail Marshes [*Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance]

Narrowleaf cattail, southern cattail, or broadleaf cattail is dominant or co-dominant in the herbaceous layer with arrow weed, California bulrush, and other species at low cover. Habitats include semi-permanently flooded freshwater or brackish marshes. This vegetation community is found within the northeastern portion of the BSA within Topock Marsh in Arizona. Specifically, the cattail marsh is located along the margins of the California bulrush marsh located east of the Topock Marina.

Sparsely Vegetated

Areas mapped as sparsely vegetated were typically associated with areas mapped as both tamarisk and arrow weed thickets within the BSA. This land cover type was included to show areas that had little to no vegetation but were not necessarily disturbed enough by anthropogenic influences to be classified as “disturbed.” Soils in these areas were generally sandy and could support vegetative growth in the future. The sparsely vegetated areas were identified in the northern portion of the BSA just west of the river and also in the southeastern portion of the BSA east of the Colorado River.

Ornamental

Ornamental areas are planted with common landscaping plants not native to the region. Perimeter areas, road edges, and spaces not occupied by parking lots or buildings that have

been landscaped are included in this habitat type. In areas classified as ornamental in the BSA, species included fan palms (*Washingtonia* sp.). This land cover type is located along the eastern shoreline of the Colorado River and directly south of the I-40 bridge.

Disturbed

Disturbed land includes areas where the native vegetation community has been heavily influenced by human actions, such as grading, trash dumping, equipment staging, and off-highway vehicle use, but lack development. Disturbed land is not a vegetation classification, but rather a land cover type and is not restricted by elevation. Within the BSA, the disturbed lands consisted primarily of bare ground and dirt access roads throughout areas west of the Colorado River.

Developed Lands

Developed lands are those that are heavily affected by human use, including landscaping, residential homes, commercial or industrial buildings and associated infrastructure, and transportation corridors. Slightly more than half of the lands in the BSA fall in this category. East of the Colorado River, much of the BSA falls into this category with the railroad, roads, parking lots, residential homes, and buildings and infrastructure associated with the three pipelines that cross the river in this area. On the west side of the Colorado River, the railroad, roads, PG&E Topock Compressor Station, and construction associated with groundwater remediation activities impact the landscape to a lesser degree. Within these areas, naturalized vegetation is often relatively sparse, and largely consists of ruderal, nonnative species.

Natural Communities of Concern

Three sensitive natural communities considered important by CDFW were identified within the BSA (see the NES for a description of ranking types). These habitats are classified as sensitive natural communities by CDFW because their extent has been substantially reduced, primarily due to urbanization and residential development, flood control, and channel improvements. These habitats are considered sensitive because they occur in limited locations and provide the natural life history characteristics required for a variety of special-status species, including federally and/or state-listed threatened and endangered plant and animal species.

An estimated total of 13.56 acres of CDFW-designated sensitive natural communities were mapped within the BSA and include the following vegetation communities: blue palo verde woodland, arrow weed thicket, and California bulrush marsh. However, only 2.26 acres of the 13.56 acres occur within the California portion of the BSA, all of which are comprised of the blue palo verde woodland community, which is located along Bat Cave Wash in the western portion of the BSA to both the north and south of I-40. A patch of the disturbed blue palo verde woodland community (3.46 acres) occurs on the steep slopes of the northern BNSF railroad embankment east of the river in Arizona. The arrow weed thicket community (5.65 acres) is present along the low sandy terrace of the eastern riverbank and the California bulrush marsh community (2.16 acres) is found within Topock Marsh, both in the Arizona side of the BSA.

Corridors and Linkages

A major reason for regional declines in native species is the pattern of habitat loss. Species that once moved freely through a mosaic of natural vegetation types are now confronted with a manmade labyrinth of barriers that fragment formerly expansive natural landscapes. Roads, railroads, canals, urbanization – especially massive new renewable energy projects – are the

major obstacles to wildlife movement in the California deserts. Populations of many species of concern are becoming increasingly isolated from one another, leading to reduced genetic diversity and risk of extirpations.

Road (and railroad) effects extend far beyond the road itself and include road mortality, disruption of animal movements, spread of exotic species, and increases in pollution, noise, light and fire in wildlife habitats. Roads, railroads, and canals can fragment large habitat areas into smaller patches that support smaller populations, which are consequently more prone to local extinction. Many of these effects can be mitigated, for instance, by strategically placing crossing structures (over or under, as appropriate) to facilitate wildlife movement across these barriers.

A Linkage Network for the California Deserts

The primary goal of the California Desert Connectivity Project is to identify areas where maintenance or restoration of ecological connectivity is essential for conserving the unique biological diversity of California's deserts. The desert land use type covers roughly 13 million hectares (32 million acres), encompassing California's Mojave and Sonoran Desert Ecoregions, three targeted mountain ranges in the neighboring Sierra Nevada and South Coast Ecoregions with a buffer of 6 kilometers (km). Landscape permeability or least-cost corridor analyses was conducted for four focal species (desert bighorn sheep [*Ovis canadensis nelsoni*], American badger [*Taxidea taxus*], kit fox [*Vulpes macrotis*], and Mojave desert tortoise [*Gopherus agassizii*]). The different branches of each Least-cost Union identify the areas best suited to facilitate species movements between targeted wildland blocks based on model assumptions and available GIS data. Habitat was added to the Preliminary Linkage Network in a number of areas covering 281,475 ha (695,536 acres). These additions accomplished the following: (1) captured many riparian connections not included in the Preliminary Linkage Network; (2) added a few areas of key upland habitats; and (3) achieved a minimum corridor width of 2 km making the Linkage Network more robust to edge effects (Figure 9 in the NES).

The project is nearest the Mojave National Preserve – Stepladder Turtle Mountains Land Facets (30 miles northwest) and Whipple Mountains – Stepladder Turtle Mountains Land Facets (30 miles southwest). Riparian additions (1 km to either side) along Piute Wash, Colorado River, and Chemehuevi Wash, serve as another riparian connection between the Mojave National Preserve and the Stepladder Mountains for species such as red-spotted toad (*Anaxyrus punctatus*), crissal thrasher (*Toxostoma crissale*), and black-tailed gnatcatcher (*Poliophtila melanura*). Riparian additions along Bennett Wash, Colorado River, and McCoy Wash serve as the only riparian connection between the Palen and Whipple Mountains to provide the needs of species such as ringtail (*Bassariscus astutus*), red-spotted toad, and desert willow.

Lower Colorado River Multi-Species Conservation Plan

The LCR MSCP is divided into seven reaches. The BSA falls near the middle of Reach 3 (RM 276-192.3 – Davis Dam to Parker Dam). Reach 3 includes three conservation areas: Beal Lake (RM 239-238), Big Bend (RM 266.5), and Mohave Valley (RM 237-238). MVCA, located near Park Moabi, is the conservation area that is closest to the BSA.

This project is required to show consistency with the Plan and its Avoidance and Minimization measures. Following a discussion between Caltrans and the LCR MSCP representatives on July 12, 2022, the LCR MSCP has agreed to review the environmental document and any subsequent documents and provide a letter to Caltrans stating concurrence or otherwise.

The LCR MSCP describes general and species-specific conservation measures for twenty-six covered species and five evaluation species. Covered species are species included under FESA incidental take authorization and are either currently listed or proposed for listing as threatened or endangered under FESA or are protected under Arizona, California, or Nevada law; or may become listed during the 50 year LCR MSCP term that are affected by covered activities. Evaluation species are species that could become listed in the future; however, sufficient information was not available at the time the HCP was written to determine the effects of covered activities or to develop conservation measures for these species. Species covered under the LCR MSCP include four fish, twelve birds, four mammals, three reptiles, one amphibian, one insect, and two plants. General species conservation measures are conservation measures that apply to more than one covered or evaluation species. They include LCR MSCP Avoidance and Minimization Measures (AMMs), which avoid and minimize the effects of implementing covered activities on covered species as stated in the LCR MSCP and listed below. LCR MSCP AMMs specific to covered species are detailed in the NES.

LCR MSCP General Avoidance and Minimization Measures

AMM1—To the extent practicable, avoid and minimize impacts of implementing the LCR MSCP on existing covered species habitats.

AMM2—Avoid impacts of flow-related covered activities on covered species habitats at Topock Marsh.

AMM3—To the extent practicable, avoid and minimize disturbance of covered bird species during the breeding season.

AMM4—Minimize contaminant loads in runoff and return irrigation flows from LCR MSCP created habitats to the lower Colorado River.

AMM5—Avoid impacts of operation, maintenance, and replacement of hydroelectric generation and transmission facilities on covered species in the LCR MSCP planning area.

AMM6—Avoid or minimize impacts on covered species habitats during dredging, bank stabilization activities, and other river management activities.

2.2.9.3 ENVIRONMENTAL CONSEQUENCES

This section addresses the effects on natural communities of concern, wildlife corridors and linkages and fish passages, and the LCR MSCP.

The effects from permanent and temporary impacts on natural communities of concern, wildlife corridors and linkages, and the LCR MSCP were analyzed for each build alternative. The terms *project*, *build alternative*, *PIA*, and *work limits* in this EIR are synonymous and represent the area proposed for direct impacts, including both permanent and temporary impacts. Project impacts that are considered a *permanent impact* are construction activities that may have permanent effects on biological resources, such as the removal of existing vegetation, grading and soil disturbance, and loss of resources (e.g., mortality of plants or wildlife, reduction or removal of aquatic resources or movement corridors). *Temporary impacts* are those that are temporary in nature and whose effects would cease following the completion of construction, such as noise and vibration disturbances, equipment staging, and temporary clearing of vegetation that would be replaced in-kind once the project is complete.

The permanent and temporary impacts can also be classified as direct or indirect. *Direct impacts* are those impacts that can be expected from direct removal and disturbances to the land and resources. Examples of direct impacts include mortality of individuals and permanent loss of habitat. *Indirect impacts* are those impacts that give rise to delayed, secondary impacts. Indirect impacts are those that can be assumed to increase mortality, reduce productivity, and/or reduce the functions and values of natural open space for native species.

When determining project-related permanent and temporary direct impacts, permanent impacts include the installation of bridge abutments and piers, rock slope protection, road realignment, retaining walls, and cut/fill and grading areas. Temporary direct impacts include construction work area clearing and grubbing, bridge demolition, trestle bridge installation, equipment staging, temporary construction access routes, and incidental disturbances within construction areas. Permanent and temporary impact locations as well as the overall work limits were based on preliminary engineering designs. Permanent and temporary direct impacts as a result of project implementation for Build Alternatives 1, 2, and 3 are illustrated on Figures 2.19, 2.20, and 2.21.

Geotechnical borings would be performed for the project and would consist of 13 rotary core borings taken along the I-40 from a drilling rig (see Section 1.3.2, Figure 1.3 for details). Three of the bore locations will be drilled within natural areas and may require clearing of vegetation to access an existing dirt maintenance road should it be overgrown with vegetation. All of the impacts resulting from geotechnical boring activities would be temporary in nature; no permanent impacts are expected. When determining direct impacts from boring, a 10-foot radius from each bore location was assumed to account for work areas and equipment staging. In addition, a 20-foot width footprint was assumed for the access road to account for site access, vegetation clearing, and equipment movement. Because the geotechnical borings will be performed during the design phase of the project, although the drilling would take place in the same areas that will be directly impacted by new bridge construction, impacts on natural vegetation communities from geotechnical activities (including bore locations and access roads) would be separate from the impacts that would result from project construction-related activities due to a temporal loss of habitat between the time of boring and project construction, which could span years. However, the direct loss of habitat would be the same and reflected as such in the permitting to avoid double-counting impacts to the same area.

Natural Vegetation Communities

Build Alternatives 1, 2, and 3

Implementation of the project would result in permanent and temporary impacts on natural vegetation communities through disturbance and/or removal of existing vegetation (Tables 2.33 and 2.34). Of the three sensitive natural communities located within the BSA, only one (blue palo verde woodland) occurs within the PIA and would be directly impacted by the project. All three build alternatives would result in 0.28 acre of temporary impacts on blue palo verde woodland as a result of new bridge construction; none of the build alternatives would permanently impact any sensitive natural communities.

Temporary indirect impacts may be caused by construction activities (e.g., dust, increased fire risk, chemical spills, sedimentation, and littering) on sensitive natural communities that are adjacent to the PIA, which could lead to temporary degradation of these communities. The use of construction equipment at the edge of the PIA could also damage adjacent native vegetation through airborne sedimentation, for example. Project equipment and vehicles may import invasive plant materials and seed into the project area. Importing invasive species into the BSA

could pose a risk to the native plant species due to competitive exclusion. Furthermore, adding more trash and debris to the project site would reduce the quality of the soil conditions, preventing native plant species from colonizing the site. However, these impacts are expected to be greatly reduced with implementation of the avoidance and minimization efforts presented in Section 2.2.12.4 below.

Once either Build Alternative 1, 2, or 3 is constructed, there could be indirect impacts in the form of habitat degradation through risk of fire, air pollution, litter, and noise. However, the operation of any of the three build alternatives would not be different from current conditions and would not pose an increase in risk. The wider roadbed would also create a less permeable surface and, thus, could alter surface flows into storm drain facilities and aquatic resource features. Drainage design and water quality BMPs proposed and required as part of the project would reduce the amount of roadway pollutants entering riparian resources as well as federal and state jurisdictional water features.

Table 2-33, Permanent Project Impacts by Build Alternative on Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover Types	Alliance or Association	Build Alternative 1 (acre)	Build Alternative 2 (acre)	Build Alternative 3 (acre)
Creosote bush desert scrub	<i>Larrea tridentata</i> alliance	0.72	3.14	2.33
Creosote bush-white bursage desert scrub	<i>Larrea tridentata</i> - <i>Ambrosia dumosa</i> alliance	--	--	--
Blue palo verde woodland ¹	<i>Parkinsonia florida</i> association	--	--	--
(Disturbed) blue palo verde woodland ¹	<i>Parkinsonia florida</i> association	--	--	--
Common reed marsh	<i>Phragmites australis</i> alliance	--	0.03	0.00
Arrow weed thicket ¹	<i>Pluchea sericea</i> alliance	--	--	--
Narrowleaf willow thicket	<i>Salix exigua</i> alliance	--	--	--
California bulrush marsh ¹	<i>Schoenoplectus californicus</i> association	--	--	--
Catclaw acacia-desert lavender-chuparosa scrub	<i>Senegalia greggii</i> - <i>Condea emoryi</i> - <i>Justicia californica</i> shrubland alliance	--	--	--
Tamarisk thicket	<i>Tamarix</i> spp. alliance	0.10	0.13	0.19

Vegetation Community/Land Cover Types	Alliance or Association	Build Alternative 1 (acre)	Build Alternative 2 (acre)	Build Alternative 3 (acre)
Cattail marshes	<i>Typha [angustifolia, domingensis, latifolia]</i> herbaceous alliance	--	--	--
Developed lands	N/A	0.72	1.44	1.39
Disturbed	N/A	0.02	0.05	0.05
Ornamental	N/A	--	--	--
Sparsely vegetated	N/A	--	--	--
Open water	N/A	0.09	0.09	0.09
Total		1.64	4.89	4.05

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

¹CDFW sensitive natural community.

The temporary impacts on sensitive natural communities are based on conservative preliminary design estimates to allow for flexibility of temporary construction work areas during the final design phase of the project and are generally identified as a worst-case scenario (i.e., the entire existing work limits in many cases). The actual temporary impacts on sensitive natural communities will likely be refined (i.e., reduced) from those described in this EIR during the final design and permitting phase of the project and may be less than the total shown in Table 2.34.

Table 2-34, Temporary Project Impacts by Build Alternative on Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover Type	Alliance or Association	Build Alternative 1 (acre)	Build Alternative 2 (acre)	Build Alternative 3 (acre)
Creosote bush desert scrub	<i>Larrea tridentata</i> alliance	13.14	10.79	11.49
Creosote bush-white bursage desert scrub	<i>Larrea tridentata-Ambrosia dumosa</i> alliance	--	--	--
Blue palo verde woodland ¹	<i>Parkinsonia florida</i> association	0.28	0.28	0.28
(Disturbed) blue palo verde woodland ¹	<i>Parkinsonia florida</i> association	--	--	--
Common reed marsh	<i>Phragmites australis</i> alliance	0.69	0.66	0.69

Vegetation Community/Land Cover Type	Alliance or Association	Build Alternative 1 (acre)	Build Alternative 2 (acre)	Build Alternative 3 (acre)
Arrow weed thicket ¹	<i>Pluchea sericea</i> alliance	--	--	--
Narrowleaf willow thicket	<i>Salix exigua</i> alliance	--	--	--
California bulrush marsh ¹	<i>Schoenoplectus californicus</i> association	--	--	--
Catclaw acacia-desert lavender-chuparosa scrub	<i>Senegalia greggii-Condeea emoryi-Justicia californica</i> shrubland alliance	--	--	--
Tamarisk thicket	<i>Tamarix</i> spp. alliance	3.35	3.44	3.23
Cattail marshes	<i>Typha [angustifolia, domingensis, latifolia]</i> herbaceous alliance	--	--	--
Developed lands	N/A	7.39	10.59	8.35
Disturbed	N/A	0.72	0.70	0.69
Ornamental	N/A	--	--	0.01
Sparsely vegetated	N/A	--	--	--
Open water	N/A	3.59	4.11	3.73
Total		29.16	30.58	28.46

"--" indicates no impact.

¹CDFW sensitive natural community.

Geotechnical borings would be performed for the project and would consist of 13 rotary core borings taken along the I-40 from a drilling rig (Figure 1.3; see Section 1.3.2 for details). None of the geotechnical borings locations or access roads are located within or adjacent to any sensitive natural communities; therefore, no direct or indirect impacts on sensitive natural communities are anticipated as a result of geotechnical boring activities.

Due to the ongoing Topock Remedy Construction Project, hazardous chemicals such as Cr6+ may be present in the groundwater or soil, which has the potential to impact CDFW sensitive natural communities. Caltrans is required to complete both an Initial Site Assessment and Detailed Investigations Report, which determine the source, nature, and extent of contamination and quantify the risk and impact of a contaminated site or property on the cost, scope, and schedule of the transportation project and identify appropriate avoidance, minimization, and/or mitigation measures. Caltrans is also required to follow regulatory guidance to ensure that

hazardous materials are properly handled and disposed. The project does not anticipate impacts to any sensitive natural communities from hazardous waste.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on sensitive natural communities beyond those that would be expected to occur from the existing facility.

Corridors and Linkages

Build Alternatives 1, 2, and 3

The project would not permanently affect existing wildlife movement within the BSA or surrounding project area because no new barriers to wildlife movement would be created and no existing culverts that allow wildlife crossing under I-40 would be permanently reduced or eliminated by the project. However, the project would construct a new bridge over the Colorado River corridor, which could temporarily impact this wildlife corridor during construction. Temporary impacts on wildlife corridors could occur during construction due to the increased presence of equipment, structures, and construction personnel. Construction activities would reduce the passable area, which may temporarily deter terrestrial wildlife movement. With the trestle system, flow within the river will remain unimpeded, continuing to provide passage for aquatic species. The new I-40 bridge crossing over the Colorado River under all three build alternatives would remain open and passable underneath. Under Alternative 1 and 2, the project would not modify the I-40 culvert at Bat Cave Wash; however, under Alternative 3, a culvert extension may be required. Thus, wildlife movement corridors will not be substantially reduced in their ability to facilitate movement under I-40 and no permanent impacts to existing wildlife movement corridors are anticipated.

Project construction could temporarily affect wildlife corridors within the BSA due to the increased presence of noise, equipment, and construction personnel, which may temporarily deter terrestrial wildlife movement within the area. However, these impacts would be temporary in nature, and wildlife could simply avoid the construction zone and use the surrounding area for movement. In addition, avoidance and minimization measures described in Section 2.2.10 below would reduce impacts and wildlife movement would be expected to return to preconstruction conditions once construction activities are complete.

The replacement of the current bridge (66-foot-wide bridge deck) with the bridge under all three build alternatives (84-foot-wide bridge deck) could potentially increase the risk of wildlife vehicle strikes. For some wildlife species, widening the roadway and increasing the area of the active roadway could pose a greater risk when attempting to cross the facility. Although riparian resources that have value to wildlife movement or provide live-in habitat would be bridged by the facility, the bridge is replacing a current structure, not adding a new facility in a previously undisturbed area. Thus, wildlife within this region are already adapted to having a roadway in this location and would continue to maintain safe movement patterns within the riparian areas. In addition, avoidance and minimization measures would be employed to deter wildlife from crossing the roadways and remain within the riparian corridor.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on wildlife movement corridors within the BSA beyond those that would be expected to occur from the existing facility.

Lower Colorado River Multi-Species Conservation Plan

Build Alternatives 1, 2, and 3

Project work will be limited to the footprint of the preferred build alternative or the area required for geotechnical borings. The project has the potential to generate noise and vibration during project activities, and construction activities may occur at night. Indirect impacts during construction may include noise, vibration, and/or visual disruptions including artificial lighting and human presence as well as impacts to water quality and habitat through vegetation removal. Direct impacts may include injury or mortality of individual plants or wildlife, including LCR MSCP covered species. Project equipment and vehicles may import invasive plant materials and seed into the Project area. Importing invasive species into the BSA could pose a risk to the native plant species due to competitive exclusion. Furthermore, adding more trash and debris to the project site would reduce the quality of the soil conditions, preventing native plant species from colonizing the site.

The NES prepared for the project analyzed impacts to LCR MSCP resources and covered species, and determined that with implementation of the avoidance and minimization measures described in Section 2.2.10.4 below, including environmentally sensitive area (ESA) demarcation, preconstruction surveys, biological monitoring, restoration, and standard BMPs, that the project would meet the requirements set in LCR MSCP AMM1, AMM3, AMM4, and AMM6 (LCR MSCP AMM2 and AMM5 do not apply to the project as no impacts are anticipated at Topock Marsh and the project is not a hydroelectric generation or transmission activity). As such, the project will be consistent with the Plan.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on the LCR MSCP within the BSA beyond those that would be expected to occur from the existing facility.

2.2.9.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans Standard BMPs, the BMPs in the SWPPP, and 2022 Standard Specifications (or latest version) will be implemented to minimize effects during construction. The project, including this EIR and the NES, will utilize District 8's Avoidance and Minimization Measures (Version 4); applicable measures to natural communities, corridors and linkages, and the LCR MSCP are included below.

Sensitive Natural Communities

Measures **NC-1** through **NC-5** below will be incorporated to avoid and minimize impacts on sensitive natural communities. (*Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings*).

- NC-1** All staging, storing, and borrow sites will require the approval of the Caltrans District Biologist. (Caltrans District 8 Measure BIO-General-1: Equipment Staging, Storing, and Borrow Sites)
- NC-2*** Project activities, including but not limited to noxious weed control and restoration activities, cannot use pesticides or herbicides without Caltrans Biology approval. (Caltrans District 8 Measure BIO-General-PSM-21: Pesticide/Herbicide Use)

- NC-3** A biological monitor will be present on-site during clearing/grubbing and earthwork within or adjacent to sensitive natural communities or other protected biological resources to ensure that avoidance and minimization measures are in place according to specifications. The biological monitor must monitor project activities weekly to ensure that measures are being properly implemented and documented (Caltrans District 8 Measure BIO-General-8: Biological Monitor).
- NC-4*** If the CDFW Sensitive Natural Community (Blue Palo Verde desert woodland) cannot be avoided, then this habitat will be restored on site via planting and/or seed mix. (Caltrans District 8 Measure BIO-General-PSM-17: Restoration).
- NC-5*** To address impacts to three-pointed blazing star and CDFW sensitive natural communities, blue palo verde woodland will be delineated as an ESA as shown on the plans and/or described in the specifications. (Caltrans District 8 Measure BIO-General-9: Environmentally Sensitive Area [ESA])

No permanent impacts on sensitive natural communities would occur as a result of the project; therefore, no compensatory mitigation is required.

Wildlife Corridors and Linkages

Measure **NC-6** below will be incorporated to avoid and minimize impacts on wildlife movement corridors.

- NC-6** To address impacts to nocturnal and diurnal species, artificial lighting used only for the duration of project-related activities must be directed at the job site to minimize light spillover within the Project limits if Project activities occur at night. (Caltrans District 8 Measure BIO-General-2: Temporary Artificial Lighting Restrictions).

No permanent impacts on wildlife movement would occur as a result of the Project and no compensatory mitigation is required.

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Measures **NC-1**, **NC-2***, **NC-3**, **NC-4***, **NC-5***, and **NC-6** above, Measures **NC-7** and **NC-8** below, and Measures **WET-1** and **WET-2** (Section 2.2.11.4) shall ensure that the project will follow and be in compliance with the LCR MSCP. (Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

- NC-7** A qualified biologist must present a biological resource information program/worker environmental awareness program (WEAP) for sensitive biological resources, including native habitats, rare plants, desert bighorn sheep, northern Mexican gartersnake, desert tortoise, Colorado River cotton rat, desert pocket mouse, roosting bats, bonytail chub, razorback sucker, burrowing owl, marsh birds, and nesting birds prior to project activities to all personnel that will be present within the project work limits for longer than 30 minutes at any given time. (Caltrans District 8 Measure BIO-General-7: Worker Environmental Awareness Program)

NC-8 If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300-feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey)

Figure 2.19, Biological Study Areas and Project Impact Areas Alternative 1

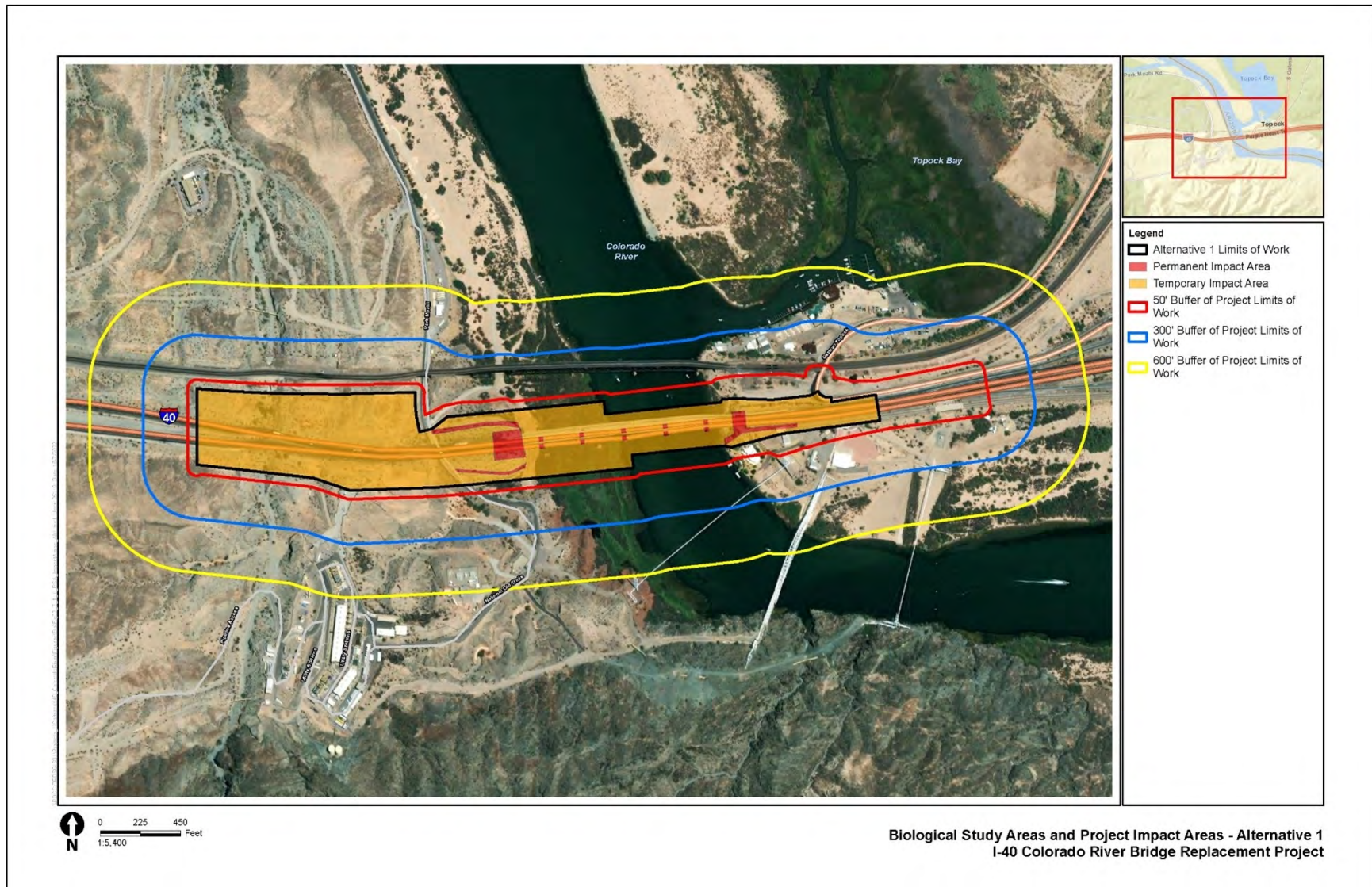


Figure 2.20, Biological Study Areas and Project Impact Areas Alternative 2

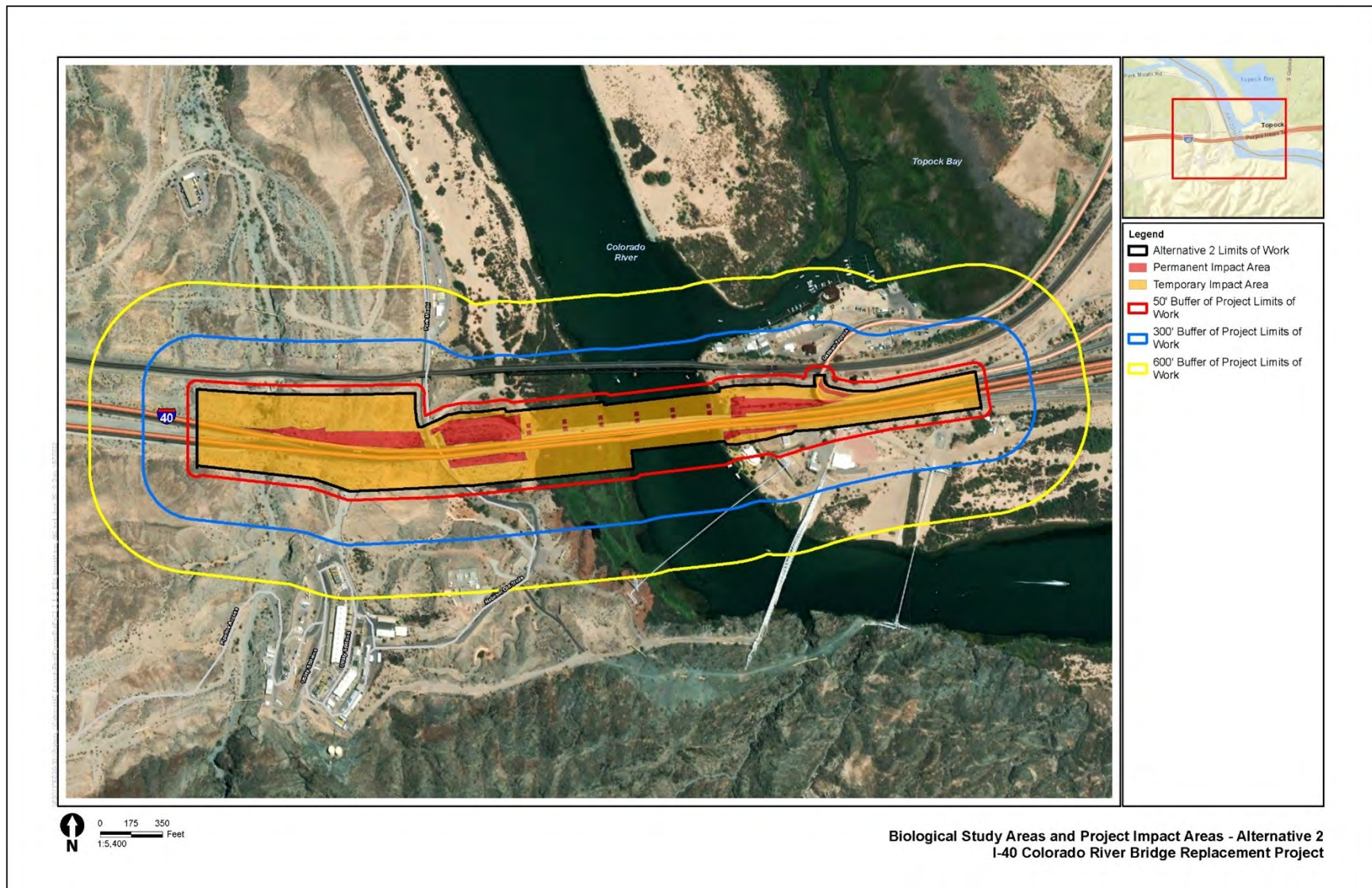


Figure 2.21, Biological Study Areas and Project Impact Areas Alternative 3

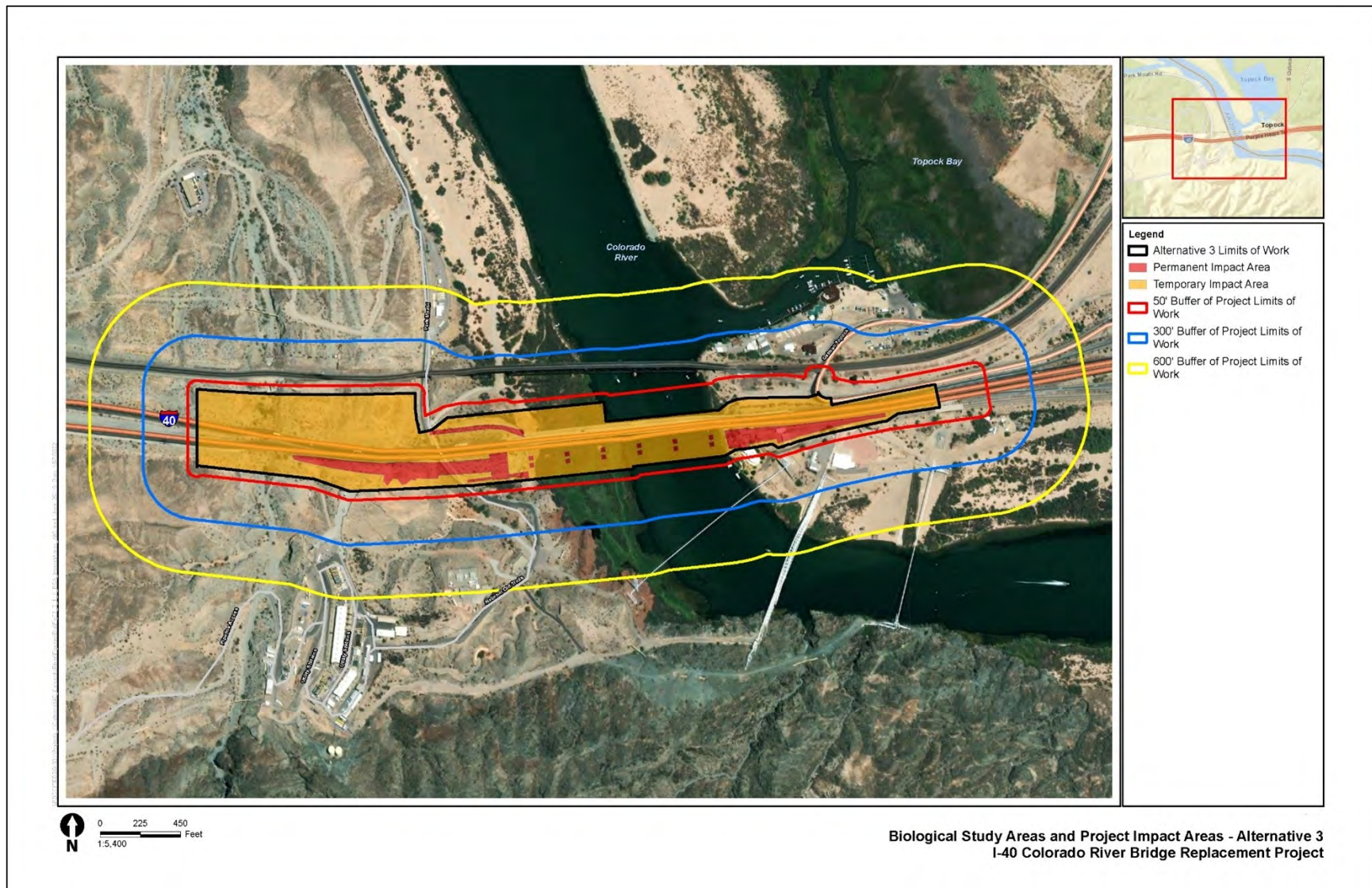


Figure 2.22, Vegetation Communities and Land Cover Types Alternative 1

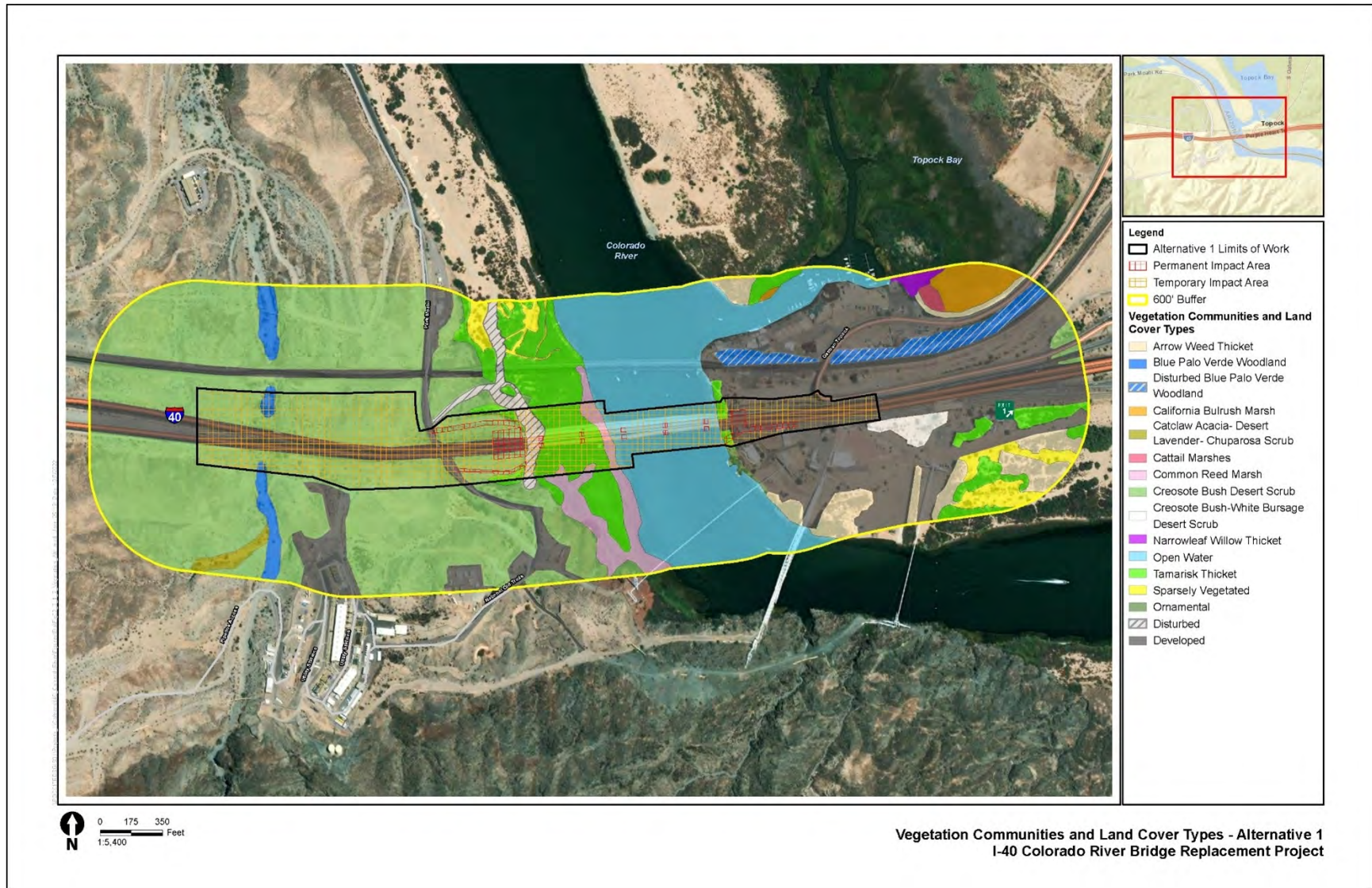


Figure 2.23, Vegetation Communities and Land Cover Types Alternative 2

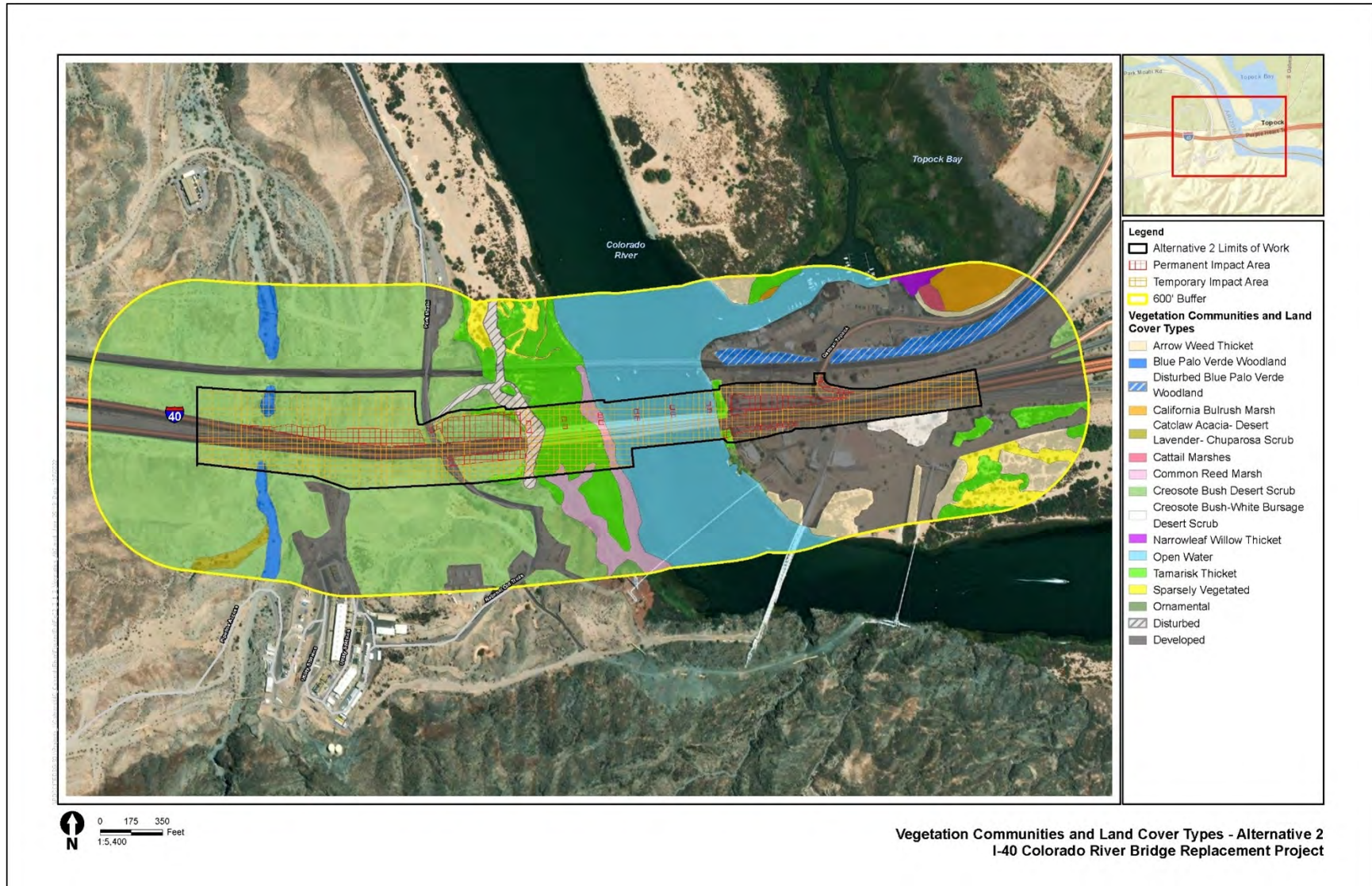
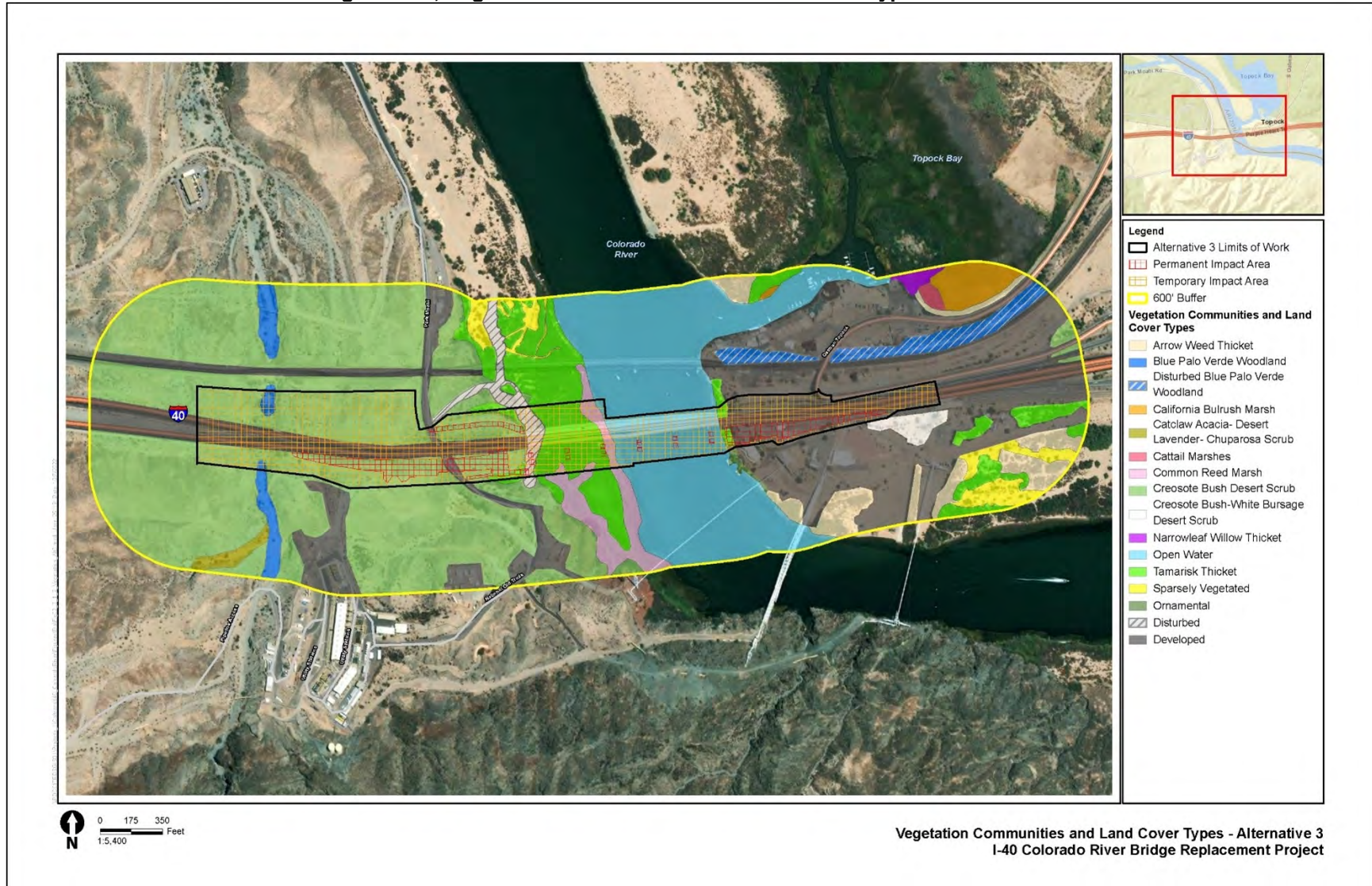


Figure 2.24, Vegetation Communities and Land Cover Types Alternative 3



2.2.10 Wetlands and Other Waters

2.2.10.1 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 CWA (33 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. (WoUS), including wetlands. WoUS 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 CFR Part 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 (WoUS) 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 WoUS, 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 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.

The Rivers and Harbors Appropriation Act of 1899, commonly known as the Rivers and Harbors Act, requires permits for all structures such as bridges, causeways, and riprap, and for other activities, such as dredging, which are placed within navigable WoUS. Navigable waters are defined as those which are subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. The USACE grants or denies permits based on the effects on navigation.

At the California state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and 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 CFG 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 (Porter-Cologne 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 WoUS. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

The Arizona Department of Environmental Quality (ADEQ) administers Arizona's environmental laws and delegated federal programs to prevent air, water and land pollution. Under the Environmental Quality Act of 1986, ADEQ was created as the state's cabinet-level environmental agency. ADEQ has three environmental programs: Air Quality, Water Quality, and Waste. Pursuant to Arizona laws, ADEQ carries out the core functions of planning, permitting, compliance management, monitoring, assessment, clean-ups, and outreach. For wetland delineations and associated regulations, ADEQ and the state of Arizona do not have specific state guidance or regulations but defer to those of federal agencies (USACE) under the CWA instead. ADEQ does, however, track compliance for state projects with the CWA and its associated permit requirements.

2.2.10.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section was based upon the January 2023 NES prepared for the project (Caltrans 2023e) and the March 2022 Jurisdictional Delineation (JD) prepared for the project (Appendix I of the NES). References used in the NES and JD are not carried over into this section.

The study area for the jurisdictional delineation included a 50-foot buffer from the PIA (Figure 2.19 – 2.21 in Section 2.2.10). The BSA is composed primarily of creosote bush desert scrub and developed lands, with the Colorado River and associated marsh and riparian habitat running through the center of the BSA (see Section 2.2.10.2 for details).

According to the USFWS National Wetland Inventory (NWI), the following features (and Cowardin Classes) are mapped within the BSA: Freshwater Emergent Wetland (PEM1B), Freshwater Forested/Shrub Wetland (PSS2J), and Riverine (R3UBH and R4SBJ). Additional features mapped within the immediate vicinity but outside of the BSA included Lake and Freshwater Pond. The NWI mapping categories were consistent with observations made within the BSA. NWI features located within the BSA are illustrated on Figure 7 of the NES.

There are two Riverine areas depicted within the BSA (R3UBH and R4SBJ). R3UBH is associated with the Colorado River and indicates Riverine, Upper Perennial, Unconsolidated Bottom, and Permanently Flooded. R4SBJ is associated with Bat Cave Wash and indicates Riverine, Intermittent, Streambed, and Intermittently Flooded. Definitions of the different riverine area types found within the BSA are provided in Chapter 3 of the NES.

There were two Palustrine areas depicted within the BSA (PEM1B and PSS2J). PEM1B is associated with the marsh areas of the Colorado River floodplain and indicates Palustrine, Emergent, Persistent, and Seasonally Saturated. PSS2J is associated with Tamarisk Thickets and indicates Palustrine, Scrub-Shrub, Needle-Leaved Deciduous, and Intermittently Flooded. Definitions of the different Palustrine area types found within the BSA are provided in Chapter 3 of the NES.

Drainages within the BSA include the Colorado River and Bat Cave Wash. The Colorado River is a traditional navigable water (TNW) that contains abutting and adjacent wetland areas in the form of freshwater marsh. It flows through the BSA underneath the I-40 Colorado Bridge in a channel that ranges between 400 feet and 700 feet in width. The state line between California and Arizona runs through the river, somewhat more toward the California side. The I-40 Colorado Bridge is supported by six pilings along with abutments in the banks at the edge of the river floodplain. Historically, the Colorado River mainstem traversed through what is now the Havasu National Wildlife Refuge where it spread out into several channels across a broad floodplain. Current development in the area has resulted in the river being contained within its current channel location. Bat Cave Wash is an earthen, ephemeral feature that receives flow from the Chemehuevi Mountains to the south of I-40, on the California side, and flows through a narrow rocky canyon. Within the BSA, it flows through a set of four culverts underneath the highway and northward, to flow under the BNSF tracks through a single large culvert, eventually draining to the Colorado River.

Jurisdictional Delineation Methodology

Aquatic resources under the jurisdiction of the USACE, RWQCB, CDFW, and ADEQ were evaluated in the BSA.

The jurisdictional waters delineation was conducted in accordance with the USACE Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement). The boundaries of Jurisdictional Waters were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Field data were recorded on Wetland Determination Data Forms - Arid West Region (provided as Attachment C of the Jurisdictional Delineation Report, which is included as Appendix I in the NES). A color aerial Google Earth® image (photo date: May 17, 2018) was used to assist with mapping and ground-truthing, in addition to small Unmanned Aircraft Systems drone imagery collected by ECORP Consulting Inc. (ECORP) in 2021. Munsell Soil Color Charts and the Web Soil Survey were used to aid in

identifying hydric soils in the field. The Jepson Manual, 2nd Edition was used for plant nomenclature and identification.

ECORP biologists walked accessible areas of the BSA (50-foot buffer) to determine the location and extent of Jurisdictional Waters. Paired locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. An additional non-paired location was sampled to document a marginal area that was determined to be upland as it lacked hydrophytic vegetation, hydric soils, and/or wetland hydrology. Jurisdictional Waters within the BSA were recorded in the field using a post-processing capable GPS unit with sub-meter accuracy (e.g., Juniper Geode®). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Within Title 14, CCR, Section 1.72, a stream is defined as “For CDFW jurisdiction, the trees were mapped which could be considered as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.” However, this definition does not specifically define the terms bed, channel, or bank and does not define related features such as vegetation. It is therefore up to CDFW as to what constitutes a stream or its associated vegetation. ECORP has mapped limits of CDFW jurisdiction based on common practice and experience through the Notification processes with CDFW.

Generally, the limits of CDFW streambeds are defined for this delineation as the limits from top of bank (TOB) to TOB. Vegetation associated with streambeds includes riparian shrubs and trees that are within this streambed area or that are directly adjacent. Trees with a diameter at breast height (DBH) of four inches or greater found within the CDFW jurisdictional areas were mapped along with the extent of their canopy and DBH. Canopy extent was mapped based on field observation and aerial mapping.

Agency Coordination

No coordination with the agencies has occurred to date; agency coordination will occur during the permitting phase.

A Jurisdictional Delineation was conducted on March 12 and May 6, 2021 and a Preliminary Jurisdictional Determination (PJD) form was prepared for those areas that are jurisdictional. Geotechnical borings are required as a part of the project, and the project proponent will coordinate with the respective agencies during the design phase to obtain approval.

Jurisdictional Delineation Results

A total of 5 features (Features W-01 through W-05) were mapped within the BSA, including Bat Cave Wash and the Colorado River and associated floodplain. The location of all USACE/RWQCB and CDFW jurisdictional water resources are shown on Figures 2.25 – 2.36. The features are summarized below and detailed in the JD report, including a description of the sample points that were collected during the field delineation (Appendix I of the NES).

Features identified as USACE-jurisdictional had observable, physical evidence of flowing water including OHWM, defined bed and bank, presence of a clear and natural line impressed on the bank, sediment deposits, wrack and/or litter/debris. The Colorado River is considered to be a TNW and a perennial stream and Bat Cave Wash is an ephemeral drainage. There were also suspected federal wetlands present within the BSA (Palustrine Emergent Permanently Flooded), within the floodplain of the Colorado River on the California side.

Features identified as CDFW-jurisdictional had a defined streambed or channel with defined banks and an associated floodplain, and were noted as supporting fish or other wildlife species. In some cases, riparian habitat or hydrophytic vegetation is also associated with the floodplain where supported by streambed freshwater flows (surface or subsurface). Generally, the CDFW jurisdictional limits are bounded by TOB limits for the associated stream, defined by the upper limits of the channel. CDFW jurisdictional limits tend to be larger than OHWM defined by the USACE.

Features W-01 and W-02 (Bat Cave Wash)

OHWM indicators within Features W-01 and W-02 included surface relief, vegetative differences, and soil development. All areas within the OHWM, plus to TOB, are considered to be CDFW streambed. The drainage associated with Bat Cave Wash is unvegetated below the OHWM. The surrounding floodplain, above the OHWM, contains blue palo verde woodland and creosote bush desert scrub riparian habitats.

Features W-03 and W-04 (Colorado River and Associated Floodplain)

Features W-03 and W-04 are located on the California side of the BSA. They consist of freshwater marsh areas located within the historic floodplain of the Colorado River, have a surface connection to the river, and are dominated by common reed marsh riparian habitat. The common reed marsh within the BSA is surrounded by open water areas associated with the Colorado River and tamarisk thickets within upper portions of the floodplain.

Feature W-05 (Colorado River and Associated Floodplain)

OHWM indicators for Feature W-05 included a line on the shore, surface relief, shelving, presence of litter and debris, and destruction of terrestrial vegetation. All areas within the OHWM, plus to TOB, are considered to be CDFW streambed. Within the river body, associated riparian habitat is lacking other than small amounts of emergent vegetation (bulrushes) that occur in small, mostly submerged patches. Tamarisk thickets and common reed marsh riparian habitats are present along the boundaries of the Colorado River.

Jurisdictional Determination

Of the aquatic resources identified in the BSA, Features W-01, W-02, W-03, W-04, and W-05 are likely regulated by USACE (Figure 2.25 - Figure 2.30). Characteristics observed for each of these features meet the definition of WoUS because they meet the three criteria necessary to be a federal wetland (W-03 and W-04), are TNWs (W-05), or connect to a TNW (the Colorado River) or interstate water (W-01 and W-02). Features W-01, W-02, and W-05 would be considered non-wetland WoUS and Features W-03 and W-04 would be considered wetland WoUS.

Features W-01, W-02, W-03, W-04, and W-05 are also likely regulated by RWQCB pursuant to either the CWA or the Porter-Cologne Act (Figure 2.25 - Figure 2.30). Features W-01, W-02, and W-05 would be considered non-wetland WoS and Features W-03 and W-04 would be considered wetland WoS.

Features W-01, W-02, W-03, W-04, and W-05 would likely be regulated by CDFW (Figure 2.31 – 2.36). Pursuant to the CFG Code, CDFW's jurisdictional limits were defined by the TOB or top of slope of aquatic features and associated riparian habitat within the BSA. Features W-01, W-02, and W-05 would be considered CDFW streambed and Features W-03 and W-04 would be considered CDFW riparian.

2.2.10.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2, and 3

Direct impacts on potential USACE, RWQCB, CDFW, and ADEQ jurisdictional features would occur as a result of bridge replacement (e.g., installation of piers and abutments, rock riprap replacement, demolition of existing bridge) as a part of Build Alternatives 1, 2, and 3. Permanent impacts would include the installation of piers and abutments, rock riprap replacement, retaining walls, and other paved surfaces (e.g., concrete aprons). Temporary impacts would include construction access areas, sediment removal, dewatering, the installation and use of a temporary trestle bridge, staging, and vegetation disturbance. Replacement of in-kind features are considered a temporary impact.

Permanent and temporary impacts on USACE, RWQCB, CDFW, and ADEQ jurisdictional areas would be greatest under Build Alternative 2, specifically to the Colorado River and associated wetland areas. Build Alternative 3 would have the next highest level of impact acreages and Build Alternative 1 would have the lowest level of impact acreages, as provided in Table 2.35 and shown in Figures 2.25 – 2.36.

Direct effects on wetlands and/or jurisdictional aquatic resources could result from construction activities, including grading, excavating, soil stockpiling, or other earth-disturbing activities. The use of construction equipment, machinery, and vehicles within wetlands and/or jurisdictional aquatic resources could change or remove the soil, hydrology, vegetation, or other resource conditions during construction work, leading to decreased quality or loss of those conditions. Clearing and grading activities, as well as elevation modifications, could disturb and compact soils and affect hydrological conditions. These effects could be both short- and long-term in nature during the course of construction in or near these features.

Permanent and temporary disturbances from construction of Build Alternatives 1, 2, or 3 could result in indirect impacts on wetlands and/or potentially jurisdictional aquatic resources present in the area surrounding the construction site. Indirect impacts could include the introduction of nonnative species, erosion, sedimentation, chemical spills, and alteration of downstream hydrological conditions. Construction equipment, vehicles, or imported materials used during project construction could introduce and spread nonnative invasive plant species via mud and other debris tracked in from other sites that may contain invasive plants and/or seeds. Invasive plant species could out-compete native wetland plant species for resources such as water and space, which could either reduce their reproductive productivity (i.e., reduce the amount of flowers and/or seeds produced) or displace them from the area. Sites that are degraded due to exposure to indirect stressors may become increasingly low value over time, or no longer exhibit the wetland or aquatic resource conditions. Erosion, sedimentation, and chemical spills may also reduce the quality of the wetlands and/or jurisdictional aquatic resources, and the accumulation of soils from erosion or sedimentation could fill and remove the resource.

Table 2-35, Temporary and Permanent Impacts to Jurisdictional Aquatic Resources by Build Alternative

Feature ID	USACE/RWQCB WoUS/WoS Non-Wetland Waters		USACE/RWQCB WoUS/WoS Wetland		CDFW Streambed		CDFW Riparian	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Build Alternative 1								
W-01	0.11	--	--	--	0.13	--	0.08	--
W-02	0.05	--	--	--	0.09	--	0.01	--
W-03	--	--	0.12	--	--	--	0.13	--
W-04	--	--	0.44	--	--	--	3.93	0.04
W-05	3.21	0.09	--	--	3.21	0.09	0.17	0.02
Total	3.37	0.09	0.56	--	3.43	0.09	4.32	0.06
Build Alternative 2								
W-01	0.11	--	--	--	0.13	--	0.08	--
W-02	0.05	--	--	--	0.09	--	0.01	--
W-03	--	--	0.12	--	--	--	0.13	--
W-04	--	--	0.44	0.00	--	--	3.93	0.11
W-05	3.72	0.09	--	--	3.73	0.09	0.21	0.01
Total	3.88	0.09	0.56	0.00	3.95	0.09	4.36	0.12
Build Alternative 3								
W-01	0.11	--	--	--	0.13	--	0.08	--
W-02	0.05	--	--	--	0.09	--	0.01	--
W-03	--	--	0.12	--	--	--	0.13	--
W-04	--	--	0.43	--	--	--	3.88	0.08
W-05	3.37	0.09	--	--	3.38	0.09	0.13	0.01
Total	3.53	0.09	0.55	--	3.60	0.09	4.23	0.09

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

Geotechnical boring activities would result in direct impacts on USACE, RWQCB, CDFW, and ADEQ jurisdictional areas. Two of the bore locations (RC-20-007 and -008) will be drilled within Feature W-04 and would result in 0.16 acre of temporary impacts on CDFW riparian jurisdictional resources, which includes vegetation disturbance and/or soil compaction from work areas for drilling, equipment staging, and access roads (Figure 1.3; see Section 1.3.2 and Section 2.2.10 for details). No direct impacts on USACE or RWQCB jurisdictional resources will result from geotechnical boring activities. Three additional borings would be performed in Feature W-05 within the Colorado River channel (RC-20-009, -010, and -011). These bore locations would be drilled from the water via a barge. Because each boring hole is only a few inches in diameter and the locations would be accessed via a barge, no direct impacts on Feature W-05 are anticipated as a result of geotechnical boring activities. Minor indirect impacts may occur when bores are collected from sediment disturbance; these indirect impacts would be short-term and temporary in nature. Impacts from geotechnical boring activities would be minimized and avoided with implementation of the measures described in Section 2.2.12.4 below.

Within the BSA, all of the jurisdictional areas under each build alternative to be temporarily and permanently affected by the project are subject to USACE, CDFW, RWQCB, and ADEQ regulatory guidelines and associated permitting. Each of the three build alternatives would require acquisition of a Nationwide Permit 14 under CWA Section 404 and a CWA Section 401 Water Quality Certification from RWQCB and ADEQ for project construction activities related to the bridge replacement. These permits would ensure compliance with EO 11990. A Lake and Streambed Alteration Agreement from CDFW would also be required under each of the three build alternatives for bridge replacement construction-related activities, as well as geotechnical boring activities. These activities could either be covered under one permit or separate permits, depending on the project timeline.

No-Build Alternative

Under the No-Build Alternative, no impacts on USACE, RWQCB, CDFW, and ADEQ wetlands and/or jurisdictional aquatic resources would occur.

2.2.10.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans standard BMPs, the BMPs in the anticipated SWPPP, and 2022 Standard Specifications (or latest version) must be implemented to minimize effects during construction. The project, including this EIR and the NES, will utilize District 8's Avoidance and Minimization Measures (Version 4); applicable measures to wetlands and other jurisdictional aquatic resources are included below.

Measures **NC-1**, **NC-2***, **NC-3**, and **NC-7** (Section 2.2.10.5), Measure **AS-1*** (Section 2.2.13.4), and Measures **WET-1**, **WET-2**, and **WET-3*** below would be incorporated to avoid and minimize effects on WoUS and WoS. Additional measures related to water quality and stormwater runoff are provided in Section 2.2.2, *Water Quality*. (Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

- WET-1** Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities, including, but not limited to, USFWS, RWQCB, CDFW, and/or ADEQ and shall be cleaned up immediately and contaminated soils removed to an approved disposal area.
- WET-2*** Construction activity and access roads will be minimized to the maximum extent practicable in all drainages, streams, pools, or other features under the jurisdiction of USACE, RWQCB, CDFW, and/or ADEQ.
- WET-3*** To address effects on jurisdictional aquatic resources, jurisdictional areas may be mitigated and coordinated with USACE, RWQCB, ADEQ, and CDFW during the permitting process. Compensatory mitigation for permanent impacts is potentially anticipated, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.

Figure 2.25, Sheet 1 of 2 USACE/RWQCB Jurisdictional Resources Alternative 1

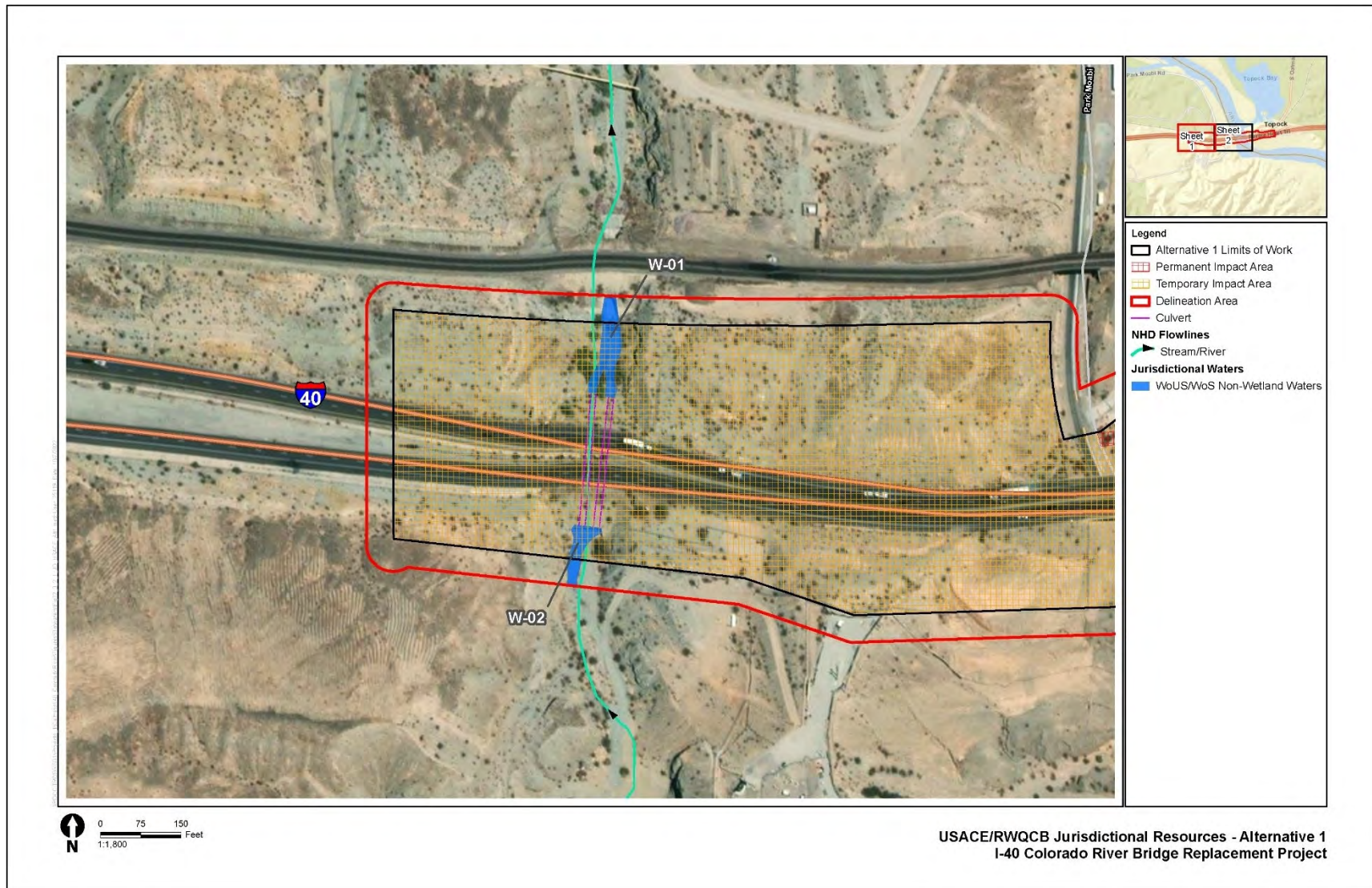


Figure 2.26, Sheet 2 of 2 USACE/RWQCB Jurisdictional Resources Alternative 1

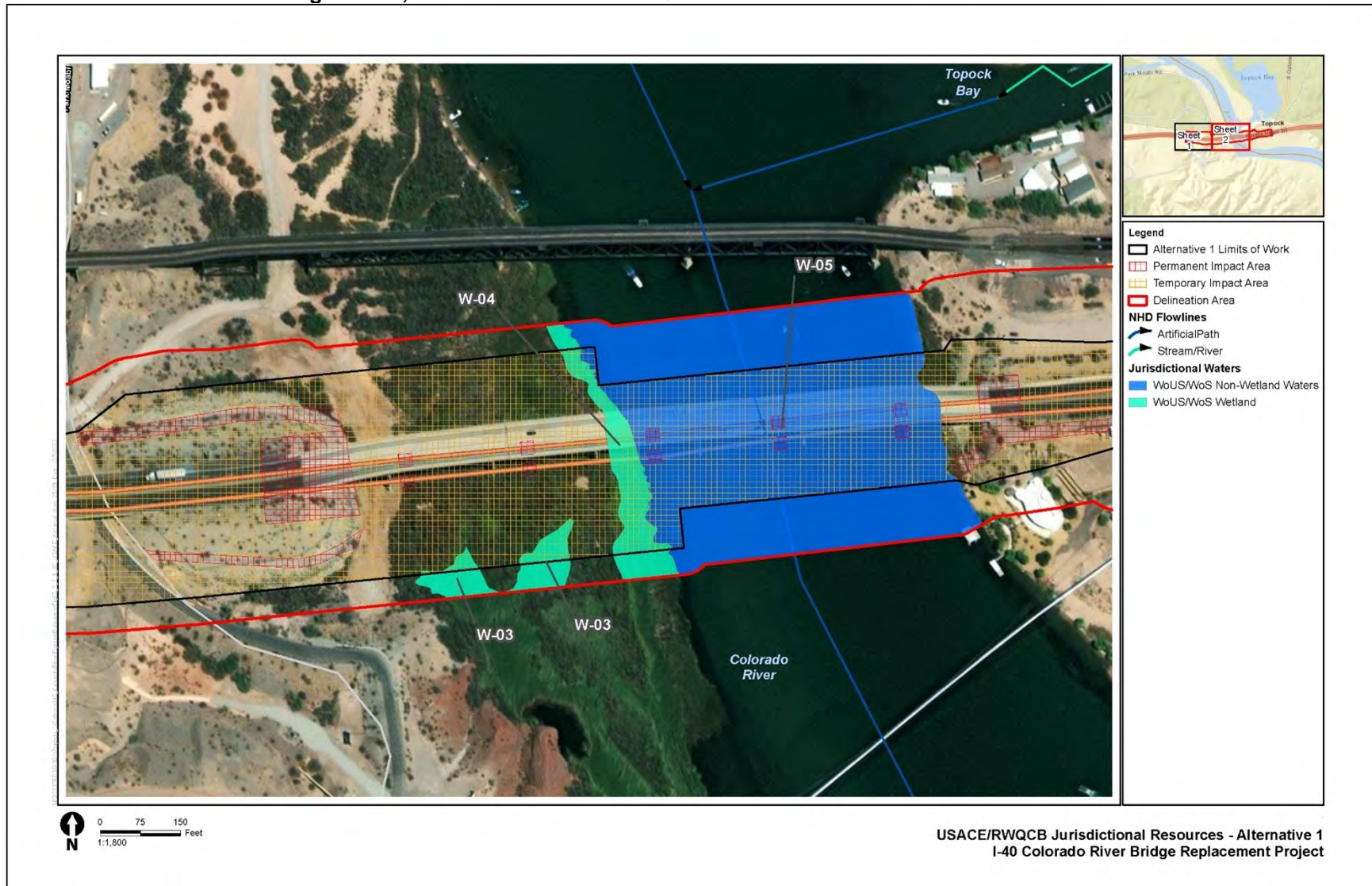


Figure 2.27, Sheet 1 of 2 USACE/RWQCB Jurisdictional Resources Alternative 2

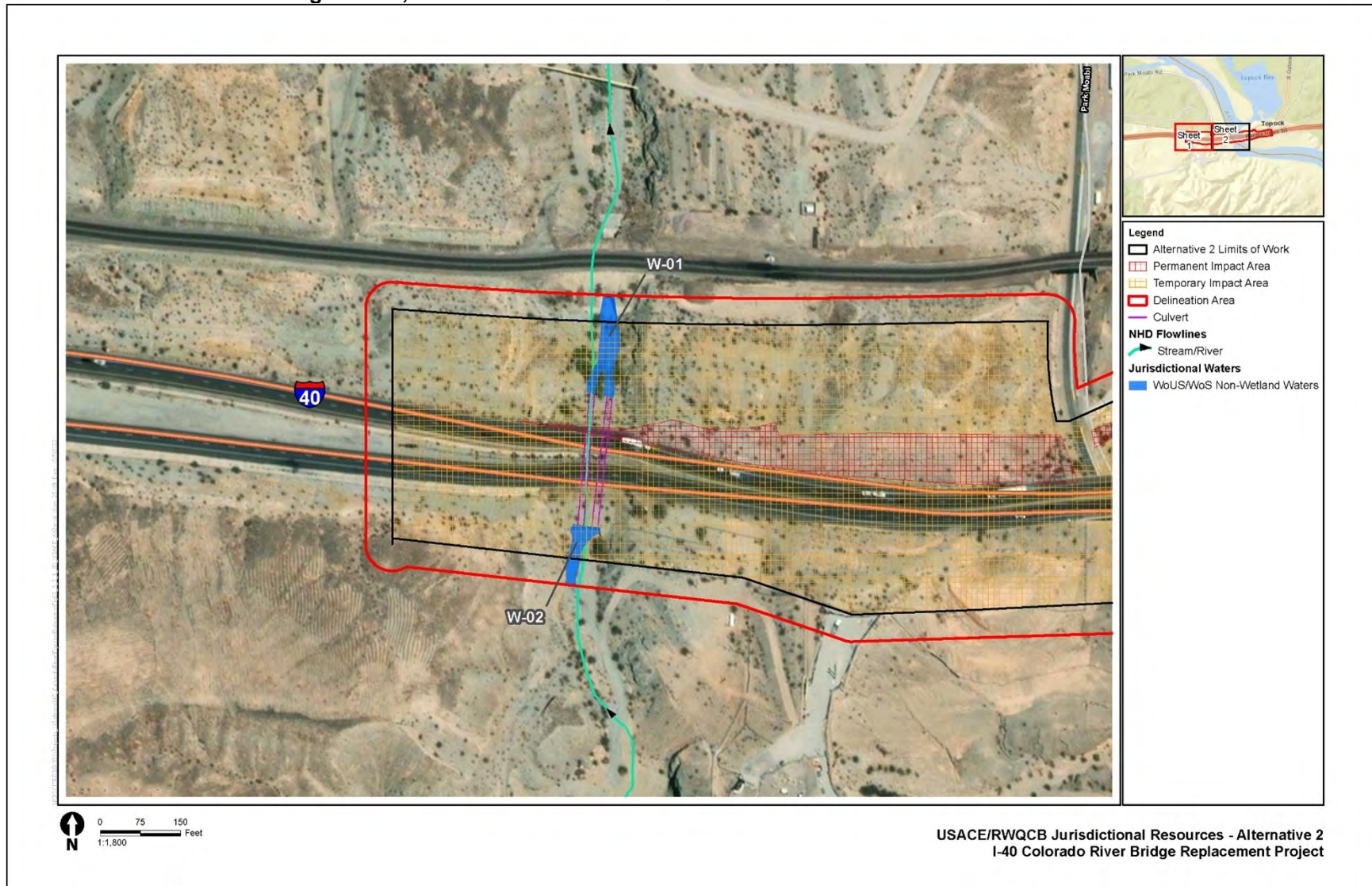


Figure 2.28, Sheet 2 of 2 USACE/RWQCB Jurisdictional Resources Alternative 2

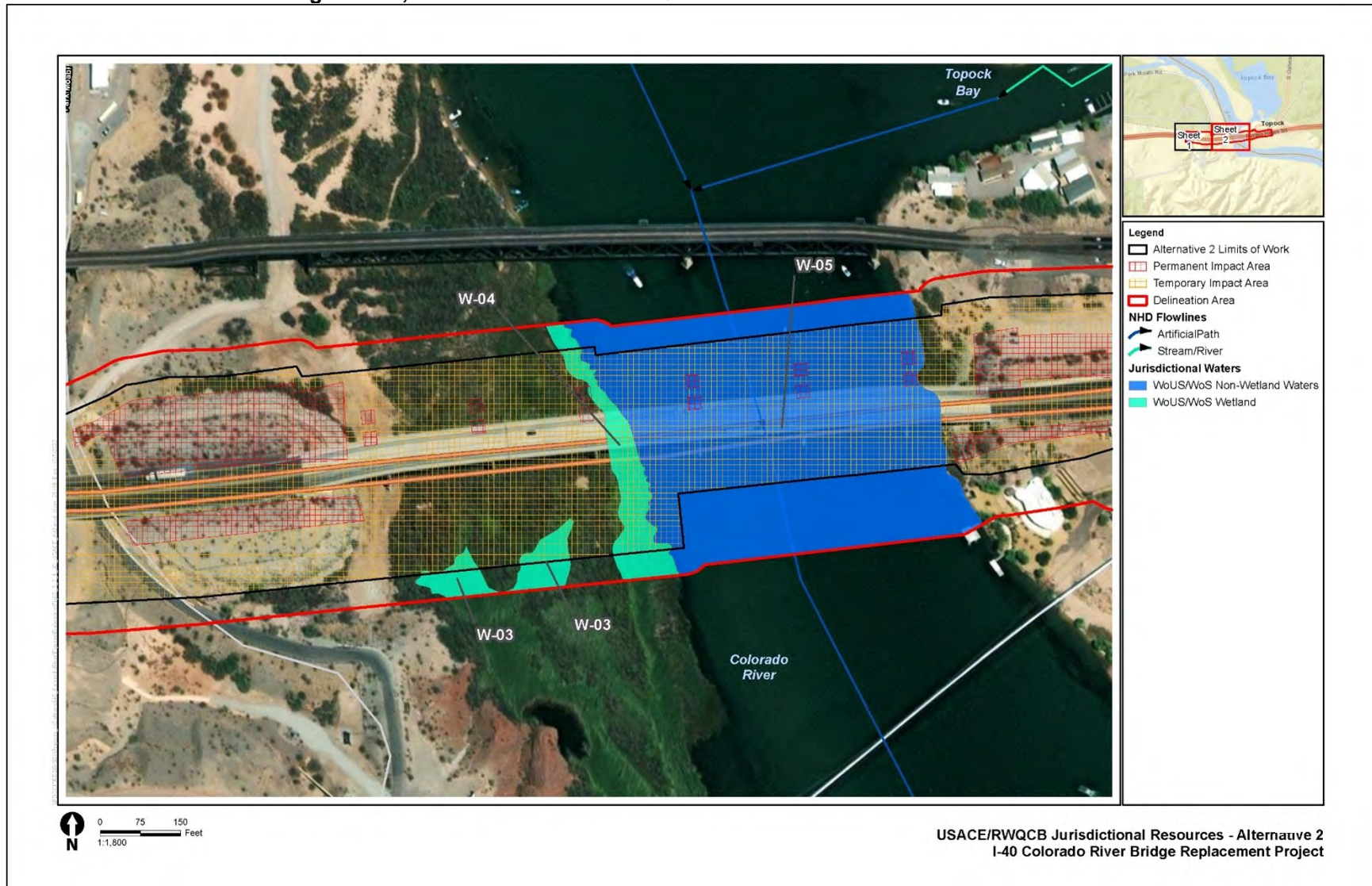


Figure 2.29, Sheet 1 of 2 USACE/RWQCB Jurisdictional Resources Alternative 3

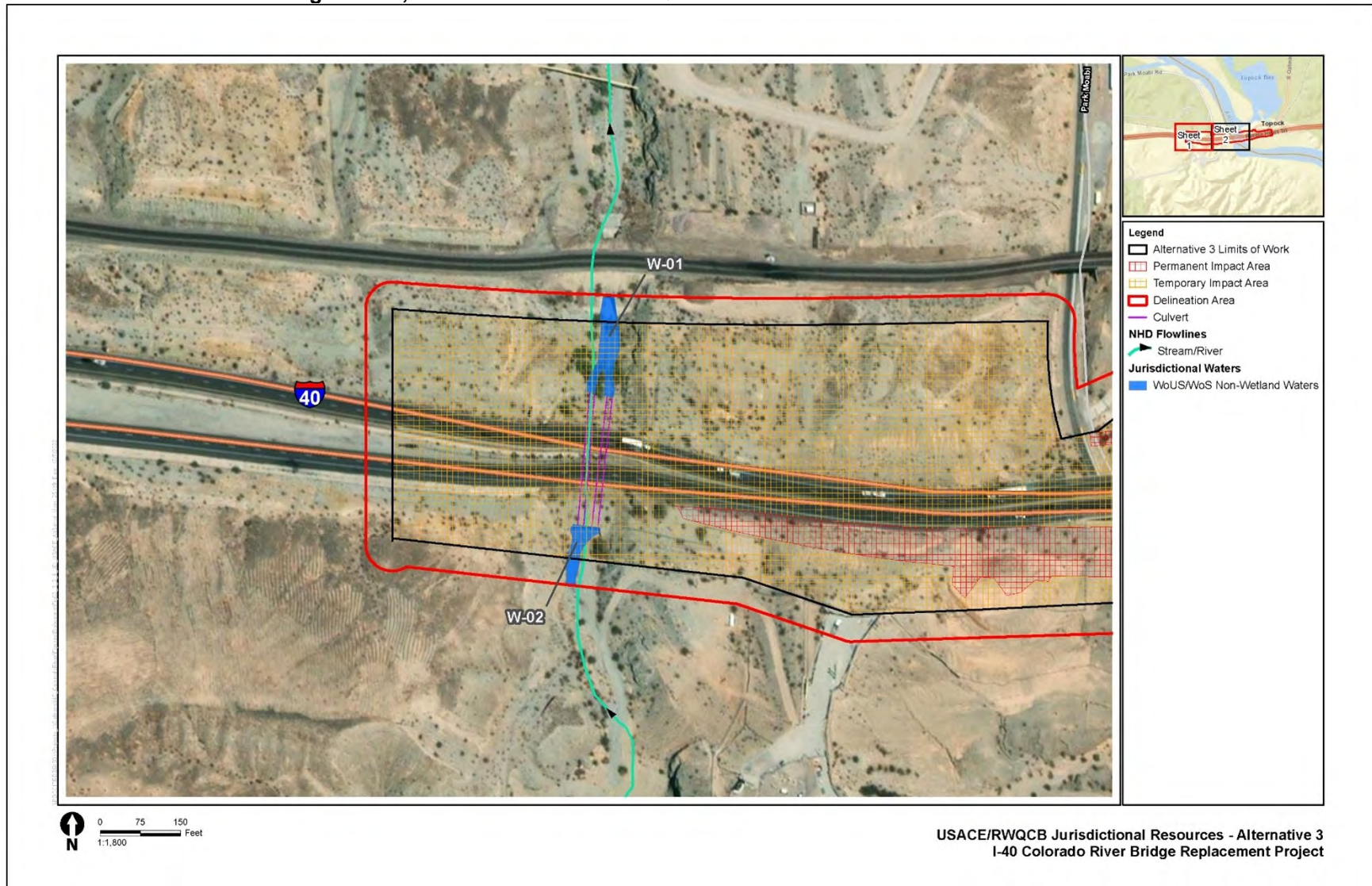


Figure 2.30, Sheet 2 of 2 USACE/RWQCB Jurisdictional Resources Alternative 3

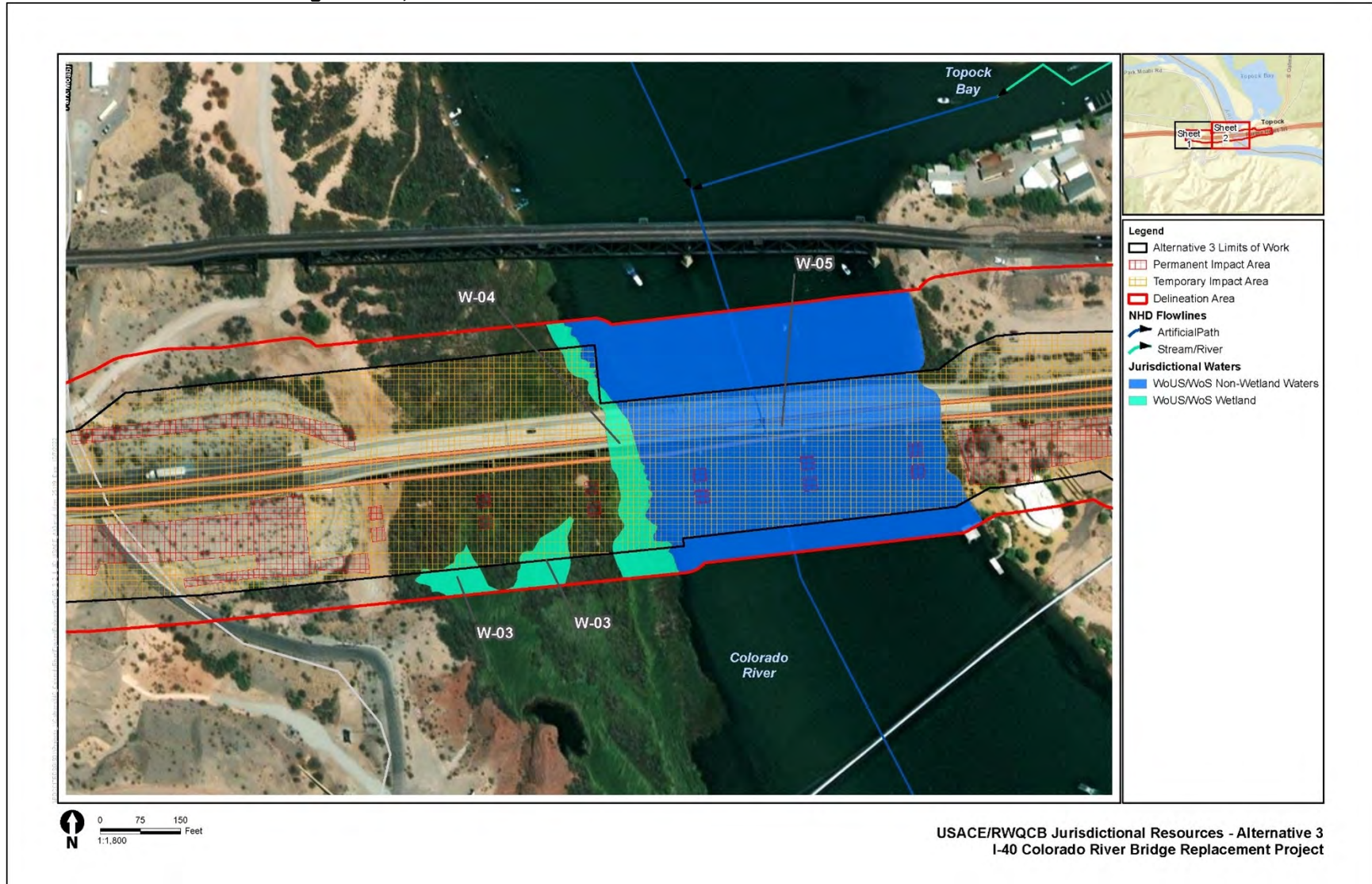


Figure 2.31, Sheet 1 of 2 CDFW Jurisdictional Resources Alternative 1

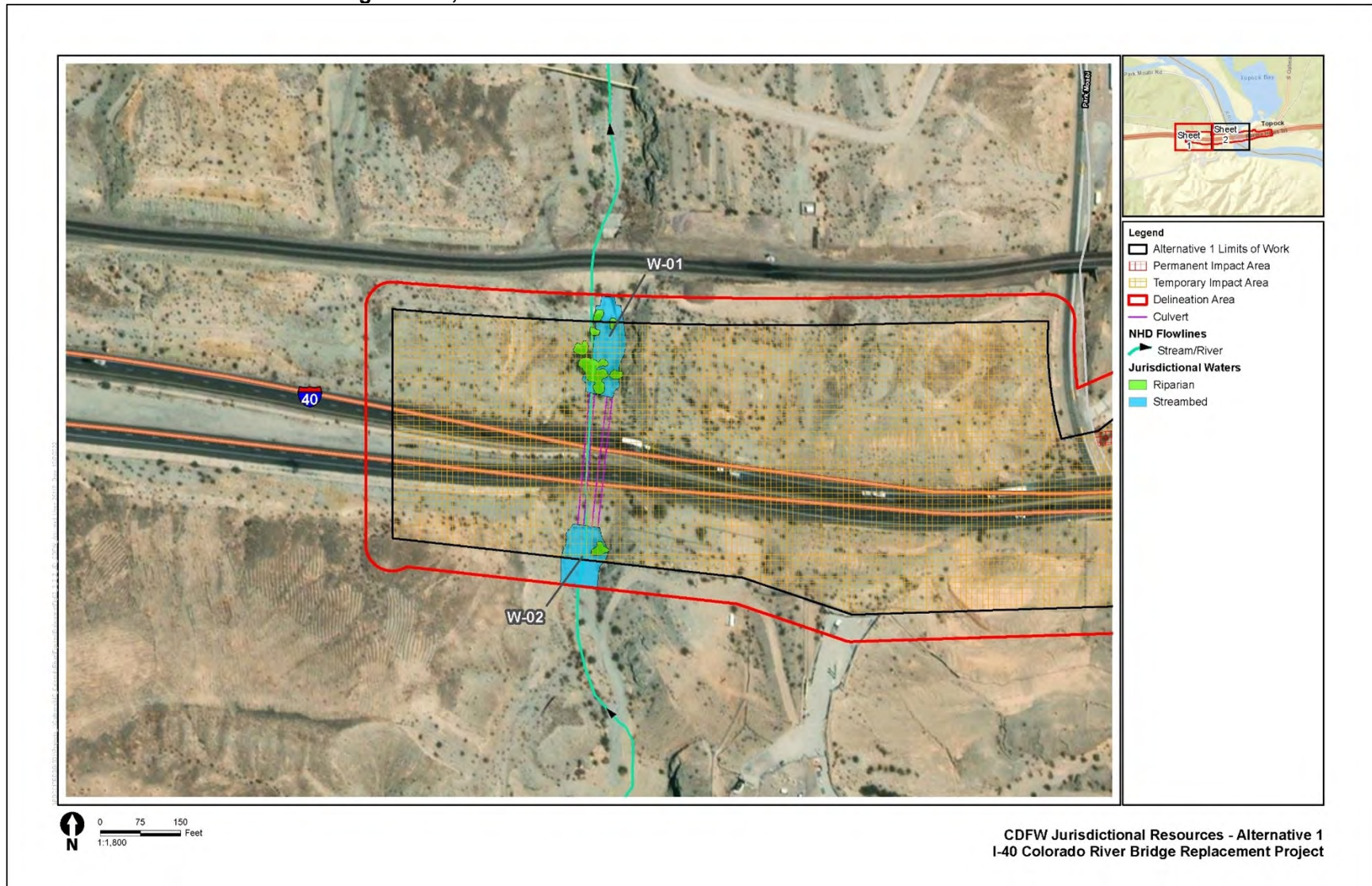


Figure 2.32, Sheet 2 of 2 CDFW Jurisdictional Resources Alternative 1

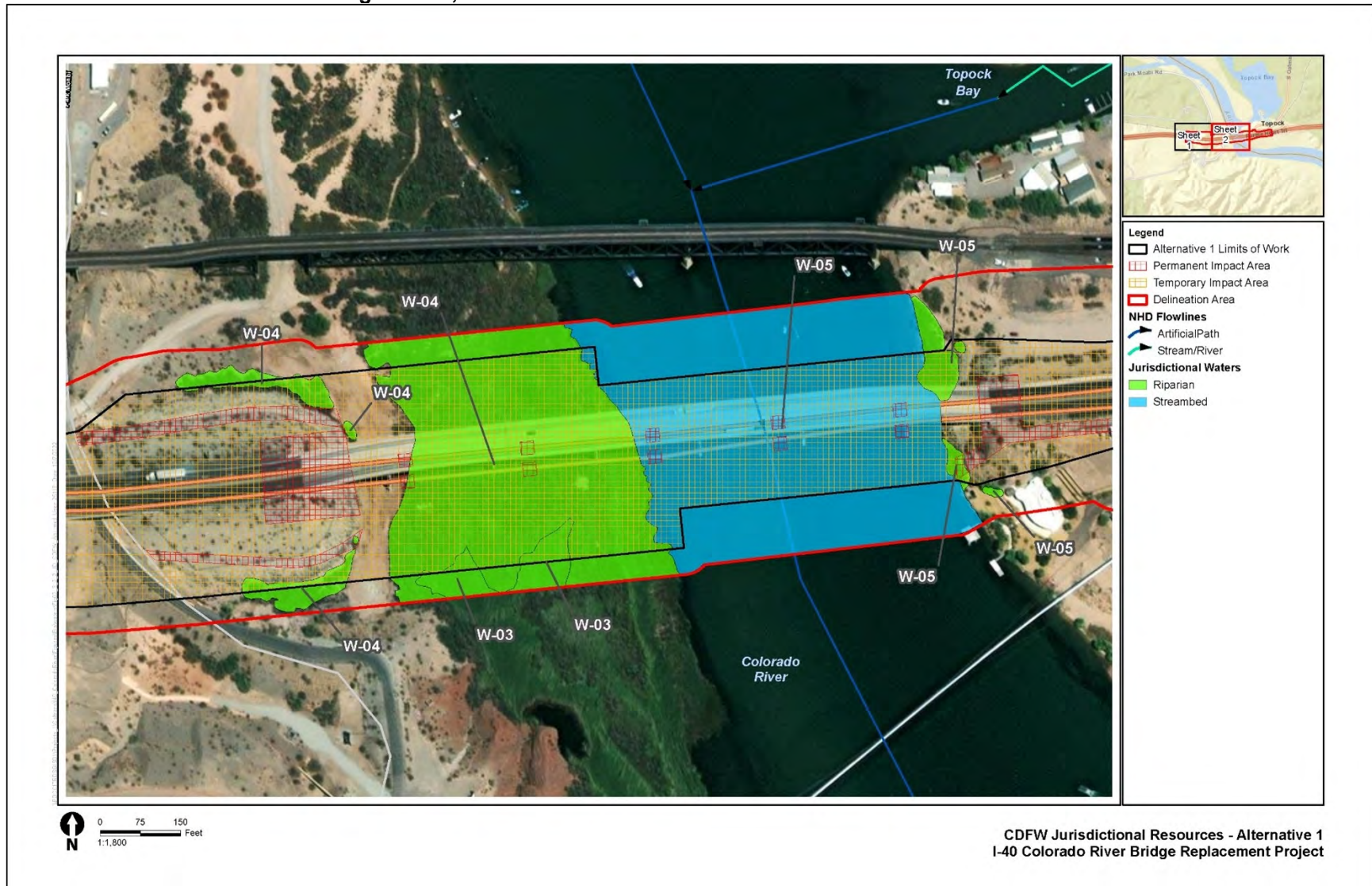


Figure 2.33, Sheet 1 of 2 CDFW Jurisdictional Resources Alternative 2

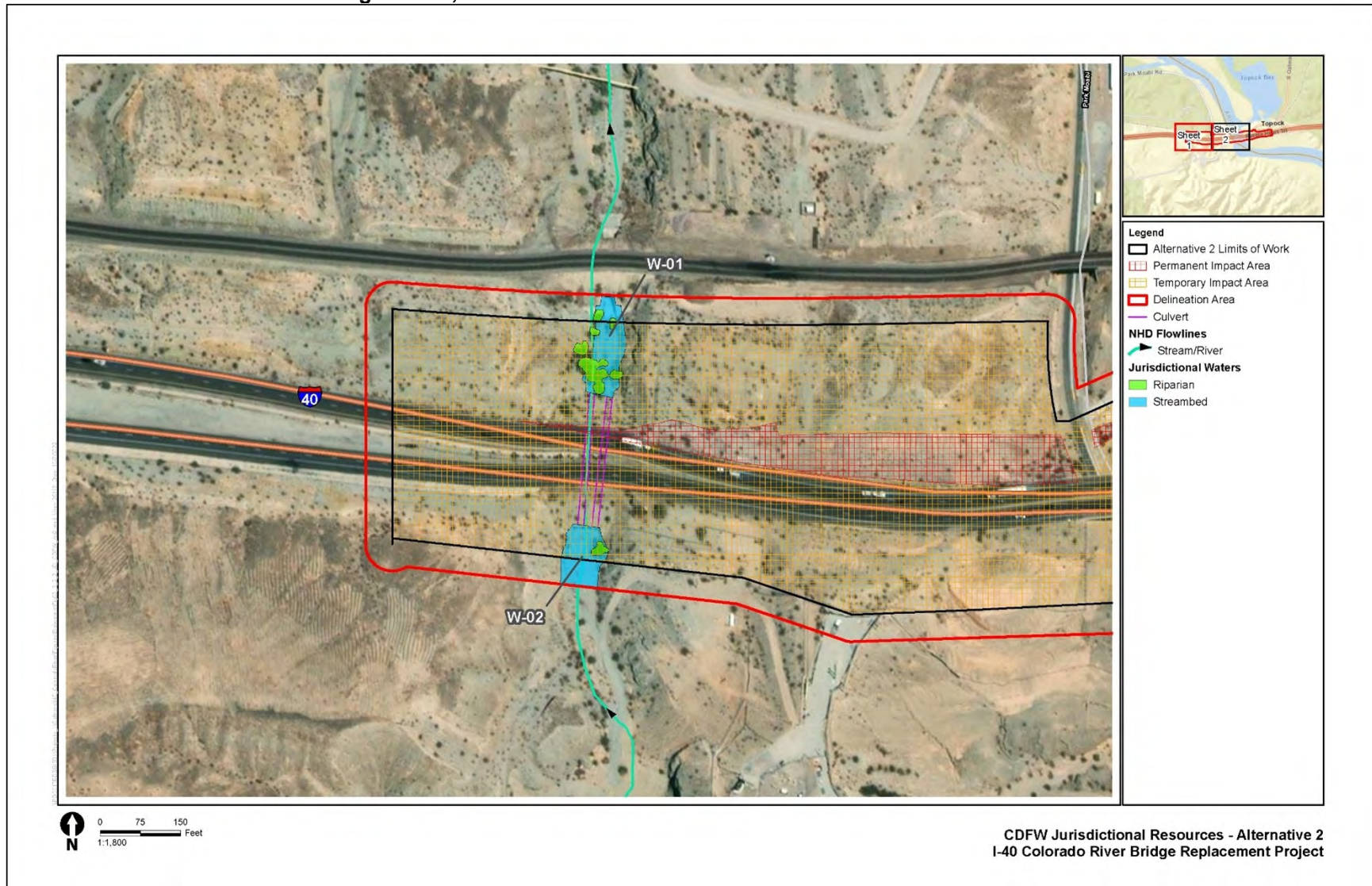


Figure 2.34, Sheet 2 of 2 CDFW Jurisdictional Resources Alternative 2

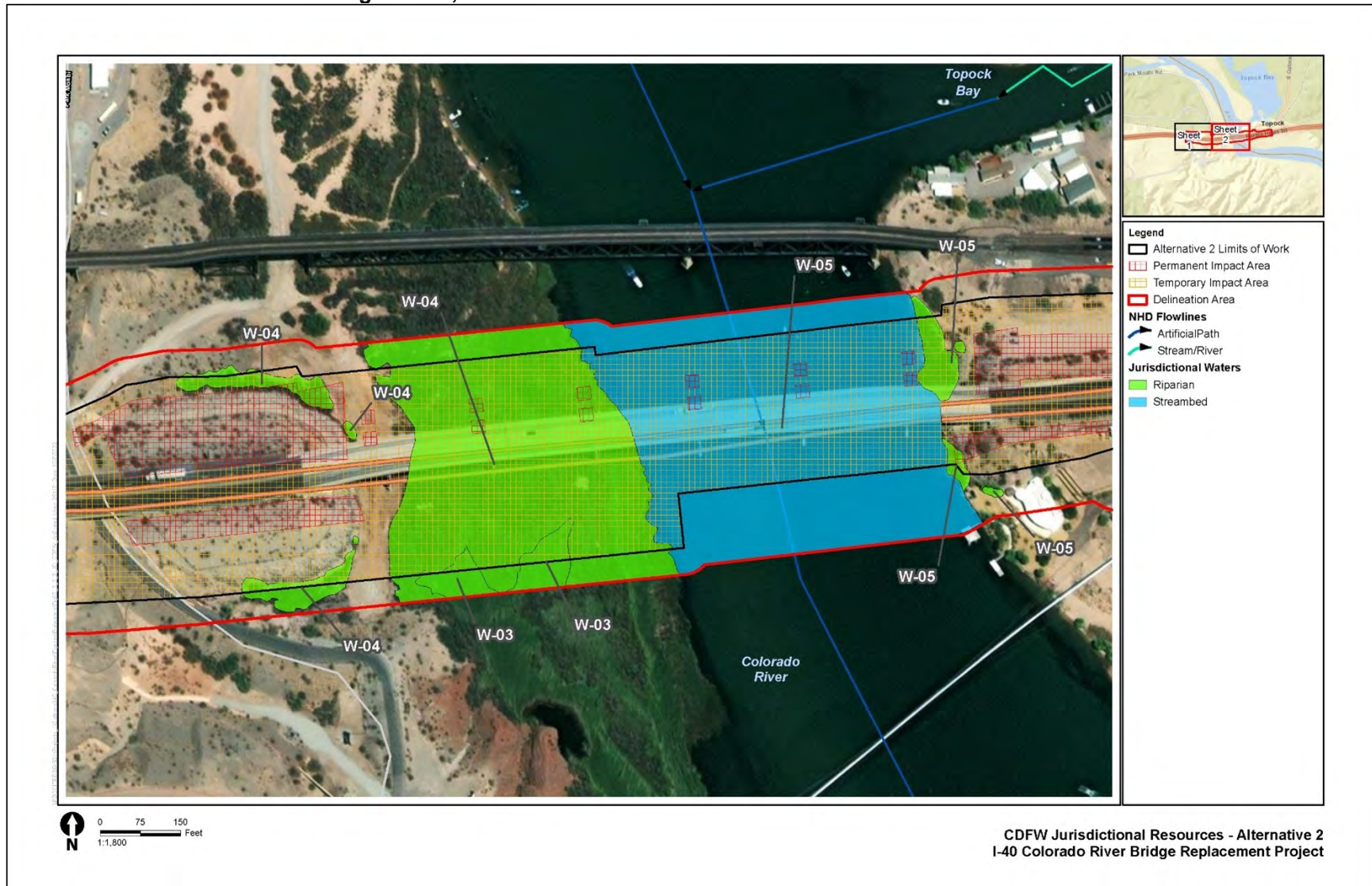


Figure 2.35, Sheet 1 of 2 CDFW Jurisdictional Resources Alternative 3

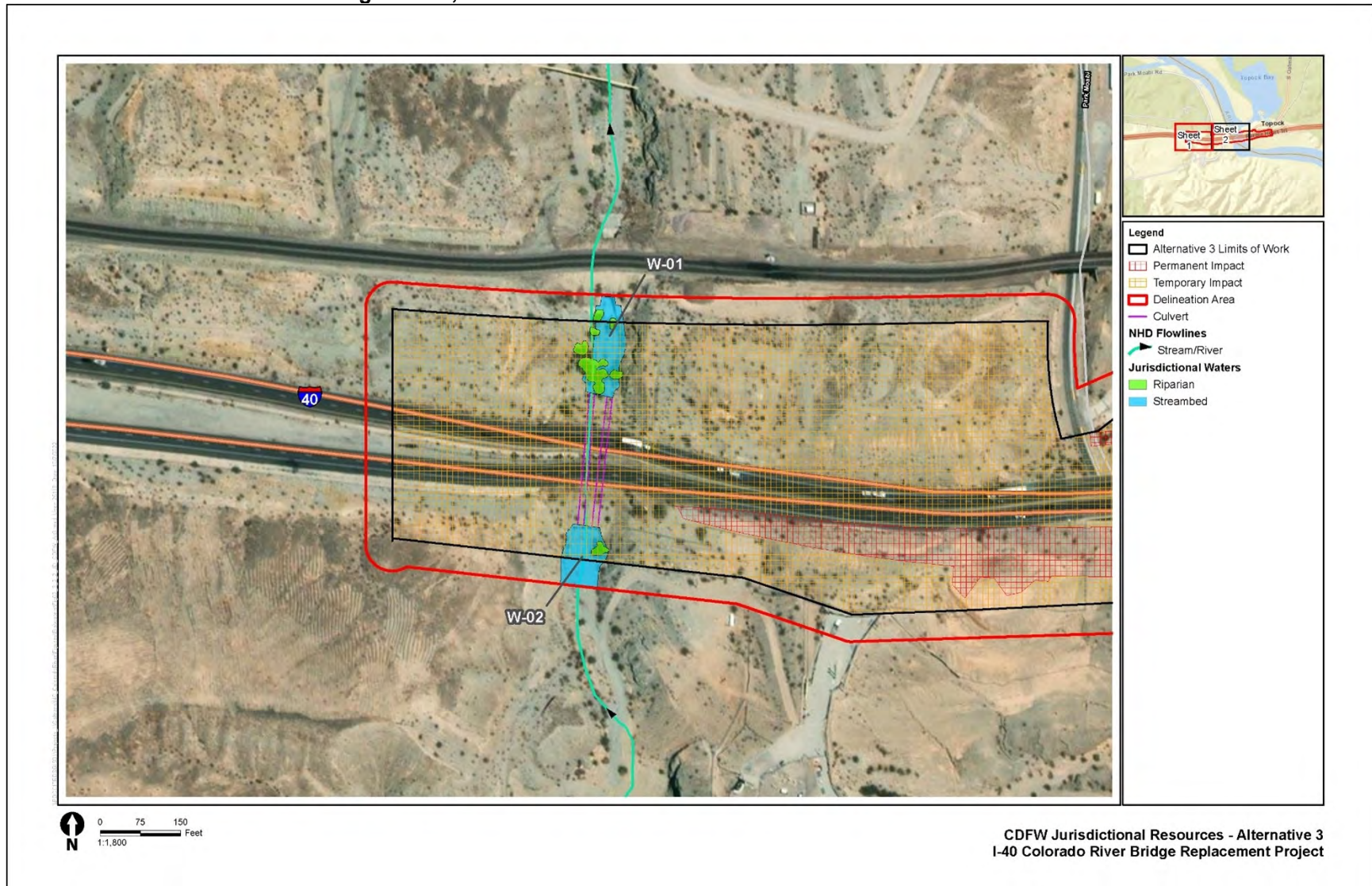
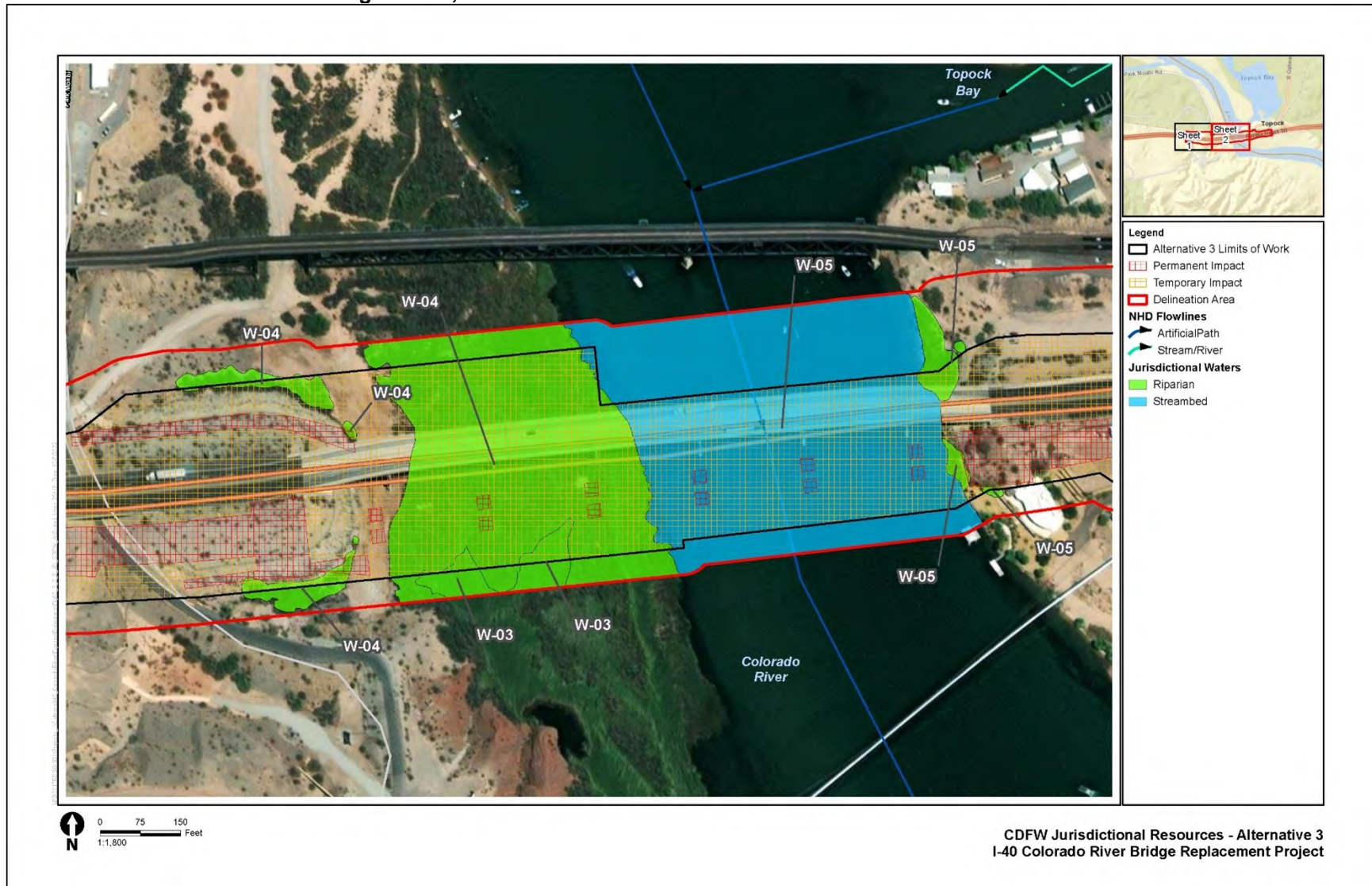


Figure 2.36, Sheet 2 of 2 CDFW Jurisdictional Resources Alternative 3



2.2.11 Plant Species

2.2.11.1 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 2.2.14 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 CFG Code, Section 2050, et seq. Department projects are also subject to the California Native Plant Protection Act, found at CFG Code, Section 1900-1913, and CEQA, found at California Public Resources Code, Sections 21000-21177.

Arizona’s native plants are protected by the Arizona Native Plant Law (Arizona Revised Statutes (A.R.S. §§ 3-341 et seq. and 3-3101 et seq), which is administered by the Arizona Department of Agriculture, Environmental Services Division. R3-3-1103 Disposal and Salvage of Protected Native Plants by a State Agency states that a state agency intending to remove or destroy protected native plants shall notify Caltrans, under A.R.S. § 3-905 and shall propose a method of disposal from a detailed list (see A.R.S § 3-1103). It also states that if the plants are highly safeguarded, they shall first be made available to the holder of a scientific permit or a noncommercial salvage permit. The Arizona Native Plant Law was enacted to protect rare plant species and to protect some species from being over-harvested. There are four Protected Native Plant Categories: Highly Safeguarded, Salvage Restricted, Salvage Assessed, and Harvest Restricted.

2.2.11.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section was based upon the January 2023 NES prepared for the project (Caltrans 2023e). References used in the NES are not carried over into this section. Plant species in California that have special regulatory or management status were evaluated for potential to occur within the BSA (project works limits plus a 600-foot buffer). In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and documented.

A list of potential species within the project region was developed based on an extensive literature review, which included peer-reviewed publications, agency reports, LCR MSCP, PG&E technical reports, and database searches. Databases reviewed included the USFWS Information for Planning and Consultation (IPaC) Species List for the Project, the CDFW

California Natural Diversity Database (CNDDDB), the CNPS Rare Plant Inventory (which lists the California Rare Plant Rank [CRPR] for all species), and the Arizona Game & Fish Department (AZGFD) Online Environmental Review Tool. A full list of resources reviewed is included in the NES. The entire BSA was assessed for the potential presence of sensitive biological and natural resources, including habitat types, potential wetlands, special-status plants, and site disturbances.

Special-status plant surveys were conducted May 4, 2020 through May 7, 2020. Protocol surveys followed guidelines from CDFW, CNPS, and USFWS. Surveys were performed on foot in vegetated portions of the available BSA using multiple transects at a 20- to 30-foot distance between transects. The entire BSA was walked, subject to limitations such as steep slopes, dense vegetation, or where there was no access to private property; binoculars were utilized when practical to visually survey such areas. Surveys were floristic in nature, with all observed species being recorded. Species not recognized by the surveyors were identified using the Jepson Manual, Jepson eFlora, or Arizona Flora or other references. Special-status species were documented with photographs, and locations recorded using sub-meter GPS (Trimble R1).

As described more thoroughly in Section 2.2.10, the 195 acre BSA supports 15 distinct vegetation communities and land cover types. Almost a third of the total area within the BSA is developed/disturbed land (57.65 acres). The most common vegetation communities that could potentially support special-status plant species include upland desert scrub communities (78.22 acres) and riparian communities (26.13 acres). A total of 100 plant taxa were identified during the field survey of the BSA. Most (77%) were native, with 23 non-native species found (the majority of which are considered invasive, see Section 2.2.15 for details). Appendix B of the NES includes the scientific and common names for plant species observed during the surveys. Upland vegetation in the BSA is a creosote bush scrub with Sonoran Desert affinities. Vegetation along the river is a mix of California bulrush marsh and tamarisk thickets with significant patches of arrow weed thicket and common reed marsh. A full description of the natural vegetation communities within the BSA is provided in Section 2.2.10.

Special-Status Plant Species Observed

This section discusses only non-listed special-status plant species. Listed special-status plants are discussed in Section 2.2.14. Based on the literature review, a total of 19 non-listed special-status plant taxa were identified as having some potential to occur within the BSA; however, after further analysis only nine (9) were determined to have suitable habitat onsite: small-flowered androstephium (*Androstephium breviflorum*), Emory's crucifixion-thorn (*Castela emoryi*), sand evening-primrose (*Chylismia arenaria*), glandular ditaxis (*Ditaxis claryana*), Reveal's buckwheat (*Eriogonum contiguum*), Utah milkweed vine (*Funastrum utahense*), Torrey's boxthorn (*Lycium torreyi*), three-pointed blazing star (*Mentzelia tricuspis*), and little-leaved palo verde (*Parkinsonia microphylla*). These species are presented in Table 2.36 below, along with all other special-status plants that were analyzed for their potential to occur within the BSA. Criteria used to determine a species potential to occur within the BSA is detailed in Chapter 2 of the NES.

A single population of three-pointed blazing star was found during the 2020 rare plant focused survey. It was located immediately off the west-bound lanes of I-40 just off the paved road shoulder. The population occurrence was limited to the lower slope of the highway embankment adjacent to the road shoulder and consisted of approximately 80 individuals spread over a 50-foot long area. Previously, known localities in the area for this species were known outside of the BSA from approximately a half mile further west occurring on rocky slopes above washes. It

is also known to occur in this region within Arizona, although records are outside of the BSA. As a CRPR 2B.1 species, three-pointed blazing star is considered rare and seriously threatened within its range within California, with most occurrences occurring in desert communities close to the Colorado River.

Three other sensitive plant species (small-flowered androstephium, sand evening-primrose, and little-leaved palo verde) were determined to have a high potential to occur within the BSA but were not detected during the 2020 focused rare plant survey. There are no known populations of small-flowered androstephium within the BSA, but this species is reported to occur within the immediate project vicinity on the Arizona side. Sand evening-primrose has been previously documented in Bat Cave Wash growing on vertical walls of the wash; one of these localities falls within the BSA just south of the I-40 culvert. Failure to detect both small-flowered androstephium and sand evening-primrose (a perennial bulbiferous herb and an annual to perennial herb, respectively) may be related to dry conditions during the 2020 season rather than their lack of occurrence. There are no known populations of little-leaved palo verde within the BSA, but this species occurs on north facing slopes just to the south. The latter localities represent the northern-most part of its distribution in California. While additional localities within the BSA were expected, failure to detect this conspicuous perennial shrub suggests that particular environmental circumstances (e.g., suitable habitat, substrate, or water relations, or lack of dispersal) may be limiting its occurrence in the immediate area.

Table 2-36, Non-Listed Special-Status Plants with Potential to Occur in the BSA

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
Small-flowered androstephium	<i>Androstephium breviflorum</i>	F: None AZ: None CA: None CRPR: 2B.2 Global Rank: G4 CA Rank: S2?	desert dunes, alluvial fans in Mojavean desert scrub. 720 to 2625 ft. Bloom: Mar-Apr	HP	High. Suitable habitat present, known from immediate area (AZ).
Emory's crucifixion-thorn	<i>Castela emoryi</i>	F: None AZ: None CA: None CRPR: 2B.2 Global Rank: G3G4 CA Rank: S2S3	gravelly Mojavean or Sonoran desert scrub, playas 25 to 2380 ft. Bloom: (Apr) Jun-Jul (Sept-Oct)	HP	Low. Suitable habitat present, closest known populations within 20 to 25 miles.
sand evening-primrose	<i>Chylismia arenaria</i>	F: None AZ: None CA: None CRPR: 2B.2 Global Rank: G4? CA Rank: S2S3	Sonoran desert scrub (sandy or rocky). 225 to 3000 ft. Bloom: Nov-May	P, HP	Occurs. Suitable habitat present, previously documented in area (Bat Cave Wash).
glandular ditaxis	<i>Ditaxis claryana</i>	F: None AZ: None	sandy Mojavean or	HP	Low. Suitable habitat present, known

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		CA: None CRPR: 2B.2 Global Rank: G3G4 CA Rank: S2	Sonoran desert scrub. 465 to 1525 ft. Bloom: (Oct-Feb) Mar-Apr (May)		populations within 20 to 25 miles.
Howe's hedgehog cactus	<i>Echinocereus engelmannii</i> var. <i>howei</i>	F: BLM-S AZ: None CA: None CRPR: 1B.1 Global Rank: G5T1 CA Rank: S1	Mojavean desert scrub. 1410 to 2550 ft. Bloom: (Mar) Apr-May (Jun)	A	Absent. Suitable habitat present but site is below known elevation preference, known historical populations within 20 to 25 miles.
Reveal's buckwheat	<i>Eriogonum contiguum</i>	F: None AZ: None CA: None CRPR: 2B.3 Global Rank: G3 CA Rank: S2	sandy Mojavean desert scrub. 98 to 4330 ft. Bloom: (Feb) Mar-May (Jun)	HP	Low. Suitable habitat present, known populations within 20 to 25 miles.
Utah milkweed vine	<i>Funastrum utahense</i>	F: None AZ: None CA: None CRPR: 4.2 Global Rank: G4 CA Rank: S4	sandy or gravelly Mojavean or Sonoran desert scrub. 325 to 4710 ft. Bloom: (Mar) Apr-Jun (Sep-Oct)	HP	Moderate. Suitable habitat present, known from region within 10 miles.
ribbed cryptantha	<i>Johnstonella costata</i>	F: None AZ: None CA: None CRPR: 4.3 Global Rank: G4G5 CA Rank: S4	Desert dunes, sandy Mojavean or Sonoran desert scrub. 195 to 1640 ft. Bloom: Feb-May	A	Absent. Suitable habitat not present, not documented within 25 miles.
Torrey's boxthorn	<i>Lycium torreyi</i>	F: None AZ: None CA: None CRPR: 4.2 Global Rank: G4G5 CA Rank: S3	Mojavean or Sonoran desert scrub in sandy to rocky washes, streambanks, desert valleys. 160 to 4005 ft. Bloom: (Jan-Feb) Mar-Jun (Sep-Nov)	HP	Low. Suitable habitat present, documented within 15 miles.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
spear-leaf matelea	<i>Matelea parvifolia</i>	F: None AZ: None CA: None CRPR: 2B.3 Global Rank: G5 CA Rank: S3	rocky Mojavean or Sonoran desert scrub. 1440 to 3590 ft. Bloom: Mar-May (Jul)	A	Absent. Suitable rocky habitat may be present but site is below elevational preferences, documented within 25 miles in desert mountains.
three-pointed blazing star	<i>Mentzelia tricuspis</i>	F: None AZ: None CA: None CRPR: 2B.1 Global Rank: G4 CA Rank: S2	sandy or gravelly slopes and washes in Mojavean desert scrub. 490 to 4200 ft. Bloom: Mar-May	P, HP	Occurs. Suitable habitat is present, known from area, found during the 2020 focused rare plant survey performed for the project.
creamy blazing star	<i>Mentzelia tridentata</i>	F: None AZ: None CA: None CRPR: 1B.3 Global Rank: G3 CA Rank: S3	rocky, gravelly, sandy Mojavean desert scrub. 1175 to 3855 ft. Bloom: Mar-May	A	Absent. Suitable habitat present, but BSA well below known elevational preference. Known disjunct locality approximately 12 miles south, well outside of principal distribution of species.
little-leaved palo verde	<i>Parkinsonia microphylla</i>	F: None AZ: None CA: None CRPR: 4.3 Global Rank: G5 CA Rank: S3	Mojavean desert scrub (rocky or gravelly). 1070 to 3510 ft. Bloom: Apr-May	HP	High. Suitable habitat present, documented within immediate area. However, this conspicuous perennial shrub was not detected within the BSA during the 2020 rare plant focused survey.
white-margined beardtongue	<i>Penstemon albomarginatus</i>	F: BLM-S AZ: None CA: None CRPR: 4.3 Global Rank: G5 CA Rank: S3	desert dunes, loose sandy Mojavean desert scrub 2100 to 3495 ft. Bloom: Mar-May	A	Absent. Suitable habitat not present, known in AZ from dune fields within 25 miles of site.
Arizona pholistoma	<i>Pholistoma auritum</i> var. <i>arizonicum</i>	F: None AZ: None CA: None CRPR: 2B.3 Global Rank: G5T4?	Mojavean desert scrub. 835 to 2740 ft. Bloom: Mar	A	Absent. Documented within 15 miles of BSA in desert mountains, suitable habitat is present but at lower elevation.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		CA Rank: S3			
narrow-leaved psorothamnus	<i>Psorothamnus fremontii</i> var. <i>attenuatus</i>	F: None AZ: None CA: None CRPR: 2B.3 Global Rank: G5T4? CA Rank: S3	Sonoran desert scrub (granitic or volcanic). 915 to 3000 ft. Bloom: Apr	A	Absent. Documented within 10 miles of BSA, suitable substrates not present.
Hall's tetracoccus	<i>Tetracoccus hallii</i>	F: None AZ: None CA: None CRPR: 4.3 Global Rank: G4 CA Rank: S4	rocky slopes and washes in Mojavean or Sonoran desert scrub. 1200 to 3935 ft. Bloom: (Jan) Mar-May	A	Absent. Suitable habitat could be present though site is below known elevational preference, known regional distribution at >25 miles.
Elisasson's woolly tidedstromia	<i>Tidedstromia eliassoniana</i>	F: None AZ: None CA: None CRPR: 2B.3 Global Rank: G5 CA Rank: S2	rocky to gravelly volcanic flats, clay in Mojavean desert scrub. 2145 to 6910 ft. Bloom: Jul-Oct	A	Absent. Suitable habitat not present.
Chocolate Mountains tiquilia	<i>Tiquilia canescens</i> var. <i>pulchella</i>	F: None AZ: None CA: None CRPR: 3.2 Global Rank: G5T3T4 CA Rank: S3	Sonoran desert scrub on slopes, ridges, or washes. 700 to 2295 ft. Bloom: Feb-May	A	Absent. Disjunct locality for species in region within 25 miles, suitable habitat could be present though site is just below known elevational preference.

Notes:

Status:

F: Federal Classification

BLM-S -Bureau of Land Management Sensitive

CRPR: California Rare Plant Ranking Classifications

- 1A -Plants Presumed Extirpated in CA and Either Rare or Extinct Elsewhere.
- 1B -Plants Rare, Threatened, or Endangered in CA and Elsewhere.
- 2A -Plants Presumed Extirpated in CA, But More Common Elsewhere.
- 2B -Plants Rare, Threatened, or Endangered in CA, But More Common elsewhere.
- 3 -Plants about which more information is needed – a CNPS review List.
- 4 -Plants of Limited Distribution – A Watch List.
- .1 -Seriously threatened in CA (over 80% of occurrences threatened).
- .2 -Moderately threatened in CA (20-80% occurrences threatened).
- .3 -Not very threatened in CA (<20% of occurrences threatened).

CDFW Element Rankings for Species or Natural Community

(The Global rank (G rank) is a reflection of the overall status of an element throughout its global range while the State rank [S rank] refers to the imperilment status only within California's state boundaries. Subspecies/varieties receive a T rank attached to the G rank and a Q designates questionable taxonomy (CNDDDB 2021c).

NR	Rank not yet assessed
GX/SX	Presumed extinct
GH/SH	Possibly extinct; known only from historical occurrences but there is still some hope of rediscovery.
G1/S1	Critically imperiled; at very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. 1.1 = very threatened 1.2 = threatened 1.3 = no current threats known
G2/S2	Imperiled; at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. 2.1 = very threatened 2.2 = threatened 2.3 = no current threats known
G3/S3	Vulnerable; at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. 3.1 = very threatened 3.2 = threatened 3.3 = no current threats known
G4/S4	Apparently secure; at fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
G5/S5	Secure; at very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

²Habitat Present/Absent

HP	-Habitat Present – is or may be present. Species may be present.
P	-Present – species was visually or audibly detected.
A	-Absent – no habitat present and no further work needed.

2.2.11.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2, and 3

All three build alternatives would permanently remove and temporarily disturb suitable habitat for non-listed special-status plant species as a result of project construction. Three-pointed blazing star was found within the BSA directly adjacent to the western border of the PIA and sand evening-primrose has been previously reported along Bat Cave Wash both within the BSA and PIA. Small-flowered androstephium also has a high potential to occur within the BSA. Although sand evening-primrose and small-flowered androstephium were not detected within the BSA during the 2020 focused rare plant survey, they were determined to have a high potential to occur and it is possible that lack of detection of these annual and bulbiferous herbs was due to dry conditions rather than absence from the BSA. Therefore, these species may be present within the BSA, and if so, could be impacted as a result of project construction should they occur.

Direct effects on three-pointed blazing star, sand evening-primrose, and small-flowered androstephium from project construction could include direct mortality of individual plants and plant injury as a result of trampling by construction vehicles or personnel or from unauthorized collection. Although most of the individuals of these species occur within the BSA outside of the PIA, a few individuals were detected either within the project work limits or directly adjacent to it (Figure 2.37-39), and the location and number of individuals of herbaceous annuals can vary from year-to-year depending on various factors (e.g., amount of rainfall that season, size of the seed bank). Therefore, it is possible that individual special-status species and/or a viable seed bank could be present within the PIA during the time of construction. Three-pointed blazing star

and sand evening-primrose were reported within or directly adjacent to the temporary work areas; no individuals were detected within areas that will be permanently affected. To the extent feasible, construction activities will avoid individuals of these species. Clearing and grading activities could disturb and compress soils, potentially destroying seed banks and preventing or reducing future utilization of the area by these species. In addition, construction could increase the potential for fire in the area, which could directly and indirectly affect special-status plant species within the project area. These effects could be both short- and long-term in nature.

Temporary indirect impacts on special-status plant species could result from construction-related dust, erosion, runoff, and introduction of invasive species on disturbed soils. Increased dust during construction activities could decrease a plant's ability to photosynthesize. This could result in diminished reproduction or loss of individual three-pointed blazing star, sand evening-primrose, and/or small-flowered androstephium. Construction equipment, vehicles, or imported materials could introduce and spread nonnative invasive plant species within the project area, which could out-compete special-status plants for resources such as water and space. In addition, suitable habitat could become monotypic, thereby reducing quality and diversity of native vegetation communities on-site. Furthermore, adding more trash and debris to the project site would reduce the quality of the soil conditions, preventing native plant species from colonizing the site. However, with the implementation of the avoidance and minimization measures described in 2.2.12.4 below, these impacts are expected to be minor.

Operation of the project may contribute to long-term indirect effects on these species and may contribute to edge effects through degradation of habitat adjacent to the new bridge, spread of invasive plants from vehicles, and increased risk of fire; however, these potential edge effects would not differ from the existing conditions along the I-40 right-of-way.

No direct or indirect impacts on special-status plants, including three-pointed blazing star, sand evening-primrose, or small-flowered androstephium, are anticipated as a result of geotechnical borings activities. The three-pointed blazing star detected with the BSA during the 2020 focused rare plant survey and the sand evening-primrose reported within the BSA by CNDDDB are located outside of the areas where geotechnical boring would be conducted. In addition, none of the natural vegetation communities that would be temporarily disturbed from drilling is suitable to support any of the special-status plants that were determined to have a potential to occur within the BSA (see Table 2.36). Consequently, geotechnical boring activities are not expected to impact special-status plant species or their suitable habitat.

Due to the ongoing Topock Remedy Construction Project, hazardous chemicals such as Cr⁶⁺ may be present in the groundwater or soil, which has the potential to impact flora species. Caltrans is required to complete both an Initial Site Assessment and Detailed Investigations Report, which determine the source, nature, and extent of contamination and quantify the risk and impact of a contaminated site or property on the cost, scope, and schedule of the transportation project and identify appropriate avoidance, minimization, and/or mitigation measures. Caltrans is also required to follow regulatory guidance to ensure that hazardous materials are properly handled and disposed. The project does not anticipate impacts to these species from hazardous waste.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on non-listed special-status plant species beyond those that would be expected to occur from the existing facility.

2.2.11.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans Standard BMPs, the BMPs in the SWPPP, and 2022 Standard Specifications (or latest version) will be implemented to minimize effects during construction. The project, including this EIR and the NES, will utilize District 8's Avoidance and Minimization Measures (Version 4); applicable measures to special-status plant species are included below.

Measures **PL-1*** and **PL-2***, below, and Measures **NC-2***, **NC-3**, **NC-5***, and **NC-7** (Section 2.2.10.4) would reduce the likelihood of direct impacts on any special-status plant species during construction and ensure that indirect impacts would be reduced to the maximum extent possible. Implementation of Measures **NC-1** and **NC-4*** (Section 2.2.10.4) would minimize potential impacts on suitable habitat for special-status plant species adjacent to the PIA. (*Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings*).

- PL-1*** Within the Spring season prior to construction, a preconstruction survey must be conducted by a qualified biologist for special-status plant species within the project limits. Special-status plant species must be flagged for visual identification to construction personnel for work avoidance. Special-status plant species detected that feature multiple plants in a single location must be fenced with ESA fencing (see **NC-1**). (Caltrans District 8 Measure BIO-Plant-1: Rare Plant Surveys, Flagging, and Fencing). The qualified project biologist will monitor construction activities near the location for the duration of the project at a frequency necessary to ensure that practicable measures are being employed. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of avoidance and minimization measures.
- PL-2*** If a special-status plant species is found within the job site and cannot be fenced but can survive transplantation, the qualified biologist must contact the Caltrans District Biologist to determine the time and suitable translocation area for the plant species to be moved. Additional requirements and actions must be determined at the time if such a situation occurs. (Caltrans District 8 Measure BIO-Plant-2: Rare Plant Translocation)

Figure 2.37, Rare Plant Focused Surveys Alternative 1

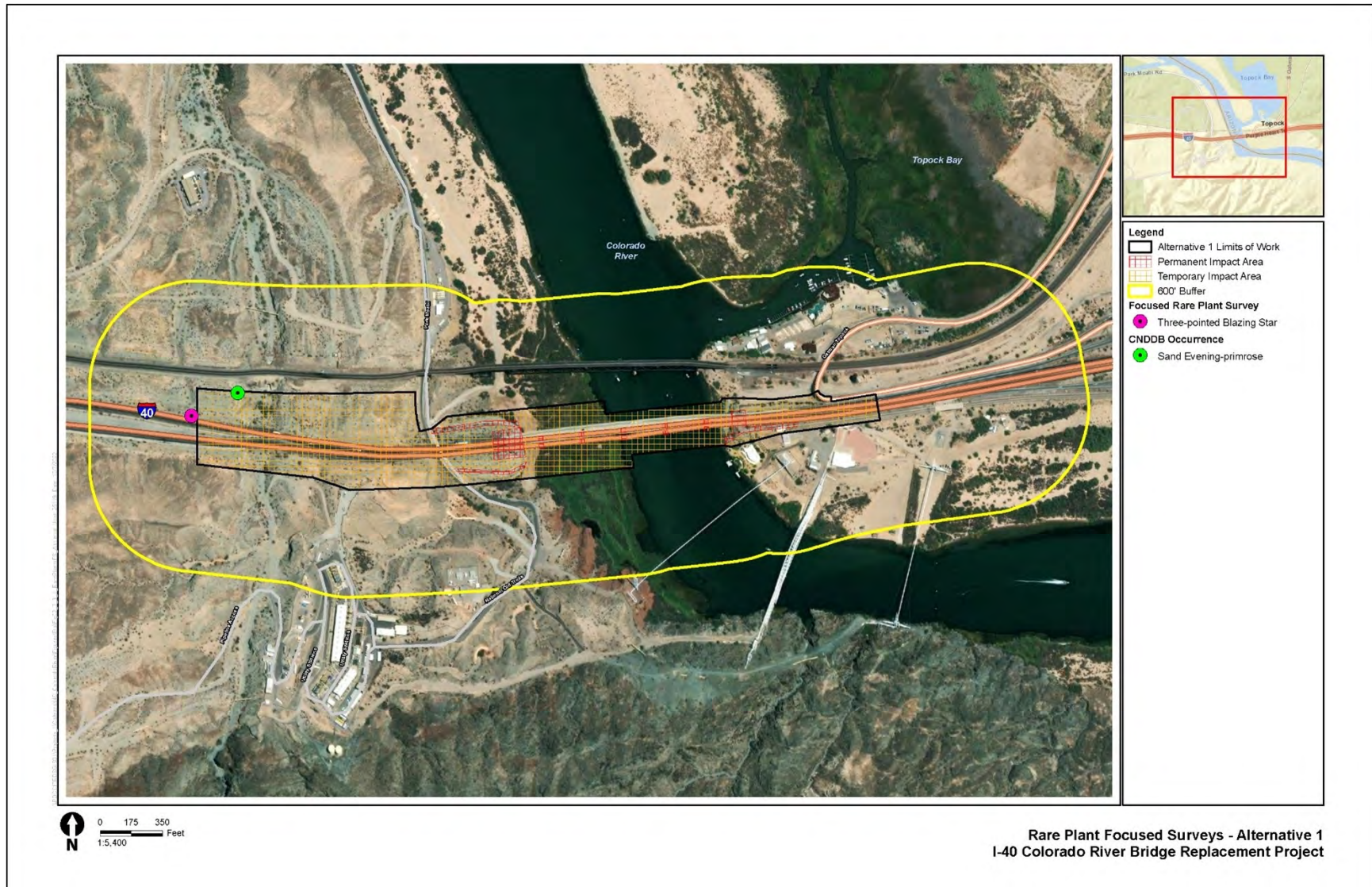


Figure 2.38, Rare Plant Focused Surveys Alternative 2

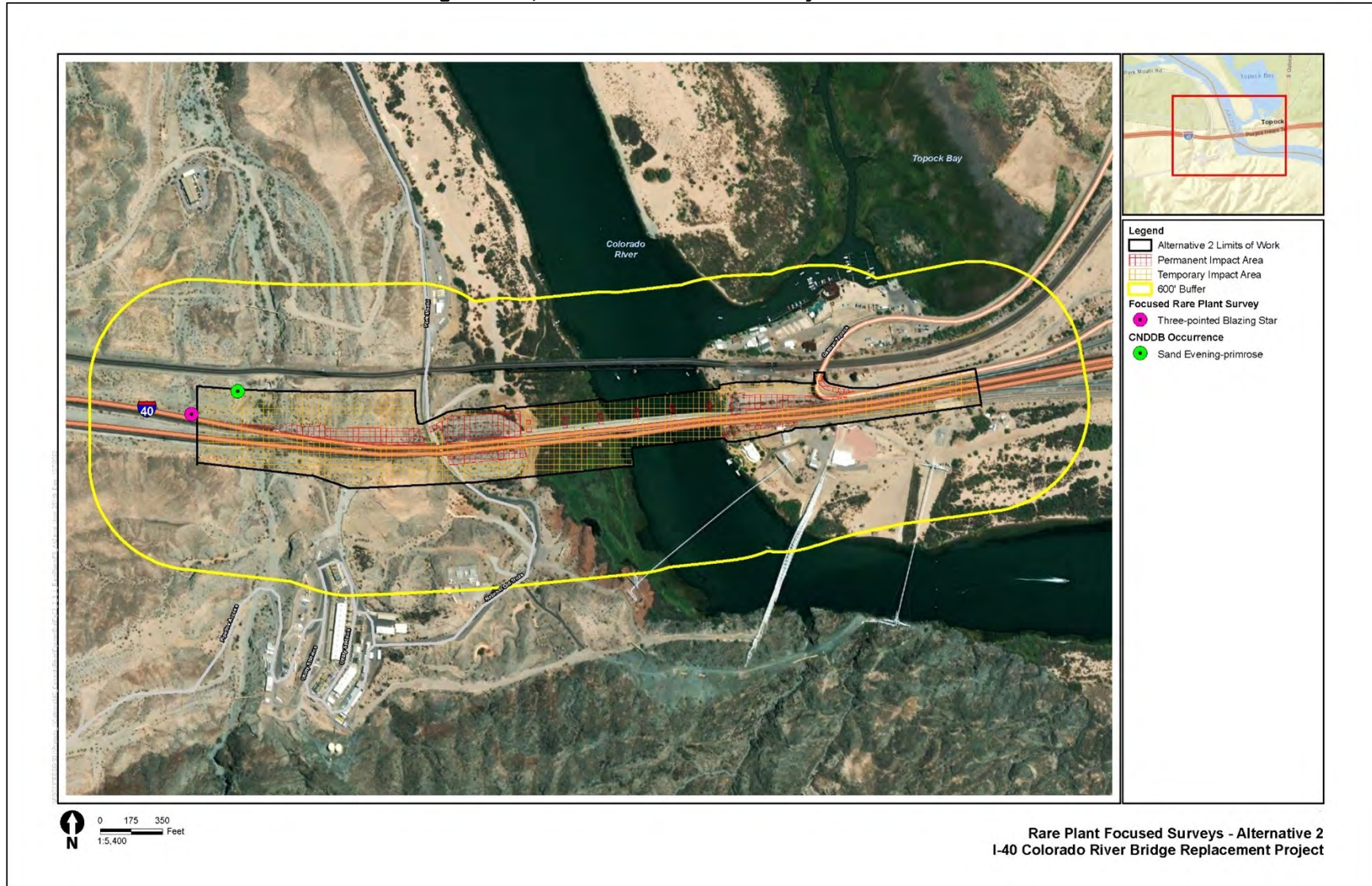
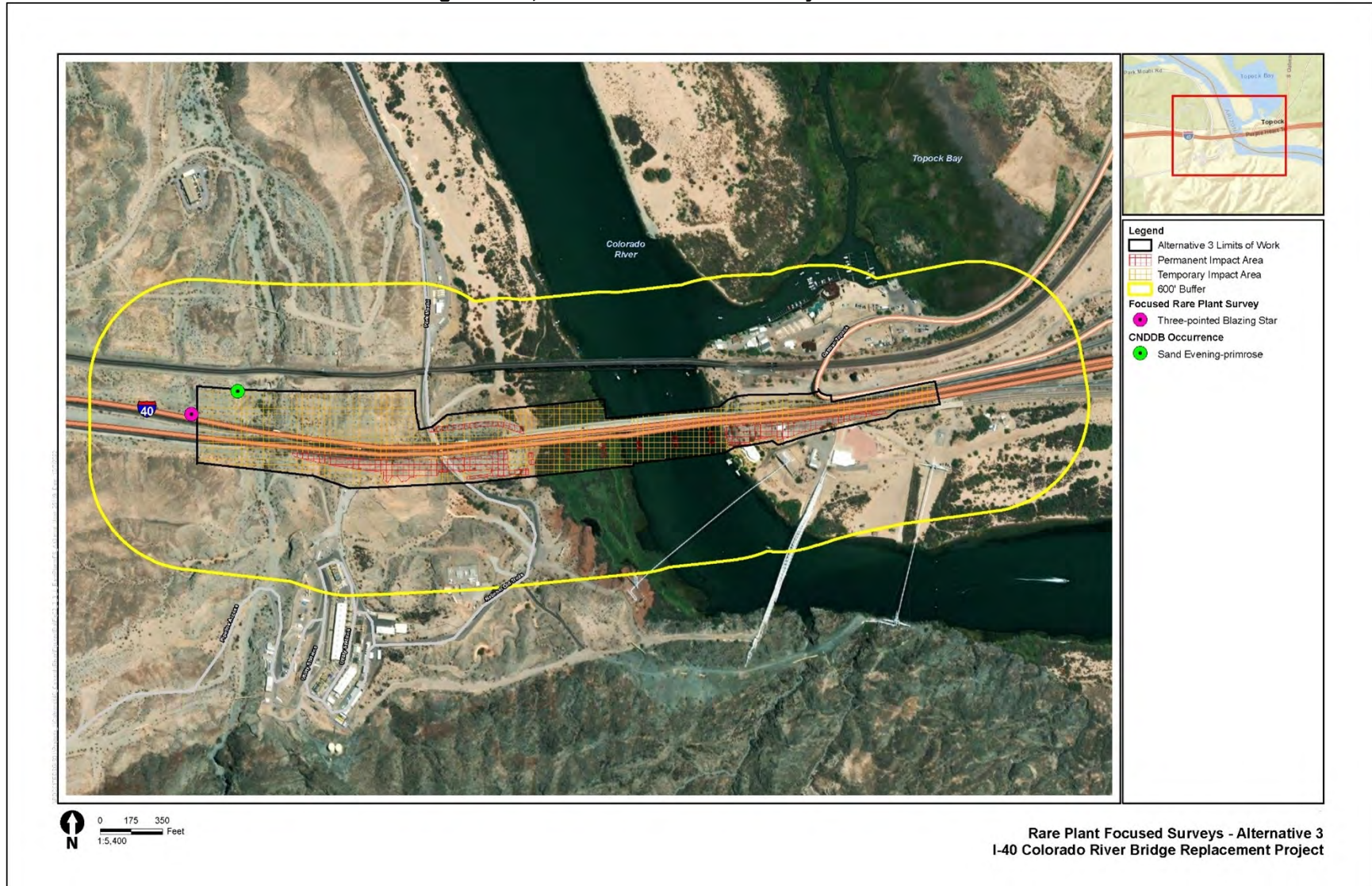


Figure 2.39, Rare Plant Focused Surveys Alternative 3



2.2.12 Animal Species

2.2.12.1 REGULATORY SETTING

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.2.14 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**
- **The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) is a United States federal statute that protects two species of eagle. The bald eagle was chosen as a national emblem of the United States by the Continental Congress of 1782 and was given legal protection by the Bald Eagle Protection Act of 1940. This act was expanded to include the golden eagle in 1962. Since the original Act, the Bald and Golden Eagle Protection Act has been amended several times. The purpose of the Bald and Golden Eagle Protection act is to not agitate the bald and golden eagle to the extent of not 1.) Abusing an eagle, 2.) Interfering with its substantial lifestyle, including shelter, breeding, feeding, or 3.) Nest abandonment. It currently prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles. Taking is described to include their parts, nests, or eggs, molesting or disturbing the birds. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."**
-

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 3503, 3511, 3513, 3800, 4150, 4152, 4700, and 5515 of the California Fish and Game Code**
- **Arizona Revised Statutes, Title 17**
- **Arizona State Wildlife Action Plan**

2.2.12.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section was based upon the January 2023 NES prepared for the project (Caltrans 2023e). References used in the NES are not carried over into this section. In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and documented. A list of species and habitats within the project region was developed based on information compiled by the USFWS, CNDDDB, AZGFD, and other current publications. The project site was field reviewed to identify animal species and their habitat.

One hundred and seven species of animals were detected in the BSA, the majority of which were birds, followed in species richness by mammals, fish, reptiles, amphibians, and insects (refer to Appendix B of the NES for a complete list of the animals detected during field studies). Common animal species observed during project surveys and field site visits include mallard (*Anas platyrhynchos*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), herons, doves, finch, blackbirds, swallows, warblers, sparrows, grebes, flycatchers, desert cottontail (*Sylvilagus audubonii*), squirrels (*Ammospermophilus* spp.), bats, American bullfrog (*Lithobates catesbeianus*), lizards, and fish, and sign was observed of coyote (*Canis latrans*) and bobcat (*Lynx rufus*).

Twenty non-listed special-status wildlife species were detected in the BSA during field studies: American white pelican (*Pelecanus erythrorhynchos*), brown pelican (*Pelecanus occidentalis*), white-faced ibis (*Plegadis chihi*), double-crested cormorant (*Phalacrocorax auratus*), olive-sided flycatcher (*Contonpus cooperi*), black-tailed gnatcatcher (*Polioptila melanura*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), Lucy's warbler (*Leiothlypis luciae*), yellow-breasted chat (*Icteria virens*), American beaver (*Castor canadensis*), pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), Townsend's big-eared bat (*Corynorhinus townsendii*), California myotis (*Myotis californicus*), Arizona myotis (*Myotis occultus*), cave myotis (*Myotis velifer*), Yuma myotis (*Myotis yumanensis*), western mastiff bat (*Eumops perotis*), hoary bat (*Lasiurus cinereus*), and western red bat (*Lasiurus blossevillii*) (Table 2.37 and Figure 2.40).

A literature review determined that non-listed special-status species may potentially occur within the BSA based on the regional location of the project. Table 2.37 identifies the non-listed special-status animals that may potentially be present and their protection status. As mentioned earlier, species listed or proposed for listing as threatened or endangered are discussed in Section 2.2.14. As displayed in Table 2.37, 38 non-listed special-status wildlife species have suitable habitat within the BSA: 2 fish, 1 amphibian, 20 birds, 1 reptile, and 14 mammals. Habitat assessments and/or focused studies were performed for flannelmouth sucker (*Catostomus latipinnis*), Sonoran desert tortoise (*Gopherus morafkai*), Crissal thrasher (*Toxostoma crissale*), loggerhead shrike (*Lanius ludovicianus*), yellow-breasted chat (*Icteria virens*), Sonoran yellow warbler (*Dendroica petechia sonorana*), brown-crested flycatcher

(*Myiarchus tyrannulus*), summer tanager (*Piranga rubra*), small mammals, and bats due to presence of suitable habitat within the BSA. No other focused studies were performed for non-listed special-status species. Criteria used to determine a species' potential to occur within the BSA is detailed in Chapter 2 of the NES.

Table 2-37, Special-Status Wildlife Species Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
AQUATIC					
Flannelmouth sucker	<i>Catostomus latipinnis</i>	F: None AZ: SGCN 1A CA: None Global Rank: G3G4 CA Rank: S1 LCR MSCP	rocky pools, runs and riffles of medium to large rivers; the larval and juvenile stages inhabit shallow riffles and eddies	HP (migratory and foraging)	While commonly cited as extirpated in California, there is evidence that the species is appearing to maintain a self-sustaining population within the reach between Davis and Parker Dam. The most recent CNDDDB occurrence near the Project was less than a mile upstream in 2002.
roundtail chub	<i>Gila robusta</i>	F: None AZ: SGCN 1A CA: None Global Rank: None CA Rank: None	aquatic, warm streams and large rivers, usually in habitats with slow-flowing water adjacent to areas of faster water; pools and eddies, often concentrating in swift, swirling water below rapids	A	Historically, the roundtail chub occupied 48 streams with a total stream length of 4,914 km (3,053 mi). It was and is only known from five primary river watersheds: Bill Williams, Gila, Little Colorado, Salt, and Verde Rivers in Arizona and New Mexico. Currently, it is extirpated from both the Bill Williams River and the Little Colorado River, which are the only segments that have direct connectivity to the Colorado River.
Baja California treefrog	<i>Pseudacris hypochondriaca</i>	F: None AZ: SGCN 1B CA: None Global Rank: G5 CA Rank: NR	wide variety of habitats, often far from water outside of the breeding season, including forest, woodland, chaparral, grassland,	HP	Species prefers to remain among low plants near or along water; therefore, marginal suitable habitat is present on the Arizona side. Current known distribution is near Lake Havasu.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
			pastures, desert streams and oases, underground caves, and urban areas		
AVIAN					
Clark's grebe	<i>Aechmophorus clarkia</i>	F: BCC AZ: SGCN 1C CA: None Global Rank: None CA Rank: None	nest on large freshwater lakes and marshes whose edges have emergent vegetation such as reeds and rushes; migrate to saltwater or brackish habitats	HP (foraging)	Foraging habitat exists along the Colorado River. According to observation.org, the species has been observed within Topock Marsh and near Lake Havasu. iNaturalist has documented observations near Needles as well as Lake Havasu. Due to the proximity of Topock Marsh and the condition of the emergent vegetation within the BSA during breeding season, the project area may be utilized as habitat connectivity and opportunistic foraging.
Western burrowing owl	<i>Athene cunicularia hypogea</i>	F: BCC, BLM-S AZ: SGCN 1B CA: SSC Global Rank: G4 CA Rank: S3	coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, valley & foothill grassland	HP (nesting and foraging)	There is low to moderate quality foraging and nesting habitat for this species within areas of blue palo verde woodland located north and south of the highway in the western portion of the BSA. These areas contained friable soils, presence of small mammal burrows, and vegetative cover that provide suitable habitat for this species. There is low quality foraging and nesting habitat present within creosote bush scrub in the southwestern portion of the BSA due to the sparsity of small mammal burrows and potential burrow sites.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
					Previous PG&E surveys did not document any occurrences and this species was not detected during the habitat assessment.
Costa's hummingbird	<i>Calypte costae</i>	F: BCC AZ: SGCN 1C CA: None Global Rank: G5 State Rank: S4	Sonoran and Mojave Desert scrub, desert washes	HP (nesting and foraging)	Suitable habitat exists within the Bat Cave Wash and the surrounding desert scrub. This species has been observed within Topock Marsh.
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	F: BCC AZ: None CA: None Global Rank: G3G4 CA Rank: S4	coastal scrub, pinyon pine–juniper woodlands, streamside habitats, desert arroyos, river floodplains, mesquite bosques, weedy fields, roadsides, cultivated fields	HP (foraging)	The project is within this species nonbreeding range. Suitable habitat exists within the BSA.
Swainson's thrush	<i>Catharus ustulatus</i>	F: None AZ: SGCN 1B CA: None Global Rank: G5 CA Rank: SNR	spruce forests and dense streamside woods; in migration, other woods	HP (migratory)	This species nests further north and winters further south; therefore, any occurrence is likely migratory. Dense thickets are located within the BSA; however, habitat is fragmented and does not provide continuous connectivity.
Olive-sided flycatcher	<i>Contopus cooperi</i>	F: BCC AZ: SGCN 1C CA: SSC Global Rank: G4 CA Rank: S3	lower montane coniferous forest, redwood, upper montane coniferous forest	P (migratory)	This species was incidentally observed during the ECORP field surveys. This species is assumed migratory.
Sonoran yellow warbler	<i>Dendroica petechia sonorana</i>	F: BCC AZ: SGCN 1B CA: SSC Global Rank: G5T2T3 CA Rank: S2	riparian woodlands along the lower Colorado River in	HP (nesting and foraging)	There is moderate to high quality foraging and/or nesting habitat within tamarisk thickets in the BSA. There is moderate quality

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		LCR MSCP	California and nests in willow, cottonwood, and tamarisk trees		foraging habitat within arrow weed thicket and other riparian habitat, and there is low quality nesting and/or foraging habitat within upland habitats within the BSA.
Yellow-breasted chat	<i>Icteria virens</i>	F: None AZ: SGCN 1C CA: SSC Global Rank: G5 CA Rank: S3	riparian and upland thickets, and dry overgrown pastures; nests in dense scrub along streams or at the edges of ponds or swamps	P, HP (nesting and foraging)	There is moderate to high quality foraging and/or nesting habitat within tamarisk thicket, common reed marsh, and narrowleaf willow thicket within the BSA. There is low and moderate quality foraging and/or nesting habitat within arrow weed thicket, tamarisk thicket and disturbed blue palo verde woodland within the BSA.
Loggerhead shrike	<i>Lanius ludovicianus</i>	F: BCC AZ: None CA: SSC Global Rank: G4 CA Rank: S4	open country with scattered shrubs and trees; frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas	HP (nesting and foraging)	There is moderate to high quality foraging and nesting habitat for loggerhead shrike within riparian habitat throughout the BSA. There is marginal and low quality nesting and foraging habitat within upland habitat throughout the BSA due to the density and height of vegetation cover and plant species composition.
Lucy's warbler	<i>Leiothlypis luciae</i>	F: BCC, BLM-S AZ: SGCN 1C CA: SSC Global Rank: G5 CA Rank: S2S3	riparian woodland	P, HP (foraging)	This species was incidentally detected during the ECORP field surveys. There is suitable habitat for this species.
Marbled godwit	<i>Limosa fedoa</i>	F: BCC AZ: None CA: None Global Rank: None CA Rank: None	breed within native grass prairies with green needle grass, western wheatgrass, blue grama, needle-and-thread, and	HP (migratory)	While the Project is outside the range for this species, marbled godwit is assumed migratory. The emergent vegetation may be too tall for their preferred habitat; although, dependent on water

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
			little blue stem; winter forage and rest along coastal mudflats, estuaries, and sandy beaches		levels, shorelines are present within the PIA on Arizona side and within the BSA north of the Project.
Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>	F: None AZ: SGCN 1C CA: WL Global Rank: G5 CA Rank: S3	saguaro deserts, and woodlands along streams and rivers; nests in natural tree cavities or abandoned cavity nests	HP (foraging)	There is no nesting potential for this species due to a lack of suitable cavity holes within trees and cacti. There is marginal and low quality foraging habitat for this species within riparian and upland habitat within the BSA; however, potential for this species to forage within the BSA is unlikely due to a lack of nesting sites.
American white pelican	<i>Pelecanus erythrorhynchos</i>	F: None AZ: None CA: SSC Global Rank: G4 CA Rank: S1S2	nests colonially on sandy, earthen, or rocky substrates on isolated islands in freshwater lakes; winters on shallow coastal bays, inlets, and estuaries	P (migratory)	This species was incidentally observed during the ECORP field surveys. This species is assumed migratory.
Brown pelican	<i>Pelecanus occidentalis</i>	F: BLM-S AZ: None CA: FP Global Rank: G4T3T4 CA Rank: S3	marine areas near piers and jetties with offshore rocks and islands important for nesting; forages in estuarine and inshore waters	P (migratory)	This species was incidentally observed during the ECORP field surveys. This species is assumed migratory.
Double-crested cormorant	<i>Nannopterum auritum</i>	F: None AZ: None CA: WL Global Rank: G5 CA Rank: S4	riparian forest, riparian scrub, riparian woodland	P, HP (nesting and foraging)	This species was incidentally observed during the ECORP field surveys. There is suitable habitat for this species.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
Summer tanager	<i>Piranga rubra</i>	F: None AZ: SGCN 1C CA: SSC Global Rank: G5 CA Rank: S1 LCR MSCP	cottonwood-willow forests along streams; nests in oak, pine, or cottonwood trees	HP (foraging)	There is no nesting potential for this species due to the absence of large oak, cottonwood, tamarisk, and willow trees within the BSA. There is marginal and low quality foraging habitat within the BSA due to a lack of larger trees, as this species prefers to forage from the tops of trees in forests/riparian woodlands.
White-faced ibis	<i>Plegadis chihi</i>	F: None AZ: None CA: WL Global Rank: G5 CA Rank: S3S4	marsh & swamp, wetland	P (migratory and foraging)	This species was incidentally observed during the ECORP field surveys. There is suitable habitat for this species.
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	F: None AZ: SGCN 1C CA: WL Global Rank: G5 CA Rank: S3S4	Mojavean desert scrub, Sonoran desert scrub	P, HP (nesting and foraging)	This species was incidentally observed during the ECORP field surveys. There is suitable habitat for this species.
Crissal thrasher	<i>Toxostoma crissale</i>	F: BLM-S AZ: None CA: SSC Global Rank: G5 CA Rank: S3	desert scrub and riparian brush with dense mesquite thickets, often near streams or washes	HP (nesting and foraging)	There is moderate to high quality foraging and nesting habitat for this species within tamarisk thicket and other riparian habitats present within the BSA. There were additional areas providing low and moderate quality foraging and nesting habitat within blue palo verde woodland and disturbed blue palo verde woodland areas and in areas of common reed marsh and arrow weed thickets along the Colorado River shoreline.
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	F: None AZ: None CA: SSC Global Rank: G5 CA Rank: S3	marsh & swamp, wetland	P, HP (nesting and foraging)	This species was incidentally observed during the ECORP field surveys. There is suitable habitat for this

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
					species.
MAMMAL					
Pallid bat	<i>Antrozous pallidus</i>	F: BLM-S AZ: None CA: SSC WBWG: H Global Rank: G4 CA Rank: S3	chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley & foothill grassland	P, HP	This species selects a variety of day roosts including rock outcrops, mines, caves, tree hollows, buildings, and bridges. It was confirmed acoustically throughout the BSA. Pallid bats have been observed roosting at several I-40 bridges ranging approximately 4 to 5.5 miles northwest of the project.
American beaver	<i>Castor canadensis</i>	F: None AZ: SGCN 1B CA: None Global Rank: None CA Rank: None	permanent water-bodies including lakes, streams, ponds and rivers	P, HP	This species was incidentally observed during the bat field surveys. There is suitable habitat for this species in the Colorado River; however, due to water flows at the project location, lodge building is not anticipated.
Desert pocket mouse	<i>Chaetodipus penicillatus sobrinus</i>	F: None AZ: SGCN CA: None Global Rank: None CA Rank: None LCR MSCP	creosote-salt brush communities and drier riparian habitat; found in sandy soils with sparse vegetation	HP	Creosote bush desert scrub and the adjacent blue palo verde woodland in the western portions of the BSA (California side) are the only vegetation communities within the BSA that provide suitable habitat. The nearest known population of this species is located approximately 1.5 miles northwest of the BSA in the Mohave Valley Conservation Area in California.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	F: None AZ: None CA: SSC WBWG: H	highly associated with caves and mines;	P, HP	This is a cavern dwelling species that roosts primarily in mines and caves, but also in

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		Global Rank: G4 CA Rank: S2	desert scrub, mixed conifer, and pinyon juniper or pine forest.		bridges and buildings that have cave-like spaces. It was confirmed acoustically at the I-40 culvert and assumed to be foraging in the area.
Western mastiff bat	<i>Eumops perotis</i>	F: None AZ: None CA: SSC WBWG: H Global Rank: G4G5T4 CA Rank: S3S4	Found in a variety of habitats, from desert scrub to chaparral to mixed coniferous forest. Distribution is tied to availability of suitable roosting habitat and can sometimes be predicted based on presence of significant rock features (large granite or basalt formations).	P, HP	This species was confirmed acoustically at the I-40 culvert and is assumed foraging in the area.
Western red bat	<i>Lasiurus blossevillii</i>	F: None AZ: SGCN 1B CA: SSC WBWG: H Global Rank: G4 CA Rank: S3 LCR MSCP	cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland	P, HP	This species day roosts within tree foliage. It was confirmed acoustically at both the I-40 Colorado River Bridge and the BNSF Railroad Bridge. There was a possible acoustic detection at the I-40 culvert.
Hoary bat	<i>Lasiurus cinereus</i>	F: None AZ: None CA: None WBWG: M Global Rank: G3G4 CA Rank: S4	broadleaved upland forest, cismontane woodland, lower montane coniferous forest	P, HP	This species day roosts within tree foliage, in both coniferous and deciduous trees. It was confirmed acoustically at both the I-40 Colorado River Bridge and the BNSF Railroad Bridge. It was incidentally found day roosting in a tamarisk tree beneath the I-40 Colorado River Bridge in May 2021.
California	<i>Myotis</i>	F: None	variety of	P, HP	This species has a wide

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
myotis	<i>californicus</i>	AZ: None CA: SA WBWG: L Global Rank: None CA Rank: None	habitats from lower Sonoran desert scrub to forests.		variety of day roosts including mines, caves, buildings, rock crevices, hollow trees, and under exfoliating bark. It was confirmed acoustically throughout the BSA and was possibly roosting at both the I-40 culvert and the BNSF Bridge.
Arizona myotis	<i>Myotis occultus</i>	F: None AZ: SGCN 1B CA: SSC WBWG: M Global Rank: G4G5 CA Rank: S1	generally associated with high elevation coniferous forest elsewhere in its range, but in California is found in low desert; vegetation association in California includes cottonwoods, sycamores, and willows	P, HP	Day roosts in buildings, mines, bridges, trees, and caves. The species was confirmed acoustically at the I-40 Colorado River Bridge and had a possible acoustic detection at the BNSF Bridge.
Cave myotis	<i>Myotis velifer</i>	F: BLM-S AZ: SGCN 1B CA: SSC WBWG: M Global Rank: G4G5 CA Rank: S1	primarily lower elevations, and habitat dominated by creosote bush, palo verde, cactus, and desert riparian	P, HP	Day roosts in caves and mines (occasionally buildings and bridges). The species was confirmed acoustically at the I-40 Colorado River Bridge and had a possible acoustic detection at the BNSF Bridge.
Yuma myotis	<i>Myotis yumanensis</i>	F: BLM-S AZ: SGCN 1B CA: SA WBWG: L Global Rank: G5 CA Rank: S4	lower montane coniferous forest, riparian forest, riparian woodland, upper montane coniferous forest	P, HP	Day roosts in buildings, trees, mines, caves, bridges, and rock crevices. Night roosts usually associated with buildings, bridges, or other man-made structures. This species was confirmed day roosting at the I-40 culvert as well as acoustically throughout the BSA.
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	F: None AZ: SGCN 1B	arid lowland areas,	P, HP	Day roosts primarily in crevices in cliff faces

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		CA: SSC WBWG: M Global Rank: G5 CA Rank: S3	particularly desert canyons; found only in lower and upper Sonoran life zone in California, associated with creosote bush and chaparral habitat		and boulders, although has been found in caves and buildings. This species was confirmed acoustically near the I-40 Colorado River Bridge and BNSF Railroad Bridge and is assumed foraging in the area.
Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>	F: BLM-S AZ: SGCN 1B CA: FP Global Rank: G4T4 CA Rank: S3	alpine, alpine dwarf scrub, chaparral, chenopod scrub, Great Basin scrub, Mojavean desert scrub, montane dwarf scrub, pinon & juniper woodlands, riparian woodland, Sonoran desert scrub	HP	Suitable foraging and connectivity habitat extends from the foothills of the mountains down into the floodplain and upland areas, which include areas of the BSA. Occurrences of this species have been documented recently (2020) within the Project vicinity.
Colorado river cotton rat	<i>Sigmodon arizonae plenus</i>	F: None AZ: SGCN 1B CA: SSC Global Rank: G5T2T3 CA Rank: S1S2 LCR MSCP	occurs in grass or cattail communities, dry grassy areas, riparian, riverside, and marsh habitats	HP	Vegetation communities within the BSA that provide suitable habitat for this species include common reed marsh and some areas of tamarisk thicket.
REPTILE					
Sonoran desert tortoise	<i>Gopherus morafkai</i>	F: None AZ: SGCN 1A CA: None Global Rank: None CA Rank: None	rocky outcrops along the bases of mountain ranges; south and east of the Colorado River	HP	There are small pockets of marginal suitability habitat based on species range division of the Colorado River located on the Arizona (east) side. The portions of the BSA closer to the Colorado River were considered either marginal or unsuitable primarily due to lack of appropriate habitat types

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
					(riparian or developed) and/or habitat fragmentation and the associated disturbance factors.

Notes:

¹Status:

F: Federal Classification

BCC -USFWS Birds of Conservation Concern

BLM-S -Bureau of Land Management Sensitive

AZ: Arizona Classification

SGCN -Species of Greatest Conservation Need

CA: California Classification

SSC -Species of Special Concern

WBWG: Western Bat Working Group Conservation Priority

H -High

M -Medium

L -Low

LCR MSCP: Lower Colorado River Multiple Species Conservation Plan

Covered Species

CDFW Element Rankings for Species or Natural Community

(The Global rank (G rank) is a reflection of the overall status of an element throughout its global range while the State rank [S rank] refers to the imperilment status only within California's state boundaries. Subspecies/varieties receive a T rank attached to the G rank and a Q designates questionable taxonomy (CNDDDB 2021c).

NR Rank not yet assessed

GX/SX Presumed extinct

GH/SH Possibly extinct; known only from historical occurrences but there is still some hope of rediscovery.

G1/S1 Critically imperiled; at very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

1.1 = very threatened

1.2 = threatened

1.3 = no current threats known

G2/S2 Imperiled; at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

2.1 = very threatened

2.2 = threatened

2.3 = no current threats known

G3/S3 Vulnerable; at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

3.1 = very threatened

3.2 = threatened

3.3 = no current threats known

G4/S4 Apparently secure; at fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

G5/S5 Secure; at very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

²Habitat Present/Absent

HP -Habitat Present – is or may be present. Species may be present.

P -Present – species was visually or audibly detected.

A -Absent – no habitat present and no further work needed.

Flannelmouth Sucker

Based on the habitat assessment, it was determined that suitable habitat for flannelmouth sucker is present within the BSA (see Figure 2.41-2.43). The mainstem of the river within the BSA offers migratory pathways during spawning and/or dispersal and foraging opportunities for the species. The BSA likely does not support spawning or larval recruitment for flannelmouth sucker due to habitat alterations, and spawning and larval recruitment have not been documented in the lower Colorado River. While adult flannelmouth sucker may occur in nearly all habitat types within the BSA, the overall suitability of the habitat to support the species is low based on their population size and degraded habitat quality. Details of the habitat assessment results, including water quality data, water temperature, and physical habitat characteristics, collected from the field surveys are provided in the NES and the Fish Habitat Assessment Report prepared for the project (Appendix F in the NES).

Roundtail Chub

Based on the habitat assessment and literature review, roundtail chub is presumed extirpated within the LCR. Historically, this species occupied 48 streams with a total stream length of 4,914 km (3,053 miles). It was and is only known from five primary river watersheds: the Bill Williams, Gila, Little Colorado, Salt, and Verde Rivers in Arizona and New Mexico. Currently, it is extirpated from both the Bill Williams River and the Little Colorado River, which are the only segments that have direct connectivity to the Colorado River. Furthermore, roundtail chub have not been documented in recent record. Details of the habitat assessment results, including water quality data, water temperature, and physical habitat characteristics, collected from the field surveys are provided in the NES and the Fish Habitat Assessment Report prepared for the project (Appendix F in the NES).

Baja California Treefrog

Baja California treefrog has been documented along the lower Colorado River near Lake Havasu downstream of the BSA. Marginally suitable habitat to support this species is present within the riparian habitats and wetland areas associated with Topock Marsh on the Arizona side of the BSA.

Burrowing Owl

No reported occurrences for burrowing owl were discovered within the project vicinity during the literature review conducted for the project (see Chapter 4 of the NES for details).

Based on the habitat assessment performed for the project, it was determined that potentially suitable habitat for burrowing owl is present in the BSA within the blue palo verde woodland and some areas of the creosote bush desert scrub vegetation communities (Figure 2.44, 2.45, 2.46). There is low to moderate quality foraging and nesting habitat for this species within the blue palo verde woodland habitat located north and south of the highway along Bat Cave Wash in the western portion of the BSA. These areas contained friable soils, presence of small mammal burrows, and vegetative cover that provide suitable habitat for this species. There is also foraging and nesting habitat present within the creosote bush desert scrub habitat in the southwestern portion of the BSA; however the quality of the habitat is low due to the sparsity of small mammal burrows and other potential burrow sites. Burrowing owls were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Special-Status Avian Species

Clark's Grebe

Clark's grebe (*Aechmophorus clarkia*) has been documented within the lower Colorado River, including at Topock Marsh, Lake Havasu, and near Needles. While there is emergent vegetation within the BSA on the California side, this area is likely dry during the breeding season; therefore, this species is not expected to nest within the BSA but may forage within and/or move through the Colorado River portion of the BSA.

Costa's Hummingbird

Costa's hummingbird (*Calypte costae*) has been documented within the lower Colorado River, including Topock Marsh, and is a year-round resident within its range. Suitable nesting and foraging habitat exists within Bat Cave Wash and the surrounding desert scrub habitat within the BSA.

Lawrence's Goldfinch

The BSA is located within the nonbreeding range for Lawrence's goldfinch (*Carduelis lawrencei*). Suitable foraging habitat exists within the natural vegetation communities throughout the BSA.

Swainson's Thrush

The project is located outside of the breeding and wintering range for Swainson's thrush (*Catharus ustulatus*) and the BSA does not contain suitable nesting habitat to support this species. The riparian and woodland scrub habitats onsite may provide marginally suitable migratory habitat, although it is fragmented and does not provide continuous connectivity. Although Swainson's thrush may occur as a transient migrant, it is not expected to breed or winter within the BSA.

Olive-sided Flycatcher

Olive-sided flycatcher was documented as an incidental finding during field surveys (Figure 2.40). However, the project is outside of the breeding and wintering range for olive-sided flycatcher and the BSA does not contain suitable boreal or coniferous forest habitat to support this species. Although olive-sided flycatcher occurs as a transient migrant, it is not expected to breed or winter within the BSA.

Sonoran Yellow Warbler

Based on the habitat assessment performed for the project, it was determined that the BSA contains moderate to high quality foraging and/or nesting habitat to support Sonoran yellow warbler within the tamarisk thicket vegetation community (Figure 2.47, 2.48, 2.49). There is moderate quality foraging habitat within the arrow weed thicket and other riparian habitats, and there is low quality nesting and/or foraging habitat within upland habitats in the BSA. Sonoran yellow warbler individuals were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Yellow-breasted Chat

Based on the habitat assessment performed for the project, it was determined that the BSA contains moderate to high quality foraging and/or nesting habitat to support yellow-breasted chat within the tamarisk thicket, common reed marsh, and narrowleaf willow thicket vegetation communities (Figure 2.50, 2.51, 2.52). There is low and moderate quality foraging and/or nesting habitat within arrow weed thicket, tamarisk thicket, and disturbed blue palo verde woodland habitats within the BSA. Yellow-breasted chat individuals were not detected within the

BSA during the habitat assessment but were documented as an incidental finding during other field surveys performed for the project (Figure 2.40).

Loggerhead Shrike

Based on the habitat assessment performed for the project, it was determined that the BSA contains moderate to high quality foraging and nesting habitat to support loggerhead shrike within riparian thicket and woodland habitats (Figure 2.53, 2.54, 2.55). There is also nesting and foraging habitat within upland habitat throughout the BSA, but the quality is marginal to low due to the density and height of vegetative cover and plant species composition. Loggerhead shrike individuals were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Lucy's Warbler

Lucy's warbler was documented as an incidental finding during field surveys (Figure 2.40). This species was not included in the habitat assessment but is assumed to have suitable foraging habitat within the desert scrub vegetation communities similar to Crissal thrasher, as analyzed below, in Table 2.43, and in Figure 2.59, 2.60, 2.61.

Marbled Godwit

The project is outside of the breeding and wintering range for marbled godwit (*Limosa fedoa*). Suitable foraging habitat for individuals passing through the area exists on the shorelines north of the project within the BSA and, dependent on water levels, within the PIA on the Arizona side. Although marbled godwit may occur as a transient migrant, it is not expected to breed or winter within the BSA.

Brown-crested Flycatcher

Based on the habitat assessment performed for the project, it was determined that there is no nesting potential for brown-crested flycatcher within the BSA due to a lack of suitable cavity holes within trees and cacti. There is marginal and low quality foraging habitat for this species within riparian and upland habitat within the BSA (Figure 2.56, 2.57, 2.58); however, potential for this species to forage within the BSA is unlikely due to a lack of nesting sites. Brown-crested flycatcher individuals were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

American White Pelican

American white pelican was documented as an incidental finding during field surveys (Figure 2.40). However, the project is outside of the breeding range for this species, it rarely winters inland, and the BSA does not contain suitable freshwater lake habitat for nesting or shallow coastal water habitat for wintering. Although American white pelican occurs as a transient migrant, it is not expected to breed or winter within the BSA.

Brown Pelican

Brown pelican was documented as an incidental finding during field surveys (Figure 2.40). However, the project is outside of the breeding and wintering range for brown pelican and the BSA does not contain suitable marine and estuarine habitat to support this species. Although brown pelican occurs as a transient migrant, it is not expected to breed or winter within the BSA.

Double-crested Cormorant

Double-crested cormorant was documented as an incidental finding during field surveys (Figure 2.40). Suitable nesting and foraging habitat is present within the Colorado River and Topock Marsh portions of the BSA and this species occurs within the region year-round.

Summer Tanager

Based on the habitat assessment performed for the project, it was determined that there is no nesting potential for summer tanager within the BSA due to the absence of large oak, cottonwood, tamarisk, and willow trees. There is foraging habitat within the BSA, but the quality is marginal to low due to a lack of larger trees, as this species prefers to forage from the tops of trees in forests/riparian woodlands (Figure 2.56, 2.57, 2.58). Summer tanager individuals were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species. Based on the lack of nesting habitat in the area, any summer tanager individuals found to be present within the BSA would be presumed to be transients.

White-faced Ibis

White-faced ibis was documented as an incidental finding during field surveys (Figure 2.40). Suitable foraging habitat is present within the Colorado River and Topock Marsh portions of the BSA and this species winters within the region; the BSA is outside of its breeding range.

Black-tailed Gnatcatcher

Black-tailed gnatcatcher was documented as an incidental finding during field surveys (Figure 2.40). This species was not analyzed in the habitat assessment, but is assumed to have suitable foraging and nesting habitat within the desert scrub vegetation communities similar to Crissal thrasher, as analyzed below, in Table 2.43, and in Figure 2.59, 2.60, 2.61.

Crissal Thrasher

Based on the habitat assessment performed for the project, it was determined that the BSA contains moderate to high quality foraging and nesting habitat to support crissal thrasher within the tamarisk thicket and other riparian vegetation communities (Figure 2.59, 2.60, 2.61). There were additional areas providing low and moderate quality foraging and nesting habitat within blue palo verde woodland and disturbed blue palo verde woodland areas and in areas of common reed marsh and arrow weed thickets along the Colorado River shoreline. Crissal thrasher individuals were not detected within the BSA during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Yellow-headed Blackbird

Yellow-headed blackbird was documented as an incidental finding during field surveys (Figure 2.40). This species was not analyzed in the habitat assessment but is assumed to have suitable nesting and foraging habitat within riparian marsh vegetation communities similar to Yuma Ridgway's rail, as analyzed in Section 2.2.14.

Special-Status Bats

Survey results from the daytime habitat assessment and nighttime acoustic and emergence surveys are summarized here and illustrated on Figure 2.62, 2.63, 2.64. Detailed survey results can be found in Chapter 4 of the NES.

I-40 Bat Cave Wash Culvert

Daytime Habitat Assessment

The Bat Cave Wash Culvert is a corrugated metal quadruple-pipe culvert that conveys Bat Cave Wash beneath I-40. This structure is known to house a maternity colony of Yuma myotis. A vertical pipe in the ceiling of the easternmost pipe contains crevice habitat suitable for day-roosting bats and maternity colonies, and several Yuma myotis individuals were observed day roosting in this crevice during the habitat assessment performed for this project. Scattered guano on the ground below the sides of the culvert, particularly in the easternmost pipe, indicate that bats night roost, and possibly also day roost, along the sides of the various corrugated metal pipes that comprise this culvert.

The vegetation along Bat Cave Wash in the vicinity of this culvert consists of blue palo verde woodland; desert wash communities such as this one harbor diverse insect fauna and provide foraging habitat for a variety of bat species. In addition, although it was not present at the time of the habitat assessment, ponded water is seasonally present in the area between the I-40 culvert and the adjacent railroad culvert situated approximately 175 feet downstream. In addition to providing a source of drinking water for bats, this water would also support insect prey for bat species.

Nighttime Acoustic and Emergence Surveys

Use of the Bat Cave Wash Culvert for day and night roosting was confirmed during all of the seasonal surveys performed for this project. The bat species that were acoustically detected during each of the quarterly surveys are shown in Table 2.38, while a brief summary is included below. Survey results for each quarterly survey by season are provided in Chapter 4 of the NES.

Bats were detected emerging from the culvert structure during all four seasons, with the greatest number of emerging bats detected in the fall and summer (20 – 31 counted bats) and much lower activity detected in the winter (2 counted bats). A total of nine bat species were detected acoustically in the vicinity of the Bat Cave Wash Culvert across all seasons (Table 2.38). The majority of call sequences recorded were 50 kilohertz (kHz) call sequences that could belong to Yuma myotis or California myotis. With the exception of western red bat and western mastiff bat, any of the species acoustically detected in the vicinity of the Bat Cave Wash Culvert may use that structure for night roosting. Night roosting was confirmed by observations of myotis bats in all four of the corrugated metal pipes that comprise this culvert. Observed behavior during surveys suggests that the culvert serves as an important commuting corridor for bats traveling from roosting habitat upstream along Bat Cave Wash towards foraging habitat along the wash and at the Colorado River.

Table 2-38, Bat Species Detected During Nighttime Surveys at the I-40 Bat Cave Wash Culvert, by Season

Common Name (Acoustic Group)	Scientific Name	Acronym	Detected During Fall Survey	Detected During Winter Survey	Detected During Spring Survey	Detected During Summer Survey
California myotis (50-kHz Myotis)	<i>Myotis californicus</i>	MYCA/M50	A	A; R?	A; R?	A

Common Name (Acoustic Group)	Scientific Name	Acronym	Detected During Fall Survey	Detected During Winter Survey	Detected During Spring Survey	Detected During Summer Survey
Yuma myotis (50-kHz Myotis)	<i>Myotis yumanensis</i>	MYYU/M50	A; R	A; R?	A; R?	A; R
Canyon bat	<i>Parastrellus hesperus</i>	PAHE	A	A	A	A
Western red bat	<i>Lasiurus blossevillii</i>	LABL	A?	--	--	--
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	COTO	A	--	A	A?
Pallid bat (Q25)	<i>Antrozous pallidus</i>	ANPA	A	--	A	A
Big brown bat (Q25)	<i>Eptesicus fuscus</i>	EPFU	--	--	A	A
Mexican free-tailed bat (Q25)	<i>Tadarida brasiliensis</i>	TABR	A	A	A	A
Western mastiff bat	<i>Eumops perotis</i>	EUPE	--	--	A	A

A = Confirmed acoustically

R = Confirmed roosting in structure

A? = Possibly recorded, but unconfirmed (e.g., calls were fragmented and/or lacked completely diagnostic characteristics for that species)

R? = Possibly roosting in structure

-- = no observation or detection

BNSF Railroad Culvert over Bat Cave Wash

Daytime Habitat Assessment

The BNSF Railroad culvert over Bat Cave Wash is a large concrete arch culvert and is situated approximately 175 feet downstream of the I-40 Bat Cave Wash culvert. No potentially suitable day roosting habitat features (e.g., crevices or cave-like areas) are present, and the openness of this culvert provides little protection from the elements and may be less desirable for night roosting relative to the adjacent I-40 Bat Cave Wash Culvert. However, a few scattered guano pellets were observed within the culvert indicating night roosting use by some bats.

Nighttime Acoustic and Emergence Survey

No nighttime emergence surveys were performed at this structure because no suitable day-roosting habitat was observed during the habitat assessment; however, this structure was periodically checked for night-roosting bats during the night-roosting surveys performed at the adjacent I-40 Bat Cave Wash Culvert. Although no night-roosting bats were ever observed in this structure during those surveys, scattered guano indicates that this structure is occasionally used by bats.

I-40 Bridge over National Trails Highway (Bridge 54-0670)

Daytime Habitat Assessment

This steel-stringer bridge carrying the eastbound and westbound I-40 over National Trails Highway does not contain any crevices suitable for use by day-roosting bats. It is possible that this structure could be used for night roosting, but no evidence of night roosting was detected during the habitat assessment. However, it should be noted that active construction associated

with PG&E's Topock Compressor facility was occurring in the area between the I-40 and railroad bridges over National Trails Highway. These ongoing activities have potential to disturb any bat sign (e.g., guano) that would otherwise be deposited on the ground beneath these bridges. The vegetation surrounding this bridge consists of creosote bush desert scrub, which may provide foraging habitat for some bat species.

Nighttime Acoustic and Emergence Survey

No nighttime emergence surveys were performed at this structure because no suitable day-roosting habitat was observed during the habitat assessment.

BNSF Railroad Bridge over National Trails Highway (Bridge 54C-0093)

Daytime Habitat Assessment

This short BNSF Railroad bridge over National Trails Highway is a steel-girder bridge and contains crevices in the wood timbers at the top of the bridge underside that are suitable for use by day- and night roosting bats. It is similar to the other BNSF Railroad Bridge over National Trails Highway, which is located west of the BSA and contains a bat maternity colony; however, no evidence of day or night roosting was observed at this structure during the habitat assessment, and no day-roosting bats have been identified at this structure during surveys performed for PG&E. However, it should be noted that active construction associated with PG&E's Topock Compressor facility was occurring in the area between the I-40 and railroad bridges over National Trails Highway. These ongoing activities have potential to disturb any bat sign (e.g., guano) that would otherwise be deposited on the ground beneath these bridges. The vegetation surrounding this bridge consists of creosote bush desert scrub, which may provide foraging habitat for some bat species.

Nighttime Acoustic and Emergence Survey

No nighttime surveys were performed at this structure in fall 2020 because access to BNSF right-of-way had not yet been granted. Nighttime surveys were not performed at this structure during the winter or spring because no bat sign was observed during the habitat assessment and because it was possible to inspect the areas suitable for day roosting for the presence of clusters of bats that could indicate maternity roosting. Although no day-roosting bats were observed during the spotlight inspection, a nighttime acoustic and emergence survey was conducted at this structure on June 17, 2021 following a daytime inspection in which fresh guano was observed at the western abutment. A single bat was observed emerging from the structure during that survey.

I-40 Bridge over the Colorado River (Bridge 54-0415)

Daytime Habitat Assessment

The I-40 Bridge over the Colorado River is a steel-girder bridge that spans the Colorado River as well as the California-Arizona border. The entire length of this bridge structure contains two longitudinal joints in the middle of the structure that contain crevices suitable for use by day-roosting bats, including maternity colonies. Guano and vocalizations confirming the presence of roosting bats were observed beneath the joint crevices at both of the abutments. Bats may also night roost in the recessed spaces created between the steel beams. Areas at both bridge abutments where grout in the grouted riprap has come loose may also provide roosting habitat for bats and, in particular, canyon bat (*Parastrellus hesperus*), which is known to roost in rock riprap.

The vegetation at the western side of the bridge consists of creosote bush desert scrub and tamarisk thicket, transitioning to common reed marsh along the river’s edge. A large area of bare ground is present between the third pier and the abutment, where vegetation has been cleared for a PG&E construction project. The area beneath the eastern side of the bridge consists of bare ground, grouted riprap with gaps and crevices where the grout has come loose, and open water, while the vegetation adjacent to the bridge on this side consists predominantly of tamarisk thicket with patches of desert scrub. Each of these vegetation types and its associated insect fauna provides foraging habitat for a variety of bat species, and the water beneath the bridge also provides a source of drinking water for bats.

Nighttime Acoustic and Emergence Surveys

Use of the I-40 Colorado River Bridge for day roosting was confirmed during all of the seasonal surveys. The bat species that were acoustically detected during each of the quarterly surveys are shown in Table 2.39, while a brief summary is included below. Survey results for each quarterly survey by season are provided in the NES.

Bats were detected emerging from the I-40 Colorado River Bridge during all four seasons, with the greatest number of emerging bats detected in the fall and spring (226 – 265 counted bats) and much lower activity detected in the winter (10 – 15 counted bats). Based on the results of the two fall emergence surveys, an estimated 488 bats were roosting in the I-40 Colorado River Bridge at the time of the October 2020 surveys. Mexican free-tailed bats (*Tadarida brasiliensis*) were observed roosting within the two joints during a spotlight inspection of the section of the bridge near the western abutment, and Mexican free-tailed bats and myotis bats (likely Yuma myotis, though it is possible that additional myotis species are present) were observed day roosting in the two joint crevices near the eastern abutment.

A total of eleven bat species were detected acoustically in the vicinity of the I-40 Colorado River Bridge across all seasons (Table 2.39). The majority of call sequences recorded were 50 kHz call sequences that could belong to Yuma myotis or California myotis. Call sequences identified as canyon bats and sequences belonging to the Q25 acoustic group comprised the remaining dominant acoustic detections.

Extensive foraging was observed beneath the bridge during the fall, spring, and summer surveys. The high quality foraging habitat present along the Colorado River likely attracts large numbers of foraging bats that are not associated with roosting in the I-40 Colorado River Bridge or the BNSF Railroad Bridge, but would nonetheless be recorded by the acoustic detectors. However, with the exception of the western red bat, hoary bat, and pocketed free-tailed bat, most of the bat species acoustically detected in the vicinity of the I-40 Colorado River Bridge are known to use bridge structures and could day and/or night roost within that structure.

Table 2-39, Bat Species Detected During Nighttime Surveys at the I-40 Colorado River Bridge, by Season

Common Name (Acoustic Group)	Scientific Name	Acronym	Detected During Fall Survey	Detected During Winter Survey	Detected During Spring Survey	Detected During Summer Survey
California myotis (50-kHz Myotis)	<i>Myotis californicus</i>	MYCA	A	+++	A	A

Common Name (Acoustic Group)	Scientific Name	Acronym	Detected During Fall Survey	Detected During Winter Survey	Detected During Spring Survey	Detected During Summer Survey
Yuma myotis (50-kHz Myotis)	<i>Myotis yumanensis</i>	MYU	R; A	R; A	A; R	A
Arizona myotis (40-kHz Myotis)	<i>Myotis occultus</i>	MYOC	†	--	†	A
Cave myotis (40-kHz Myotis)	<i>Myotis velifer</i>	MYVE	†	--	†	A
Canyon bat	<i>Parastrellus hesperus</i>	PAHE	A	A	A	A
Western red bat	<i>Lasiurus blossevillii</i>	LABL	A	--	--	--
Hoary bat (LACI/NYFE)	<i>Lasiurus cinereus</i>	LACI	††	††	A; R*	--
Pallid bat (Q25)	<i>Antrozous pallidus</i>	Q25/ANPA	A	--	A	A
Big brown bat (Q25)	<i>Eptesicus fuscus</i>	EPFU	A	--	A	A?
Pocketed free-tailed bat (LACI/NYFE)	<i>Nyctinomops femorosaccus</i>	NYFE	††	††	A	A
Mexican free-tailed bat (Q25)	<i>Tadarida brasiliensis</i>	TABR	R; A	R; A	A; R	A

A = Confirmed acoustically

R = Confirmed roosting in structure

-- = no observation or detection

† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the 40-kHz Myotis acoustic group which is characterized by steep calls terminating around 40 kHz.

†† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the NYFE/LACI acoustic group, which is characterized by relatively flat calls terminating between 16–18 kHz.

††† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the 50-kHz Myotis acoustic group which is characterized by steep calls terminating around 50 kHz.

R* = An individual belonging to this species was incidentally observed roosting in a tamarisk beneath the bridge on May 5, 2021, by ECORP biologists performing a nesting bird survey.

BNSF Railroad Bridge over the Colorado River

Daytime Habitat Assessment

The BNSF Railroad bridge over the Colorado River contains both steel girder and steel truss sections. The aboveground height of this structure and crisscrossing steel beams partially obscure the upper areas of the underside of the bridge, and it was difficult to clearly see potentially roosting areas. However, wood timbers at the top of the bridge underside create crevices that are suitable for use by bats, and other crevice or cavity areas that are not visible from ground level may also be present.

Nighttime Acoustic and Emergence Surveys

A total of 106 bats emerging from five locations, predominantly on the California side of this structure, were detected during surveys performed in June 2019. Use of the BNSF Railroad Colorado River Bridge for day roosting was also confirmed during the winter season surveys; however, fall season surveys could not be conducted because access to the BNSF Railroad

right-of-way had not yet been granted. Acoustic detectors were nevertheless placed just outside the railroad right-of-way to obtain data on bat species present in the vicinity of the BNSF Railroad Bridge. The bat species that were acoustically detected during each of the quarterly surveys are shown on Table 2.40, while a brief summary is included below. Survey results for each quarterly survey by season are provided in the NES.

During the spring survey, an estimated total of 179 bats were counted emerging from multiple locations throughout the bridge. Emerging bats were identified using visible characteristics such as wing shape and flight behavior as a combination of Mexican free-tailed bats and myotis (likely Yuma myotis), indicating that at least two species roost within this structure. Extensive foraging activity was also detected beneath the bridge.

A total of eleven bat species were detected acoustically in the vicinity of the BNSF Railroad Colorado River Bridge across all seasons (Table 2.40). The majority of call sequences recorded were 50 kHz call sequences that could belong to Yuma myotis or California myotis. Call sequences identified as canyon bats and sequences belonging to the Q25 acoustic group comprised the remaining dominant acoustic detections.

Table 2-40, Bat Species Detected During Nighttime Surveys at the BNSF Railroad Bridge over the Colorado River, by Season

Common Name (Acoustic Group)	Scientific Name	Acronym	Detected During Fall Survey	Detected During Winter Survey	Detected During Spring Survey	Detected During Summer Survey
California myotis (50-kHz Myotis)	<i>Myotis californicus</i>	MYCA	A	+++	R?; A	R?; A
Yuma myotis (50-kHz Myotis)	<i>Myotis yumanensis</i>	MYYU	R; A	R; A	R?; A	R?; A
Arizona myotis (40-kHz Myotis)	<i>Myotis occultus</i>	MYOC	+	--	+	+
Cave myotis (40-kHz Myotis)	<i>Myotis velifer</i>	MYVE	+	--	+	+
Canyon bat	<i>Parastrellus hesperus</i>	PAHE	A	A	A	A
Western red bat	<i>Lasiurus blassevillii</i>	LABL	A	--	--	--
Hoary bat (LACI/NYFE)	<i>Lasiurus cinereus</i>	LACI	++	++	A	A
Pallid bat (Q25)	<i>Antrozous pallidus</i>	Q25/ANPA	A	--	A	A
Big brown bat (Q25)	<i>Eptesicus fuscus</i>	EPFU	--	--	A	A
Pocketed free-tailed bat (LACI/NYFE)	<i>Nyctinomops femorosaccus</i>	NYFE	++	++	A	A
Mexican free-tailed bat (Q25)	<i>Tadarida brasiliensis</i>	TABR	R; A	R; A	R; A	R; A

A = Confirmed acoustically

R = Confirmed roosting in structure

-- = no observation or detection

† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the 40-kHz Myotis acoustic group which is characterized by steep calls terminating around 40 kHz.

†† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the NYFE/LACI acoustic group, which is characterized by relatively flat calls terminating between 16–18 kHz.

††† = Echolocation calls consistent with this species were recorded, but these sequences were not diagnostic for this species and could have belonged to either species in the 50-kHz Myotis acoustic group which is characterized by steep calls terminating around 50 kHz.

Desert Bighorn Sheep

Based on the literature review, multiple records of occurrence for desert bighorn sheep (*Ovis canadensis nelsoni*) have been reported within the project vicinity. The most recent records are from 2016 and 2020 near the PG&E Topock Compressor Station located near the western portion of the BSA. However, this species is believed to be in decline in the region due to disease and competition from feral burros (see Chapter 4 of the NES for details).

Suitable habitat consisting of open, rocky, steep areas with available water and herbaceous forage to support desert bighorn sheep occur within the project vicinity. Suitable lambing habitat occurs in the mountains south of the project, but not within the BSA. Suitable foraging and connectivity habitat extends from the foothills of the mountains down into the floodplain and upland areas, which include areas of the BSA.

American Beaver

Suitable habitat for American beaver is present within the Colorado River portion of the BSA. However, lodge building is not anticipated due to water flows at the project site. This species was incidentally observed during the bat field surveys.

Special-Status Small Mammals

Colorado River Cotton Rat

Based on the literature review, multiple records of occurrence for Colorado River cotton rat (*Sigmodon arizonae plenus*) have been reported within the project vicinity. The closest known population is located in the Havasu National Wildlife Refuge near Pintail Slough, approximately 8 miles north of the BSA. However, this species is believed to be in decline in the region based on trapping survey results performed between 2009 and 2013 (see Chapter 4 of the NES for details).

Vegetation communities within the BSA that provide suitable habitat for Colorado River cotton rat include common reed marsh and some areas of tamarisk thicket. These vegetation communities were the only two communities within the BSA considered suitable for the species due to the varying levels of disturbances present, proximity to water, size of habitat patches, and relative location to adjacent contiguous patches of suitable habitat.

Based on the habitat assessment performed for the project, it was determined that moderate quality habitat for Colorado River cotton rat is found near the western bank of the river (California side) within the BSA in two areas: as a small strip of common reed marsh located north and south of the bridge, and a nearby pocket of common reed marsh just west of the small

strip along the riverbank. These habitat patches are contiguous with one another just south of the BSA and there is a small body of water that provides a consistent water source for the patch of habitat west of the river. These areas contain the appropriate vegetation density and structure to provide suitable cover for the species to support foraging and reproduction. These areas of suitable vegetation are also located adjacent to open water, which further promotes the vegetative growth and structure necessary for Colorado River cotton rat. Although these patches are contiguous with one another, the habitat patch as a whole is small in size and fragmented from other contiguous areas of suitable habitat for this species, which reduces the suitability of these areas.

The areas of tamarisk thicket that are immediately adjacent to the common reed marsh habitat located within the BSA in the two areas described above are considered low suitability due to their proximity to the common reed marsh. In general, the tamarisk thicket habitat lacks the vegetation and structure necessary to support Colorado River cotton rat; however, the areas of tamarisk thicket immediately adjacent to the common reed marsh may be used by the species for foraging and predator escape activities.

The remaining vegetation communities within the BSA, including areas mapped as tamarisk thicket located further away from the common reed marsh habitat, are not located in proximity to open water, are disturbed due to existing anthropogenic activities, or do not contain the appropriate vegetation structure and density to provide suitable vegetative cover and do not provide habitat for Colorado River cotton rat. There is no potential habitat for Colorado River cotton rat on the Arizona side of the BSA. Suitable habitat to support Colorado River cotton rat that was mapped as a part of the habitat assessment is illustrated on Figure 2.65, 2.66, 2.67.

No individuals or sign of Colorado River cotton rat were detected during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Desert Pocket Mouse

Based on the literature review, multiple records of occurrence for desert pocket mouse (*Chaetodipus penicillatus sobrinus*) have been reported within the project vicinity. The closest known capture of this species is located in the Mohave Valley Conservation Area approximately 1.5 miles northwest of the BSA (see Chapter 4 of the NES for details).

Based on the habitat assessment performed for the project, it was determined that creosote bush desert scrub and the adjacent blue palo verde woodland in the western portions of the BSA (California side) are the only vegetation communities within the BSA that provide suitable habitat for desert pocket mouse. West of National Old Trails Road in the western portion of the BSA, the creosote bush desert scrub and blue palo verde woodland communities provide moderate quality habitat for this species. Soils in this area exhibit varying levels of compaction but overall still appear friable enough for burrow excavation and digging activities by this small mammal species; biologists observed multiple small mammal burrows in this area. Vegetation in this area consists primarily of creosote shrubs that are short in stature, nearly monotypic, and sparse, approximately 30 feet apart, yet are characteristic of the creosote bush desert scrub in the areas surrounding the BSA. The creosote bush desert scrub and blue palo verde woodland communities in the western portion of the BSA provide moderate quality habitat to support foraging and reproductive activities for the species as well as provide an albeit sparse herbaceous layer and available burrow structures for predator escape activities. Suitable habitat for desert pocket mouse between the Mohave Valley Conservation Area, where this species has been detected, and the BSA is relatively contiguous. Although areas exhibiting elevational

changes are located between the two areas, there does not appear to be a major division or blockade between the habitat areas to deter or cut off potential movement of animals between the two areas.

A smaller area of creosote bush desert scrub located south of the highway and between National Old Trails Road and the Colorado River provide low quality desert pocket mouse habitat due to the high level of disturbances present. Soils are more disturbed here than in other portions of the BSA and are more compacted. Additionally, the proximity to existing anthropogenic disturbances in this habitat patch likely preclude the species from occurring in abundance in this area.

There is a strip of disturbed blue palo verde woodland in the northeastern portion of the BSA (Arizona) located on a compacted slope north of the BNSF railroad; however, this patch of habitat was not considered suitable due to the presence of anthropogenic disturbances, presence of compacted soils not suitable for digging activities, and the small size and isolation of this habitat patch from other more suitable desert pocket mouse habitat to the east. The location of this vegetation community is neither expected to support this species nor provide appropriate habitat characteristics to support foraging, reproduction, or predator escape activities. Suitable habitat to support desert pocket mouse that was mapped as a part of the habitat assessment is illustrated on Figure 2.68, 2.69, 2.70.

No individuals or sign of desert pocket mouse were detected during the habitat assessment or other field surveys performed for the project, although focused surveys were not conducted for this species.

Nesting Birds

Suitable nesting habitat for native bird species protected under the MBTA and CFG Code is present in the native riparian and scrub habitats throughout the BSA, particularly along the Colorado River and the open spaces in the western portion of the BSA, as well as on bridge structures and in trees and shrubs within the developed portions of the BSA.

2.2.12.3 ENVIRONMENTAL CONSEQUENCES

The direct and indirect effects on natural vegetation communities are described in detail in Section 2.2.10. The impacts on non-listed special-status wildlife species that occur or potentially occur from the project are discussed in this section. The temporary impacts on suitable habitat to support non-listed special-status wildlife species are based on conservative preliminary design estimates to allow for flexibility of temporary construction work areas during the final design phase of the project. The actual temporary impacts on will likely be refined from those described in this report during the permitting phase of the project (Tables 2.3.4-5 through 2.3.4-9).

Due to the ongoing Topock Remedy Construction Project, hazardous chemicals such as Cr6+ may be present in the groundwater or soil, which has the potential to impact non-listed special-status species. Caltrans is required to complete both an Initial Site Assessment and Detailed Investigations Report, which determine the source, nature, and extent of contamination and quantify the risk and impact of a contaminated site or property on the cost, scope, and schedule of the transportation project and identify appropriate avoidance, minimization, and/or mitigation measures. Caltrans is also required to follow regulatory guidance to ensure that hazardous

materials are properly handled and disposed. The project does not anticipate impacts to any of the non-listed special-status species discussed below from hazardous waste.

Build Alternatives 1, 2, and 3

Flannemouth Sucker

Bridge piers, pilings, abutments, and rock slope protection will be installed within the Colorado River floodplain under all three build alternatives (see Section 1.3 and Figure 2.3.1-1 for details). Consequently, the project will result in direct permanent impacts on suitable habitat to support flannemouth sucker from bridge replacement construction. The project will also result in direct temporary impacts due to construction work areas and access. Installation of temporary trestles to support the bridge deck during construction may also result in temporary impacts if the trestles cannot be situated to avoid or reduce impacts to shoreline habitat. Temporary and permanent direct impacts on flannemouth sucker suitable habitat are provided in Table 2.41.

Permanent direct impacts on flannemouth sucker suitable habitat would be the same under all three build alternatives. Temporary direct impacts would be greatest under Build Alternative 2 and lowest under Build Alternative 1, as provided in Table 2.41 and shown in Figure 2.41 and Figure 2.42.

Table 2-41, Temporary and Permanent Impacts to Flannemouth Sucker Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Resident/Migratory/Dispersal - Low Quality	3.06	0.09	3.55	0.09	3.23	0.09
Total Suitable Habitat Affected	3.06	0.09	3.55	0.09	3.23	0.09

Permanent impacts from construction activities may include instream and bank habitat modifications based on the placement of the piers, pilings, abutments, shoreline structures, and/or riprap. Modifications to instream and bank habitats may directly affect flow types, sediment deposition, and emergent and bank vegetation, which may indirectly affect water quality, benthic invertebrate communities, and fish habitat utilization.

Hydrological connectivity would be maintained during project construction. No dewatering or construction within the entire current active river channel is anticipated other than potential placement of coffer dams, if required for pier or temporary trestle construction; thus, no injury to or death of individual flannemouth sucker are anticipated. If water diversions are required, then it is anticipated that water would be diverted only within a portion of the channel, while the remainder of the channel remains open to allow hydrological connectivity. Otherwise, a culvert pipe or system of pipes may be installed under a temporary coffer dam that will maintain hydrological connectivity.

Temporary impacts from construction activities could include temporary degradation of water quality due to erosion and road runoff, turbidity, temporary changes to bed materials or existing channel contours or slope, downstream siltation, and physiological and behavioral changes to fishes. Construction activities adjacent to and within the river would likely cause indirect disturbances to bank soils and streambed sediments resulting in temporary increases in turbidity and suspended sediments. Increased turbidity can coat and damage gill filaments of

fish, impairing their ability to respire. Suspended sediments can also degrade foraging and spawning habitats resulting in avoidance or displacement of fish. Pollutants or trash entering the water through accidental discharge or equipment failures could also temporarily affect fish and their habitats within and/or downstream of the project.

Underwater noise generated from removing or constructing piers or abutments can cause behavioral and/or physiological changes in fish that could impact migration or dispersal, spawning, feeding and growth, or even reductions in their ability to avoid predation. Additionally, the use of artificial lighting may temporarily impact fish and their habitats.

The magnitude of these impacts depends on several factors, including the extent, concentration, duration, and type of disturbance, and the species (its life stage and sensitivity) being affected. These impacts could be considered significant to both the habitat and fish populations within and/or downstream of the project; however, these impacts would be avoided and/or minimized with the implementation of the measures described below under Build Alternatives 1, 2, and 3.

The proposed improvements to the bridge will increase the load rating to accommodate all permit vehicle traffic which will likely increase the amount of rubber, oil, metal, and other potential contaminants from vehicular wear onto the roadway. If not properly addressed in the design phase, stormwater run-off has the potential to increase the concentration of leachate entering the river and impairing water quality or causing acute mortality or other negative (sometimes long-term) impacts to fish. However, operation of the expanded bridge and roadway is not anticipated to result in any relevant changes to volumes, flow regimes, point sources, or the quality of upland water (e.g., stormwater flows) because the project will implement BMPs for permanent operating conditions, including a SWPPP and water quality control measures, which will maintain or improve water volumes and quality from bridge and roadway surface flows at the I-40 Colorado River Bridge.

Geotechnical boring activities would result in temporary indirect impacts on flannelmouth sucker, should any individuals be present, and its suitable habitat. Three bores (RC-20-009, -010, and -011) will be drilled within the Colorado River channel and would be collected from the water via a barge (Figure 1.1.3 see Section 1.3.2 and Section 2.2.10.3 for details). Because each boring hole is only a few inches in diameter and the locations would be accessed via a barge, no direct impacts on either flannelmouth sucker or its suitable habitat are anticipated as a result of geotechnical boring activities. Minor indirect impacts may occur when bores are collected from sediment disturbance and/or elevated noise levels and underwater sound pressure, as well as vibration due to drilling; these indirect impacts would be short-term and temporary in nature. Impacts from geotechnical boring activities would be minimized and avoided with implementation of the measures described in Section 2.2.13.4 below.

Baja California Tree Frog

Suitable habitat to support Baja California tree frog occurs within the BSA outside of the PIA; therefore, no direct impacts to this species or its habitat are anticipated as a result of either bridge replacement construction activities or geotechnical boring activities. Although construction work may result in indirect effects on suitable habitat (e.g., degradation of habitat through dust, water pollution, increased fire risks), such effects would be temporary and are expected to be minor given the distance between Topock Marsh and the PIA. In addition, the avoidance and minimization efforts described in Section 2.2.13.4 below would reduce impacts on Baja California tree frog, if present, and its suitable habitat under Build Alternatives 1, 2, and 3.

Burrowing Owl

The project would not result in any permanent direct impacts on burrowing owl suitable habitat under Build Alternatives 1, 2, and 3. Temporary direct impacts could occur as a result of construction work areas and access and would be the same under all three build alternatives, as provided in Table 2.42 and shown in Figure 2.44, 2.45, 2.46.

Table 2-42, Temporary and Permanent Impacts to Burrowing Owl Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Low to Moderate – Nesting and Foraging	0.33	--	0.33	--	0.33	--
Low – Nesting and Foraging	0.47	--	0.47	--	0.47	--
Total Potential Habitat Affected	0.80	--	0.80	--	0.80	--

"--" indicates no impact

No burrowing owl or their sign were detected within the BSA during the habitat assessment or other field surveys performed for the project (although focused surveys were not conducted for this species) and there are no records of occurrence for this species within the project area. As a result, no direct or indirect impacts are anticipated. However, although the project is not expected to affect this species, there is a potential for burrowing owl to be present prior to project construction activities because the species can migrate and occupy habitat in the BSA in the future. If burrowing owl are present at the time of construction work, then vegetation removal and/or grading could result in injury or mortality to any owls that are inside burrows and unable to leave (primarily young); it would also crush any active burrows on the site. Owls flying out of burrows to escape could collide with machinery or vehicles. If any burrowing owls are inhabiting the project site at the time of construction work, then they would be displaced. Potential indirect effects on burrowing owls, should they be present, could include impacts resulting from decreased suitability of habitat in the project vicinity due to various factors such as increased noise from construction and vehicles, vehicle emissions, nighttime lighting, dust, introduction and spread of invasive plant species, and other human activity.

All areas mapped as suitable habitat to support burrowing owl are located outside of the areas where geotechnical boring would be performed. Therefore, no direct or indirect impacts on burrowing owl or its suitable habitat are anticipated as a result of geotechnical borings activities.

Special-Status Avian Species

Nesting and foraging habitat for loggerhead shrike, Crissal thrasher, yellow-breasted chat, Sonoran yellow warbler, Costa's hummingbird, double-crested cormorant, black-tailed gnatcatcher, and yellow-headed blackbird is present within the riparian and open water habitat associated with the Colorado River and/or the desert scrub vegetation communities located within the BSA. There could be temporary impacts on these species if nesting occurs within or adjacent to the BSA. Impacts could include a loss of nesting habitat, nest destruction, nest abandonment, disturbance from construction noise and related activities, an increased risk of predation, and the degradation of suitable habitat. However, the avoidance and minimization efforts listed below, including pre-construction nesting bird surveys and monitoring, would ensure that impacts on these species, if present, would not occur as a result of Build Alternatives 1, 2, or 3.

Suitable habitat for foraging brown-crested flycatcher, summer tanager, Lucy’s warbler, Clark’s grebe, and Lawrence’s goldfinch and suitable habitat for migrating Swainson’s thrush, olive-sided flycatcher, marbled godwit, American white pelican, brown pelican, and white-faced ibis is present within the riparian and open water habitat associated with the Colorado River and/or the desert scrub habitats in the BSA. No nesting habitat for these species is present. The project would not substantially reduce foraging or resting habitat for these species, given that construction would occur primarily along the roadway in areas with limited foraging capacity. Any foraging or roosting individuals would avoid the work area during construction. Therefore, substantial impacts on these species are not anticipated. The avoidance and minimization efforts listed below would ensure that impacts on these species, if present, would be minimal under all three build alternatives during construction.

Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable habitat that could support special-status avian species. Direct impacts for species whose habitat was mapped as a part of the habitat assessment is provided in Table 2.43 below and illustrated on Figure 2.44 through Figure 2.91.

Table 2-43, Temporary and Permanent Impacts to Special-Status Avian Species Suitable Habitat by Build Alternative

Species and Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Loggerhead Shrike						
Moderate to High – Nesting and Foraging	3.48	0.06	3.53	0.09	3.41	0.13
Marginal – Nesting and Foraging	3.92	0.19	3.71	0.48	4.01	0.10
Low – Foraging Only	0.98	0.03	0.98	0.07	0.91	0.08
Total Potential Habitat Affected	8.38	0.28	8.22	0.64	8.33	0.31
Crissal Thrasher						
Moderate – Nesting and Foraging	3.15	0.06	3.20	0.09	3.08	0.13
Low – Nesting / Moderate – Foraging	0.69	--	0.66	0.03	0.69	0.00
Low – Nesting and Foraging	0.33	--	0.33	--	0.33	--
Low – Foraging Only	0.29	0.03	0.32	0.04	0.23	0.07
Total Potential Habitat Affected	4.46	0.09	4.51	0.16	4.33	0.20
Yellow-Breasted Chat						
Moderate to High – Nesting and Foraging	3.15	0.06	3.20	0.09	3.08	0.13
Moderate to High – Foraging	0.69	--	0.66	0.03	0.69	0.00
Low – Foraging	0.29	0.03	0.32	0.04	0.23	0.07
Total Potential Habitat Affected	4.13	0.09	4.18	0.16	4.00	0.20
Sonoran Yellow Warbler						
Moderate to High – Nesting and Foraging	3.15	0.06	3.20	0.09	3.08	0.13
Low – Nesting / Moderate – Foraging	0.71	0.24	0.53	0.54	0.76	0.16
Moderate – Foraging	0.69	--	0.66	0.03	0.69	0.00
Total Potential Habitat Affected	4.55	0.30	4.39	0.66	4.53	0.29
Brown-Crested Flycatcher and Summer Tanager						
Low – Foraging	3.35	0.10	3.44	0.13	3.23	0.19

Species and Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Marginal – Foraging	0.97	--	0.94	0.03	0.97	0.00
Total Potential Habitat Affected	4.32	0.10	4.38	0.16	4.20	0.19

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

Geotechnical boring activities would result in direct impacts on special-status avian species and/or their suitable habitat. Three of the bore locations (RC-20-006, -007, and -008) will be drilled within natural areas and may require clearing of vegetation to access an existing dirt maintenance road should it be overgrown with vegetation (Figure 1.1.3 see Section 1.3.2 and Section 2.2.10.3 for details). Bore location RC-20-006 is located in a dirt road and would not have any impacts on special-status avian species or their suitable habitat. However, bore locations RC-20-007 and -008 are located within habitat that could support special-status avian species. Boring activities would result in the temporary removal of 0.13 acre of tamarisk thicket and 0.03 acre of common reed marsh habitats. Clearing vegetation could also result in direct impacts on individual special-status avian species should they be present (e.g., mortality, injury, nest destruction), as well as elevated noise levels and vibration due to drilling. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.13.4 below.

The most westerly bore locations (RC-20-001, -002, -003, -004, and -005) and easterly bore locations (RC-20-012 and -013) would be taken from I-40 and drilled within the disturbed areas along the road shoulder adjacent to the highway and, thus, would not impact any natural vegetation communities that could support any special-status avian species. The bore locations proposed within the Colorado River (RC-20-009, -010, and -011) would be drilled from the water via a barge and would not have any impacts on special-status avian species or their suitable habitat.

Caltrans has determined the Project will have *No Take* to fully protected species, brown pelican, pursuant to CESA.

Special-Status Bats

Bridge construction or the removal or trimming of suitable roost trees could harm roosting bats as a direct result of implementation of Build Alternative 1, 2 or 3. Because the I-40 Colorado River Bridge will be completely removed and replaced as part of the project, and the I-40 Bat Cave Wash Culvert might be modified or removed, there is potential for mortality of day-roosting bats as well as potential for "take" resulting from net loss of roosting habitat unless strategies are implemented. Alternatively, the final design may be beneficial to bats in the long term if additional roosting habitat is incorporated into the bridge. Day-roosting bats have been confirmed at the I-40 and BNSF Colorado River bridge structures during the fall and winter seasons, and the results of the spring 2021 focused surveys suggest that maternity colonies of Yuma myotis use the I-40 Colorado River bridge structure. In addition, the I-40 Bat Cave Wash Culvert is known to house a maternity colony of Yuma myotis. Maternity colonies, which consist of females and their young and often involve large numbers of individuals, are particularly vulnerable to roost disturbance. Disruption and disturbance of a maternity roost would be a substantial impact because disturbance of these roosting areas that are crucial to reproduction in bats can lead to roost abandonment and/or mortality of the bats in that roost.

Noise and vibration generated by construction activities (e.g., pile driving and demolition) could result in temporary, indirect impacts to any bats roosting in the vicinity of project-related activities. For example, all three build alternatives will involve pile driving for the construction of new pier foundations as well as for the installation of the temporary trestle bridge. Night-roosting bats can also be subject to impacts if nighttime construction occurs and night lighting is used. This lighting can be disruptive to roosting and foraging behaviors, particularly over time. Bats may also be subject to temporary, direct impacts as the result of any humane eviction/exclusion activities that are conducted to prevent direct mortality during demolition of the I-40 Colorado River Bridge or if the I-40 Bat Cave Wash Culvert is removed.

Eight of the thirteen proposed geotechnical boring locations (RC-20-05 through RC-20-12) occur adjacent to the I-40 Colorado River Bridge and could result in temporary impacts on roosting bats. Impacts on individuals could include elevated noise levels and vibration due to drilling. Removal of 0.16 acre of riparian habitat from bore locations RC-20-007 and -008 and the associated access road could result in loss of suitable habitat for foraging bats. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.13.4 below

Potential project construction-related impacts relevant to each proposed build alternative are described below. Implementation of the avoidance and minimization efforts listed in Section 2.2.13.4, including the strategies recommended in the Bat Management and Mitigation Plan (BMMP), would ensure that impacts on roosting bats would be reduced to the greatest extent feasible under all three build alternatives.

Build Alternative 1

Construction of the replacement of the I-40 Colorado River Bridge will occur in two stages. The first stage of construction will involve the removal of half of the existing bridge so that half of the new bridge can be built within that footprint while traffic can continue to flow on the remaining half of the existing bridge. During the second stage of construction, traffic will be shifted on to the newly constructed half of the replacement bridge, and the remainder of the existing bridge will be demolished for construction of the new bridge within that footprint.

During the demolition associated with each stage of construction, bats would be subject to direct impacts from the removal of roosting habitat. Exclusion of bats from demolition areas would be necessary to avoid mortality of roosting bats; however, if bats are completely excluded from the bridge without alternate roosting habitat being provided, that loss of habitat may also result in direct impacts to bats. Day-roosting bats allowed to remain in the existing I-40 will be in close proximity to construction activities associated with the construction of the new bridge section on the south (eastbound) side of the bridge and may be subject to temporary, indirect impacts from noise and vibration generated by these activities. The demolition and replacement of the existing bridge during the second stage of construction will result in permanent impacts to all remaining suitable roosting habitat within the structure.

Work at Bat Cave Wash is not anticipated under Alternative 1. If work occurs within proximity to the culvert, bats could be subject to indirect impacts from noise or light. Night roosts used by bats (and particularly those used by maternity colonies) are of important conservation value because they minimize or eliminate the need for the bats to undertake multiple commutes, which are energetically costly, from their day roost to the foraging area throughout a given evening. Consequently, if a night roost used by a maternity colony is eliminated, it can result in lower reproductive success for the individuals within that colony.

Build Alternatives 2 and 3

The replacement of the I-40 Colorado River Bridge would be completely constructed along a new alignment prior to the demolition of the existing I-40 Colorado River Bridge. Under these build alternatives, construction activities would not occur on the existing bridge or result in direct impacts to roosting bats until the replacement bridge is completely constructed.

Build Alternative 2 would construct the replacement bridge along an alignment north of the existing bridge. In addition to potential indirect impacts from project-related construction activities for bats roosting in the I-40 Colorado River Bridge, bats roosting within the BNSF Railroad Bridge may also be subject to indirect impacts from construction activities that generate high levels of noise (e.g., pile driving for temporary trestles and the pier foundations) under Build Alternative 2. Build Alternative 3, on the other hand, would construct the replacement bridge along an alignment south of the existing bridge. Bats roosting within the existing I-40 Colorado River Bridge may be subject to indirect impacts from construction activities that generate high levels of noise but bats roosting in the BNSF Railroad Bridge would likely not be subject to these impacts due to the distance from the replacement bridge as well as the presence of the existing I-40 Colorado River Bridge between the replacement bridge and the BNSF bridge.

Work is not anticipated at Bat Cave Wash under Alternative 2. Under Alternative 3, a culvert extension may be required at Bat Cave Wash. If the culvert is widened, or if it is removed and replaced, bats could be subject to indirect impacts from noise or direct impacts from roost removal. Night roosts used by bats (and particularly those used by maternity colonies) are of important conservation value because they minimize or eliminate the need for the bats to undertake multiple commutes, which are energetically costly, from their day roost to the foraging area throughout a given evening. Consequently, if a night roost used by a maternity colony is eliminated, it can result in lower reproductive success for the individuals within that colony.

Desert Bighorn Sheep

While a habitat assessment was not conducted for desert bighorn sheep, and therefore potential direct impacts by build alternative were not calculated, it is assumed that natural vegetation communities within the BSA may provide suitable foraging habitat and connectivity; no live-in habitat is present within the BSA. Project construction would result in direct impacts on desert scrub habitat that may be used for movement by this species, as detailed in Section 2.2.10.3 and Table 2.3.1-3. Loss of live-in and lambing habitat does not occur within the BSA and, therefore, would not be impacted by the project.

Project construction-related activities and geotechnical borings have the potential to generate noise and vibration and construction activities may occur at night. Indirect impacts during construction may include noise, vibration, and/or visual disruptions including artificial lighting and human presence, which may disrupt and deter movement patterns in the project area (see the Wildlife Movement Corridors discussion in Section 2.2.10 for details). Direct impacts may include injury or mortality of individuals should they be present within the project work area during construction activities (e.g., vehicle or equipment strikes). However, with the implementation of the avoidance and minimization measures provided in Section 2.2.13.4 below, any project-related impacts on desert bighorn sheep would be expected to be minor.

Caltrans has determined the Project will have *No Take* to fully protected species, desert bighorn sheep, pursuant to CESA.

American Beaver

Suitable habitat for foraging American beaver is present in the Colorado River portion of the BSA. No live-in habitat (i.e., suitable conditions for lodge building) is present. The project would not substantially reduce foraging habitat for this species as the only permanent impacts to open water are from the installation of piers and pilings (see Table 2.3.1-3 in Section 2.2.10 for details). Although construction work and geotechnical boring may result in some indirect effects (e.g., increased noise and vibrations, human presence), such effects would be expected to be minor as any foraging individuals would avoid the work area during construction and/or geotechnical boring activities. Therefore, substantial impacts on American beaver are not anticipated. The avoidance and minimization efforts listed below would ensure that impacts on this species, if present, would be minimal under Build Alternatives 1, 2, and 3.

Special-Status Small Mammals

Suitable riparian habitat (i.e., common reed marsh and some areas of tamarisk thicket) to support Colorado River cotton rat and desert scrub habitat (i.e., creosote bush desert scrub and blue palo verde woodland) to support desert pocket mouse is present within the BSA. Implementation of any of the three build alternatives would result in the permanent removal and/or temporary disturbance of suitable habitat for both of these species, as described in the subsections below.

Project construction and vegetation clearing could result in direct mortality, injury, or harassment of individual Colorado River cotton rat and/or desert pocket mouse as a result of construction vehicles and heavy equipment. Other direct impacts may include individuals being crushed or entombed in their burrows, collection by project personnel, and injury or mortality from opportunistic predators during construction activity. Activities associated with construction, including disturbance by noise or vibrations from the heavy equipment, may result in disruption of individual's behavior. If construction occurs during the breeding season, it could disturb breeding behavior, resulting in negative impacts on reproduction.

Other potential direct impacts include the compaction of soil due to construction vehicles, which may decrease the availability of friable soils for burrow creation. Capturing, handling, and relocating Colorado River cotton rat and/or desert pocket mouse that occur within the construction area could cause injury or death if proper handling and relocation techniques are not used. Artificial lighting could affect nocturnal activities, including foraging. In addition, artificial lighting at night may increase predation risk by allowing predators, such as owls, to hunt more efficiently.

Indirect effects of construction include an increase in human activity, which could result in an increase in opportunistic predators that are attracted to litter, such as coyote and American crow. Construction and mechanical soil disturbance may adversely affect suitable habitat onsite by altering drainage patterns and encouraging the spread of invasive plant species, which could indirectly result in loss of quality habitat and an increase in fire frequency. However, implementation of the avoidance and minimization measures listed below would ensure that impacts on these species, if present, would be minimal under Build Alternatives 1, 2, and 3.

Colorado River Cotton Rat

Suitable habitat to support Colorado River cotton rat is present within common reed marsh and tamarisk thicket habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable habitat that could support this species. The same overall amount of moderate and low suitability habitat would be affected by

the project under all three build alternatives (i.e., permanent and temporary impacts combined; 1.75 acres), with the greatest amount of permanent impacts occurring under Build Alternative 3 and no permanent impacts under Build Alternative 1. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.44 below and illustrated on Figure 2.65, 2.66, 2.67.

Table 2-44, Temporary and Permanent Impacts to Colorado River Cotton Rat Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Low	1.06	--	1.06	--	1.02	0.04
Moderate	0.69	--	0.66	0.03	0.69	0.00
Total Potential Habitat Affected	1.75		1.72	0.03	1.71	0.04

"--" indicates no impact

Geotechnical boring activities could result in direct impacts on Colorado River cotton rat and/or its suitable habitat. Drilling at bore locations RC-20-007 and -008 would result in the temporary removal of 0.16 acre of suitable habitat for this species. Clearing vegetation could also result in direct impacts in individuals should they be present (e.g., mortality, injury,), as well as elevated noise levels and vibration due to drilling. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.13.4 below.

Desert Pocket Mouse

Suitable habitat to support desert pocket mouse is present within the creosote bush desert scrub and blue palo verde woodland habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable habitat that could support this species. Impacts to desert pocket mouse suitable habitat would be approximately similar for all three build alternatives (i.e., less than a 0.05-acre difference from Build Alternative 1 and Build Alternatives 2 and 3). All impacts under Build Alternative 1 would be temporary, whereas Build Alternatives 2 and 3 would result in 1.40 acres of permanent impacts. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.45 below and illustrated on Figure 2.68, 2.69, 2.70.

Table 2-45, Temporary and Permanent Impacts to Desert Pocket Mouse Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Low	0.13	--	0.13	--	0.09	0.03
Moderate	11.55	--	10.13	1.40	10.14	1.37
Total Potential Habitat Affected	11.68		10.26	1.40	10.24	1.40

"--" indicates no impact

No direct or indirect impacts on desert pocket mouse are anticipated as a result of geotechnical borings activities. All of the areas mapped as suitable to support this species are located outside of where geotechnical boring would be performed. Consequently, geotechnical boring activities are not expected to impact desert pocket mouse or its suitable habitat.

Nesting Birds

Native bird species and their nests are protected under the MBTA and CFG Code. The MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit. The CFG Code protects nesting birds and nongame birds from take or nest destruction.

The BSA contains suitable nesting habitat for a variety of avian species protected by the MBTA and/or CFG Code sections. Suitable nesting habitat is present throughout the BSA in mature trees, shrubs, and ground cover, particularly in riparian and desert scrub habitats and this vegetation is likely utilized by many birds in the project area. The project has the potential to impact active native resident and/or migratory bird nests if, and to the extent that, those trees and shrubs are trimmed or removed, or ground cover is removed, during the avian nesting season and they contain nests. However, implementation of the measures described in Section 2.2.13.4 below would avoid the direct take of any nesting birds protected by the MBTA and/or CFG Code sections.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on non-listed special-status wildlife species beyond those that would be expected to occur from the existing facility.

2.2.11.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans standard BMPs, the BMPs in the anticipated SWPPP, and 2022 Standard Specifications (or latest version) will be implemented to minimize effects during construction. The project, including this EIR and the NES, will utilize the Caltrans District 8's Avoidance and Minimization Measures (Version 4); applicable measures to non-listed species-status wildlife species are included below.

Flannelmouth Sucker

Measure **NC-1**, **NC-2***, **NC-3** and **NC-7** (Section 2.2.10.5), Measures **WET-1**, **WET-2**, and **WET-3*** (Section 2.2.11.4), and **AS-1*** below would avoid or minimize environmental effects on individual flannelmouth sucker and waters that may be inhabited by this species. In addition, measures implemented to comply with the project SWPPP, as well as USACE, CDFW, and RWQCB permit conditions for impacts on jurisdictional waters, will ensure avoidance and/or minimization of impacts on water quality. (*Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings*).

AS-1* Attenuation methods, such as the use of underwater sound pressure attenuation devices, foundations designed to span the wet channel, air bubble curtains, cofferdams, isolation casings, and/or use of smaller piles, must be incorporated into the project, as feasible, during design, project development, and construction phases to avoid or minimize the exposure of fish and other aquatic species to underwater sound pressure generated during pile driving. Appropriate attenuation methods will be dependent upon the final design. (Caltrans District 8 Measure BIO-Fish-PSM-1: Attenuation Methods)

Compensatory mitigation is not required.

Baja California Tree Frog

Implementation of general BMPs, as well as Measures **NC-1**, **NC-2***, **NC-3**, **NC-6**, and **NC-7** (Section 2.2.10.5) would minimize potential impacts on suitable Baja California tree frog habitat that occurs adjacent to the project work limits. Neither Build Alternative 1, 2, nor 3 is expected to directly affect this species; therefore, no species-specific measures are necessary. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

Compensatory mitigation is not required.

Burrowing Owl

Although no burrowing owls were observed within the BSA, they could subsequently inhabit the BSA in areas that were previously determined to be unoccupied. Measures **NC-1**, **NC-2***, **NC-3**, **NC-6**, and **NC-7** (Section 2.2.10.5), and **AS-2*** and **AS-3**(below) would ensure there is no direct mortality of any burrowing owls during construction should this species be present. Implementation of Measures would also minimize potential impacts on burrowing owl occurring adjacent to the project limits. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

AS-2* Two burrowing owl preconstruction surveys must be performed: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities. (Caltrans District 8 Measure BIO-Avian-2: Preconstruction Burrowing Owl Survey)

AS-3* If burrowing owls are found on site, coordination with CDFW will be conducted to determine the appropriate avoidance, minimization, and mitigation measures required for the project (following the avoidance, minimization, and mitigation measures recommended in the 2012 Staff Report on Burrowing Owl Mitigation [or latest version]). Any and/or all of these measures are subject to change based on the results of forthcoming focused surveys and at the request of CDFW. (Caltrans District 8 Measure BIO-Avian-PSM-4: Avoidance, Minimization, and Mitigation Measures for Burrowing Owl)

Compensatory mitigation is not required.

Special-Status Avian Species

Measures **NC-7** and **NC-8** (Section 2.2.10.4) would ensure that no direct take of any special-status avian species that have a potential to nest and/or forage within the BSA would occur, including loggerhead shrike, Crissal thrasher, yellow-breasted chat, Sonoran yellow warbler, Costa’s hummingbird, double-crested cormorant, black-tailed gnatcatcher, yellow-headed blackbird, brown-crested flycatcher, summer tanager, Lucy’s warbler, Clark’s grebe, and Lawrence’s goldfinch. Implementation of Measures **NC-1** and **NC-3** through **NC-6** under Section 2.2.10.4 would also provide protection for potential habitat to support these species adjacent to the project work limits during construction.

Compensatory mitigation is not required.

Special-Status Bats

Measure **NC-7** (Section 2.2.10.5), and Measure **AS-4*** below would ensure that no direct take of bat species would occur. Implementation of Measures **NC-1** and **NC-3**, **NC-5*** and **NC-6** under Section 2.2.10.4 would also provide protection for potential bat habitat adjacent to the project work limits during construction. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

AS-4* A BMMP must be developed and implemented in accordance with CDFW guidelines. (Caltrans District 8 Measure BIO-Bat-1: Bat Management and Mitigation Plan)

Implementation of a BMMP and replacement of any bat roosting habitat that is a temporary impact as a result of the project (Measure **AS-4***) will serve as alternative roosting habitat for project-related impacts on bats and will ensure no net loss of bat roosting habitat following the demolition and replacement of the existing I-40 Colorado River Bridge.

Desert Bighorn Sheep

Measures **NC-7** (Section 2.2.10.5) and **AS-5** below would be incorporated to avoid and minimize impacts on desert bighorn sheep. Measures **NC-1** through **NC-2*** and **NC-6** (Section 2.2.10.5) would reduce project impacts and improve connectivity at wildlife crossings within the BSA. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

AS-5 If during project activities a desert bighorn sheep, northern Mexican gartersnake, or Mojave desert tortoise is discovered within the project site, all construction activities must stop within 125 feet for desert bighorn sheep and Mexican gartersnake and 100 feet for desert tortoise, and the Caltrans District Biologist and Resident Engineer must be notified. Coordination with CDFW, AZGFD, and/or USFWS will be required prior to restarting activities in the vicinity of the observation. (Caltrans District 8 Measure BIO-General-PSM-18: Species Avoidance)

Compensatory mitigation is not required.

American Beaver

Implementation of Measures **NC-1**, **NC-2***, and **NC-3** and **NC-7** (Section 2.2.10.5), Measures **WET-1** through **WET-2** (Section 2.2.11.4), and **AS-1*** above would minimize any potential impacts on American beaver and its suitable habitat. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

Compensatory mitigation is not required.

Special-Status Small Mammals

Measures **NC-3** and **NC-7** (Section 2.2.10.5) and **AS-6** (below) would ensure there is no direct mortality of special-status small mammal species, including Colorado River cotton mouse and desert pocket mouse. Implementation of Measures **NC-1**, **NC-2***, and **NC-3** and **NC-6** (Section

2.2.10.5) would minimize potential indirect impacts on special-status small mammal species and their habitat adjacent to the project work limits. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

AS-6 To prevent inadvertent entrapment of small terrestrial species during project activities, all excavated steep-walled holes or trenches must be covered at the close of each working day by plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day, all such holes or trenches must be inspected to ensure no animals have been trapped during the previous night. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Trapped animals must be released by the qualified biologist.

Compensatory mitigation is not required.

Nesting Birds

Measures **NC-1**, **NC-2***, **NC-3**, **NC-6 – NC-8** (Section 2.2.10.5), **TE-1** and **TE-2*** (Section 2.2.14.4), and **AS-2** and **AS-3** above would ensure there is no direct mortality of raptors or other protected nesting birds and/or abandonment of nests with eggs and/or young and would comply with the MBTA and CFG Code. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

Compensatory mitigation is not required.

Figure 2.40, Special-Status Bird Species Observations

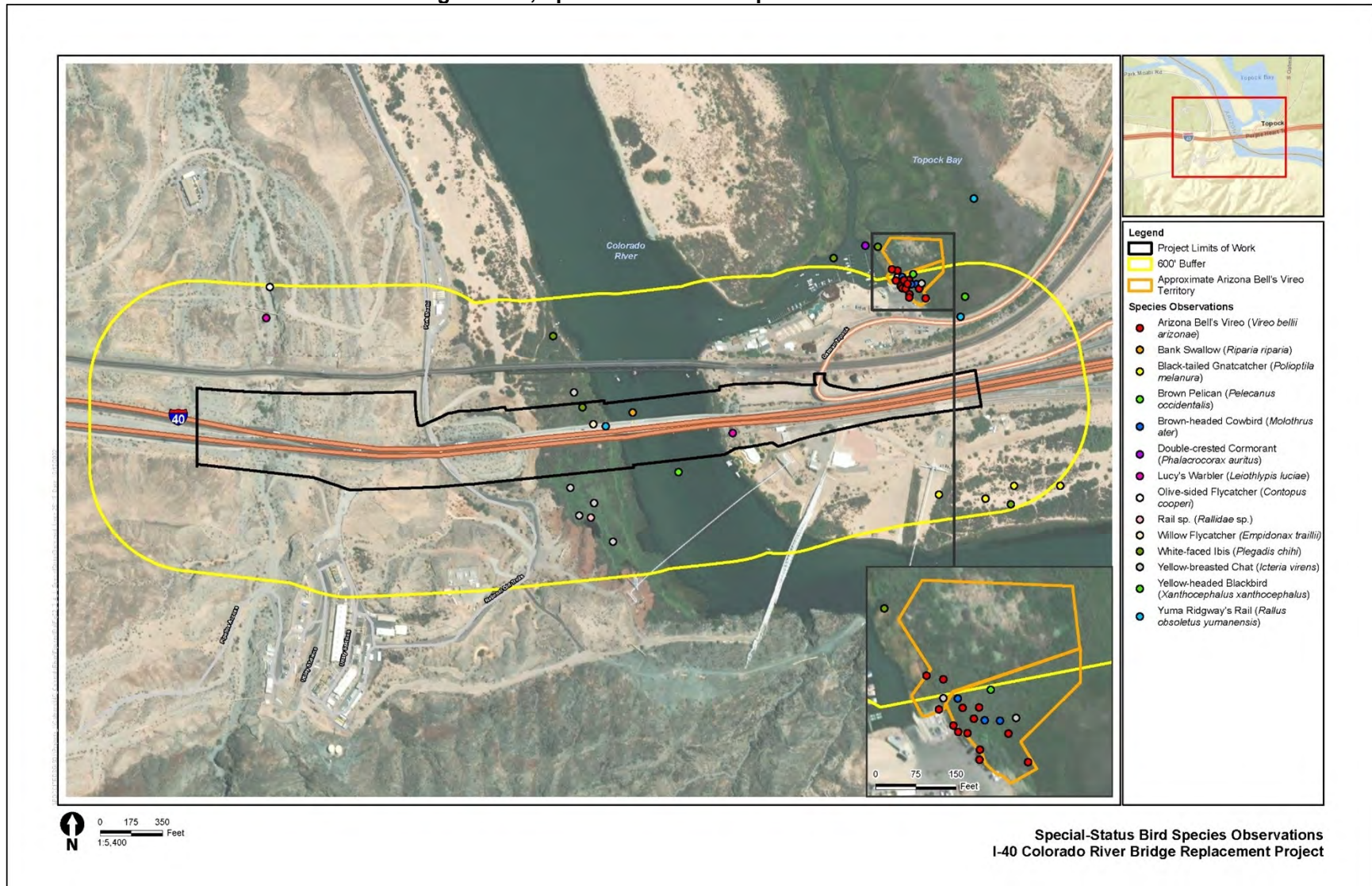


Figure 2.41, Fish Habitat Assessment Alternative 1

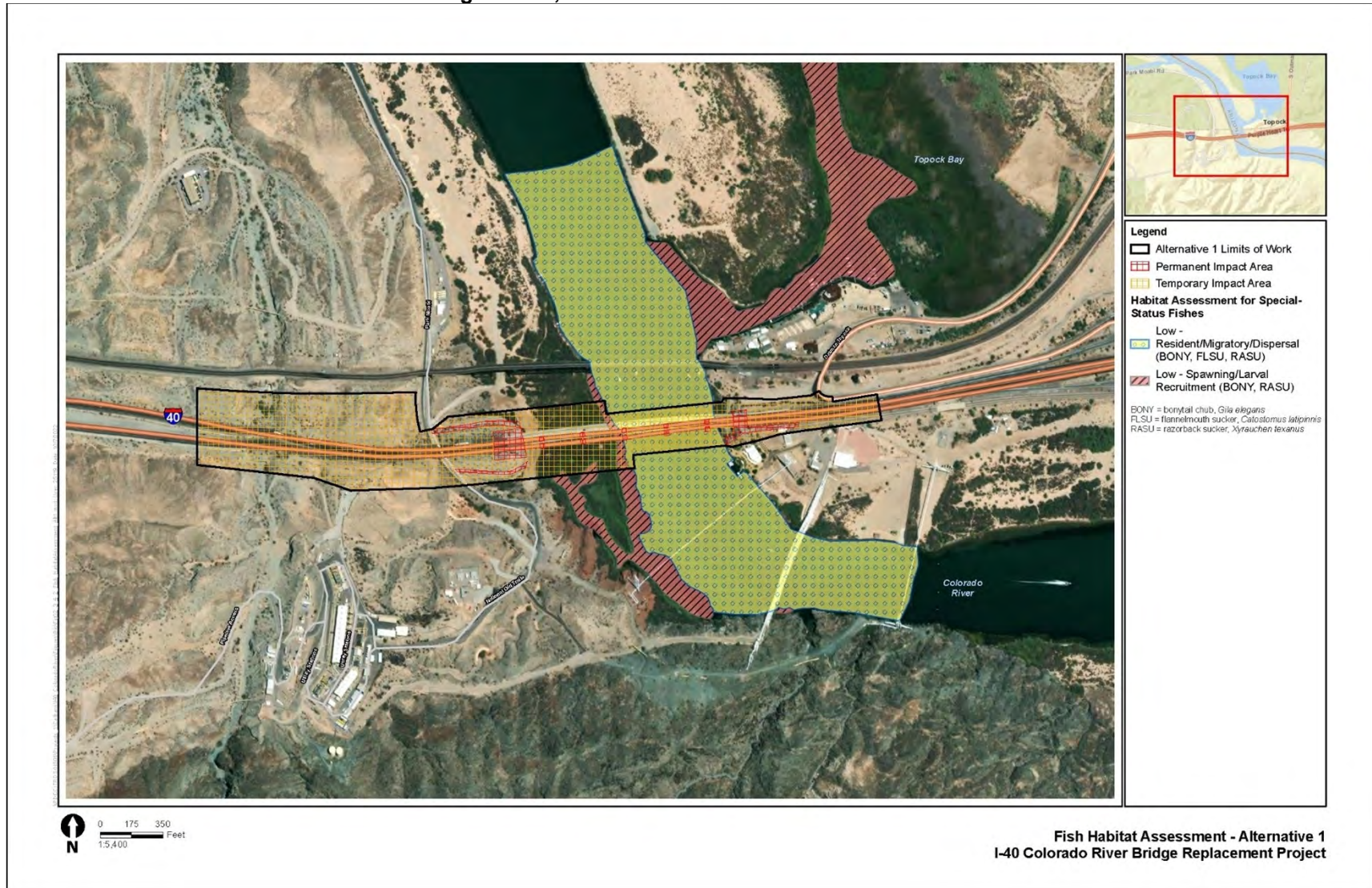


Figure 2.42, Fish Habitat Assessment Alternative 2

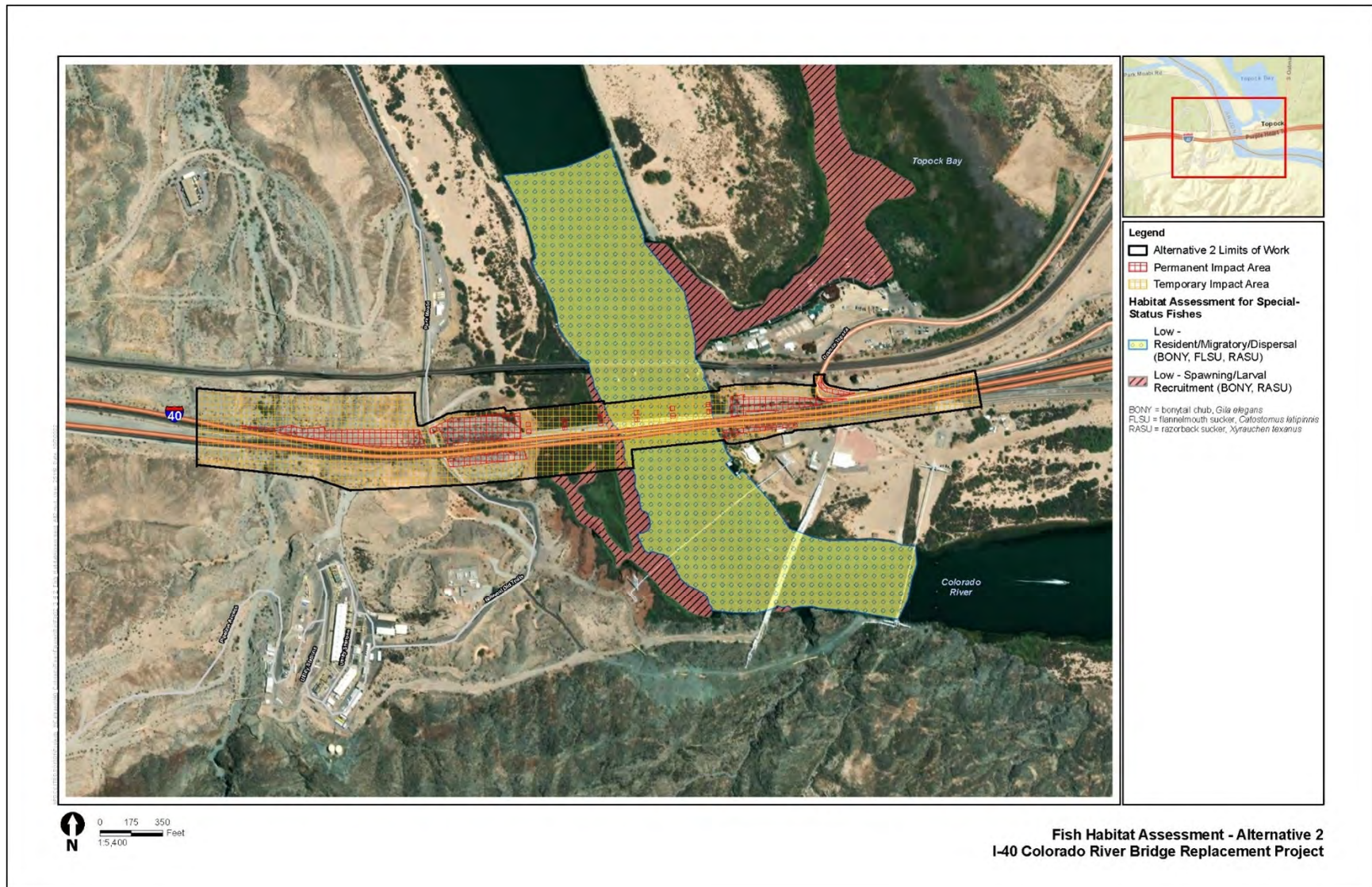


Figure 2.43, Fish Habitat Assessment Alternative 3

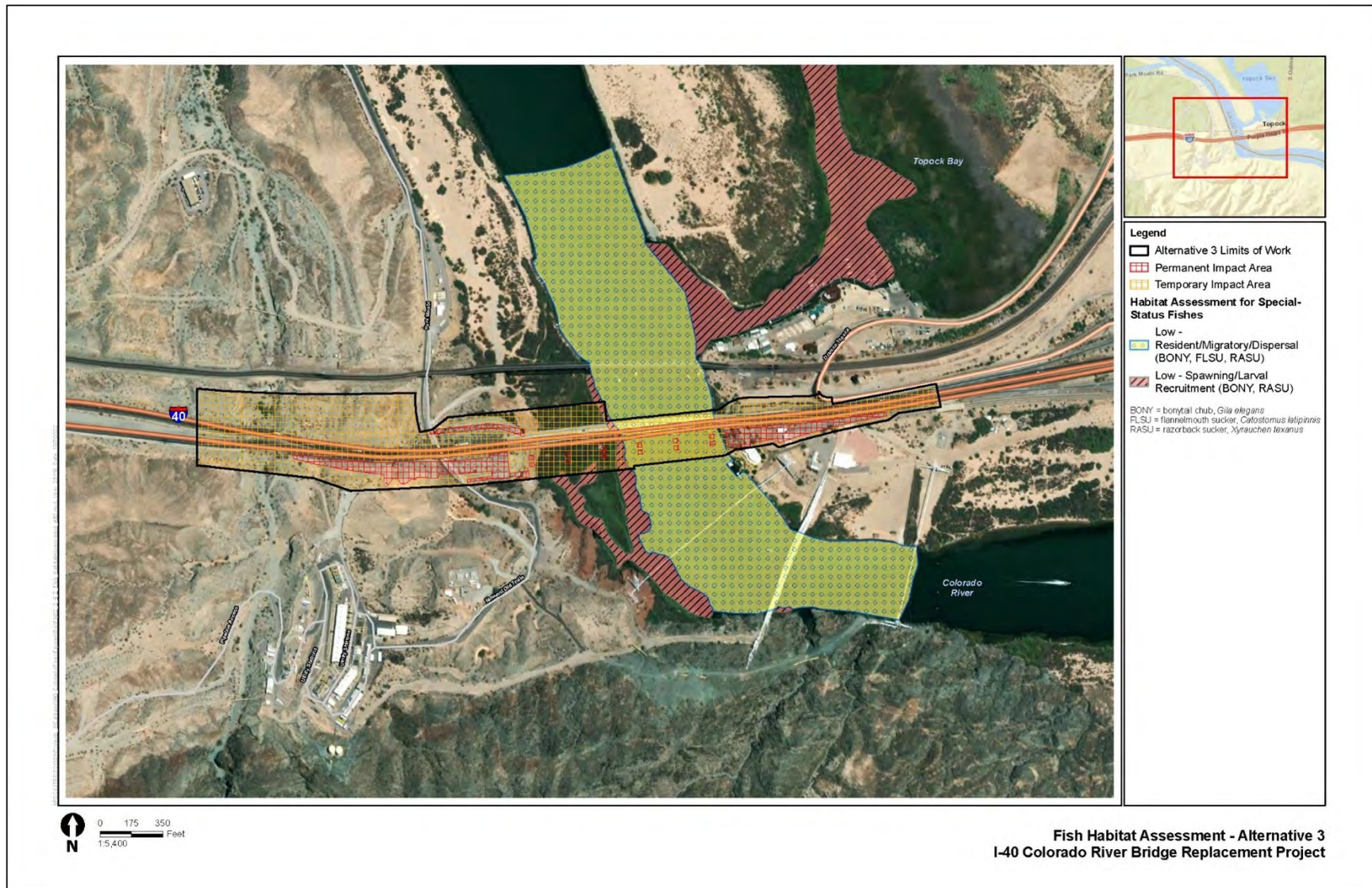


Figure 2.44, Burrowing Owl Habitat Assessment Alternative 1

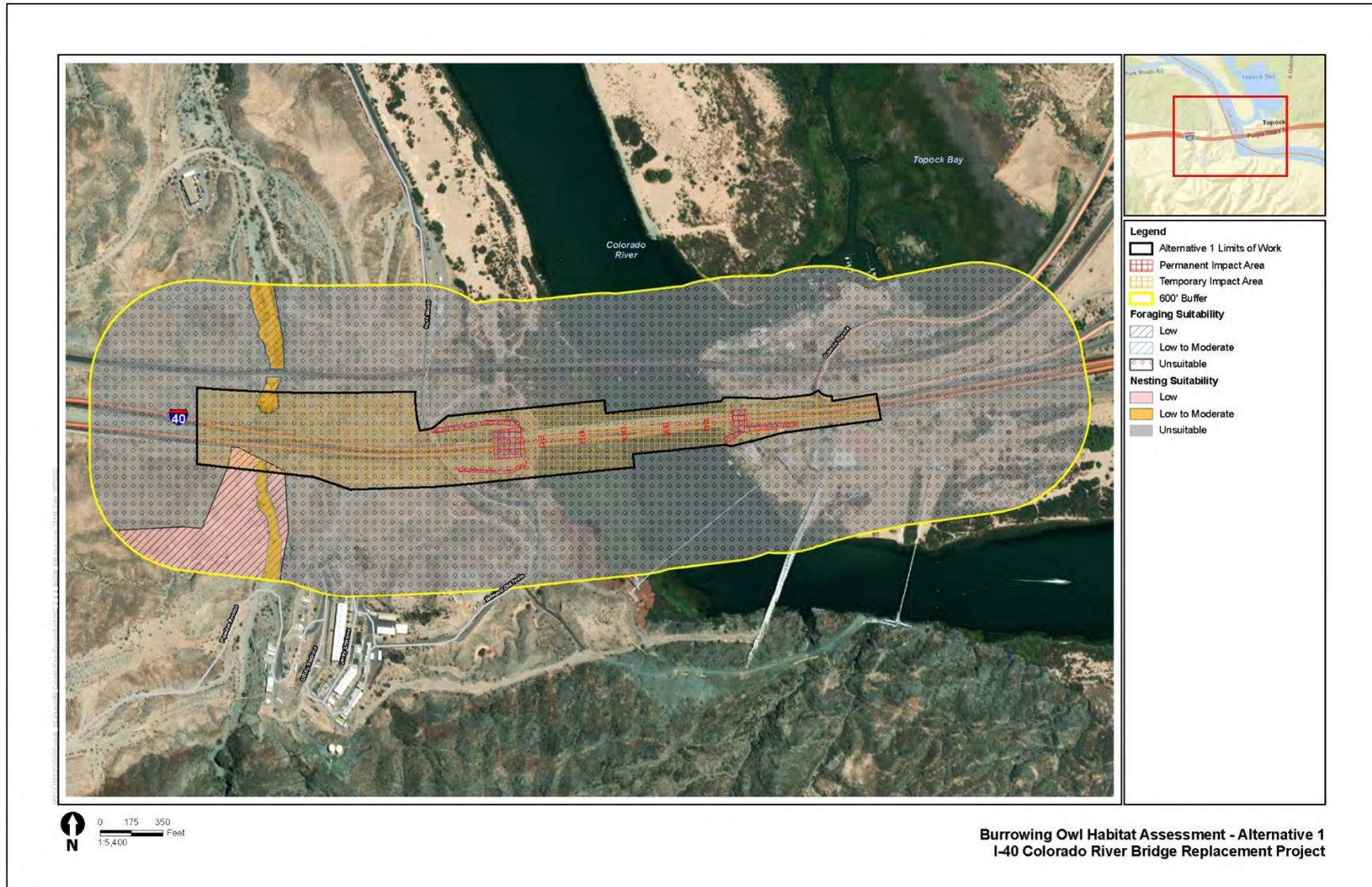


Figure 2.45, Burrowing Owl Habitat Assessment Alternative 2

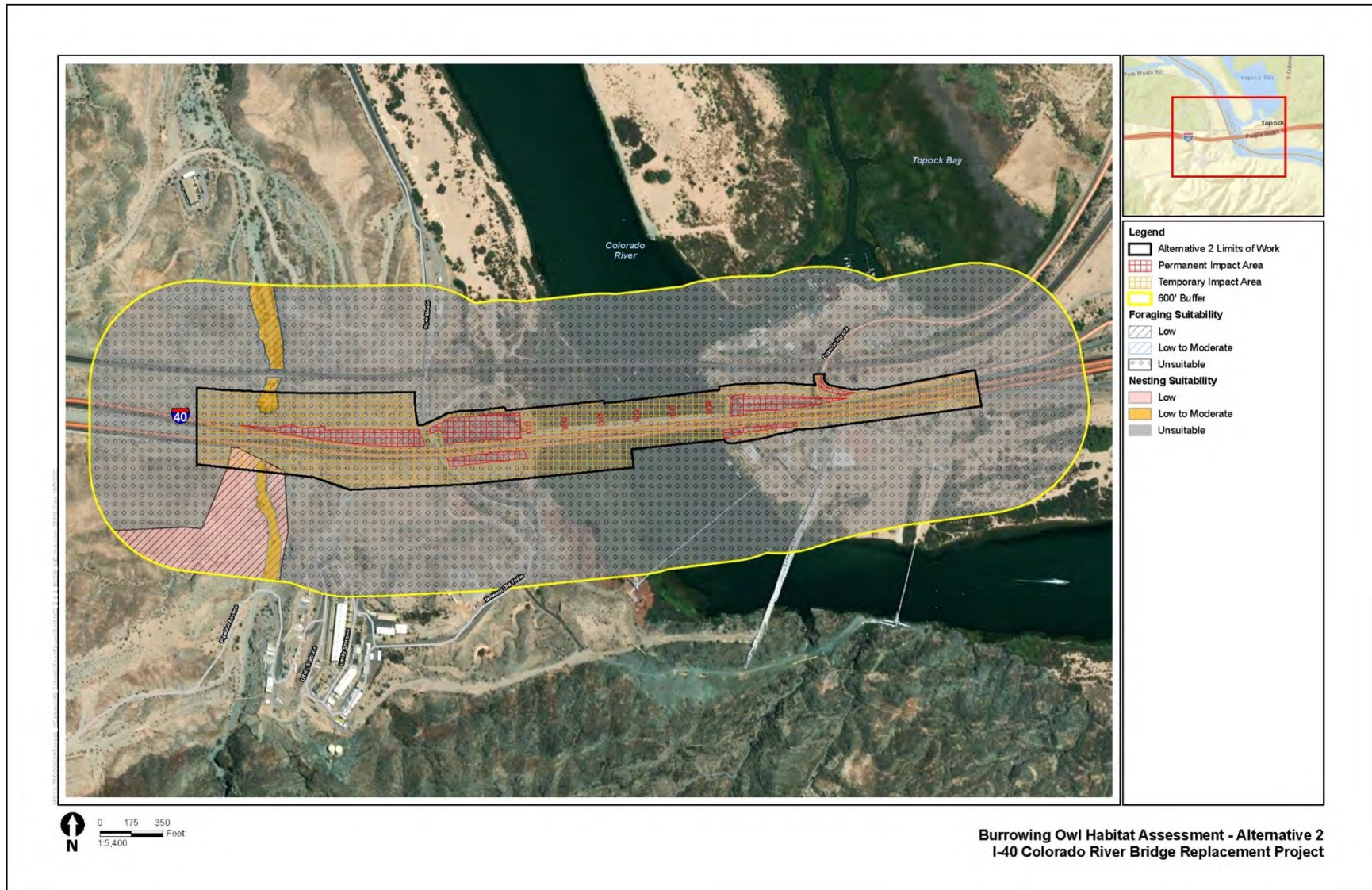


Figure 2.46, Burrowing Owl Habitat Assessment Alternative 3

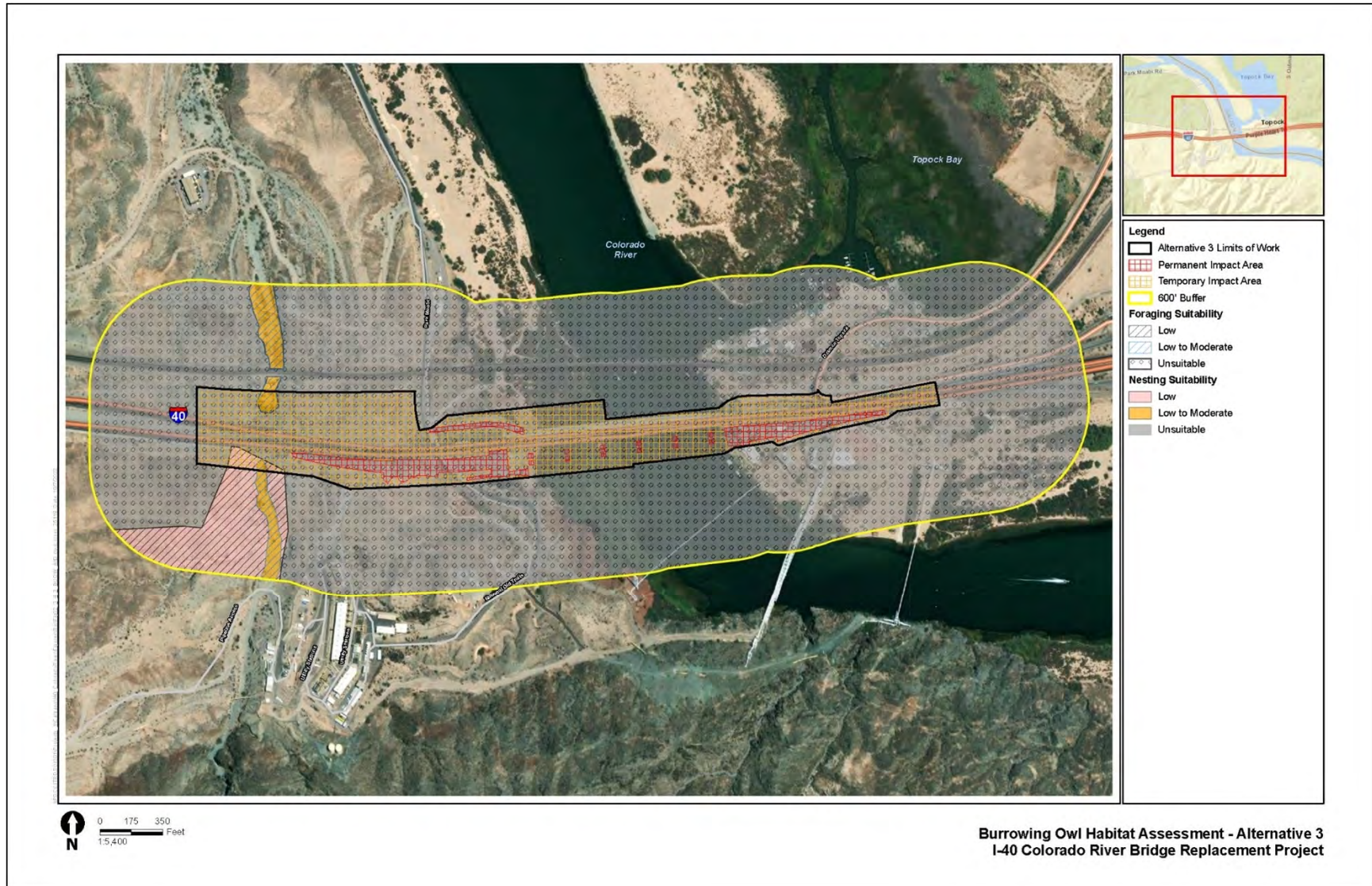


Figure 2.47, Sonoran Yellow Warbler Habitat Assessment Alternative 1

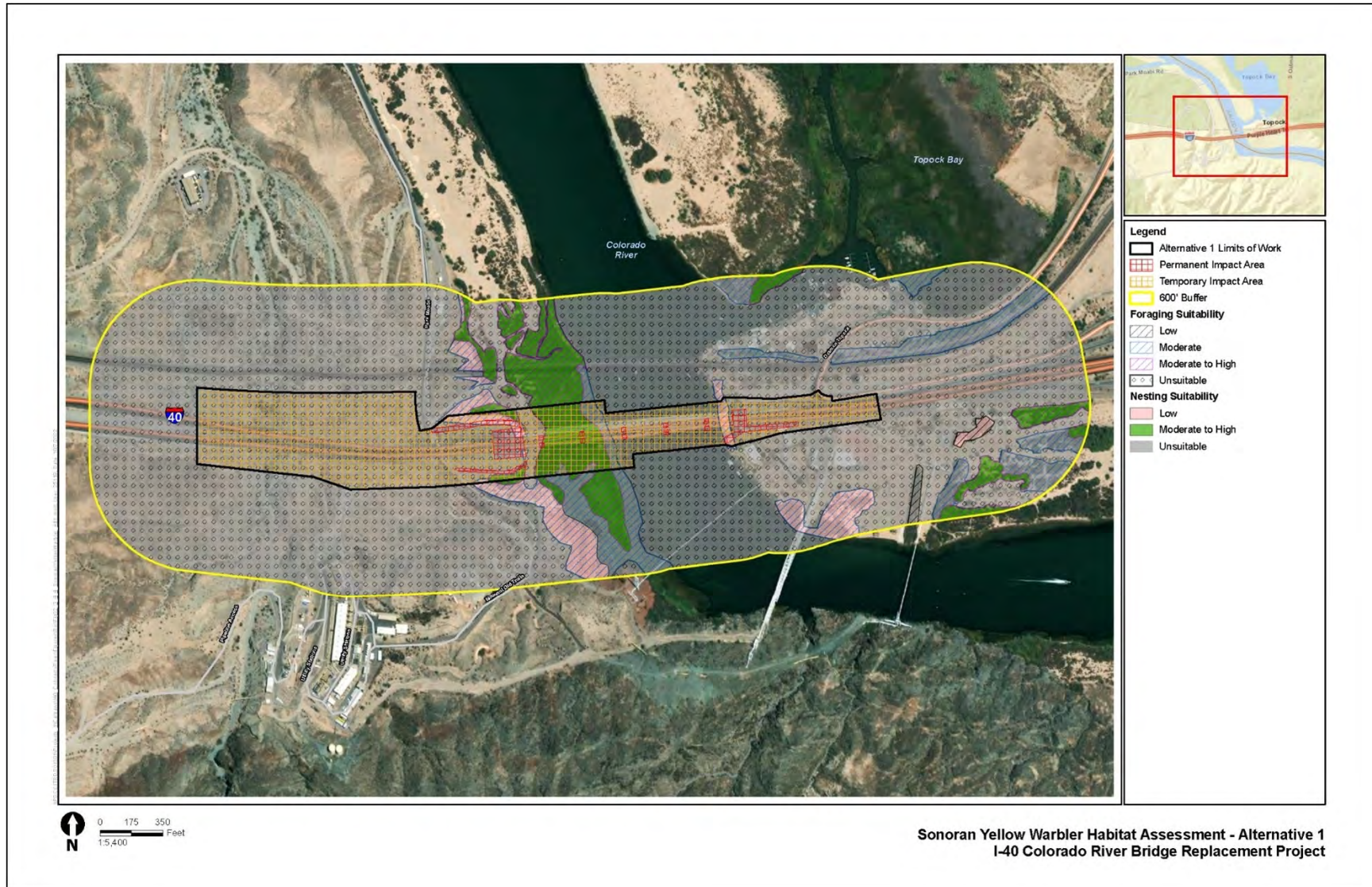


Figure 2.48, Sonoran Yellow Warbler Habitat Assessment Alternative 2

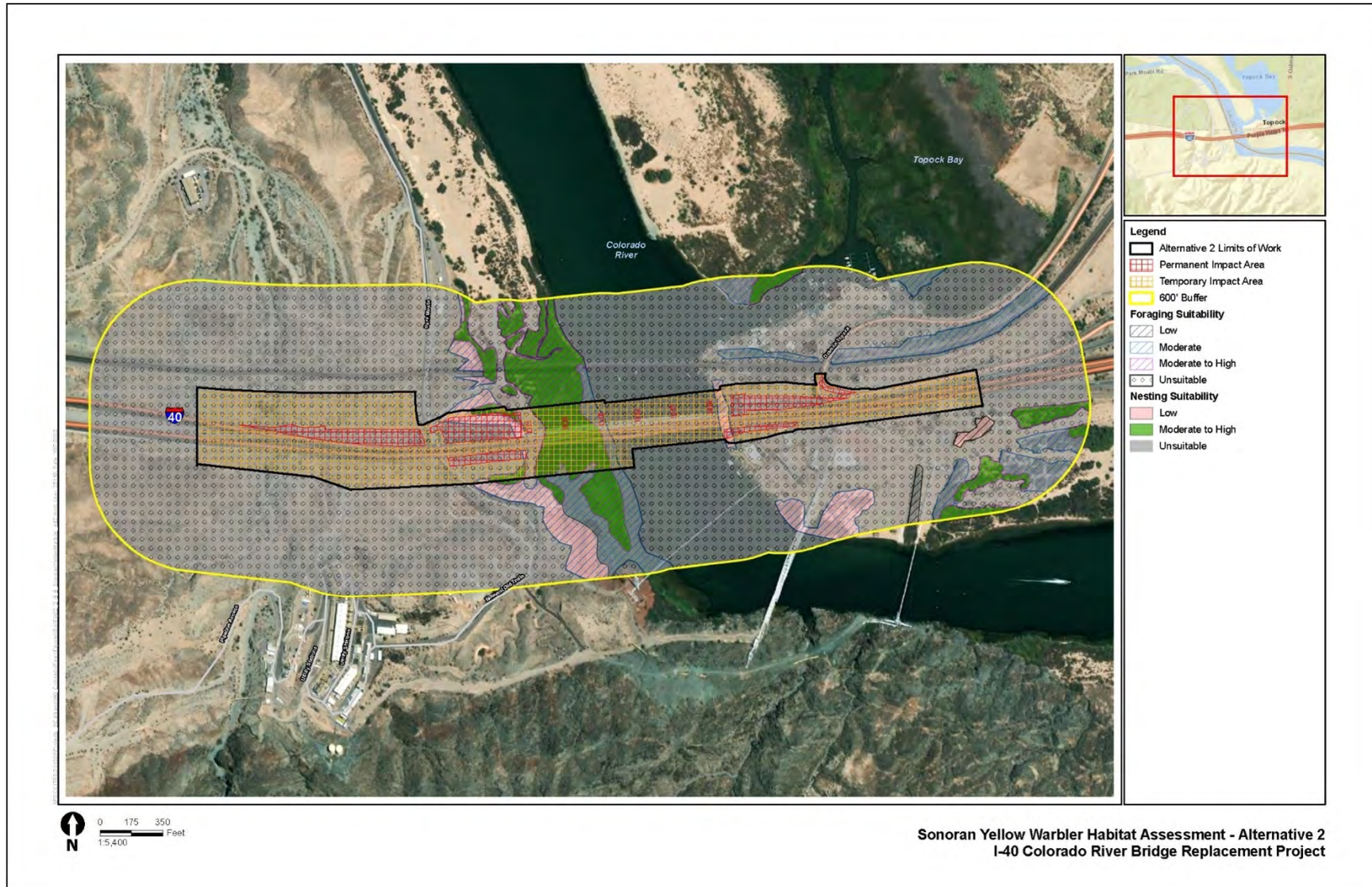


Figure 2.49, Sonoran Yellow Warbler Habitat Assessment Alternative 3

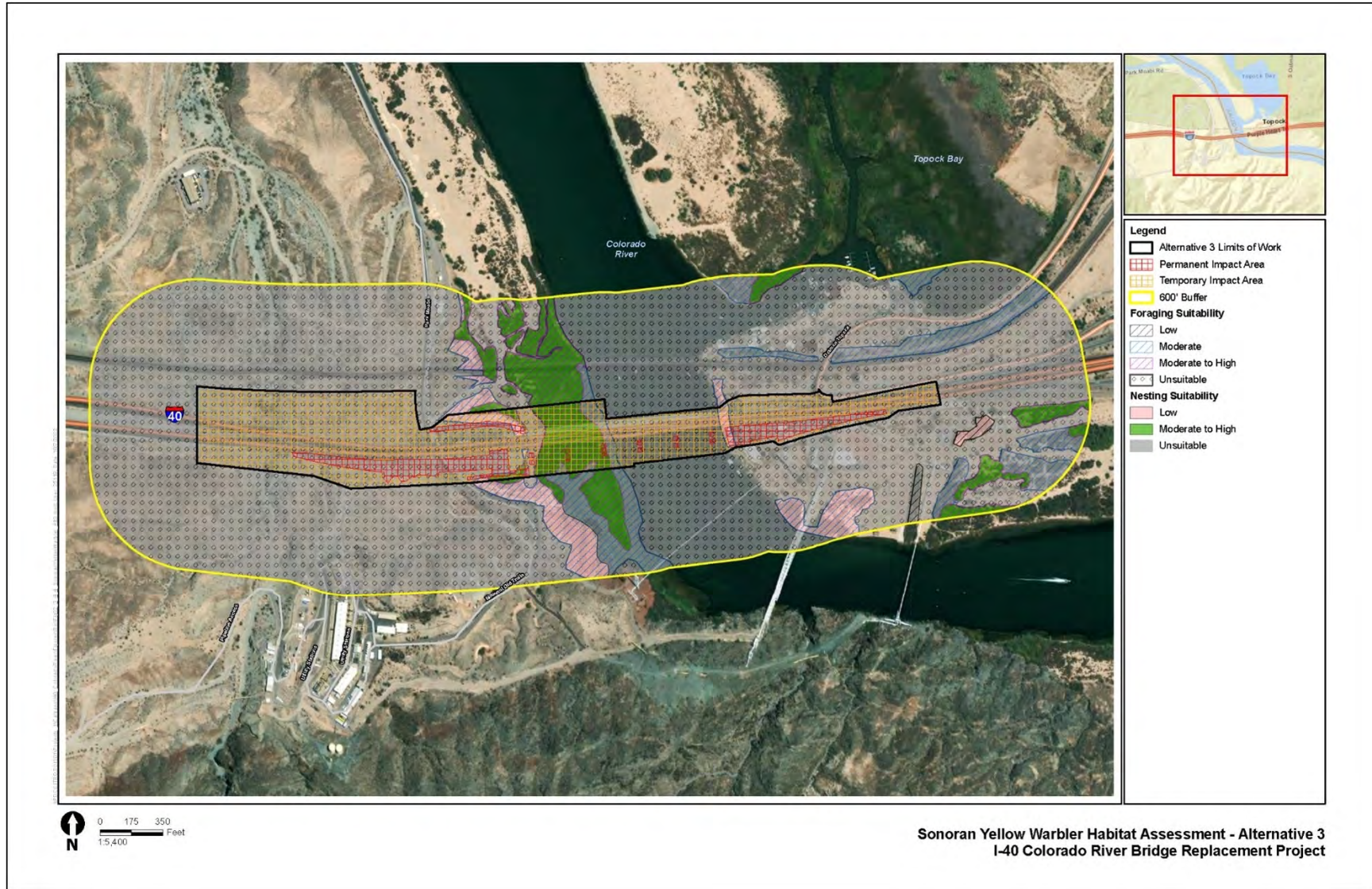


Figure 2.50, Yellow-breasted Chat Habitat Assessment Alternative 1

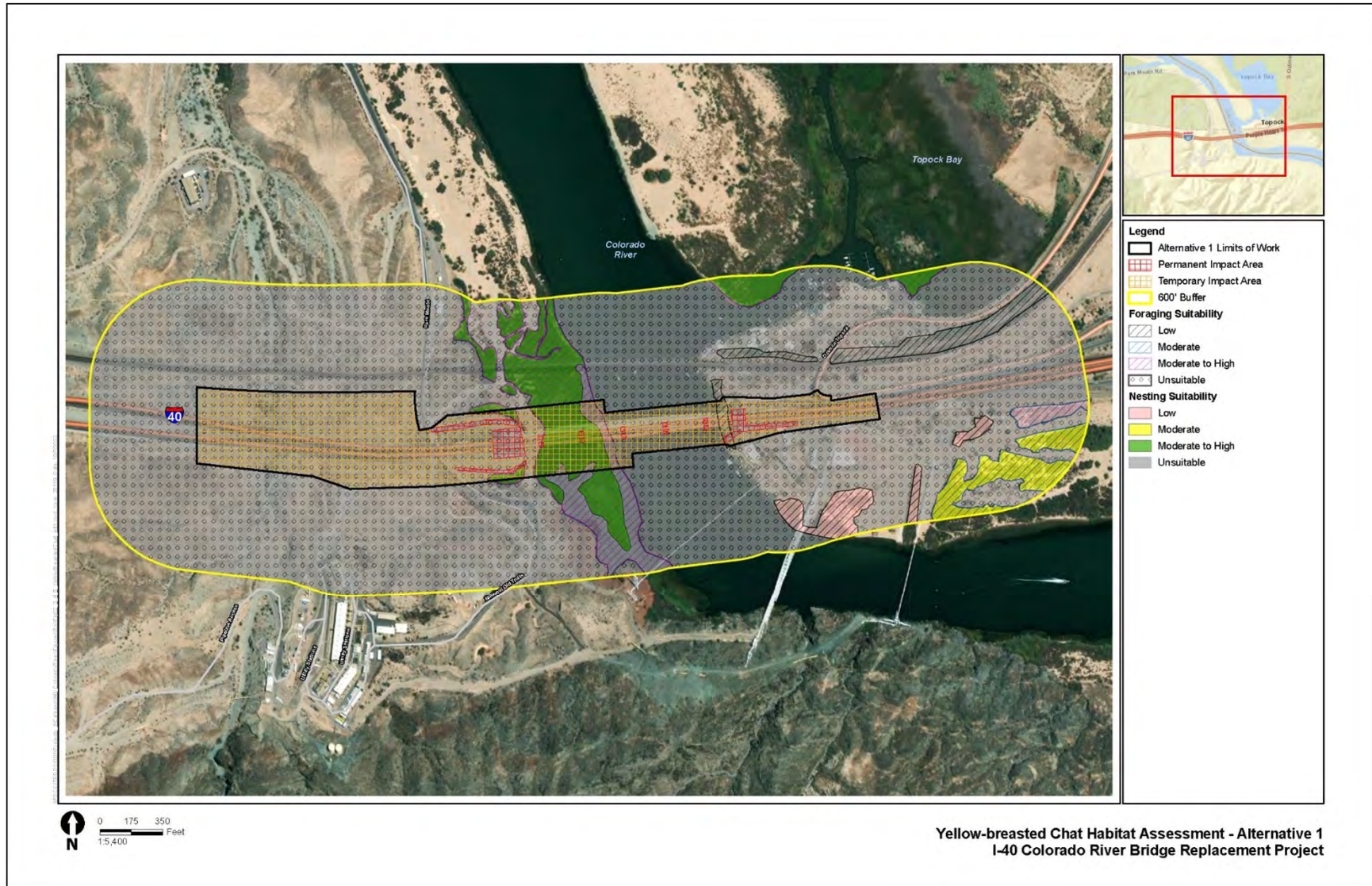


Figure 2.51, Yellow-breasted Chat Habitat Assessment Alternative 2

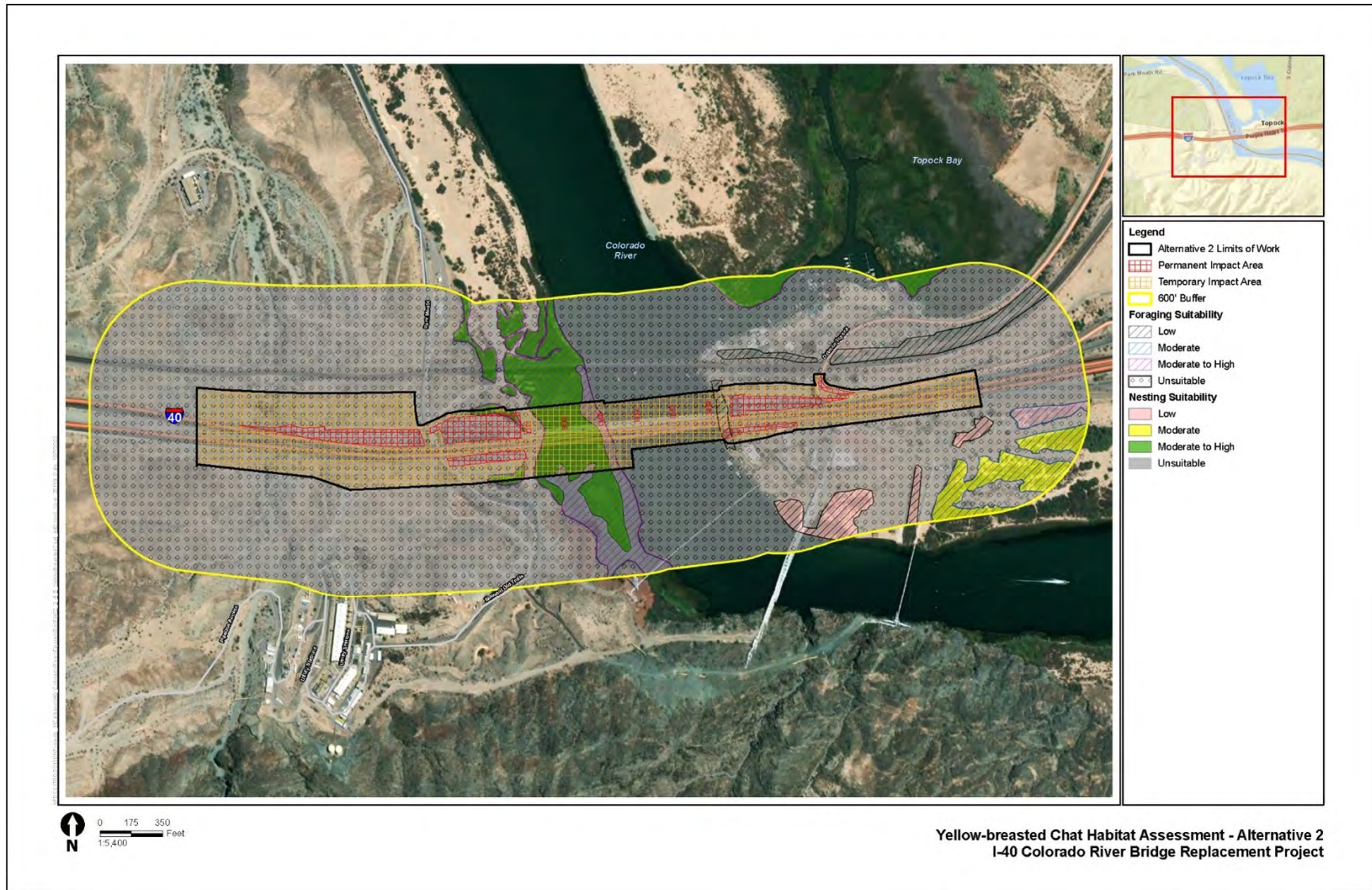


Figure 2.52, Yellow-breasted Chat Habitat Assessment Alternative 3

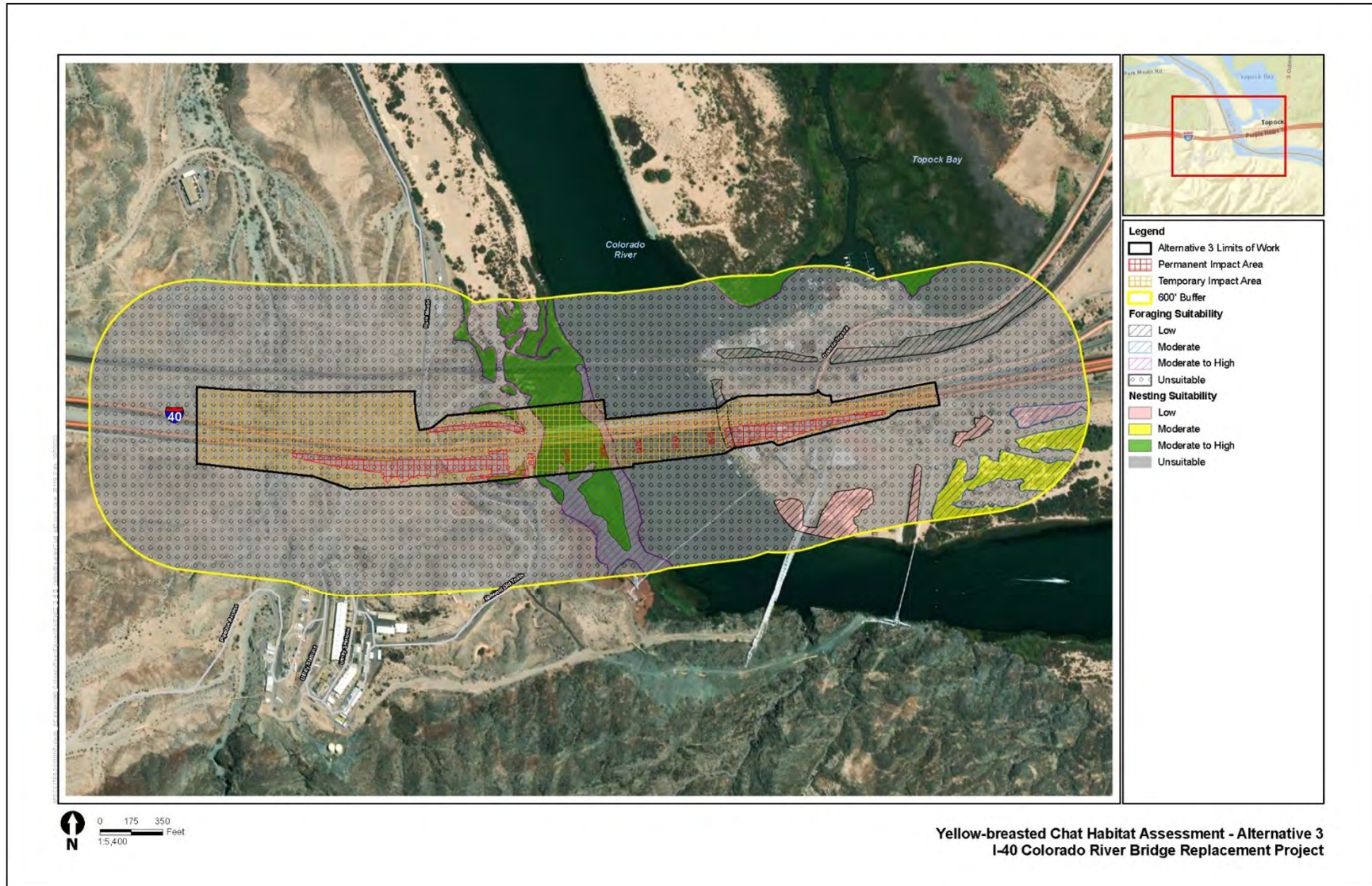


Figure 2.53, Loggerhead Shrike Habitat Assessment Alternative 1

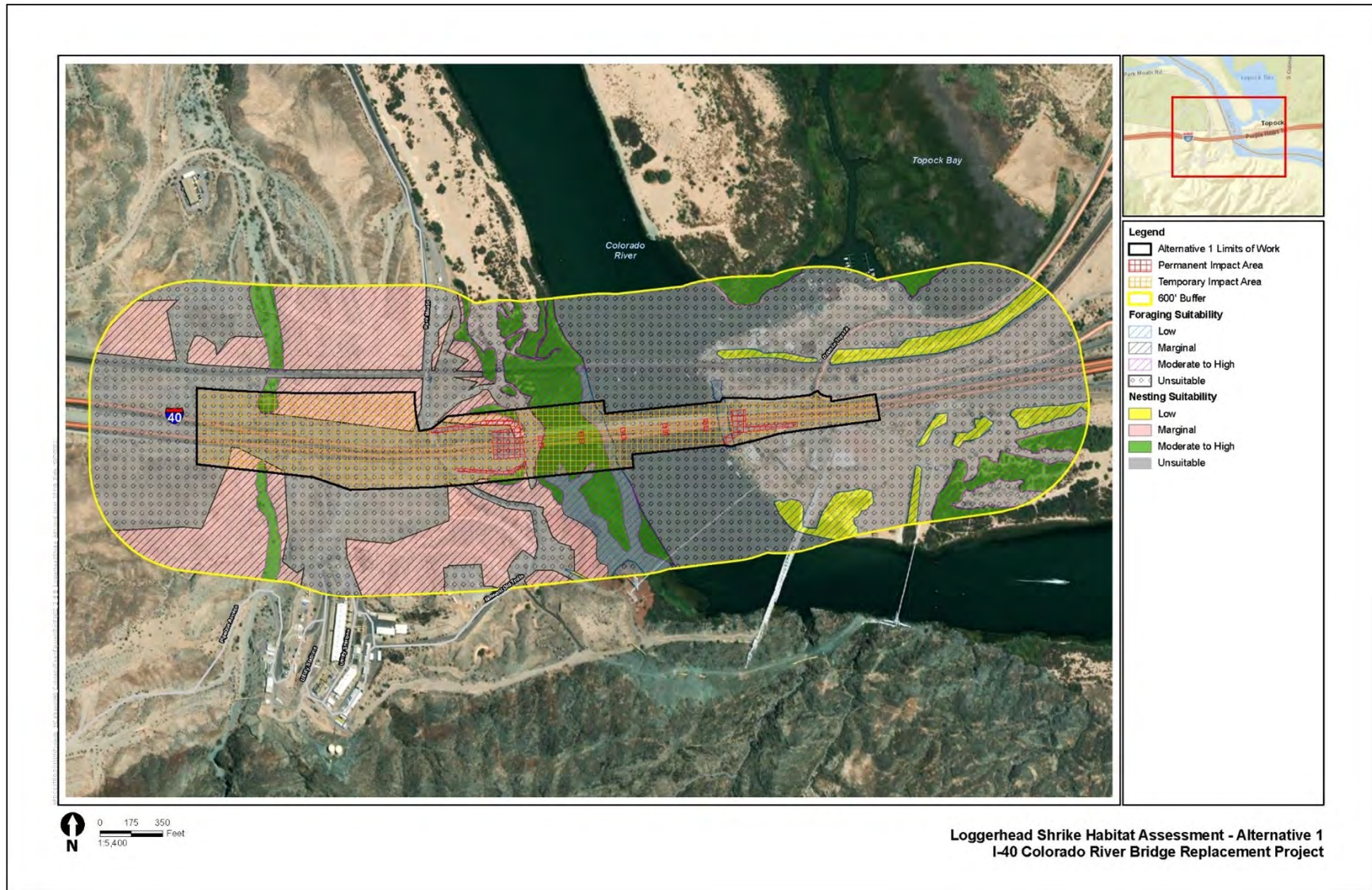


Figure 2.54, Loggerhead Shrike Habitat Assessment Alternative 2

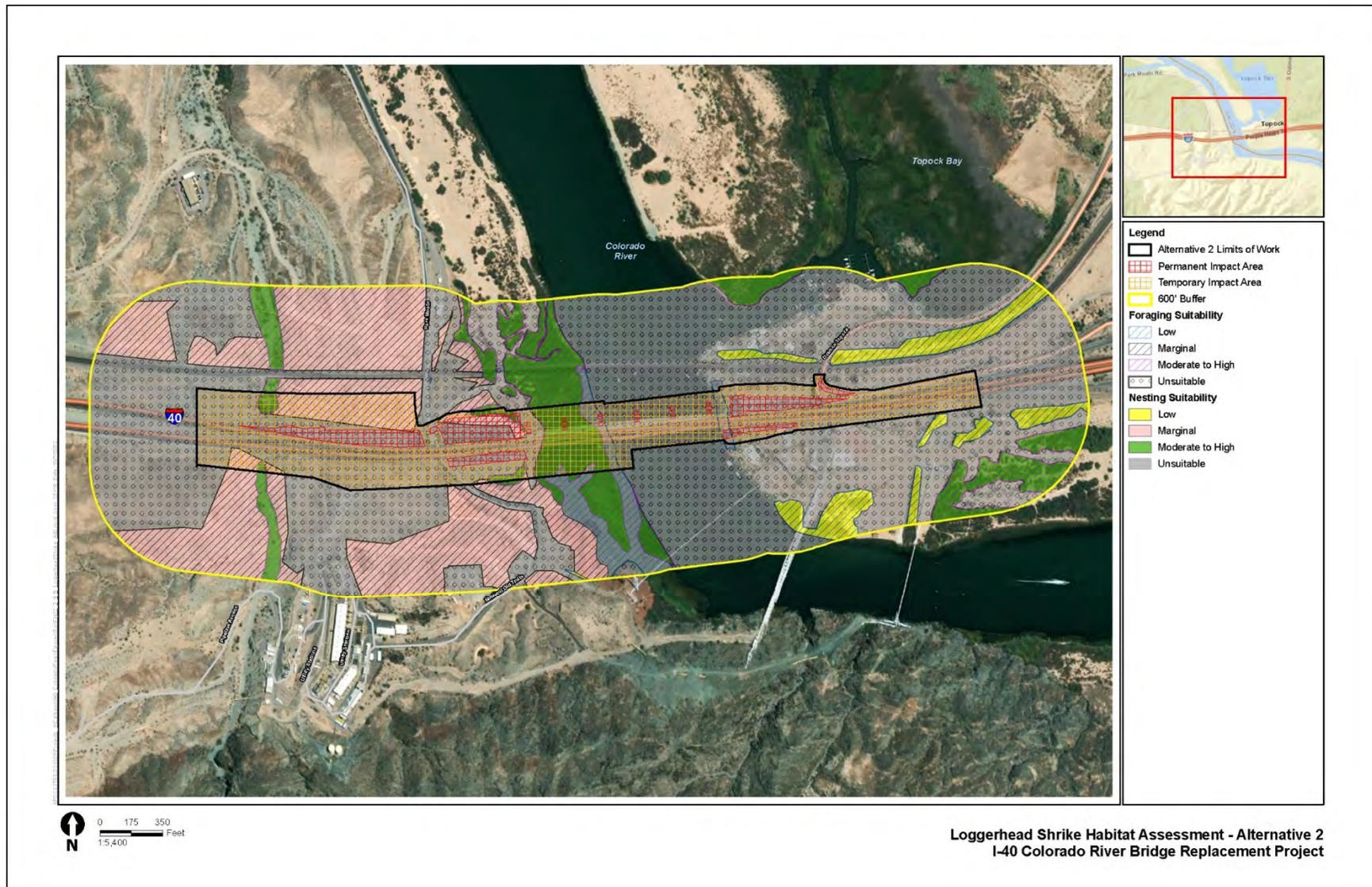


Figure 2.55, Loggerhead Shrike Habitat Assessment Alternative 3

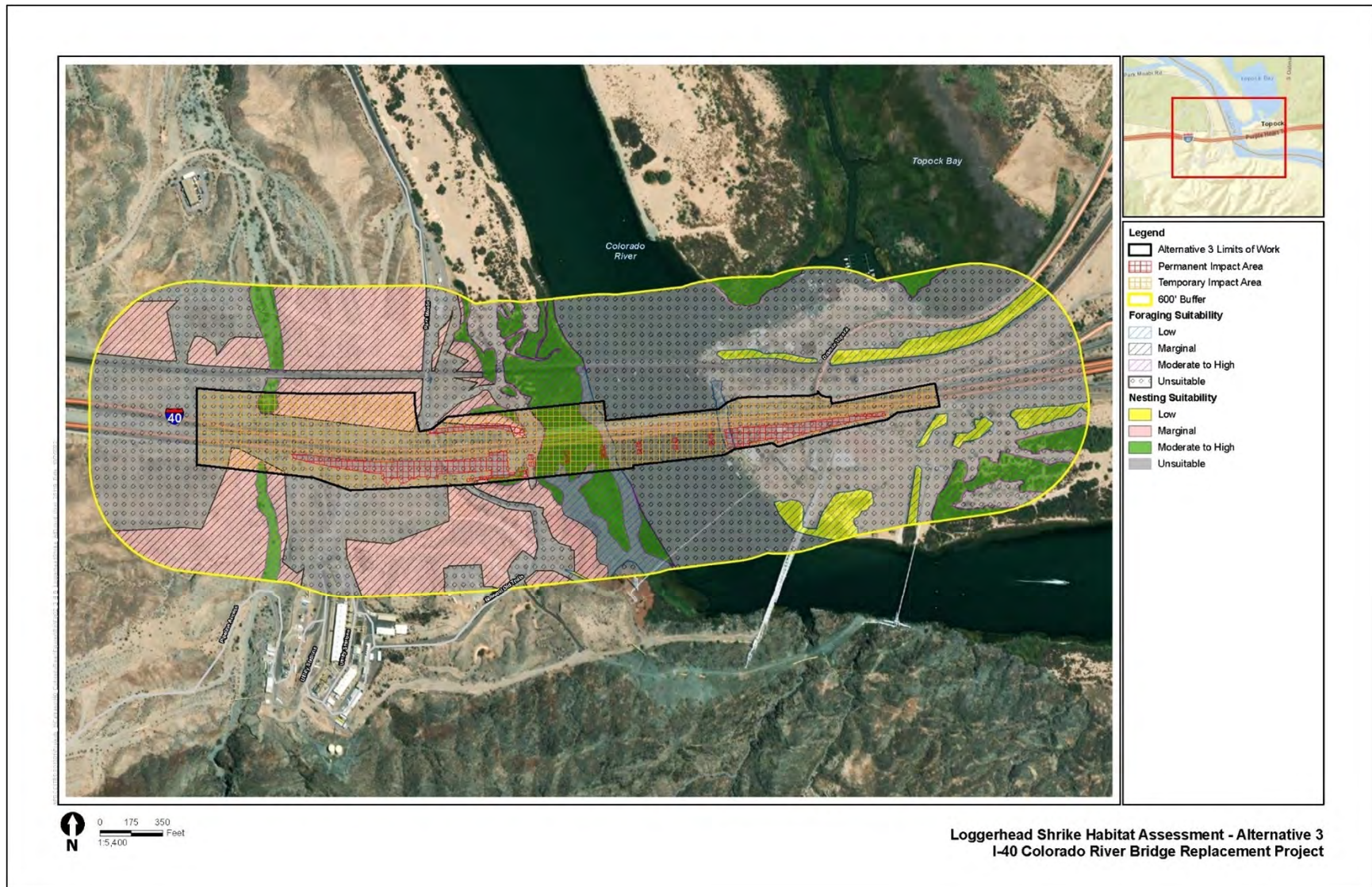


Figure 2.56, Brown-crested Flycatcher and Summer Tanager Habitat Assessment Alternative 1

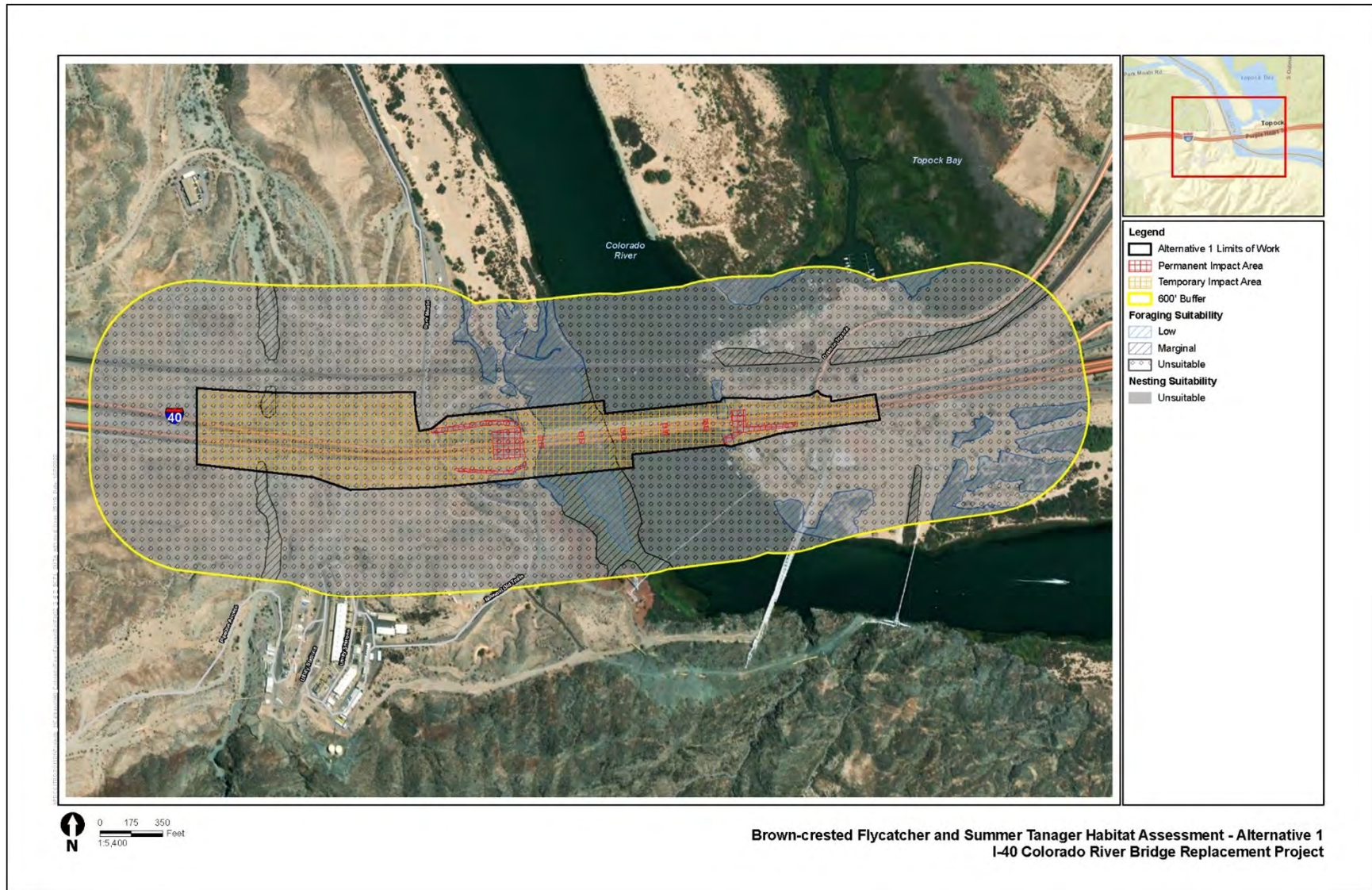


Figure 2.57, Brown-crested Flycatcher and Summer Tanager Habitat Assessment Alternative 2

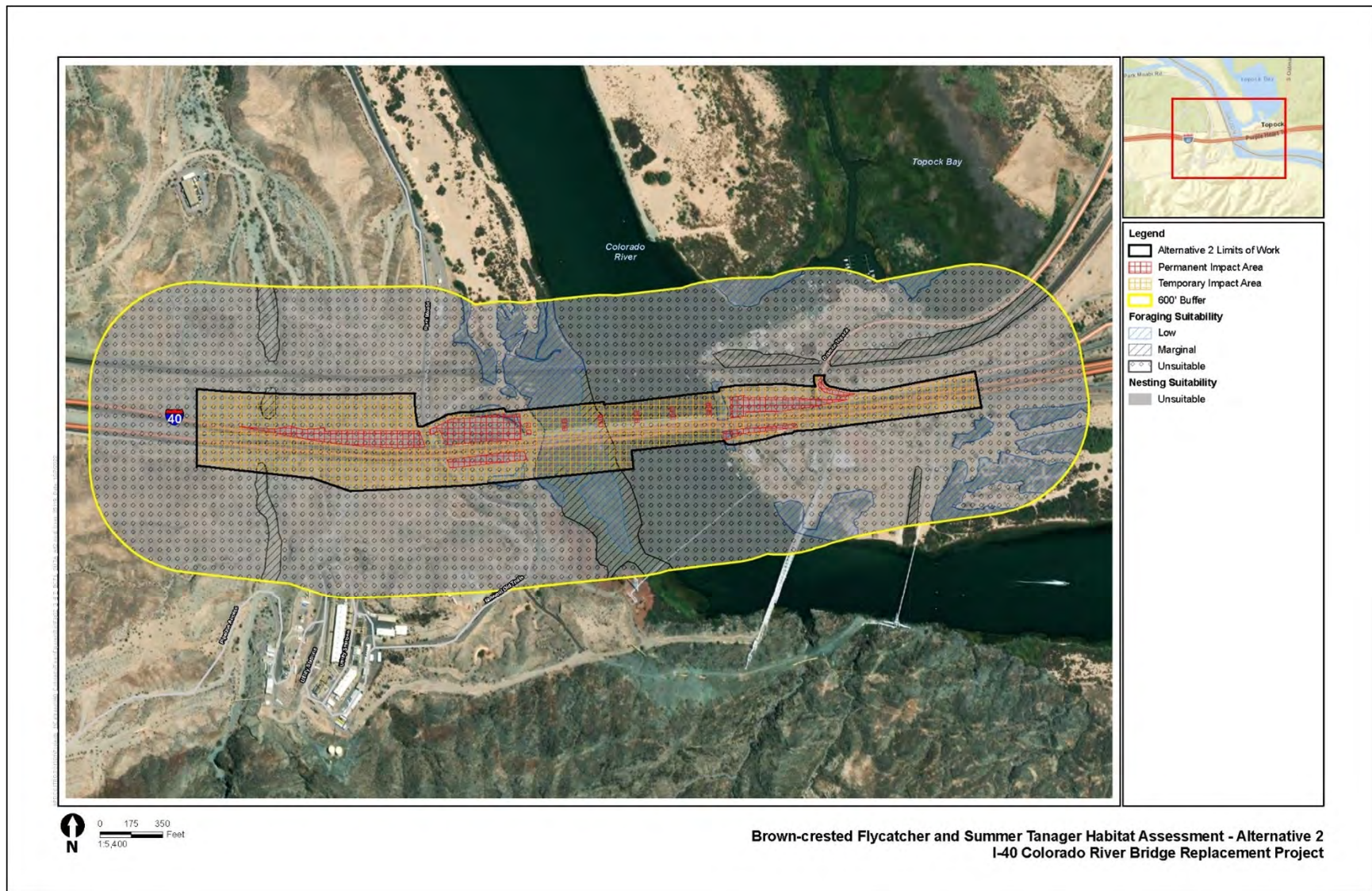


Figure 2.58, Brown-crested Flycatcher and Summer Tanager Habitat Assessment Alternative 3

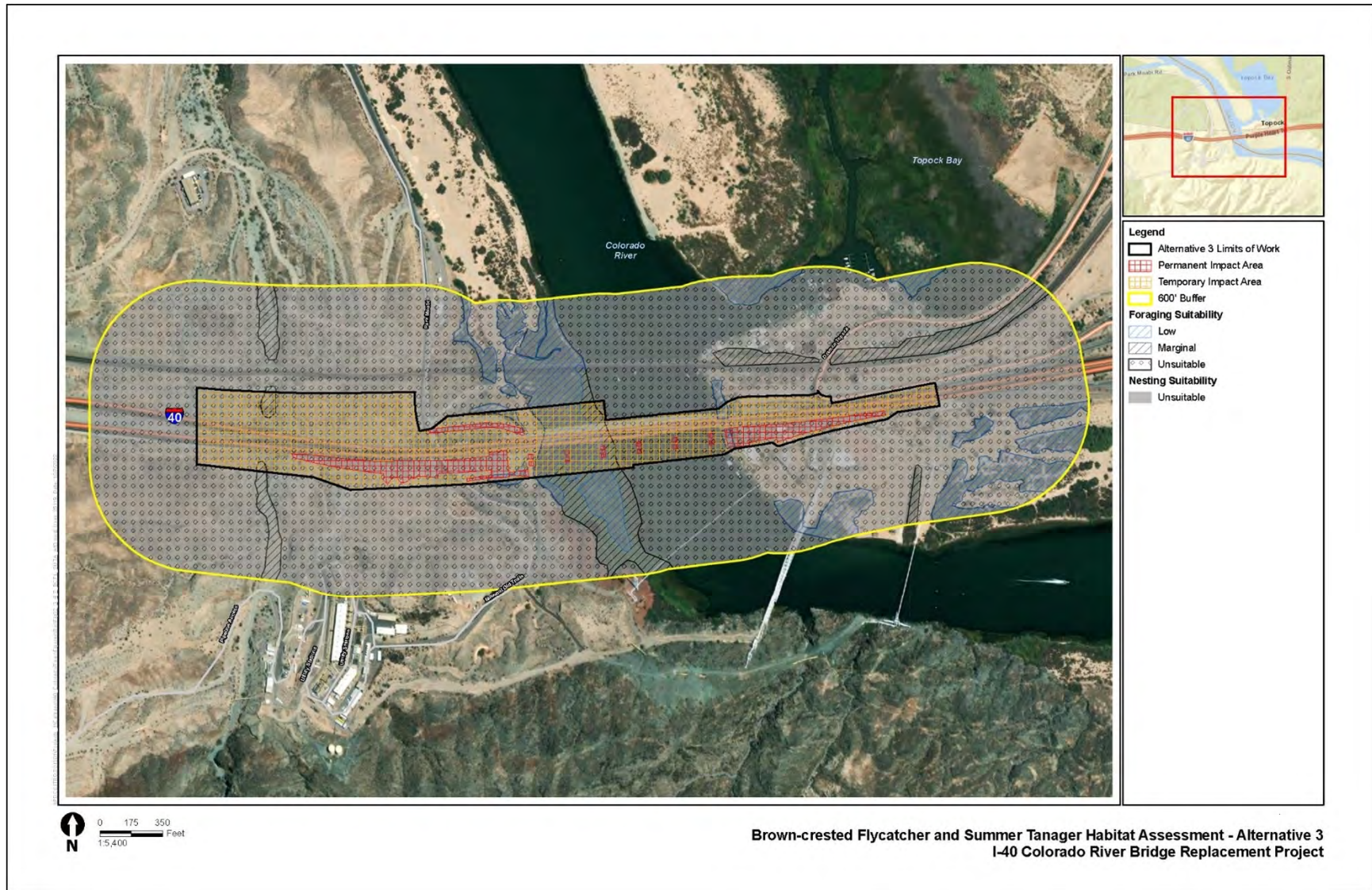


Figure 2.59, Crissal Thrasher Habitat Assessment Alternative 1

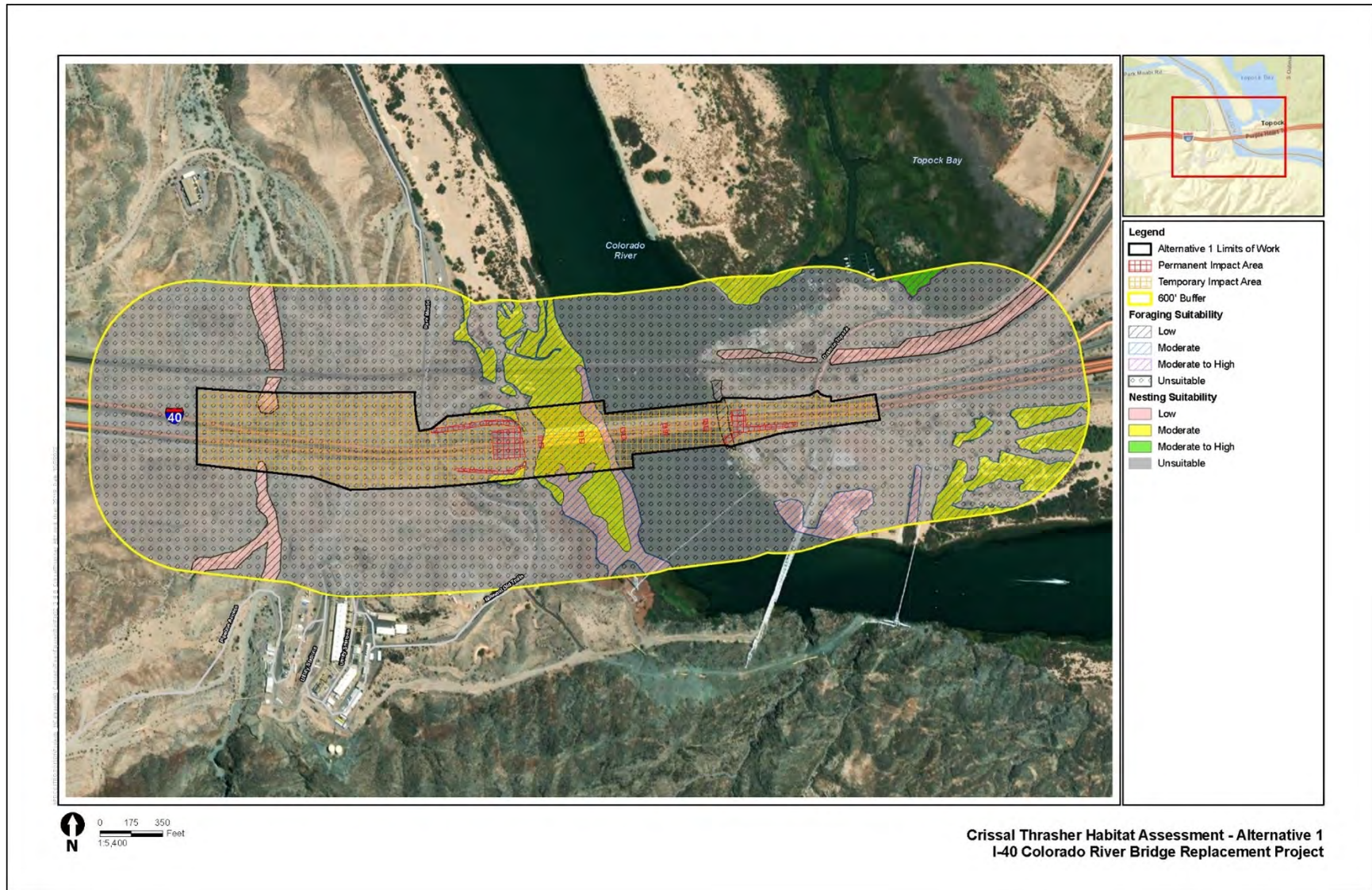


Figure 2.60, Crissal Thrasher Habitat Assessment Alternative 2

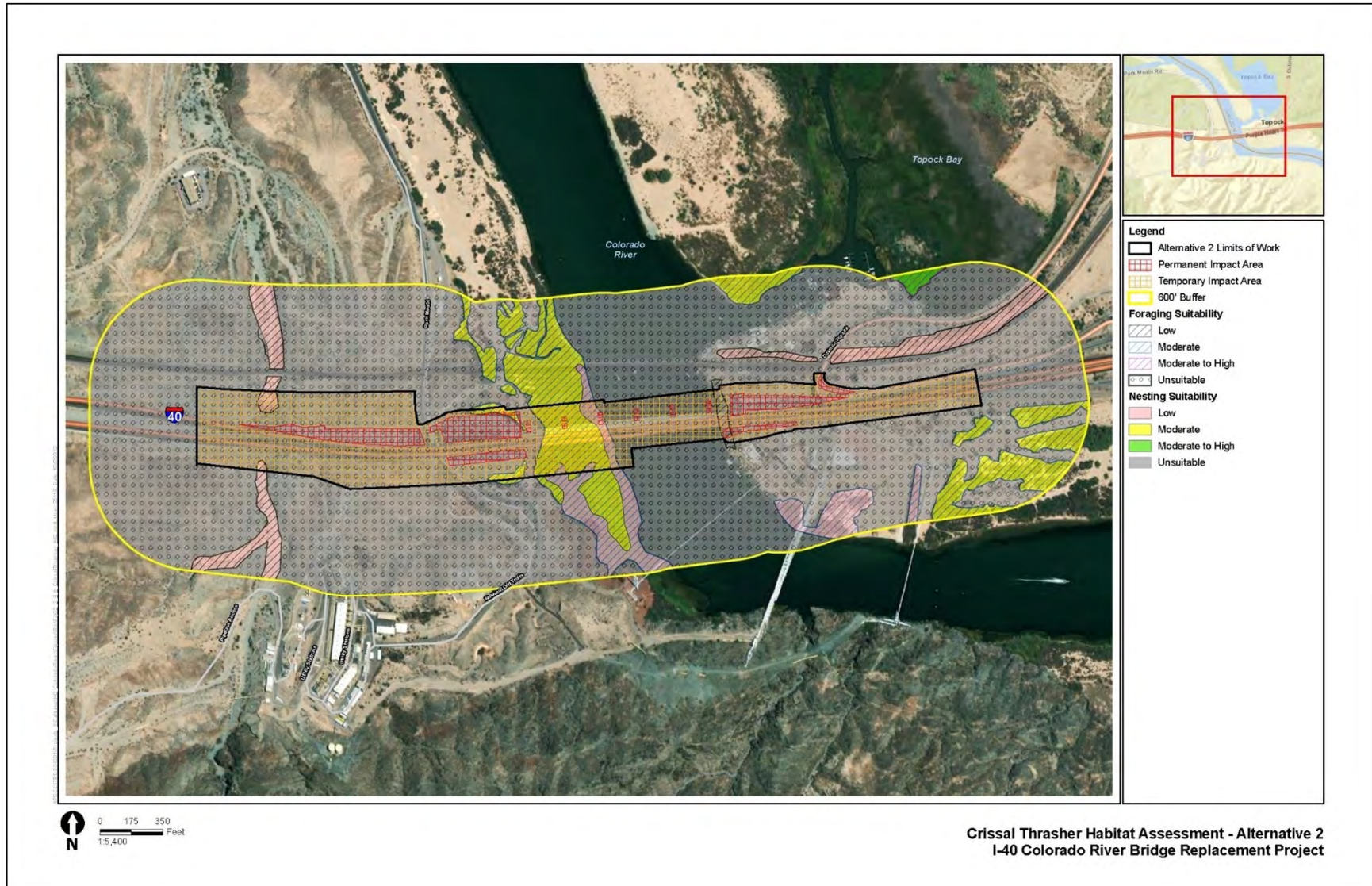


Figure 2.61, Crissal Thrasher Habitat Assessment Alternative 3

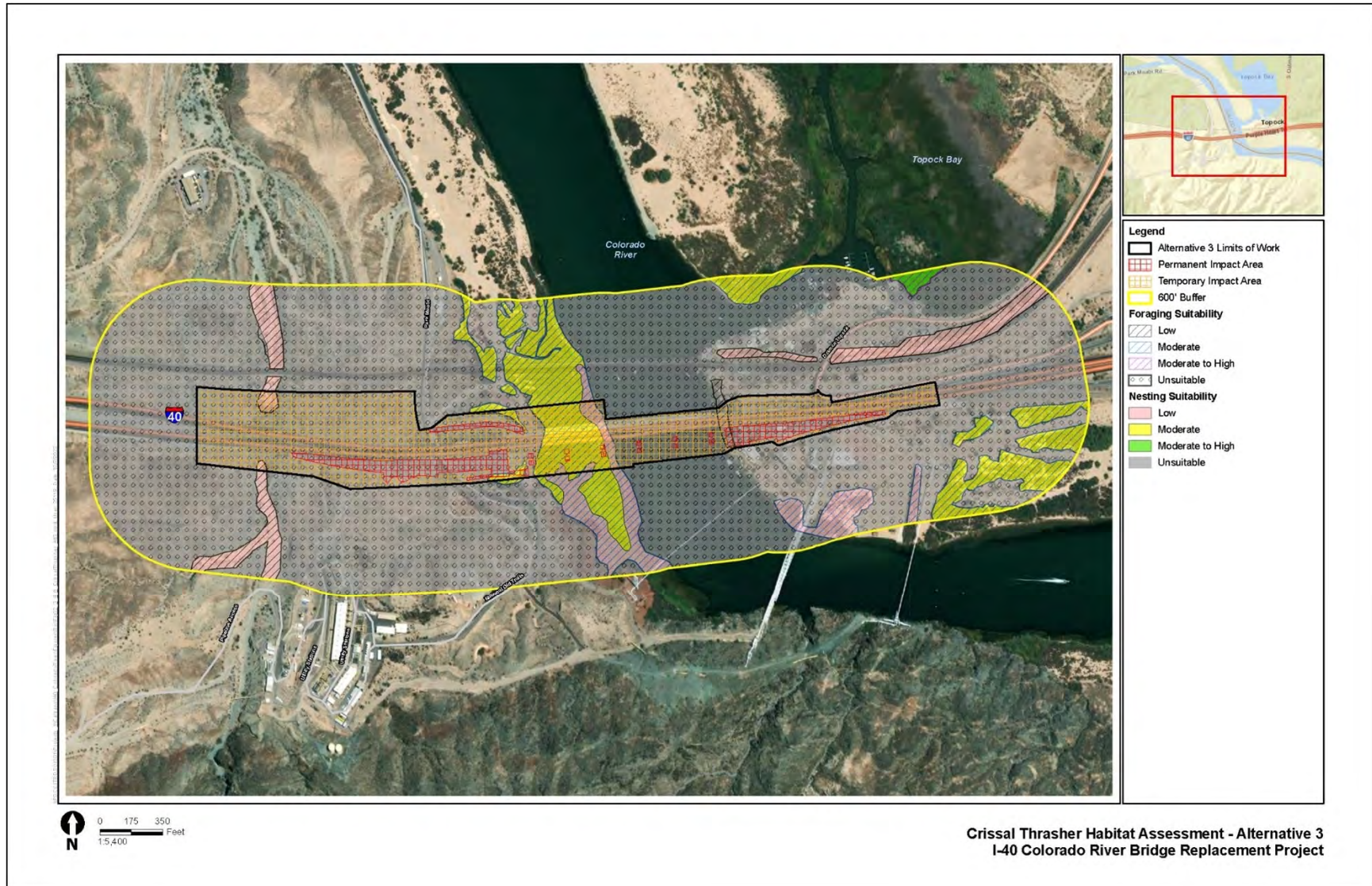


Figure 2.62, Bat Habitat Assessment

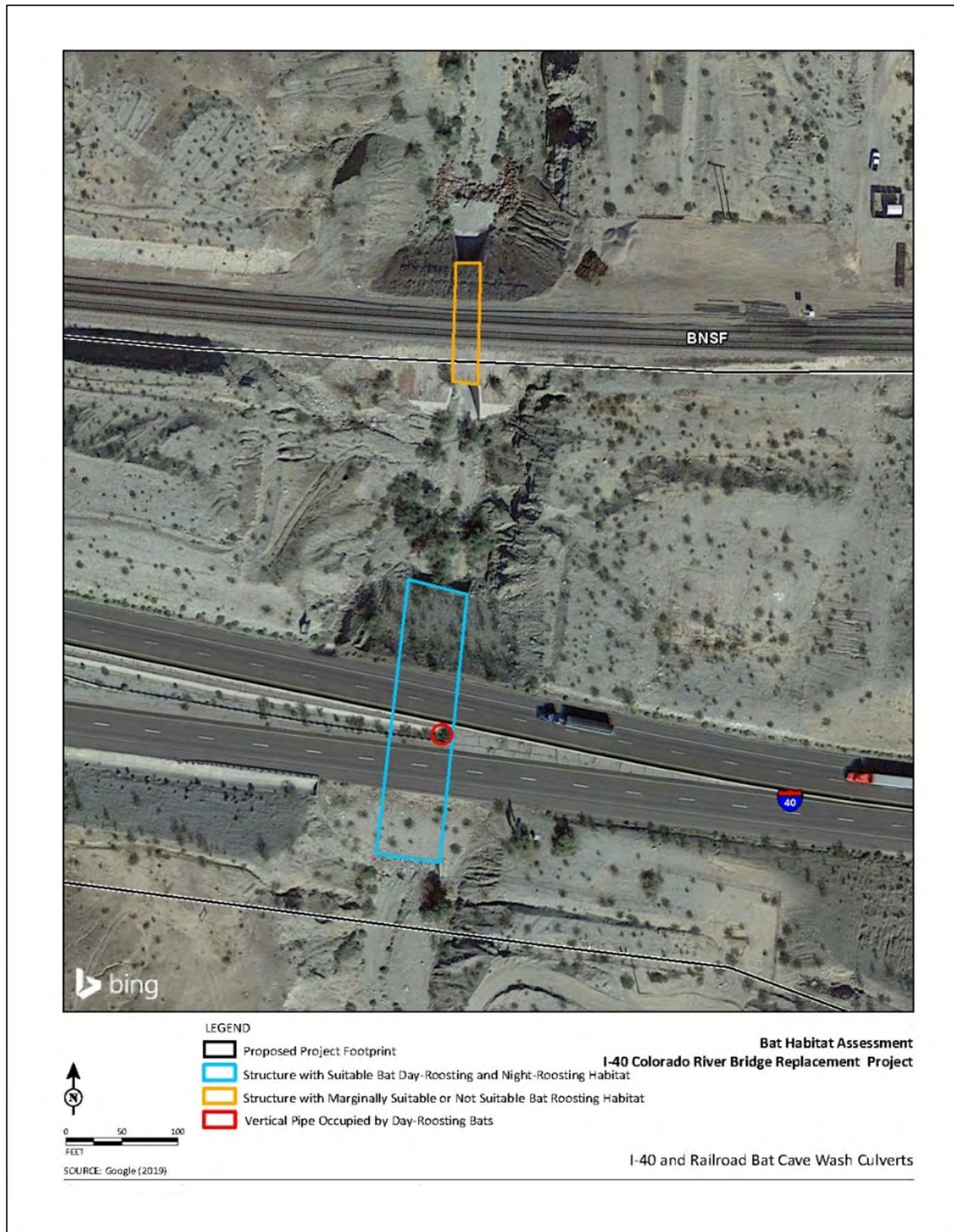


Figure 2.63, Bat Habitat Assessment

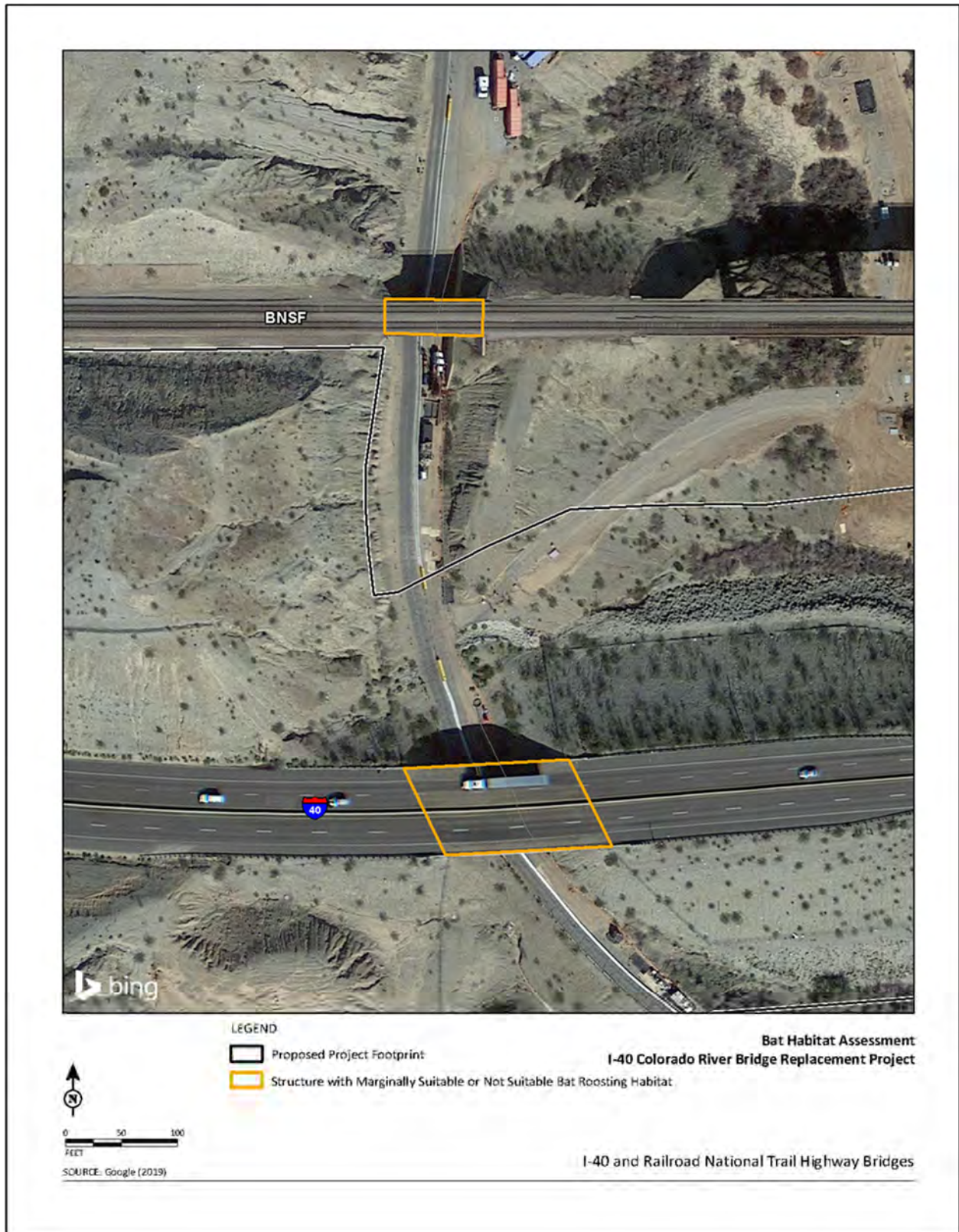


Figure 2.64, Bat Habitat Assessment

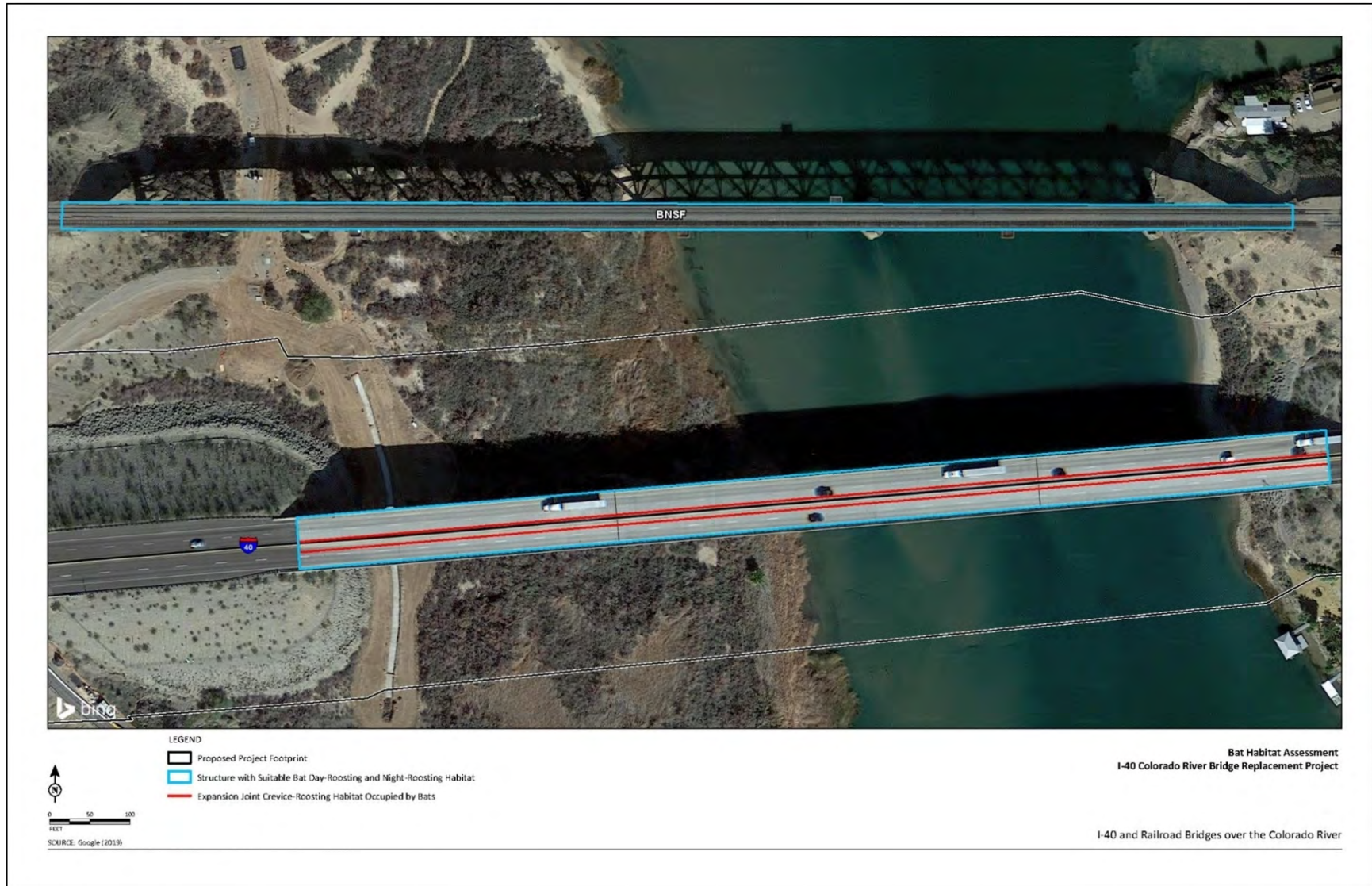


Figure 2.65, Colorado River Cotton Rat Habitat Assessment Alternative 1

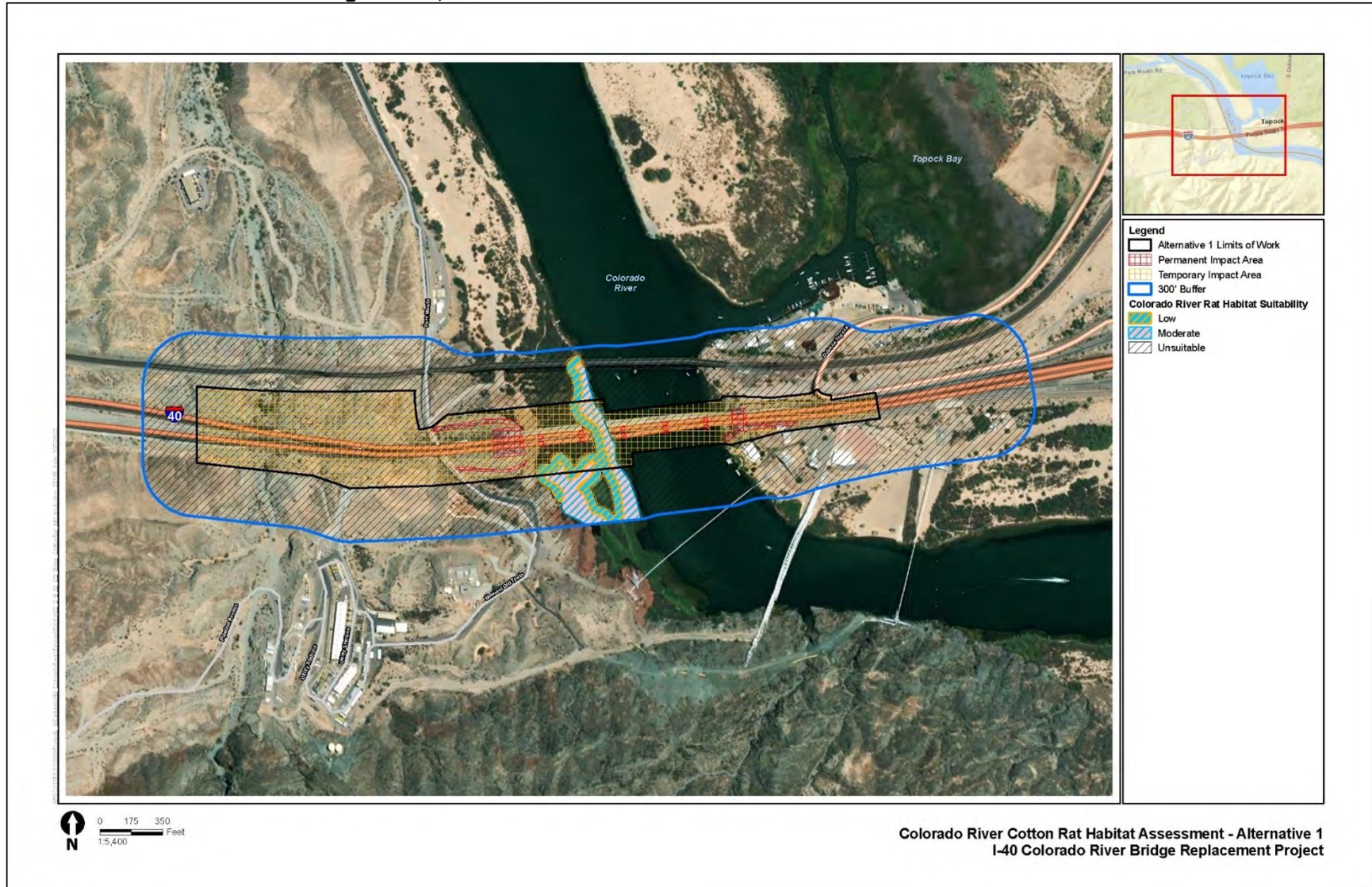


Figure 2.66, Colorado River Cotton Rat Habitat Assessment Alternative 2

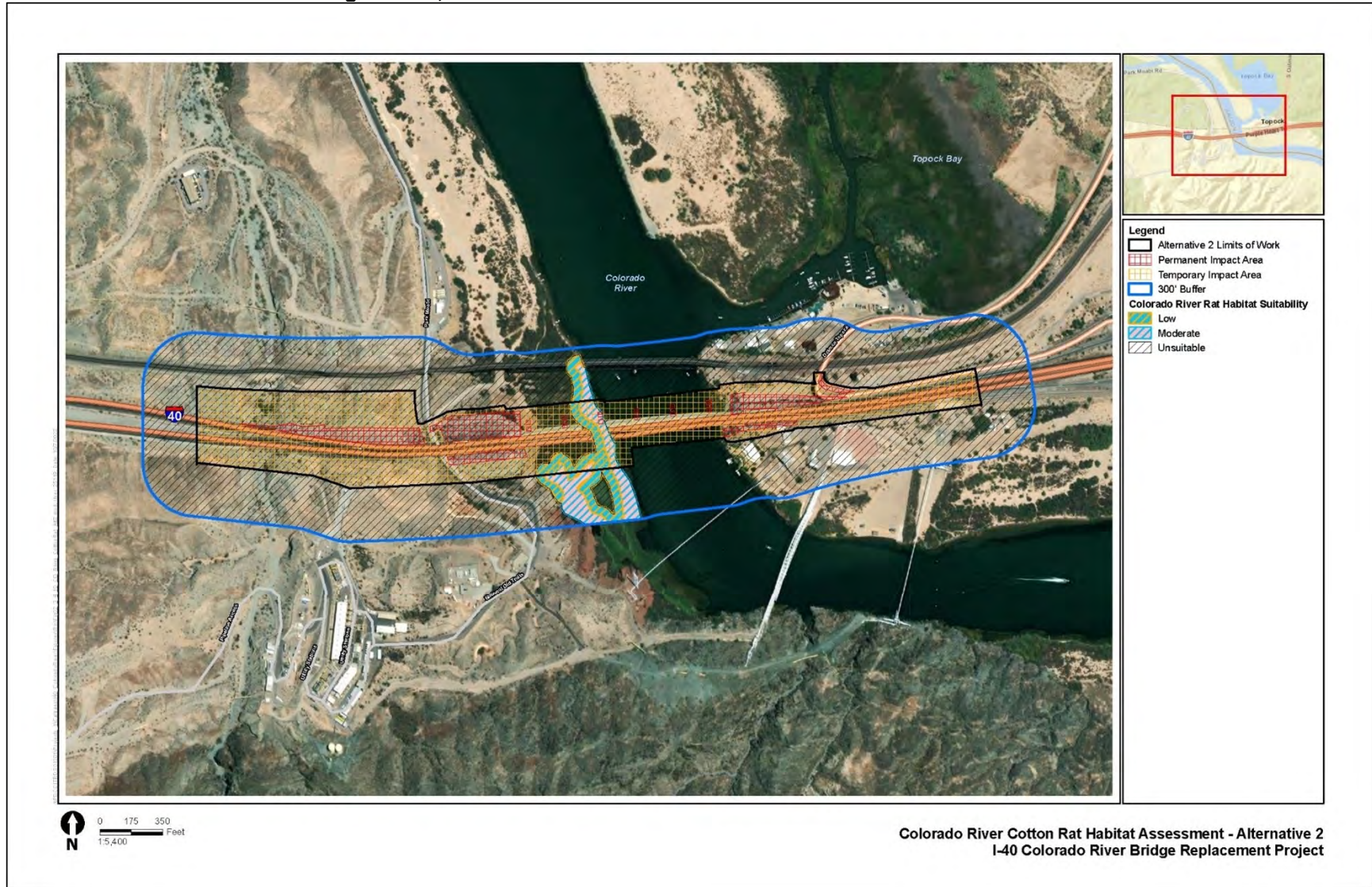


Figure 2.67, Colorado River Cotton Rat Habitat Assessment Alternative 3

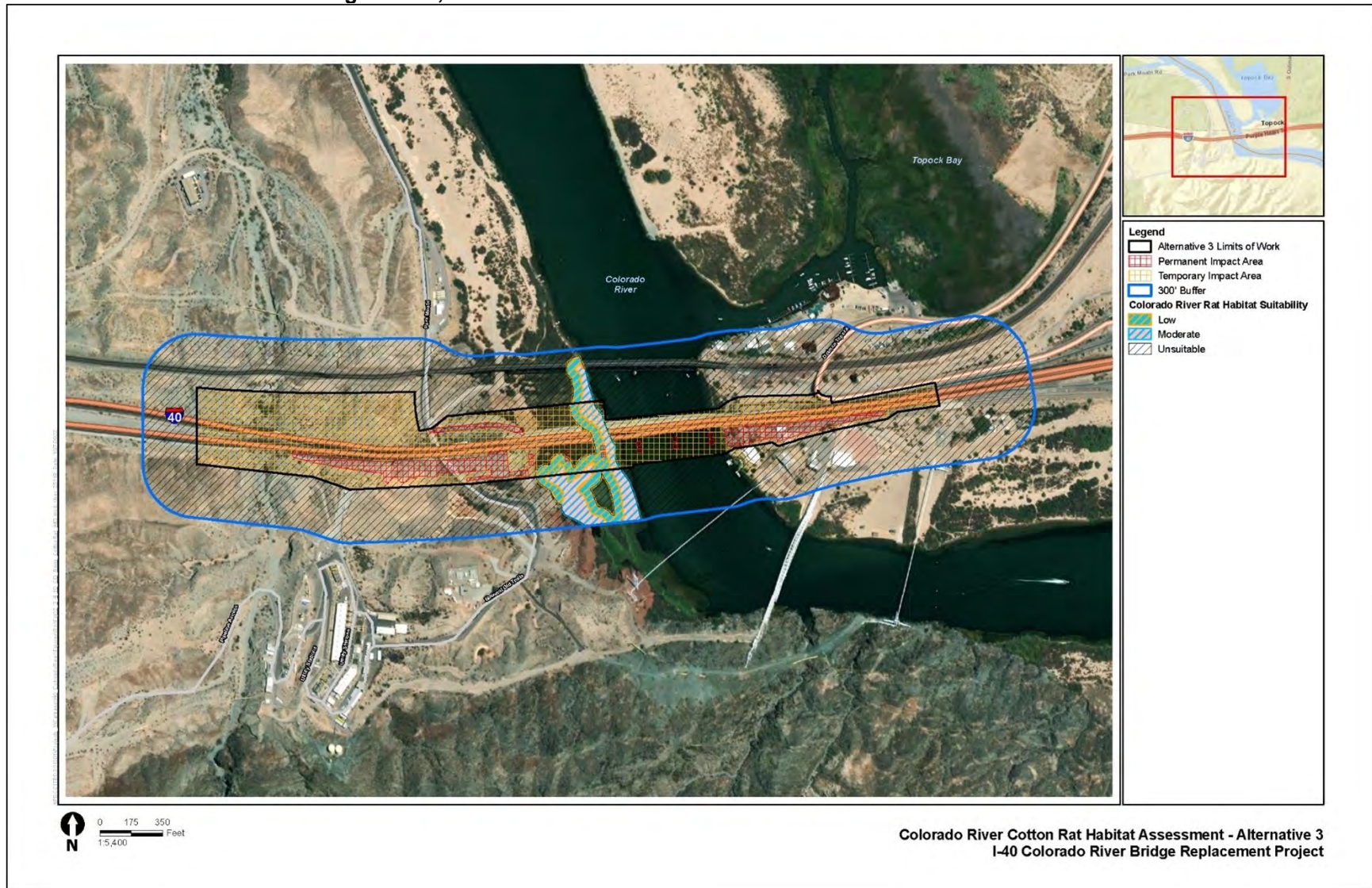


Figure 2.68, Desert Pocket Mouse Habitat Assessment Alternative 1

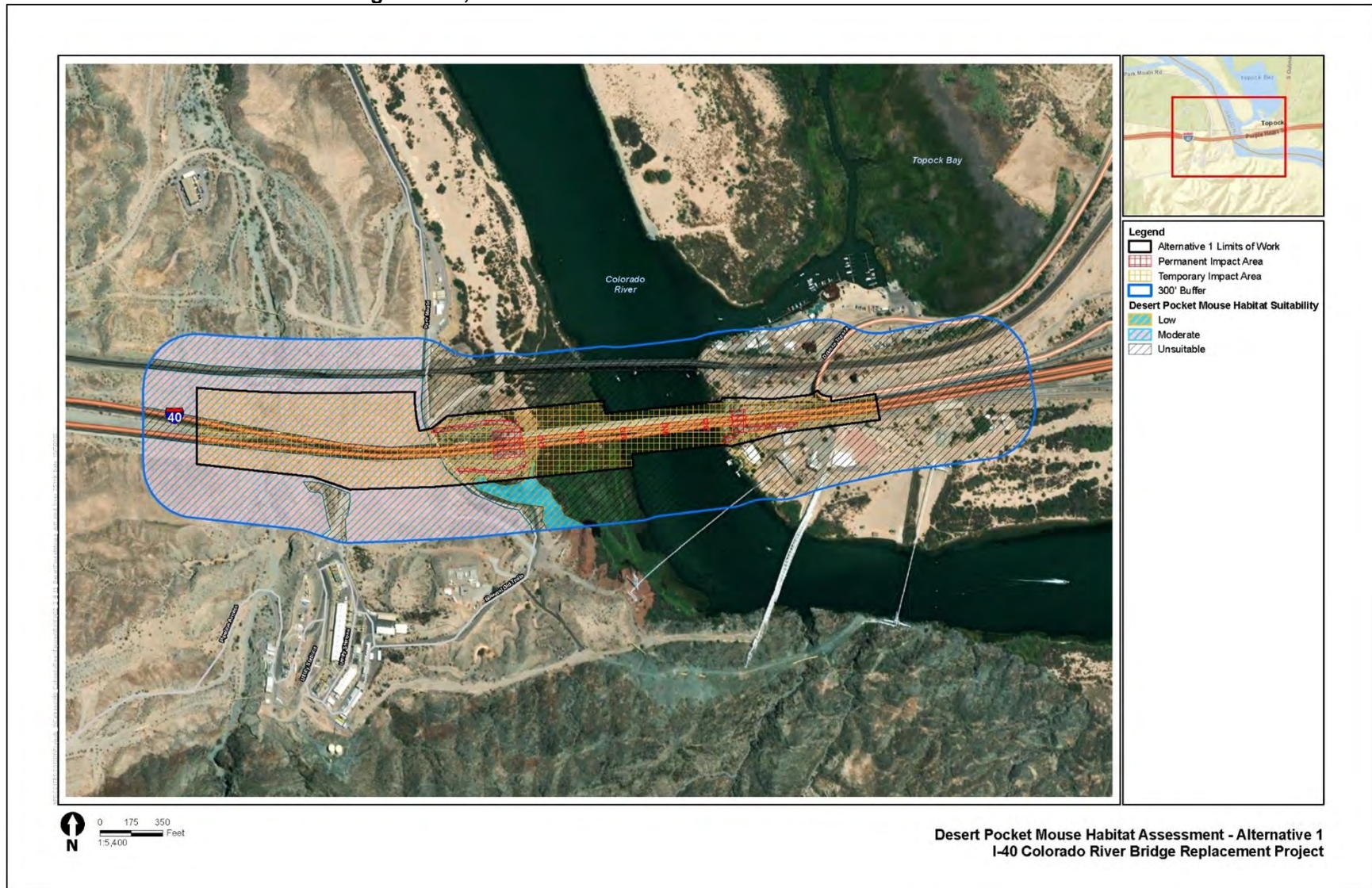


Figure 2.69, Desert Pocket Mouse Habitat Assessment Alternative 2

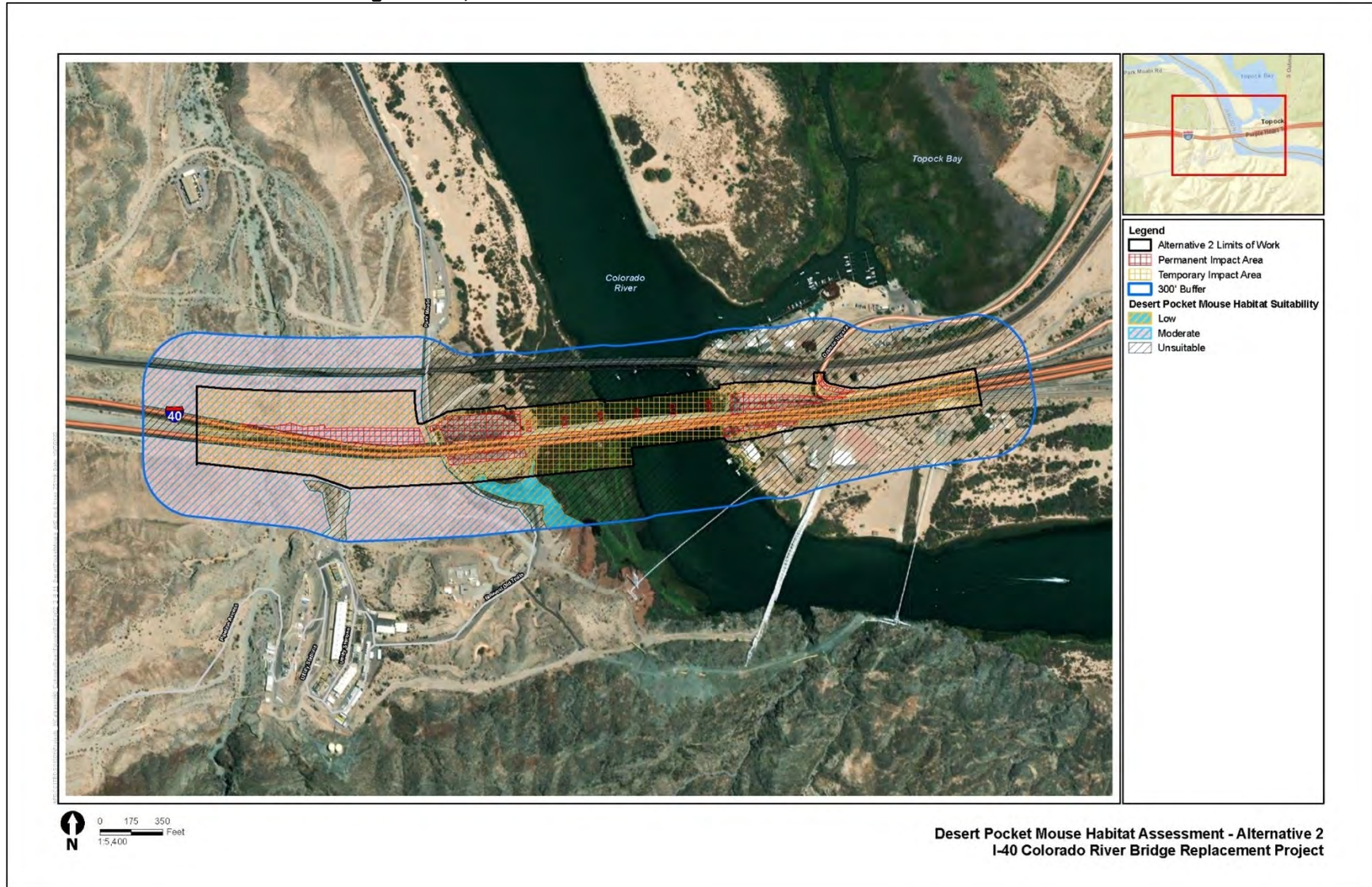
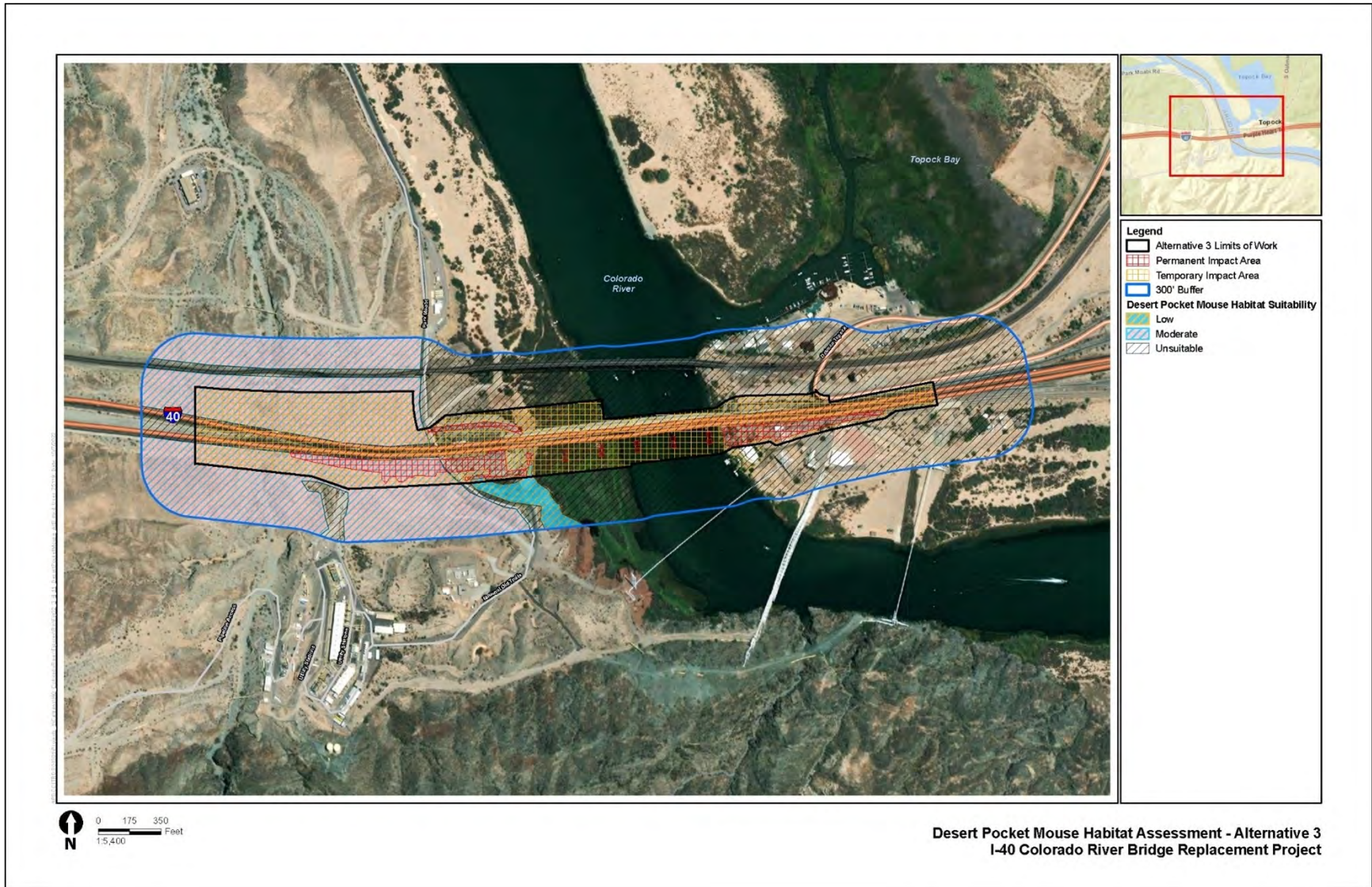


Figure 2.70, Desert Pocket Mouse Habitat Assessment Alternative 3



2.2.13 Threatened and Endangered Species

2.2.13.1 REGULATORY SETTING

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

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

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

2.2.13.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section was based upon the January 2023 NES and June 2022 Biological Assessment (BA) prepared for the project (Caltrans 2023e, 2022h). References used in the NES and BA are not carried over into this section.

In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and

documented. A list of species and habitats within the project region was developed based on information compiled from USFWS, CNDDDB, and other current publications. Official USFWS, CNDDDB, and AZGFD species lists were obtained on January 11, 2023 (USFWS and CNDDDB), and January 10, 2022 (AZGFD) (Appendix A of the NES). The BSA was field reviewed to identify habitat types, potential to support threatened and endangered species, and potential problem areas for the study.

A literature review determined that 18 federally and/or state-listed as threatened or endangered species or candidates for listing may occur within the BSA. Four of the 18 threatened or endangered species identified in the literature review were determined to be absent due to a lack of suitable habitat. Potential habitat for the following 13 candidate, threatened, or endangered species was determined present within the BSA: bonytail chub (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), bald eagle (foraging only; *Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), Gila woodpecker (foraging only; *Melanerpes uropygialis*), Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), bank swallow (migratory only; *Riparia riparia*), Arizona Bell's vireo (*Vireo bellii arizonae*), monarch butterfly (*Danaus plexippus*), Mojave desert tortoise (*Gopherus agassizii*), and northern Mexican gartersnake (*Thamnophis eques megalops*). An extensive literature review and records search was performed for all listed species (see 2.2.12 and the NES for the types of literature and databases reviewed). A habitat assessment was performed for listed fishes, California black rail, Yuma Ridgway's rail, western yellow-billed cuckoo, southwestern willow flycatcher, and Gila woodpecker. Protocol surveys were conducted for Arizona Bell's vireo and desert tortoise.

Study areas for listed species included the PIA and a 600-foot buffer, with the exception of the desert tortoise habitat assessment and focused survey, which used a 300-foot buffer. Refer to Figures 2.19, 2.20, 2.21 in Section 2.2.10 for the limits of each study area.

Threatened and endangered species evaluated for the project and their habitat requirements, regulatory status, and potential for occurrence within the BSA are provided in Table 2.46 and are described in more detail in the NES and BA reports prepared for the project. Criteria used to determine a species potential to occur within the BSA is detailed in Chapter 2 of the NES.

Critical Habitat

Based on the official USFWS IPaC List of Proposed, Threatened, and Endangered Species, and Critical Habitats for the project, it was determined that critical habitat for bonytail chub occurs within the BSA; USFWS-designated critical habitat is not present for any other listed species. USFWS-designated critical habitat for bonytail chub is located within the mainstem of the Colorado River throughout the central portion of the BSA, including within the PIA (Figure 2.71, 2.72, 2.73).

Table 2-46, Listed Species Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
AQUATIC					
Desert pupfish	<i>Cyprinodon macularius</i>	F: FE AZ: SGCN 1A	isolated springs,	A	Currently extirpated in the lower Colorado

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		CA: SE Global Rank: G1 CA Rank: S1	riverine marshlands, and shorelines of lakes and rivers where these habitats are characterized by harsh physical and chemical conditions		River. There have been no documented occurrences of the species within 100 miles of the BSA. Currently, the only native desert pupfish populations in the United States are located in lower San Felipe and Salt creeks and several canals along the margins of the Salton Sea in Imperial County, California.
Bonytail chub	<i>Gila elegans</i>	F: FE AZ: SGCN 1A CA: SE Global Rank: G1 CA Rank: SH LCR MSCP	aquatic, Colorado River basin flowing waters, Colorado River basin standing waters	HP, CH (all life stages)	The mainstem of the river within the BSA is within the critical habitat for the species and could offer spawning, larval recruitment, dispersal to spawning and non-spawning habitats, and foraging opportunities for the species. This portion of the river could serve as a critical migratory pathway during spawning and dispersal to the adjacent Topock Bay.
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	F: FE AZ: SGCN 1A CA: SE, FP Global Rank: G1 CA Rank: SX	large and deep pools over sandy or rocky substrate in large to medium rivers within the Colorado River basin	A	Wild populations have been extirpated from the lower Colorado River Basin since the 1970s. Stocking events have occurred in the Salt and Verde rivers between 1985 and 2018; however, these stocking programs were unsuccessful and ceased in 2018. Currently, the Colorado pikeminnow is restricted to portions of the upper Colorado River basin in Utah and Colorado, a portion of the San Juan River subbasin in Utah, and upper reaches of the Gila River subbasin.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/ Absent ²	Rationale
Razorback sucker	<i>Xyrauchen texanus</i>	F: FE AZ: SGCN 1A CA: SE, FP Global Rank: G1 CA Rank: S1S2 LCR MSCP	found in a wide range of habitats throughout their native range from isolated side pools or oxbows to deep pools in large rivers and even artificial impoundments	HP, P (all life stages)	Current stocking programs have maintained this population in the area. Additionally, this species was found, albeit dead, during the survey.
AVIAN					
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	F: FT, BCC, BLM-S AZ: SGCN 1A CA: SE Global Rank: G5T2T3 CA Rank: S1 LCR MSCP	riparian forest	HP (nesting and foraging)	There is marginal and low quality nesting habitat and low quality foraging habitat for the western yellow-billed cuckoo within the BSA due to a lack of large trees and plant species composition, which indicated low potential for the western yellow-billed cuckoo to nest. Vegetation communities within the BSA that provide suitable habitat for western yellow-billed cuckoo include tamarisk thicket, narrowleaf willow thicket, blue palo verde woodland, and disturbed blue palo verde woodland. All five western yellow-billed cuckoo observations made during PG&E surveys were documented within Topock Marsh, with the nearest detection being from 2008 located approximately 0.30 mile northeast of the BSA.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	F: FE AZ: SGCN 1A CA: SE Global Rank: G5T2 CA Rank: S1	riparian woodland	P, HP (nesting and foraging)	Vegetation communities within the BSA that provide suitable habitat for southwestern willow flycatcher include arrow weed thicket, narrowleaf

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		LCR MSCP			willow thicket, and tamarisk thicket. All riparian habitats directly adjacent to the Colorado River provide low and moderate quality foraging habitat. There is low quality nesting habitat for this species in areas of tamarisk thicket along the California shoreline. Protocol-level surveys for southwestern willow flycatcher have been conducted annually from 2005 to 2010 and again in 2012, 2014, 2017, and 2021, which partially overlaps with the southwest portion of the BSA. Southwestern willow flycatcher was detected during each survey except for 2006, 2010, and 2017. All detections were determined to be migratory or transient birds; no nests or nesting activity were observed during protocol surveys. ECORP findings were similar.
Bald eagle (Winter Population)	<i>Haliaeetus leucocephalus</i>	F: DL, BCC, BLM_S AZ: SGCN 1A CA: SE, FP Global Rank: G5 CA Rank: S3	congregate in large numbers where waterfowl and fish are locally abundant	HP (foraging)	The Colorado River provides suitable habitat to hunt for fish and waterfowl; however, recreational activities including the proximity of Topock marina may deter this species from the area. Winter bald eagle counts nearest the Project area have positively identified Lake Mead, Mohave, and Bill Williams River, which are over 30 miles away.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	F: BCC, BLM-S AZ: SGCN 1B CA: ST, FP Global Rank:	brackish marsh, freshwater marsh, marsh	HP (nesting and foraging)	Based on observations of marsh habitat, it was determined that low quality foraging habitat

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		G3G4T1 CA Rank: S1 LCR MSCP	& swamp, salt marsh, wetland		and low quality nesting habitat for California black rail occurs within the BSA in stands of marsh vegetation (California Bulrush Marsh, common reed marsh, and cattail marshes) on both sides of the Colorado River. While no individuals were detected on the survey, during marsh bird surveys performed for the Havasu National Wildlife Refuge conducted around 2009, a single California black rail was detected within the marsh within approximately 0.95 mile of the northeastern portion of the BSA. This species has also been recorded in the Topock Gorge, approximately 5 miles to the south of the BSA. PG&E focused surveys conducted in 2012 that overlaps with the BSA had no detections.
Gila woodpecker	<i>Melanerpes uropygialis</i>	F: BCC, BLM-S AZ: SGCN 1B CA: SE Global Rank: G5 CA Rank: S1 LCR MSCP	riparian forest, riparian woodland	HP (foraging)	There is no suitable Gila woodpecker nesting habitat present within the BSA due to lack of potential trees that could be used for nesting cavities. There is marginal quality foraging habitat within the riparian habitat. Historical occurrences have been documented within 5 miles of the Project; however, none have been documented during PG&E studies nor during ECORP field surveys.
Yuma Ridgway's rail	<i>Rallus obsoletus yumanensis</i>	F: FE AZ: SGCN 1A CA: ST, FP	freshwater marsh, marsh & swamp,	P, HP (nesting and	There is low to moderate quality foraging habitat and low quality nesting

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
		Global Rank: G3T3 CA Rank: S1S2 LCR MSCP	wetland	foraging)	habitat for Yuma Ridgway's rail occur within the BSA. Habitat is present in the southwestern shoreline and adjacent areas on the California side of the Colorado River, in locations exhibiting limited California bulrush and noteworthy stands of common reed. This species has been detected by PG&E studies, USFWS studies, and recent ECORP field surveys within the BSA.
Bank swallow	<i>Riparia riparia</i>	F: BLM-S AZ: None CA: ST Global Rank: G5 CA Rank: S2	riparian scrub, riparian woodland	P (migratory)	This species was incidentally observed during the ECORP field surveys. This species is assumed migratory.
California least tern	<i>Sternula antillarum browni</i>	F: FE AZ: SGCN 1A CA: SE, FP Global Rank: G4T2T3Q CA Rank: S2	alkali playa, wetland	A	There is no suitable California least tern habitat present within the BSA due to a lack of open, bare, or sparsely vegetated sand, gravelly substrate, or exposed flats along the river shoreline. There were no documented occurrences for this species within the vicinity of the Project.
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	F: BCC, BLM-S AZ: SGCN 1B CA: SE Global Rank: G5T4 CA Rank: S1S2 LCR MSCP	riparian forest	P, HP (nesting and foraging)	There is low, moderate, and high quality nesting and foraging habitat for this species throughout the BSA. Vegetation communities within the BSA that provide suitable habitat for Arizona Bell's vireo include arrow weed thicket, blue palo verde woodland, disturbed blue palo verde woodland, common reed marsh, narrowleaf willow thicket, tamarisk thicket, and some areas of creosote bush scrub.

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
					This species has been detected during protocol surveys conducted by both PG&E and ECORP.
INSECT					
Monarch butterfly	<i>Danaus plexippus</i>	F: FC AZ: None CA: None Global Rank: G4T2T3 CA Rank: S2S3	Fall migration: nectar-producing plants. Spring migration: larval food plants and nectar plants. Wintering habitat typically provides access to streams, plenty of sunlight (enabling body temperatures that allow flight), and appropriate roosting vegetation, larval host plants, and is relatively free of predators.	HP	The BSA contains suitable habitat for migratory Monarch butterflies as well as suitable habitat for Monarch host plants. The Western Monarch Milkweed Mapper has reported host plant occurrences near Parker Junction, 8.0 miles northwest from the Project site; however, occurrences were not observed during any of the field surveys. One [1] pollinator plant species was observed [sweetbush (<i>Bebbia juncea</i>)]. Monarch butterflies have not been recorded near the Project site; however, they have been recorded within Lake Havasu City.
REPTILE					
Mojave desert tortoise	<i>Gopherus agassizii</i>	F: FT AZ: SGCN 1A CA: ST Global Rank: G3 CA Rank: S2S3 LCR MSCP	flats, gently sloping terrain, valleys and bajadas, washes, rocky hillsides, and open flat desert areas with sandy to sandy-gravel soils that offer suitable substrates for burrowing and nesting; north and west of the Colorado River	HP	Mojave creosote bush scrub and blue palo verde woodland were the only vegetation communities present in portions of the BSA considered to have low or marginal suitability as desert tortoise habitat.
Northern Mexican	<i>Thamnophis eques</i>	F: FT AZ: SGCN 1A	waterbodies as well as	HP	Suitable habitat is present within the

Common Name	Scientific Name	Status ¹	General Habitat Description	Habitat Present/Absent ²	Rationale
gartersnake	<i>megalops</i>	CA: None Global Rank: None CA Rank: None	river habitat that includes pools and protected backwaters with bank vegetation		Topock Marsh, which is northeast of the project and within the project BSA.

Notes:

¹Status:

F: Federal Classification

- FE -Federal Endangered
- FT -Federal Threatened
- FC -Federal Candidate
- DL -Delisted
- BCC -USFWS Birds of Conservation Concern
- BLM-S -Bureau of Land Management Sensitive

AZ: Arizona Classification

- SGCN -Species of Greatest Concern

CA: California Classification

- SE -State Endangered
- ST -State Threatened
- SC -State Candidate
- SSC -Species of Special Concern

LCR MSCP: Lower Colorado River Multiple Species Conservation Plan

Covered Species

CDFW Element Rankings for Species or Natural Community

(The Global rank (G rank) is a reflection of the overall status of an element throughout its global range while the State rank [S rank] refers to the imperilment status only within California's state boundaries. Subspecies/varieties receive a T rank attached to the G rank and a Q designates questionable taxonomy (CNDDDB 2021c).

- NR Rank not yet assessed
- GX/SX Presumed extinct
- GH/SH Possibly extinct; known only from historical occurrences but there is still some hope of rediscovery.
- G1/S1 Critically imperiled; at very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
 - 1.1 = very threatened
 - 1.2 = threatened
 - 1.3 = no current threats known
- G2/S2 Imperiled; at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
 - 2.1 = very threatened
 - 2.2 = threatened
 - 2.3 = no current threats known
- G3/S3 Vulnerable; at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
 - 3.1 = very threatened
 - 3.2 = threatened
 - 3.3 = no current threats known
- G4/S4 Apparently secure; at fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
- G5/S5 Secure; at very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

²Habitat Present/Absent

- CH -Critical Habitat – project footprint is located within designated Critical Habitat, but does not necessarily mean that appropriate habitat is present.
- HP -Habitat Present – is or may be present. Species may be present.
- P -Present – species was visually or audibly detected.

A -Absent – no habitat present and no further work needed.

Survey results and project impacts for those candidate, threatened, or endangered species that were determined to have suitable habitat present within the BSA are addressed in the subsections below. The species for which suitable habitat is not present or the BSA is outside of their geographical range are not discussed further. Native vegetation communities to support candidate, threatened, or endangered species are illustrated on Figure 2.3.1-2.

Survey Results

Listed Plants

No listed plant species were identified as potentially occurring within the BSA during the literature review and none were detected during the May 2020 focused rare plant surveys. Therefore, listed plant species were determined to be absent from the BSA.

Bonytail Chub

Based on the habitat assessment, it was determined that suitable habitat for bonytail chub is present within the BSA (see Figure 2.3.4.-2 in Section 2.2.13). The mainstem of the Colorado River located within the BSA occurs within critical habitat for this species and could offer spawning, larval recruitment, dispersal to spawning and nonspawning habitats, and foraging opportunities for bonytail chub. This portion of the river could also serve as a critical migratory pathway during spawning and dispersal to the adjacent Topock Bay. Small portions off the main river channel that contain emergent vegetation in slower moving waters could offer suitable temperature and stream morphological characteristics for spawning and larval recruitment; however, the abundance of nonnative predatory fishes within the system degrade the quality of these habitats and likely preclude larval recruitment. Adult bonytail chub could occur in nearly all aquatic habitat types within the BSA due to the current stocking programs, but the overall suitability of the habitat to support the species is low based on their population size and degraded habitat quality. Details of the habitat assessment results, including water quality data, water temperature, and physical habitat characteristics, collected from the field surveys are provided in the NES and the Fish Habitat Assessment Report prepared for the Project (Appendix F of the NES).

Razorback Sucker

Based on the habitat assessment, it was determined that suitable habitat for razorback sucker is present within the BSA (see Figure 2.3.4.-2 in Section 2.2.13). The mainstem of the Colorado River within the BSA could offer spawning, larval recruitment, migration to spawning and nonspawning habitats, and foraging opportunities for the species. This portion of the river could serve as a critical migratory pathway during spawning and dispersal to the adjacent Topock Bay or Park Moabi. Small portions off the main river channel that contain emergent vegetation in slower moving waters could offer suitable temperature and stream morphological characteristics for spawning and larval recruitment; however, the abundance of nonnative predatory fishes within the system degrade the quality of these habitats and preclude larval recruitment.

The razorback sucker population found between the Davis and Parker dams is considered the largest in the Lower Colorado River Basin; however, the conditions for larval recruitment are considered poor and would not be expected to support this life stage's requirements. Stocking is required to maintain this population in the presence of nonnative competitors and predators and without it would likely become extirpated. Based on CNDDDB and AZGFD records, the nearest

occurrences of razorback sucker were in 2003 in Topock Gorge approximately four miles downstream of the BSA. In addition, nearly 5,000 adult razorback suckers have been stocked into Topock Bay (approximately four miles north of the BSA) between 2010 and 2018 as part of the monitoring and recovery efforts for this species.

Due to the current stocking programs, adult razorback sucker could occur in nearly all habitat types within the BSA, but the overall suitability of the habitat to support the species is low based on their population size and degraded habitat quality. One dead razorback sucker was incidentally observed during the field survey within the 600-foot buffer near the entrance to Topock Bay on the east bank of the Colorado River. The individual was approximately 30 cm in total length with no obvious sign of the cause of death. Although the exact cause of death is unknown, this observation suggests the presence of razorback sucker within the BSA.

Western Yellow-billed Cuckoo

Based on the literature review, multiple records of occurrence for western yellow-billed cuckoo have been reported within 5 miles of the BSA, including at Havasu National Wildlife Refuge and Topock Marsh. The reports are mostly of individuals, but also include pairs (possibly nesting) and span across many years, with the most recent record from 2017. The closest record is of an individual bird from 2008 approximately 0.30-mile northeast of the BSA within Topock Marsh (see Chapter 4 of the NES for details).

Vegetation communities within the BSA that provide suitable habitat for western yellow-billed cuckoo include tamarisk thicket, narrowleaf willow thicket, blue palo verde woodland, and disturbed blue palo verde woodland. These vegetation communities were considered suitable for the species due to plant species composition, proximity to water, and relative location to adjacent contiguous patches of suitable habitat.

Based on the habitat assessment performed for the project, it was determined that suitable nesting and foraging habitat for the western yellow-billed cuckoo was present within the BSA. Riparian vegetation within the BSA consisted of monotypic stands that lacked larger trees and a dense understory. It was therefore determined that the nesting habitat within the BSA is of marginal and low quality due to a lack of large trees and plant species composition, which indicated low potential for the western yellow-billed cuckoo to nest. There is low quality foraging habitat within the BSA in the form of dense riparian habitat adjacent to a perennial water source. If western yellow-billed cuckoo individuals were detected within the BSA, they would be presumed to be migrants due to lack of quality nesting habitat. Suitable habitat to support western yellow-billed cuckoo that was mapped as a part of the habitat assessment is illustrated on Figure 2.74, 2.75, 2.76.

Western yellow-billed cuckoo was not detected during the habitat assessment; however, it should be noted that the habitat assessment was conducted outside of the migratory and breeding season for this species and focused surveys were not performed.

Southwestern Willow Flycatcher

Southwestern willow flycatcher is known to occur within the project area. Based on the literature review, individuals have been detected within 3 miles of the BSA across the span of many years, with the most recent observation from 2021. Nesting territories have been recorded within 5 miles of the BSA. The Topock Marsh supports dozens of nesting territories; all nests at this location were documented within tamarisk thickets habitat (see Chapter 4 of the NES for details).

Based on habitat assessment performed for the project, it was determined that potentially suitable habitat for the southwestern willow flycatcher was present within the BSA, notably foraging habitat. Vegetation communities within the BSA that provide suitable habitat for southwestern willow flycatcher include arrow weed thicket, narrowleaf willow thicket, and tamarisk thicket. Suitable habitat to support southwestern willow flycatcher that was mapped as a part of the habitat assessment is illustrated on Figure 2.77, 2.78, 2.79.

All riparian habitats directly adjacent to the Colorado River provide low and moderate quality foraging habitat due to the proximity of a perennial water source and plant species composition and density. Therefore, there is potential for southwestern willow flycatcher to forage within the BSA during migration periods. There is low quality nesting habitat for this species in areas of tamarisk thicket along the California shoreline due to a lack of large trees and species composition. Additional areas of low quality nesting habitat were present within riparian areas directly adjacent to the Colorado River on the east side of the river. These areas provide low quality nesting habitat due to a lack of large trees and species composition. Southwestern willow flycatcher displays high nesting site fidelity; therefore, if nesting individuals have not been previously documented in the area, it is less likely for nesting activities to occur. Because no previous southwestern willow flycatcher nests have been documented within the BSA, it is unlikely for a pair to nest in the area. Any southwestern willow flycatcher individuals that are detected in the BSA are, therefore, most likely to be migrants.

A willow flycatcher (*Empidonax traillii*) was observed on June 3, 2021 during one of the focused surveys for Arizona Bell's vireo being performed for the project. It was detected on the California side of the BSA within tamarisk scrub, somewhat close to the location of the BNSF railroad bridge. The flycatcher was not singing but was foraging by making short forays to catch flying insects. Due to the timing of the sighting and because *E. extimus* subspecies are inseparable in the field by markings alone, the bird was designated as the nominate *E. traillii* rather than the subspecies *E. t. extimus*. Although the project site is located within the breeding range for *Empidonax traillii extimus*, the northbound migration for willow flycatchers through California is known to extend from early April through mid-June. For this reason, and because the individual was not acting in a territorial manner, the individual was presumed to be a migrant individual. Willow flycatchers were not identified within the survey area on subsequent visits, confirming that this sighting was likely that of a migrating individual.

Southwestern willow flycatcher individuals were not detected during the habitat assessment; however, it should be noted that the habitat assessment was conducted outside of the migratory and breeding season for this species and focused surveys for southwestern willow flycatcher were not performed.

Yuma Ridgway's Rail

Based on the literature review, multiple records of occurrence for Yuma Ridgway's rail have been reported within 5 miles of the BSA, including at Topock Marsh, Havasu National Wildlife Refuge, Three Mile Lake, and along the channel of the Colorado River. The reports are mostly of individuals, but also include pairs and advertising males, and span across many years, with the most recent record from 2021. The closest record is of two individual birds from 2009 within the northeastern portion of the BSA at Glory Hole along the Colorado River (see Chapter 4 of the NES for details).

Based on the conditions observed throughout the BSA during the habitat assessment, as well as the results of the literature review, it was determined that suitable breeding and foraging

habitat for the Yuma Ridgway's rail was present within the BSA. Suitable habitat to support this species that was mapped as a part of the habitat assessment is illustrated on Figure 2.80, 2.81, 2.82.

Within the BSA, stands of cattail marshes appeared to be nonexistent along and adjacent to the California shoreline of the Colorado River. Similarly, cattail marsh habitat was, with one exception, essentially absent on the Arizona shoreline and in adjacent areas within and near the BSA. A small and dry stand of cattail marsh was confirmed to be present immediately east of the Topock Marina's boat docks, in association with an expansive field of mostly dry bulrush. Although both stands were brown and appeared to be dead in March, limited water coverage may still have been present. However, no young shoots were visible in either vegetation type at the time of the March assessment.

Extensive stands of dense living California bulrush were observed along the shorelines in the inlet channel to Topock Marsh on the Arizona side of the river, primarily outside of the BSA. An expansive stand of apparently dead bulrush was observed in the area eastward of the Topock Marina's boat docks during the assessment. However, such dead emergent vegetation is typically dry and considered suboptimal if not unoccupied by Yuma Ridgway's rail. This stand was contiguous with the stand of dead cattail habitat described above. In addition, small patches of living bulrush were observed at a few locations along the California shoreline. Stands of common reed were common in several shoreline locations and in one backwater area in the southwest part of the BSA along the California side of the Colorado River. Common reed was also present in limited and generally small stands along some of the Topock Marsh inlet channel on west- and south-facing Arizona shorelines.

It was determined that low to moderate quality foraging habitat and low quality nesting habitat for Yuma Ridgway's rail occur within the BSA. Habitat is present in the southwestern shoreline and adjacent areas on the California side of the Colorado River, in locations exhibiting limited California bulrush and noteworthy stands of common reed. Areas exhibiting stands of bulrush, and to a minor degree cattails, within the BSA on the Arizona side of the Colorado River appeared to exhibit a similar low potential for nesting by Yuma Ridgway's rail. In particular, the large expanse of marsh habitat in the area eastward of the Topock Marina's boat docks appeared to be dry and would therefore not be considered suitable for nesting for Yuma Ridgway's rail. If the substrate in this area was in fact dry in March, foraging by this species would have been rare to nonexistent. If water or at least saturated soils were present at that time, some foraging may have been possible.

At least three Yuma Ridgway's rail individuals were incidentally detected on several occasions during the focused Arizona Bell's vireo surveys performed for the project. At least one individual was detected within common reed marsh habitat located along the California shoreline during the June 2021 survey, and at least two other individuals were detected within California bulrush marsh habitat located east of the Colorado River during the initial May 2021 survey. In each instance, the Yuma Ridgway's rail individuals were heard vocalizing (kekking) but were never visually observed.

In summary, the species is known to occur in the vicinity of the BSA and future protocol surveys may confirm that it forages, and possibly nests, primarily in bulrush and cattail stands, within the BSA. Yuma Ridgway's rail were incidentally detected in this area on three separate occasions in May and June 2021; focused surveys were not performed for this species.

California Black Rail

A few nearby records of occurrence for California black rail were discovered during the literature review conducted for the project. A single individual was detected at Havasu National Wildlife Refuge approximately 0.95 mile from the northeastern portion of the BSA. It has also been recorded in the Topock Gorge, approximately 5 miles to the south of the BSA. However, other surveys for California black rail in the project region have been negative (see Chapter 4 of the NES for details).

Based on the habitat assessment performed for the project, it was determined that suitable breeding and foraging habitat for California black rail is present within the BSA. Low quality foraging and nesting habitat for this species occurs in stands of marsh vegetation (California bulrush marsh, common reed marsh, and cattail marshes) on both sides of the Colorado River. Suitable habitat to support California black rail that was mapped as a part of the habitat assessment is illustrated on Figure 2.83, 2.84, 2.85.

California black rail individuals were not detected during the habitat assessment or other field surveys performed for the project; however, focused surveys for this species were not performed.

Gila Woodpecker

No extant records of occurrence for Gila woodpecker were discovered during the literature review performed for the project. There are multiple records of this species within 5 miles of the BSA, but all are from 1910 and the 1980's. No detections were made during recent surveys conducted for the Topock Compressor Station, which is located within the southwestern portion of the BSA (see Chapter 4 of the NES for details).

Based on the habitat assessment performed for the project, it was determined that no suitable nesting habitat for Gila woodpecker was present within the BSA due to the lack of potential trees that could be used for nesting cavities; therefore, there is no potential for this species to nest within the BSA. There is marginal quality foraging habitat for Gila woodpecker in the riparian habitat within the BSA due to proximity to the Colorado River. Since this species prefers to forage in large, dead branches and cacti, there is little suitable habitat overall within the BSA for this species. Suitable habitat to support Gila woodpecker that was mapped as a part of the habitat assessment is illustrated on Figure 2.86, 2.87, 2.88.

Gila woodpecker individuals were not detected during the habitat assessment; however, focused surveys for this species were not performed.

Arizona Bell's Vireo

Based on the literature review, multiple records of occurrence for Arizona Bell's vireo have been reported within 5 miles of the BSA, including at Topock Marsh. The reports are mostly of singing males, indicating possible nesting, and span across many years, with the most recent record from 2021. The closest extant record is from 2005 of two singing males approximately 1 mile southeast of the BSA (see Chapter 4 of the NES for details).

Based on the habitat assessment performed for the project, it was determined that there is suitable breeding and foraging habitat for Arizona Bell's vireo within the BSA. Vegetation communities within the BSA that provide suitable habitat for Arizona Bell's vireo include arrow weed thicket, blue palo verde woodland, disturbed blue palo verde woodland, common reed marsh, narrowleaf willow thicket, tamarisk thicket, and some areas of creosote bush desert

scrub. These vegetation communities were considered suitable due to plant species composition and relative location to adjacent contiguous patches of suitable habitat.

There is high quality foraging habitat for Arizona Bell's vireo in areas of tamarisk thicket and common reed marsh along the California shoreline. Additional areas of high quality foraging habitat were present on the Arizona side within and adjacent to Topock Marsh in areas of tamarisk thicket, arrow weed thicket, and narrowleaf willow thicket. The area of narrowleaf willow thicket adjacent to Topock Marsh also provides high quality nesting habitat for the species within the BSA. There is moderate quality foraging habitat for this species in areas of arrow weed thicket, tamarisk thicket, and some areas of creosote bush-white bursage scrub within the southeastern portion of the BSA along the river shoreline. There is moderate quality nesting habitat for this species in areas of tamarisk thicket along the western shoreline of the Colorado River and within arrow weed thicket and tamarisk thicket along the eastern shoreline. Low quality foraging and nesting habitat exists within patches of riparian vegetation due to the proximity to anthropogenic disturbances and sparsity of vegetation, such as tamarisk thicket and disturbed blue palo verde woodland adjacent to the railroad right-of-way and blue palo verde woodland adjacent to Bat Cave Wash north and south of I-40. Suitable habitat to support Arizona Bell's vireo that was mapped as a part of the habitat assessment is illustrated on Figure 2.89, 2.90, 2.91.

Arizona Bell's vireo were detected during the focused surveys within portions of the BSA on the Arizona side of the Colorado River (Figures 2.3.4-1 and 2.3.5-7). At least two singing males and two juveniles were detected within narrowleaf willow thicket located within the northeast portion of the BSA near Topock Marsh. Two territories were roughly identified, with an adult-juvenile pair in each territory. Both territories are located within the narrowleaf willow thicket located eastward of the Topock Marina's boat docks, with one territory extending outside of the BSA limits. Based on the presence of the adult-juvenile pairs, there is potential that Arizona Bell's vireo were nesting within or in proximity to the identified territories earlier in the breeding season. At least four brown-headed cowbirds were observed during the focused surveys, with all observations being within the identified Arizona Bell's vireo territories (Figure 2.40).

Monarch Butterfly

The BSA contains suitable habitat for migratory monarch butterflies and rush milkweed (*Asclepias subulata*), a host plant for monarch butterfly larvae, was detected within the BSA. The Western Monarch Milkweed Mapper has reported host plant occurrences near Parker Junction, 8.0 miles northwest from the project site. One pollinator plant species, sweetbush (*Bebbia juncea*), was observed with the BSA. Monarch butterflies have not been recorded near the project site; however, they have been recorded within Lake Havasu City.

Mojave Desert Tortoise

No records of live Mojave desert tortoise or recent tortoise sign within the project region were discovered during the literature review performed for the project. There are multiple reports of desert tortoise carcasses within 5 miles of the BSA, but all were old and deteriorated (e.g., disarticulated and bleached plastrons and carapaces, deteriorated bone fragments). Five potential burrows were documented over a 9-year period during surveys conducted for the Topock Compressor Station, which is located within the southwestern portion of the BSA (see Chapter 4 of the NES for details).

Based on site disturbances, soil characteristics, vegetation composition and cover, habitat fragmentation, topography, and a lack of recent evidence of desert tortoise occupation in or

near the BSA, the majority of the BSA was determined to be unsuitable as desert tortoise habitat. Anthropogenic disturbances within the BSA included dirt roads, old OHV use, trash (presumably from I-40), active PG&E construction activities, and development. Non-anthropogenic threats to desert tortoise observed on the site included predators such as common raven. Definitions of the *unsuitable habitat* and *low and marginal habitat* classifications for desert tortoise are included in the NES.

Portions of low suitability and marginal suitability desert tortoise habitat on the California side of the river are characterized by variable topography and landforms including steep slopes and rolling hills and washes. The eastern portion of the BSA on the Arizona side of the river was primarily developed with little to no natural vegetation. Suitable habitat for desert tortoise within the BSA is illustrated on Figure 2.92, 2.93, 2.94.

The most encountered substrates within low suitability and marginal suitability desert tortoise habitat in the BSA were desert pavement and variations of rocky substrates. Desert pavement was prevalent on the flats of hilltops. Desert pavement is “a natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface”. Variations of rocky soils present in the BSA included rocky or caliche, rocky/alluvial and rocky/sandy loam. Caliche, soil recognized as a calcium carbonate crust that forms on stony soil in warm and generally arid areas, was identified mainly at the base of hills and near washes usually around rocky substrates. These two soil types dominated the portion of the BSA where low or marginal suitability desert tortoise habitat was present. Soils were generally not considered friable for digging burrows and only small mammal burrows were observed during surveys.

Vegetation cover was very low and relatively uniform across the low suitability and marginal suitability desert tortoise habitat in the BSA with variation appearing to correspond with the site’s topography, disturbance, and soils, and location of runoff. Areas that received runoff or would allow water to pool, typically in washes, had a higher percentage of shrub cover while areas that were characterized by desert pavement, typically had a lower percentage of shrub cover. The hilltops, steep slopes, and flats were composed of desert pavement or rocky soils and were sparsely vegetated.

Creosote bush desert scrub and blue palo verde woodland were the only vegetation communities present in portions of the BSA considered to have low or marginal suitability as desert tortoise habitat (see Section 2.2.10 for descriptions of these vegetation communities). Although these vegetation communities are typically associated with desert tortoise habitat, the portions of these communities within the BSA were considered to have low or marginal suitability due a multitude of factors including soil composition, anthropogenic disturbances, steep topographies, minimal vegetative cover for forage, and habitat fragmentation.

A sporadic herbaceous layer was observed throughout the low suitability and marginal suitability desert tortoise habitat in the BSA and appeared to be dependent on the soil composition. The herbaceous layer was most prevalent in rocky/sandy loam soils; however, it was mostly composed of nonnative common Mediterranean grass (*Schismus barbatus*), which is a species that negatively correlates with desert tortoise presence.

Low-suitability habitats in the BSA may be used by individual desert tortoises for forage or temporary cover but would not be expected to maintain a desert tortoise population. Marginal-suitability habitats in the BSA contained some native vegetation associated with desert tortoise habitat, but in isolated, small, and degraded patches that would not be expected to be suitable

for long term individual desert tortoise survival due to a lack of connectivity to more suitable habitat.

No live desert tortoises or desert tortoise sign (e.g., burrows, scat, carcasses) were documented during the protocol-level desert tortoise survey performed for the project.

Northern Mexican Gartersnake

Only a few records of occurrence for northern Mexican gartersnake were discovered during the literature review conducted for the project. One was within the Prescott National Forest, over 100 miles due east of the project. Another was a historical record of the species from the early 1900's along the lower Colorado River in Nevada. This species was believed to be extirpated from the lower Colorado River; however, it was recently observed in Arizona north of the project vicinity at Beal Lake in 2015 (see Chapter 4 of the NES for details).

Suitable habitat to support northern Mexican gartersnake is presumed to be present within the Topock Marsh portion of the BSA; however, a habitat assessment was not performed for this species.

Northern Mexican gartersnake nor its sign were incidentally observed during any of the project surveys; however, focused surveys for this species were not performed.

Federal and Resource Agency Consultation

Federal Section 7 Consultation

The following coordination with USFWS as part of Section 7 consultation for this project has occurred:

- July 7, 2020. An official USFWS species list of proposed, threatened, and endangered species as well as critical habitat within and adjacent to the BSA was obtained through the USFWS IPaC system.
- September 30, 2021. An updated official USFWS species list was obtained.
- March 11, 2022. An updated official USFWS species list was obtained.
- July 28, 2022. An updated official USFWS species list was obtained.
- January 11, 2023. An updated official USFWS species list was obtained (Appendix A of the NES).

Coordination efforts to informally review the BA have occurred during the Spring of 2022 with USFWS representatives, John Taylor and Richard Tung, and Caltrans representatives Alisha Curtis and Nancy Frost. The BA was sent to USFWS for informal review on June 7, 2022. USFWS held a focus meeting to discuss comments on June 17, 2022. Attendees included USFWS representatives, John Taylor and Richard Tung, and Caltrans representatives, Alisha Curtis, Jimmy Walth, Jennifer Gillies, and Nancy Frost. Caltrans, in coordination with FHWA, sent a request to initiate formal Section 7 on July 1, 2022. USFWS acting Supervisor, Peter Sanzenbacher, sent an email on July 1, 2022 shortly after raising concerns regarding the submittal. On July 13, 2022, a focus meeting was held with USFWS representatives Colleen Draguesku, Peter Sanzenbacher, Richard Tung and Caltrans representatives Allison Mitchell,

Alisha Curtis, and Karen Riesz to discuss the initiation of Section 7 regarding required information, the selection of a preferred alternative, effect call to northern Mexican garter snake and the use of the desert tortoise programmatic biological opinion. An incomplete letter from USFWS was received on July 25, 2022. An informal meeting with USFWS representative, Richard Tung, was held on January 30, 2023 to discuss the submittal of separate actions.

This project is located outside of NOAA Fisheries jurisdiction; therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries species are anticipated. Consequently, consultation with NMFS has not occurred.

Other Resource Agency Consultation

A request for Permission to Enter (PTE) was sent to the Havasu National Wildlife Refuge in February 2020 with a follow-up email sent in March 2020. A response was not received from the Refuge, and on April 7, 2020, Caltrans contacted USFWS representative, John Taylor, in regards to PTE to conduct surveys on the Wildlife Refuge. Clarification was requested to obtain PTE. Mr. Taylor emailed USFWS Refuge Manager, Richard Meyers, on April 8, 2020 to coordinate the effort. PTE was received May 11, 2020 from USFWS Refuge representative, John Bourne. A PTE extension was requested February 4, 2021 and granted February 17, 2021.

Caltrans was in close coordination with USFWS Refuge representative, John Bourne, during the Spring season of 2021. Mr. Bourne conducted marsh bird surveys as part of the annual Refuge surveys at designated surveys points that also encompassed the project BSA, which was shared with Caltrans. Conversely, Caltrans has also shared project species surveys.

Caltrans held a focus meeting between Caltrans representatives, Craig Wentworth, Alisha Curtis, and Karen Riesz, as well as Resource Agencies including USFWS representative, John Taylor, and CDFW representative, Wendy Campbell, to discuss early coordination efforts in Spring 2020.

On February 3, 2021, USFWS representative, John Taylor, participated in Caltrans Value Analysis Study and provided value input regarding the bridge railing designs for bird species and lighting requirements for nocturnal species.

On May 12, 2021, CDFW representative, Wendy Campbell, provided comments on a draft BMMP Report. An informal discussion was held briefly afterwards. Coordination meetings with CDFW to discuss fully protected species have occurred with CDFW representative, Wendy Campbell, and her supervisor, Alisa Ellsworth, on April 11, 2022, and April 15, 2022, respectively. A follow-up discussion occurred on May 5, 2022.

LCR MSCP Program Manager, John Swett, was contacted May 24, 2022 in regards to LCR MSCP requirements for the project. A focus meeting was held July 12, 2022 with LCR MSCP representatives Carolyn Ronning, John Swett, and Terrence Murphy and Caltrans representatives Allison Mitchell, Alisha Curtis, Karen Riesz, and Nancy Frost to discuss the project, LCR MSCP requirements as it pertains to the project, and possible mitigation opportunities. The point of contact was identified as Carolyn Ronning.

Caltrans continues early coordination with FHWA, ADOT, and the Resource Agencies for both consultation and permit submittal.

ADOT

ADOT has regularly attended Project Development Team monthly status meetings, and Caltrans biology has been in close coordination with ADOT biologist, Audrey Navarro, and ADOT Water Resource Specialist, Israel Garcia. On June 15, 2021, Ms. Navarro completed with review of the draft BMMP report. On June 29, 2022, Ms. Navarro completed with the review of the draft Biological Assessment.

An official AZGFD species list was obtained on January 10, 2022 and provided by ADOT.

FHWA

On May 13, 2020, FHWA representative, Dave Tedrick, verified the communication and consultation protocols for the NEPA process during a virtual focus meeting. Caltrans has had recent ongoing communication with FHWA representative, Shawn Oliver. Mr. Oliver, in coordination with Caltrans, signed the formal request to initiate Section 7 Consultation on July 1, 2022.

PG&E

Caltrans has been in close coordination with PG&E senior biologist, Virginia Strohl, throughout the project's environmental phase. Virginia has provided PTE access during Caltrans biological surveys, coordination for collaboration during the spring 2021 bat survey, updates on biological species findings during PG&E construction activities and surveys, PG&E biological reports, clarification regarding restoration activities, and continued coordination for any encroachment activities.

2.2.13.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2, and 3

Impacts on federally and state-listed candidate, threatened, and endangered species are based on the habitat evaluations and focused studies performed for the project.

FHWA, in coordination with Caltrans and ADOT, has determined that, in accordance with Section 7 of the FESA, the project *may affect, and is likely to adversely affect* bonytail chub, razorback sucker, and Yuma Ridgway's rail with direct removal of suitable occupied habitat. The project also *may affect, but is not likely to adversely affect* Mojave desert tortoise, southwestern willow flycatcher, and western yellow-billed cuckoo as a result of direct impacts on unoccupied suitable habitat and/or indirect impacts on individuals. The project also *may affect, but is not likely to adversely affect* federally designated critical habitat for bonytail chub. The project would have *no effect* on the remaining seven federally-listed species included in the USFWS Official Species List.

FHWA, in coordination with Caltrans and ADOT, has determined that, in accordance with Section 7 of the FESA, the geotechnical studies of the project *may affect, but is not likely to adversely affect* bonytail chub, northern Mexican gartersnake, southwestern willow flycatcher, western yellow-billed cuckoo, razorback sucker, and Yuma Ridgway's rail with direct removal of suitable occupied habitat and as a result of direct impacts on unoccupied suitable habitat and/or indirect impacts on individuals. The project would have *no effect* on the remaining federally-listed species included in the USFWS Official Species List as well as bonytail chub critical habitat.

Caltrans has determined there may be *Take* to state-listed species (bonytail chub, razorback sucker, California black rail, and Yuma Ridgway’s rail) and therefore, a CDFW incidental take permit (pursuant to Section 2081 of the CFG Code) is anticipated for the project. Because razorback sucker, Yuma Ridgway’s rail, and California black rail have CDFW fully protected species designation, CDFW has no permit to allow *Take* of fully protected species for construction projects. Caltrans intends to pursue legislation to amend the CFG Code in order to pursue CDFW Incidental Take Permits for these species. Caltrans has determined there will be *No Take* to all other state-listed species. Caltrans has also determined that the project will have *No Take* to fully protected species bald eagle, Colorado pikeminnow (*Ptychocheilus lucius*), and California least tern (*Sterna antillarum browni*), pursuant to CESA.

Caltrans has determined there in *No Take* to state-listed species for the geotechnical studies of the project.

Table 2.47 provides the FESA effects findings and CESA take statements for each federally and/or state-listed or candidate species.

Table 2-47, Federally and State-Listed or Candidate Species Potentially Affected by the Project

Common Name	Scientific Name	Status	Geotechnical		Build Alternatives	
			Federal Determination	State Take Statement	Federal Determination	State Take Statement
Species						
Desert pupfish	<i>Cyprinodon macularius</i>	FE SE	No effect	No take will occur	No effect	No take will occur
Bonytail chub	<i>Gila elegans</i>	FE SE	May affect, not likely to adversely affect	No take will occur*	May affect, likely to adversely effect	Take
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	FE SE	No effect	No take will occur	No effect	No take will occur
Razorback sucker	<i>Xyrauchen texanus</i>	FE SE	May affect, not likely to adversely affect	No take will occur*	May affect, likely to adversely effect	Take
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT SE	May affect, not likely to adversely affect	No take will occur*	May affect, not likely to adversely affect	No take will occur*
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE SE	May affect, not likely to adversely affect	No take will occur*	May affect, not likely to adversely affect	No take will occur*
Bald eagle	<i>Haliaeetus leucocephalus</i>	SE	N/A	No take will occur	N/A	No take will occur
California black rail	<i>Laterallus jamaicensis coturniculus</i>	ST	N/A	No take will occur*	N/A	Take
Gila woodpecker	<i>Melanerpes uropygialis</i>	SE	N/A	No take will occur	N/A	No take will occur
Yuma Ridgway’s rail	<i>Rallus obsoletus yumanensis</i>	FE ST	May affect, not likely to adversely affect	No take will occur*	May affect, likely to adversely effect	Take

Common Name	Scientific Name	Status	Geotechnical		Build Alternatives	
			Federal Determination	State Take Statement	Federal Determination	State Take Statement
Bank swallow	<i>Riparia riparia</i>	ST	N/A	No take will occur	N/A	No take will occur
California least tern	<i>Sterna antillarum browni</i>	FE SE	No effect	No take will occur	No effect	No take will occur
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	SE	N/A	No take will occur*	N/A	No take will occur*
Monarch butterfly	<i>Danaus plexippus</i>	FC	No effect*	N/A	No effect*	N/A
Mojave desert tortoise	<i>Gopherus agassizii</i>	FT ST	No effect	No take will occur	May affect, not likely to adversely affect*	No take will occur*
Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	FT	May affect, not likely to adversely affect	N/A	May affect, not likely to adversely affect	N/A
Critical Habitat						
Bonytail chub	N/A	CH	No effect*	N/A	No effect*	N/A

FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, SE = State Endangered, ST = State Threatened, CH = Critical Habitat, N/A = Not Applicable

*With implementation of avoidance, minimization, and mitigation measures

The direct and indirect effects on natural vegetation communities are described in detail in Section 2.2.10. Project impacts on individual listed species and their critical habitat are described below. The temporary impacts on suitable habitat to support listed species are based on conservative preliminary design estimates to allow for flexibility of temporary construction work areas during the final design phase of the project. The actual temporary impacts will likely be refined from those described in this report during the permitting phase of the project (Tables 2.3.5-3 through 2.3.5-11).

Due to the ongoing Topock Remedy Construction Project, hazardous chemicals such as Cr6+ may be present in the groundwater or soil, which has the potential to impact federally- and/or state-listed species. Caltrans is required to complete both an Initial Site Assessment and Detailed Investigations Report, which determine the source, nature, and extent of contamination and quantify the risk and impact of a contaminated site or property on the cost, scope, and schedule of the transportation project and identify appropriate avoidance, minimization, and/or mitigation measures. Caltrans is also required to follow regulatory guidance to ensure that hazardous materials are properly handled and disposed. The project does not anticipate impacts to any listed species from hazardous waste.

Listed Plants

Because listed plants are considered absent from the BSA, the project is not expected to affect any listed plant species.

Bonytail Chub and Razorback Sucker

Bridge piers, pilings, abutments, and rock slope protection will be installed within the Colorado River floodplain under all three build alternatives (see Section 1.3 and Figure 2.3.1-1 for details). Consequently, the project will result in direct permanent impacts on suitable habitat to support both bonytail chub and razorback sucker from bridge replacement construction. The project will

also result in direct temporary impacts due to construction work areas and access. Installation of temporary trestles to support the bridge deck during construction may also result in temporary impacts if the trestles cannot be situated to avoid or reduce impacts to shoreline habitat. The project would also result in permanent and temporary direct impacts on bonytail chub critical habitat containing suitable Physical and Biological Factors for the species. Temporary and permanent direct impacts on bonytail chub and razorback sucker suitable habitat and bonytail chub critical habitat are provided in Tables 2.48 and 2.49, respectively.

Table 2-48, Temporary and Permanent Impacts to Bonytail Chub and Razorback Sucker Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Bonytail Chub						
Resident/Migratory/Dispersal – Low Quality	3.06	0.09	3.55	0.09	3.23	0.09
Spawning/Larval Recruitment – Low Quality	0.49	--	0.50	0.00	0.48	--
Total Suitable Habitat Affected	3.55	0.09	4.05	0.09	3.71	0.09
Razorback Sucker						
Resident/Migratory/Dispersal – Low Quality	3.06	0.09	3.55	0.09	3.23	0.09
Spawning/Larval Recruitment – Low Quality	0.49	--	0.50	0.00	0.48	--
Total Suitable Habitat Affected	3.55	0.09	4.05	0.09	3.71	0.09

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

Table 2-49, Temporary and Permanent Impacts to Bonytail Chub Critical Habitat by Build Alternative

Critical Habitat	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Bonytail chub	3.24	0.09	3.64	0.06	3.46	0.09

Permanent impacts from construction activities may include instream and bank habitat modifications based on the placement of the piers, pilings, abutments, shoreline structures, and/or riprap. Modifications to instream and bank habitats may directly affect flow types, sediment deposition, and emergent and bank vegetation, which may indirectly affect water quality, benthic invertebrate communities, and fish habitat utilization.

Hydrological connectivity would be maintained during project construction. No dewatering or construction within the entire current active river channel is anticipated other than potential placement of coffer dams, if required for pier or temporary trestle construction; thus, no injury to or death of individual bonytail chub or razorback sucker are anticipated. If water diversions are required, then it is anticipated that water would be diverted only within a portion of the channel, while the remainder of the channel remains open to allow hydrological connectivity. Otherwise, a culvert pipe or system of pipes may be installed under a temporary coffer dam that will maintain hydrological connectivity.

Temporary impacts from construction activities could include temporary degradation of water quality due to erosion and road runoff, turbidity, temporary changes to bed materials or existing channel contours or slope, downstream siltation, and physiological and behavioral changes to fishes. Construction activities adjacent to and within the river would likely cause indirect disturbances to bank soils and streambed sediments resulting in temporary increases in turbidity and suspended sediments. Increased turbidity can coat and damage gill filaments of fish, impairing their ability to respire. Suspended sediments can also degrade foraging and spawning habitats resulting in avoidance or displacement of fish. Pollutants or trash entering the water through accidental discharge or equipment failures could also temporarily affect fish and their habitats within and/or downstream of the project.

Underwater noise generated from removing or constructing piers or abutments can cause behavioral and/or physiological changes in fish that could impact migration or dispersal, spawning, feeding and growth, or even reductions in their ability to avoid predation (see BA for details regarding underwater sound pressure). Additionally, the use of artificial lighting may temporarily impact fish and their habitats.

The magnitude of these impacts depends on several factors, including the extent, concentration, duration, and type of disturbance, and the species (its life stage and sensitivity) being affected. These impacts could be considered significant to both the habitat and fish populations within and/or downstream of the project; however, these impacts would be avoided and/or minimized with the implementation of the measures described below under Build Alternatives 1, 2, and 3.

The improvements to the bridge will increase the load rating to accommodate all permit vehicle traffic which will likely increase the amount of rubber, oil, metal, and other potential contaminants from vehicular wear onto the roadway. If not properly addressed in the design phase, stormwater run-off has the potential to increase the concentration of leachate entering the river and impairing water quality or causing acute mortality or other negative (sometimes long-term) impacts to fish. However, operation of the expanded bridge and roadway is not anticipated to result in any relevant changes to volumes, flow regimes, point sources, or the quality of upland water (e.g., stormwater flows) because the project will implement BMPs for permanent operating conditions, including a SWPPP and water quality control measures, which will maintain or improve water volumes and quality from bridge and roadway surface flows at the I-40 Colorado River Bridge.

Geotechnical boring activities would result in temporary indirect impacts on bonytail chub and/or razorback sucker, should any individuals be present, their suitable habitat, and bonytail chub critical habitat. Three bores (RC-20-009, -010, and -011) will be drilled within the Colorado River channel and would be collected from the water via a barge (Figure 1.3; see Section 1.3.2 and Section 2.2.10.3 for details). Because each boring hole is only a few inches in diameter and the locations would be accessed via a barge, no direct impacts on either bonytail chub and razorback sucker or their suitable habitat or critical habitat are anticipated as a result of geotechnical boring activities. Minor indirect impacts may occur when bores are collected from sediment disturbance and/or elevated noise levels and underwater sound pressure, as well as vibration due to drilling; these indirect impacts would be short-term and temporary in nature. Impacts from geotechnical boring activities would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Based on the literature review, habitat assessment, and potential project impacts, Caltrans has determined the project is *likely to adversely affect* bonytail chub and may result in *Take* of the federally and state endangered species. Caltrans has also determined that the project will have

no effect and no adverse modification of bonytail chub critical habitat with the inclusion of avoidance and minimization measures.

Caltrans has determined that the project is *likely to adversely affect* razorback sucker and may result in *Take* of the federally- and state-listed endangered and fully protected species, pursuant to FESA and CESA, respectively. Because razorback sucker is a CDFW fully protected species, CDFW has no permit to allow *Take* of fully protected species for construction projects. Caltrans intends to pursue legislation to amend the CFG Code in order to pursue a CDFW Incidental *Take* Permit for this species.

Western Yellow-billed Cuckoo

Suitable habitat to support western yellow-billed cuckoo is present within the tamarisk thickets, narrowleaf willow thicket, blue palo verde woodland, and disturbed blue palo verde woodland habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable riparian habitat that could support this species under all three build alternatives. However, the riparian habitat in this area is marginal to low-quality habitat with respect to supporting breeding western yellow-billed cuckoo and this species is not expected to nest in the area. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.50 below and illustrated on Figure 2.74, 2.75, 2.76.

Table 2-50, Temporary and Permanent Impacts to Western Yellow-billed Cuckoo Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Nesting – Marginal / Foraging – Low	3.15	0.06	3.20	0.09	3.08	0.13
Foraging – Low	0.57	0.03	0.60	0.04	0.51	0.07
Total Potential Habitat Affected	3.72	0.09	3.80	0.14	3.59	0.20

Only low to marginally suitable habitat to support western yellow-billed cuckoo would be directly impacted by the project and all reported records of occurrence for this species in the project area are from the Topock Marsh portion of the BSA outside of the PIA. The habitat assessment performed for this project determined that although there was marginal to low quality nesting habitat for western yellow-billed cuckoo present within the BSA, this species was not expected to nest within the BSA due to a lack of proper habitat conditions to support nesting, as well as a lack of nesting records in the area, and that any individual that may be detected within the BSA would likely be a migrant (see the NES for details). Therefore, none of the three build alternatives are expected to result in injury or death of any western yellow-billed cuckoo individuals, although disturbances from construction-related activities (e.g., noise, vibrations, human presence) may result in flight response of any individuals that may be moving through the area at the time of project work.

Indirect impacts on potentially suitable riparian habitat for western yellow-billed cuckoo may include edge effects or the degradation of riparian habitat and water quality from litter, fire, the introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, or dust and pollutants associated with vehicles and machinery.

Geotechnical boring activities could result in impacts on western yellow-billed cuckoo and/or its suitable habitat. Removal of 0.13 acre of riparian habitat from bore locations RC-20-007 and -008 and the associated access road could result in loss of suitable habitat for this species. Impacts on individuals could include elevated noise levels and vibration due to drilling. This species is not expected to nest within the BSA; therefore, no direct impacts on individuals or their breeding habitat would occur. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project *may affect, but is not likely to adversely affect* western yellow-billed cuckoo and that there will be *No Take* of this federally-listed threatened and state-listed endangered species, pursuant to FESA and CESA, respectively, with the implementation of the avoidance and minimization measures in Section 2.2.14.4.

Southwestern Willow Flycatcher

Suitable habitat to support southwestern willow flycatcher is present within the arrow weed thicket, narrowleaf willow thicket, and tamarisk thicket habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable riparian habitat that could support this species under all three build alternatives. However, the riparian habitat in this area is low quality with respect to supporting breeding southwestern willow flycatcher and this species is not expected to nest in the area. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.51 below and illustrated on Figure 2.77, 2.78, 2.79.

Table 2-51, Temporary and Permanent Impacts to Southwestern Willow Flycatcher Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Nesting – Low / Foraging – Moderate	3.15	0.06	3.20	0.09	3.08	0.13
Total Potential Habitat Affected	3.15	0.06	3.20	0.09	3.08	0.13

The only nesting habitat for southwestern willow flycatcher that would be directly impacted by the project is of low quality and all reported nesting occurrences for this species in the project region are from the northeastern portion of Topock Marsh outside of the BSA. The habitat assessment performed for this project determined that although there was low quality nesting habitat for southwestern willow flycatcher present within the BSA, this species was not expected to nest within the BSA due to a lack of proper habitat conditions to support nesting, as well as a lack of nesting records in the area, and that any individual that may be detected within the BSA would likely be a migrant (see the NES for details). Therefore, none of the three build alternatives are expected to result in injury or death of any southwestern willow flycatcher individuals, although disturbances from construction-related activities (e.g., noise, vibrations, human presence) may result in flight response of any individuals that may be moving through the area at the time of project work.

Indirect impacts on potentially suitable riparian habitat for southwestern willow flycatcher may include edge effects or the degradation of riparian habitat and water quality from litter, fire, the introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, or dust and pollutants associated with vehicles and machinery.

Geotechnical boring activities could result in impacts on southwestern willow flycatcher and/or its suitable habitat. Removal of 0.13 acre of riparian habitat from bore locations RC-20-007 and -008 and the associated access road could result in loss of suitable habitat for this species. Impacts on individuals could include elevated noise levels and vibration due to drilling. This species is not expected to nest within the BSA; therefore, no direct impacts on individuals or their breeding habitat would occur. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project *may affect, but is not likely to adversely affect* southwestern willow flycatcher and that there will be *No Take* of this federally and state-listed endangered species, pursuant to FESA and CESA, respectively, with the implementation of the avoidance and minimization measures in Section 2.2.14.4.

Yuma Ridgway's Rail

Suitable foraging and nesting habitat to support Yuma Ridgway's rail is present within the common reed marsh, cattail marshes, and California bulrush marsh habitats within the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable nesting and foraging habitat for this species under all three build alternatives. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.52 below and illustrated on Figure 2.83, 2.84, 2.85.

Table 2-52, Temporary and Permanent Impacts to Yuma Ridgway's Rail Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Nesting – Low / Foraging – Low to Moderate	0.88	0.00	0.92	--	0.83	0.02
Total Potential Habitat Affected	0.88	0.00	0.92	--	0.83	0.02

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

Yuma Ridgway's rail has been documented within the BSA and suitable nesting habitat does occur, although the quality of the habitat is low. Should any individuals be present at the time of construction work, then direct impacts on this species may occur. Vegetation removal and/or grading could result in injury or mortality to any individuals in the area. Rails flying out of the area to escape could collide with machinery or vehicles. Other direct impacts may include nest destruction or damage if vegetation is cleared during the nesting season. If any Yuma Ridgway's rail are inhabiting the project site at the time of construction work, then they would be displaced.

The project has the potential to temporarily directly affect Yuma Ridgway's rail from noise and vibrations associated with construction, including proposed pile driving operations for pier construction and temporary trestle installation, should any individuals be present. Masking (i.e., the inability to hear environmental cues and animal signals) could limit an individual's ability to communicate and receive important cues from the environment and other wildlife, which could negatively impact their ability to procreate and respond to a threat, as well as increase the risk of predation. However, depending on the noise levels and duration, birds may also adjust behavior to acclimate to the disturbance, such as adjusting calling height and location, turning their heads, increasing their call volume, and timing calls during periods of low noise.

If nighttime construction occurs, then any Yuma Ridgway's rail in the area could be disturbed by night lighting. Increased risk of predation and harassment could occur due to predators (e.g., raccoon [*Procyon lotor*], common raven [*Corvus corax*], feral cats) attracted to project-related food trash and debris and by pets brought into the project area by project personnel. Increased predation risks could result in mortality of both adults and nestlings.

The direct effects from exposure to increased noise levels, night lighting, and increased risk of predation and harassment could lead to behavioral modifications and negative physiological stressors. Behavioral modifications, including habitat avoidance and nest abandonment, could result in decreased reproductive success. Habitat avoidance could reduce the availability of suitable nesting and foraging habitat for Yuma Ridgway's rail, making successful reproduction more challenging. Nest abandonment could result in egg failure and/or the death of nestlings. Physiological stressors could lead to energetic losses and increased stressors to the body, potentially resulting in lowered reproductive performance, increased susceptibility to diseases and predation, inability to successfully forage and feed young, and death of both adults and nestlings. Depending on whether individuals are foraging or nesting in the area, all life stages of Yuma Ridgway's rail associated with the breeding season could be exposed to these stressors.

Potential indirect impacts may include edge effects and degradation of riparian marsh habitat and water quality associated with litter, fire, introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, and dust and pollutants associated with vehicles and machinery. Indirect effects on suitable habitat could cause Yuma Ridgway's rail to cease using the area within and adjacent to the construction footprint if habitat restoration has limited success and/or habitat degradation was severe enough to diminish resources needed for foraging, nest placement, and nest construction. Habitat avoidance could strain individuals searching for suitable nesting and foraging habitat that could result in lowered reproductive success. Construction and soil disturbance of adjacent habitat may adversely affect suitable marsh habitat on site by altering drainage patterns and encouraging the spread of invasive plant species, which could indirectly result in loss of quality habitat and an increase in fire frequency. Avoidance and minimization measures would be implemented to avoid indirect impacts on riparian marsh habitat adjacent to the project work limits.

Operation of the expanded bridge and roadway is not expected to result in any relevant changes related to Yuma Ridgway's rail individuals or their habitat. Because individuals that use the area are already acclimated to traffic noise and other road disturbances, no appreciable increases in impacts from operation are anticipated. Project operation would not contribute to an increased risk related to the degradation of riparian habitat or overall water quality (see Section 2.2.10.3).

No direct impacts on Yuma Ridgway's rail or its suitable habitat are anticipated as a result of geotechnical borings activities. All of the areas mapped as suitable to support this species are located outside of where geotechnical boring would be performed. Indirect impacts on individual Yuma Ridgway's rail, should they be present, may occur as a result of boring activities that are performed adjacent to suitable habitat and could include elevated noise levels and vibration. However, indirect impacts from geotechnical boring activities are expected to be short-term and temporary in nature and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project is *likely to adversely affect* Yuma Ridgway's rail and may result in *Take* of the federally-listed endangered and state-listed threatened and fully protected species, pursuant to FESA and CESA, respectively. Because Yuma Ridgway's rail is

a CDFW fully protected species, CDFW has no permit to allow Take of fully protected species for construction projects. Caltrans intends to pursue legislation to amend the CFG Code in order to pursue a CDFW Incidental Take Permit for this species.

California Black Rail

Suitable habitat to support California black rail is present within the common reed marsh, cattail marshes, and California bulrush marsh habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable nesting and foraging habitat for this species under all three build alternatives. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.53 below and illustrated on Figure 2.80, 2.81, 2.82.

Table 2-53, Temporary and Permanent Impacts to California Black Rail Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Nesting and Foraging – Low	0.88	0.00	0.92	--	0.83	0.02
Total Potential Habitat Affected	0.88	0.00	0.92	--	0.83	0.02

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

California black rail have been reported within the project region and suitable nesting and foraging habitat is present in the riparian marsh habitat within the BSA. Should any individual California black rail be present during project construction activities, then direct and indirect impacts on this species could occur, including mortality, injury, loss of nesting habitat, nest destruction, nest abandonment, disturbance from construction noise and activities, increased risk of predation, and degradation of suitable habitat, as described for Yuma Ridgway’s rail above. However, the avoidance and minimization efforts provided in Section 2.2.14.4 below, including preconstruction nesting bird surveys and monitoring, will ensure that any impacts on California black rail would be reduced to the maximum extent feasible.

Potential indirect impacts on suitable habitat may include edge effects and degradation of riparian habitat and water quality associated with litter, fire, introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, and dust and pollutants associated with vehicles and machinery. Avoidance and minimization measures would be implemented to avoid indirect impacts on riparian marsh habitat adjacent to the project work limits.

Operation of the expanded bridge and roadway is not expected to result in any relevant changes related to California black rail individuals or their habitat. Because individuals that use the area are already acclimated to traffic noise and other road disturbances, no appreciable increases in impacts from operation are anticipated. Project operation would not contribute to an increased risk related to the degradation of riparian habitat or overall water quality (see Section 2.2.10.3).

No direct impacts on California black rail or its suitable habitat are anticipated as a result of geotechnical borings activities. All of the areas mapped as suitable to support this species are located outside of where geotechnical boring would be performed. Indirect impacts on individual California black rail, should they be present, may occur as a result of boring activities that are performed adjacent to suitable habitat and could include elevated noise levels and vibration.

However, indirect impacts from geotechnical boring activities are expected to be short-term and temporary in nature and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project will have *Take* to state-listed threatened and fully protected species, California black rail, pursuant to CESA. Because California black rail is a CDFW fully protected species, CDFW has no permit to allow *Take* of fully protected species for construction projects. Caltrans intends to pursue legislation to amend the CFG Code in order to pursue a CDFW Incidental *Take* Permit for this species.

Gila Woodpecker

Suitable foraging habitat to support Gila woodpecker is present within the riparian habitats in the BSA; no suitable nesting habitat occurs within the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable foraging habitat that could support this species under all three build alternatives. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.54 below and illustrated on Figure 2.86, 2.87, 2.88.

Table 2-54, Temporary and Permanent Impacts to Gila Woodpecker Suitable Habitat by Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Foraging – Marginal	3.44	0.10	3.52	0.14	3.31	0.20
Total Potential Habitat Affected	3.44	0.10	3.52	0.14	3.31	0.20

Because there is only marginally suitable foraging habitat and no nesting habitat to support Gila woodpecker within the BSA, and all records of occurrence for this species within the project area are historic (i.e., over 20 years old, with most being from 1910) (see the NES for details), no direct impacts on individuals of this species are anticipated.

Potential indirect impacts on potentially suitable foraging habitat for Gila woodpecker may include edge effects or the degradation of riparian habitat and water quality from litter, fire, the introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, or dust and pollutants associated with vehicles and machinery.

Geotechnical boring activities could result in the removal of 0.13 acre of suitable riparian habitat from bore locations RC-20-007 and -008 and the associated access road that could serve as foraging habitat for Gila woodpecker. Impacts on individuals, should they be present, could include elevated noise levels and vibration due to drilling. This species is not expected to nest within the BSA; therefore, no impacts on nesting individuals or their breeding habitat would occur. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project will have *No Take* to state-listed endangered species, Gila woodpecker, pursuant to CESA.

Arizona Bell's Vireo

Suitable foraging and nesting habitat to support Arizona Bell's vireo is present within the arrow weed thicket, blue palo verde woodland, disturbed blue palo verde woodland, common reed marsh, narrowleaf willow thicket, tamarisk thicket, and some areas of creosote bush desert scrub. Additional foraging habitat is present within creosote bush-white bursage scrub that is in proximity to adjacent riparian habitat. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable riparian habitat that could support this species under all three build alternatives. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.55 below and illustrated on Figure 2.74, 2.75, 2.76.

Table 2-55, Temporary and Permanent Impacts to Arizona Bell's Vireo Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Nesting – Moderate / Foraging – High	2.76	0.01	2.76	0.03	2.69	0.05
Nesting – Low / Foraging – High	0.01	0.02	0.01	0.02	0.03	--
Nesting – Low / Foraging – Moderate	0.51	0.20	0.33	0.54	0.62	0.09
Nesting – Low / Foraging – Low	0.70	0.03	0.74	0.04	0.61	0.10
Foraging – High	0.69	--	0.66	0.03	0.69	0.00
Total Potential Habitat Affected	4.67	0.26	4.50	0.66	4.64	0.24

"--" indicates no impact; "0.00" indicates < 0.001-acre impact.

Although it was determined that there is suitable nesting habitat for Arizona Bell's vireo within the BSA, all known nesting territories are located within the Topock Marsh portion of the BSA approximately 400 feet from the PIA. No individual Arizona Bell's vireo or territories were detected within the riparian habitat that will be directly impacted by the project. Therefore, no direct impacts on breeding Arizona Bell's vireo are anticipated as a result of the project. However, should the species nest within or adjacent to the PIA prior to the start of construction, then direct impacts could occur, including mortality, injury, loss of nesting habitat, nest destruction, nest abandonment, disturbance from construction noise and activities, increased risk of predation, and degradation of suitable habitat, as described for Yuma Ridgway's rail above. However, the avoidance and minimization efforts provided in Section 2.2.14.4 below, including preconstruction nesting bird surveys and monitoring, will ensure that any impacts on nesting Arizona Bell's vireo would be reduced to the maximum extent feasible.

Potential indirect impacts on suitable riparian habitat may include edge effects and degradation of riparian habitat and water quality associated with litter, fire, introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, and dust and pollutants associated with vehicles and machinery.

Operation of the expanded bridge and roadway is not expected to result in any relevant changes to foraging or nesting Arizona Bell's vireo or their habitat. Because individuals utilizing the area are already acclimated to traffic noise and other road disturbances, no appreciable increases in impacts from operation are anticipated. Bridge shading is not anticipated to substantially reduce nesting or foraging habitat. Project operation would not contribute to an

increased risk of degradation of riparian habitat or overall water quality (see Sections 2.3.1 and 2.3.2).

Geotechnical boring activities could result in direct impacts on Arizona Bell's vireo and/or its suitable habitat. Drilling at bore locations RC-20-007 and -008 would result in the temporary removal of 0.16 acre of suitable nesting and foraging habitat for this species. Clearing vegetation could also result in direct impacts in individuals should they be present (e.g., mortality, injury, nest destruction), as well as elevated noise levels and vibration due to drilling. Impacts from geotechnical boring activities are expected to be temporary and would be minimized and avoided with implementation of the measures described in Section 2.2.14.4 below.

Caltrans has determined that the project will have *No Take* to state-listed endangered species, Arizona Bell's vireo, pursuant to CESA with implementation of the avoidance and minimization measures in Section 2.2.14.4 below.

Mojave Desert Tortoise

Suitable habitat to support Mojave desert tortoise is present within the creosote bush desert scrub and blue palo verde woodland habitats in the BSA. Implementation of the project would result in the permanent removal and/or temporary disturbance of suitable habitat for this species under all three build alternatives. Direct permanent and temporary impacts on suitable habitat are provided in Table 2.56 below and illustrated on Figure 2.92, 2.93, 2.94.

Table 2-56, Temporary and Permanent Impacts to Desert Tortoise Suitable Habitat by Build Alternative

Habitat Suitability	Build Alternative 1		Build Alternative 2		Build Alternative 3	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Low	6.30	--	5.83	0.47	6.30	--
Marginal to Low	0.87	0.04	0.93	0.18	0.82	0.08
Total Potential Habitat Affected	7.17	0.04	6.77	0.65	7.12	0.08

"--" indicates no impact

Although it was determined that there is suitable habitat for Mojave desert tortoise within the BSA, the quality was marginal to low and no desert tortoise or their sign was observed during the focused protocol-level surveys performed for the project. Therefore, no direct impacts on this species are anticipated as a result of the project. However, suitable habitat is present within the BSA and desert tortoises are known to occur in the area. As such, desert tortoises have the potential to occur within the BSA at any time. Should any Mojave desert tortoise be present at the time of construction, it is possible that tortoises could be injured or crushed by onsite equipment or vehicles or could experience dehydration if startled by project personnel (resulting in evacuation of their internal water supply).

Temporary indirect impacts on Mojave desert tortoise, should they be present, could occur from construction-related noise and ground vibration because individuals may be deterred from inhabiting or foraging in areas near such activities. Additional indirect impacts could occur from construction-related dust, sedimentation, and erosion along the site edges, which have the potential to alter offsite conditions. Noxious weed seeds could be spread during construction

activities to offsite habitats that are occupied by tortoise during travel to and from the site or by wind. If allowed to establish and spread, these weeds could alter the surrounding habitat for this species. Non-native vegetation often has little to no nutritional value for tortoise. Conversion of native, nutritious vegetation, such as grasses and herbs, to invasive non-native plant species could result in tortoises being unable to find sufficient amounts of food. Establishment of non-native plants can also increase the risk of fires, which could harm tortoises.

Because the potential for Mojave desert tortoise to occur within the BSA is low and suitable habitat is of marginal to low quality, substantial impacts on this species or its suitable habitat are not anticipated with the implementation of appropriate avoidance and minimization measures, as described in Section 2.2.14.4 below.

All areas mapped as suitable habitat to support desert tortoise are located outside of the areas where geotechnical boring would be performed. Therefore, no direct or indirect impacts on desert tortoise or its suitable habitat are anticipated as a result of geotechnical borings activities.

Caltrans has determined that the project *may affect, but is not likely to adversely affect* Mojave desert tortoise and that there will be *No Take* of this federally-listed and state-listed threatened species, pursuant to FESA and CESA, respectively, with implementation of the avoidance and minimization measures in Section 2.2.14.4 below.

Northern Mexican Gartersnake

While a habitat assessment was not conducted for northern Mexican gartersnake, it is assumed that the Topock Marsh portion of the BSA provides suitable habitat for this species. Topock Marsh occurs outside of the PIA and is approximately 400-feet from the project work limits; therefore, no direct or indirect impacts on northern Mexican gartersnake or its suitable habitat are anticipated as a result of either project construction-related activities and geotechnical borings under all three build alternatives. In addition, avoidance and minimization measures in Section 2.2.14.4 will be implemented, including species avoidance, should northern Mexican gartersnake be found within the riparian marsh habitat portions of the BSA.

Caltrans has determined that the project *May affect, but is not likely to adversely affect* on federally-listed threatened species, northern Mexican gartersnake, pursuant to FESA with implementation of the avoidance and minimization measures in Section 2.2.14.4 below.

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on candidate, threatened, or endangered species or USFWS-designated critical habitat beyond those that would be expected to occur from the existing facility.

2.2.13.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Caltrans standard BMPs, the BMPs in the anticipated SWPPP, and 2018 Standard Specifications (or latest version) will be implemented to minimize effects during construction. The project, including this EIR, the NES, and the BA, will utilize Caltrans District 8's Avoidance and Minimization Measures (Version 4); applicable measures to threatened and endangered species are included below.

Listed Plants

The project is not expected to directly or indirectly affect any listed plants; therefore, no conservation measures are proposed for these species.

Bonytail Chub and Razorback Sucker

Measure **NC-1**, **NC-2***, **NC-3**, and **NC-7** (Section 2.2.10.5), Measures **WET-1** and **WET-2** (Section 2.2.11.4), **AS-1*** (Section 2.2.13.4), and **TE-1**, **TE-2***, and **TE-3*** below would avoid or minimize environmental effects on individual bonytail chub and its critical habitat, razorback sucker, and waters that may be inhabited by these species. In addition, measures implemented to comply with the project SWPPP, as well as USACE, CDFW, and RWQCB permit conditions for impacts on jurisdictional waters, will ensure avoidance and/or minimization of impacts on water quality. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

- TE-1** Any listed species within, near the job site, or as specified in BIO-General-PSM-18 found alive, injured, or dead during the implementation of the Project must be immediately reported to the Resident Engineer and Caltrans Biology. Caltrans biology must then notify the Resource Agencies. Veterinary treatment and/or final deposition must follow Resource Agencies’ approval. Monitoring reports must include WEAP Training and submitted to the Resources Agencies on a timeframe to be determined. (Caltrans District 8 Measure BIO-General-PSM-22: Habitat Management & Mitigation Plan [HMMP])
- TE-2*** A Habitat Management and Mitigation Plan (HMMP) will be developed for temporary impacts to federally listed species habitat and a draft approved prior to construction activities. (Caltrans District 8 Measure BIO-General-PSM-19: Agency Notification & Reporting Requirements).
- TE-3*** To address effects on federal listed species, and if determined necessary for impacts to the species, it will be addressed, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved..

Listed Bird Species

Measures **NC-3**, **NC-7** and **NC-8** (Section 2.2.10.5), and **TE-1** and **TE-2*** would ensure that no direct take of any listed bird species would occur, including southwestern willow flycatcher, California black rail, Yuma Ridgway’s rail, Gila woodpecker, and Arizona Bell’s vireo. Implementation of Measures **NC-1**, **NC-2***, **NC-3**, **NC-5***, and **NC-6** under Section 2.2.10.4 would also provide protection for potential habitat to support these species adjacent to the project work limits during construction. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

Because no direct impacts on southwestern willow flycatcher, California black rail, Gila woodpecker, and Arizona Bell’s vireo are anticipated and no occupied habitat will be removed by the project, no compensatory mitigation is required for these species.

Monarch Butterfly

Measures **NC-3** and **NC-7** (Section 2.2.10.5) and **TE-1** and **TE-4*** (below) would be incorporated to avoid and minimize impacts on monarch butterfly. Implementation of Measures **NC-1**, **NC-2***, **NC-4***, and **NC-5*** under Section 2.2.10.4 would also provide protection for potential habitat adjacent to the project work limits during construction. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

TE-4* Seed mixes and plantings must contain a diversity of regionally-appropriate native pollinator plant species that are pesticide-free and approved by Caltrans Biology and USFWS. (Caltrans District 8 Measure BIO-General-PSM-20: Plant Seed Mix and Plantings)

No compensatory mitigation is required.

Mojave Desert Tortoise

Measures **NC-3** and **NC-7** (Section 2.2.10.5), **AS-5** through **AS-6** (Section 2.2.13.4), and **TE-1** and **TE-2***, **TE-5*** through **TE-8*** (below) would ensure there is no direct mortality of Mojave desert tortoise. Implementation of Measures **NC-1**, **NC-2***, and **NC-5*** (Section 2.2.10.4) would minimize potential indirect impacts on Mojave desert tortoise and its habitat adjacent to the project work limits. (Note: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

TE-5* To assess the number of desert tortoise that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the BSA or Action Area (300-foot buffer) according to either the current protocol provided by USFWS or a modified protocol agreed upon by the resource agencies. (Caltrans District 8 Measure BIO-Reptile-2: Pre-Project Surveys)

TE-6* Caltrans must implement measures to reduce the attractiveness of job sites to ravens and other subsidized predators of desert tortoise (such as coyotes and ravens) by controlling trash and educating workers. (Caltrans District 8 Measure BIO-Reptile-5: Trash/Predation)

TE-7* Temporary demarcation must be established following the most recent USFWS protocol for construction of fencing as shown on the plans prior to construction to exclude desert tortoise. All temporary demarcation materials must be removed once construction has been completed. (Caltrans District 8 Measure BIO-Reptile-6: Temporary Demarcation)

TE-8* Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for terrestrial species before operating equipment at any time. (Caltrans District 8 Measure BIO-Reptile-1).

No compensatory mitigation is required.

Northern Mexican Gartersnake

Measures **NC-1**, **NC-2***, **NC-3**, **NC-6** and **NC-7** (Section 2.2.10.4) and **AS-5** and **AS-6** (Section 2.2.13.4) would be incorporated to avoid and minimize impacts on northern Mexican gartersnake. Implementation of Measures **WET-1** and **WET-2** under Section 2.2.11.4 would also provide protection for potential habitat adjacent to the project work limits during construction. (*Note*: “*” indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).

No compensatory mitigation is required.

Figure 2.71, USFWS Critical Habitat Alternative 1

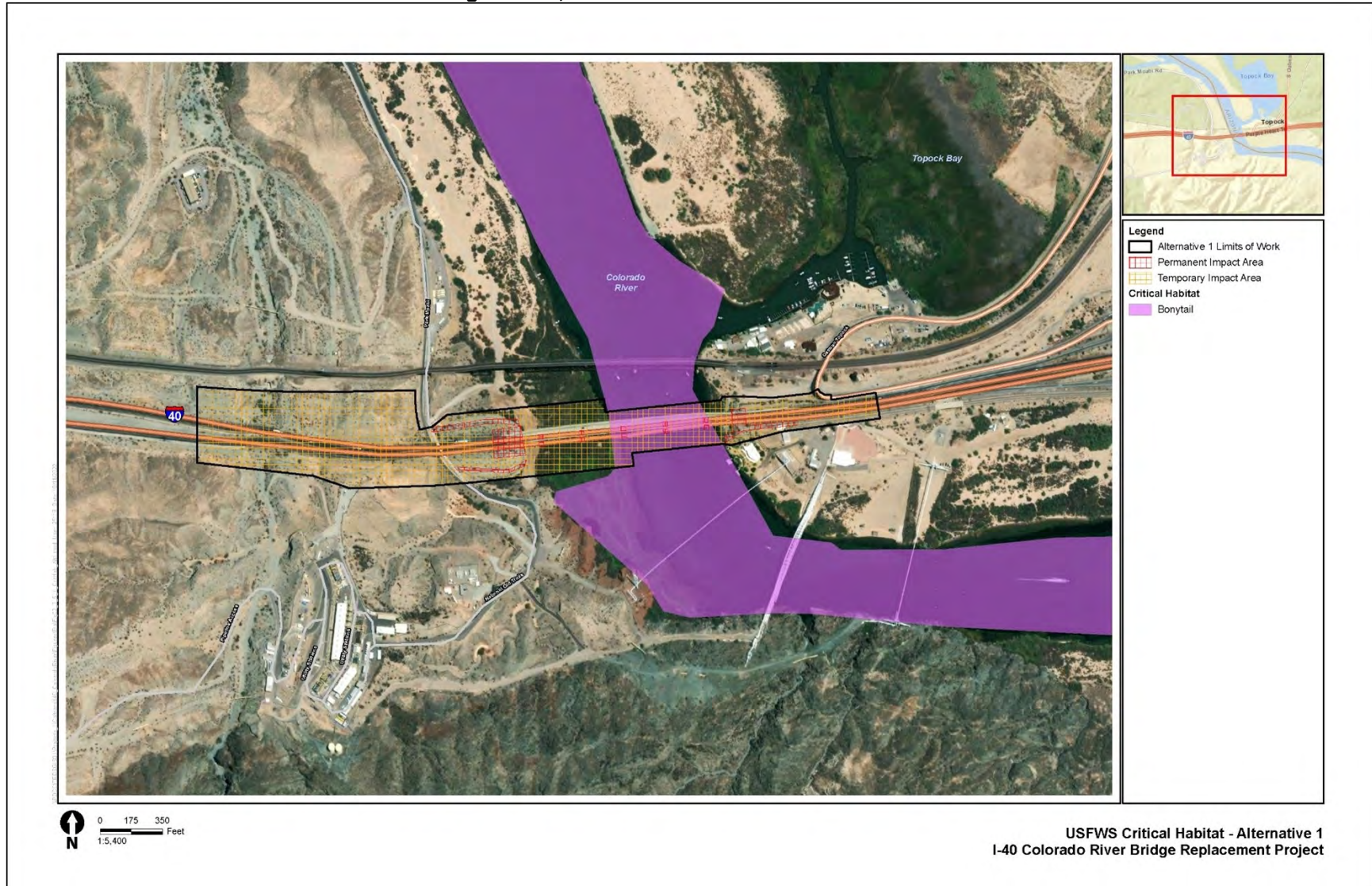


Figure 2.72, USFWS Critical Habitat Alternative 2

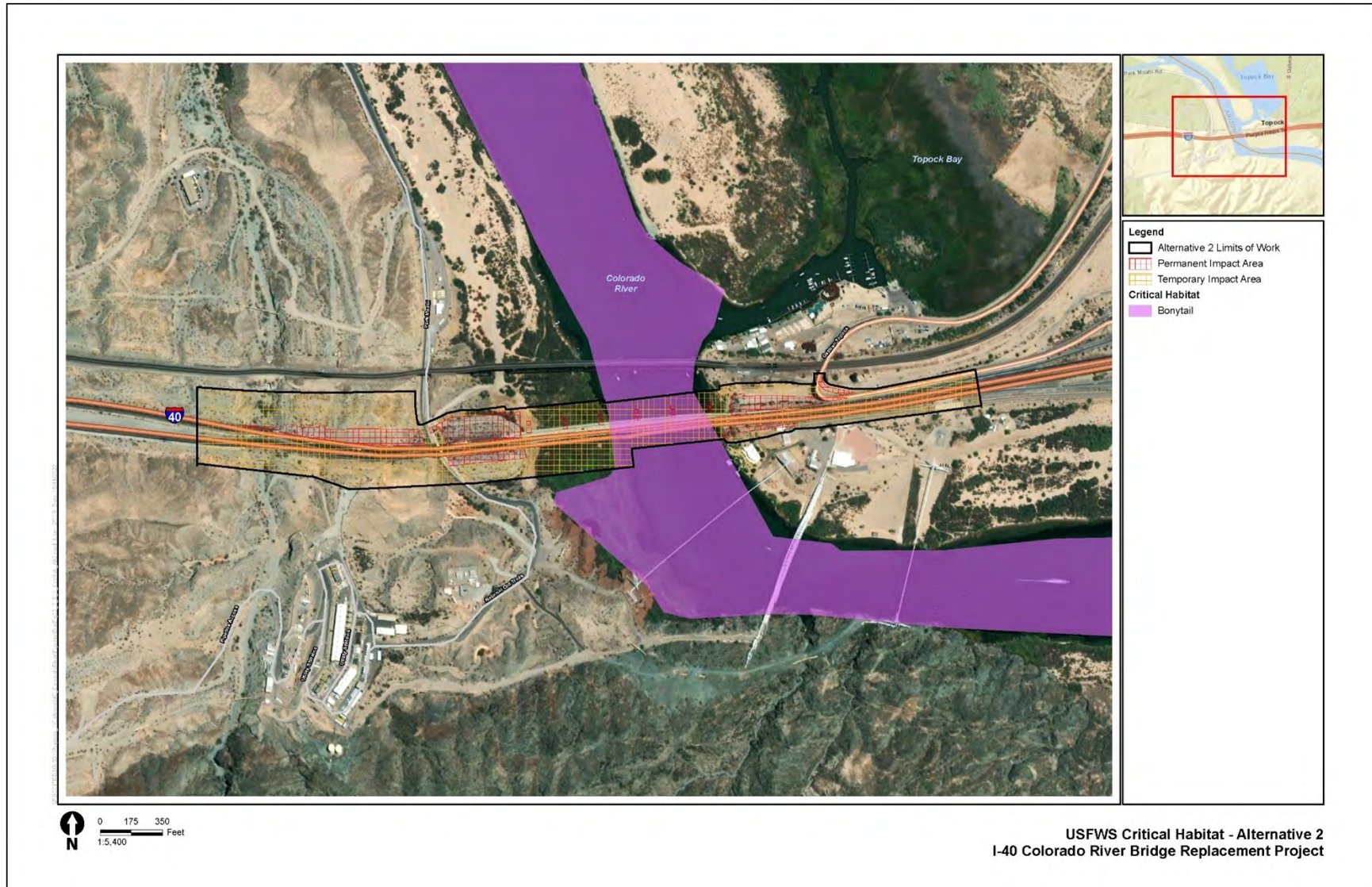


Figure 2.73, USFWS Critical Habitat Alternative 3

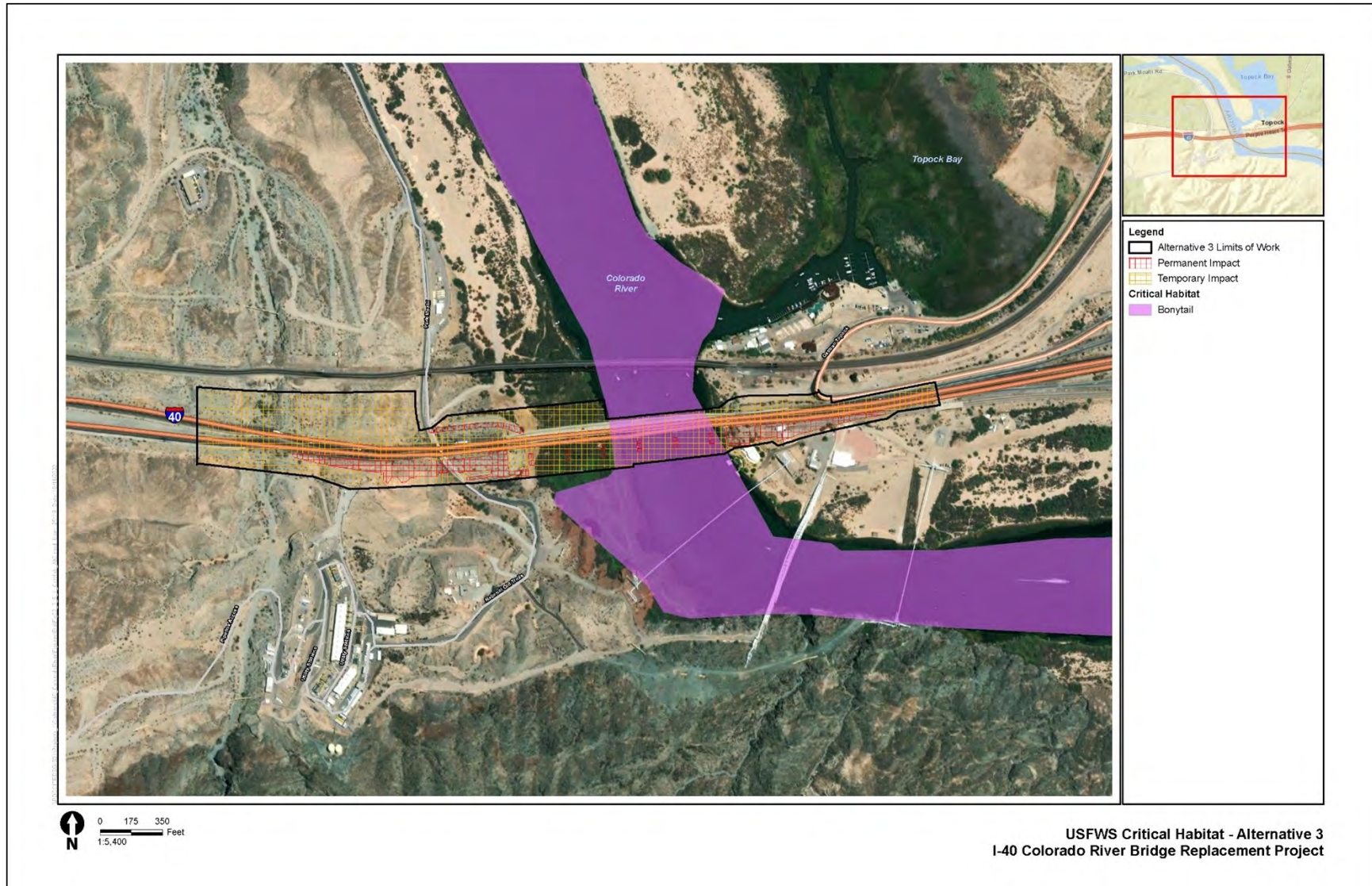


Figure 2.74, Western Yellow-billed Cuckoo Habitat Assessment Alternative 1

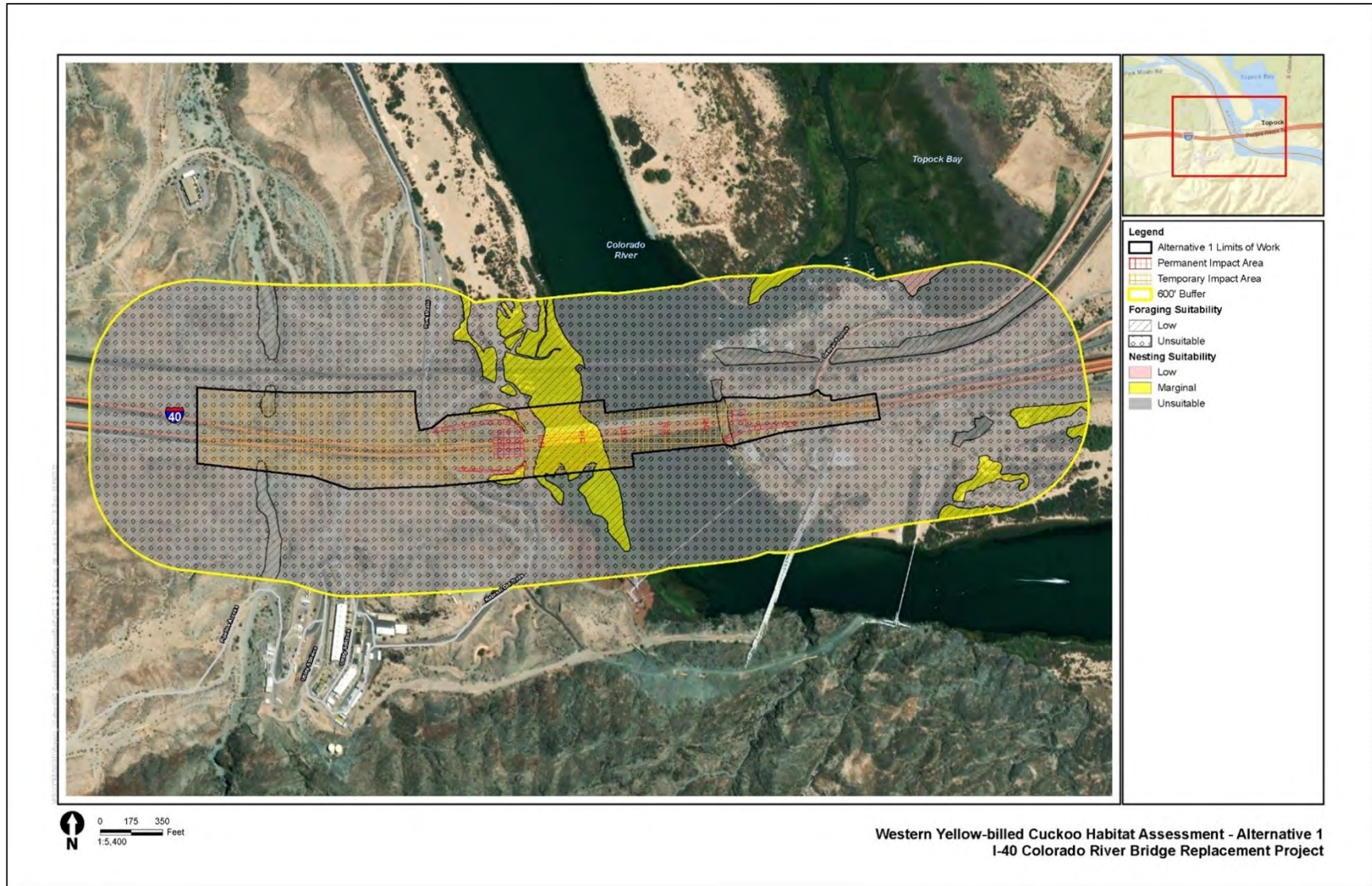


Figure 2.75, Western Yellow-billed Cuckoo Habitat Assessment Alternative 2

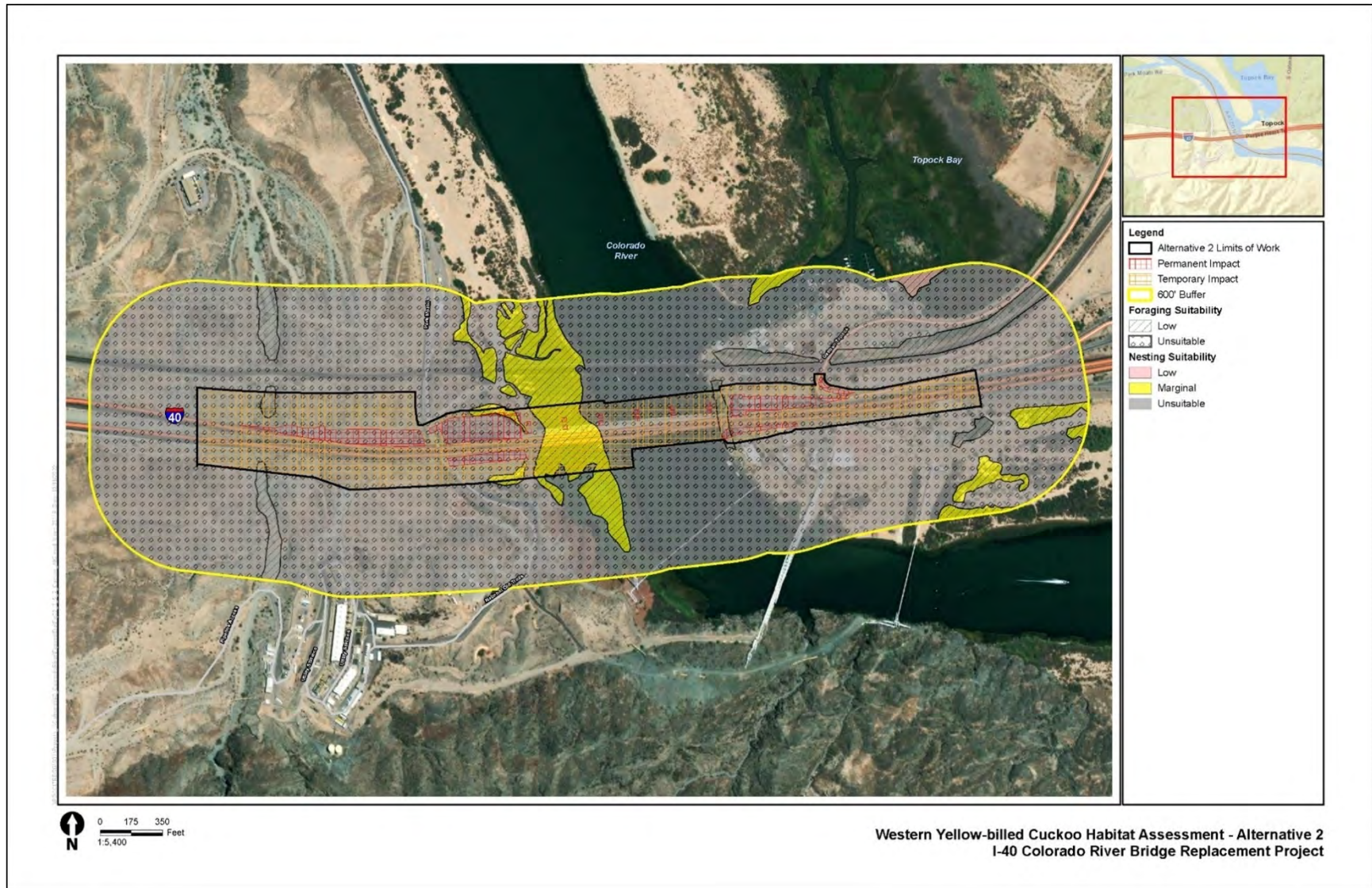


Figure 2.76, Western Yellow-billed Cuckoo Habitat Assessment Alternative 3

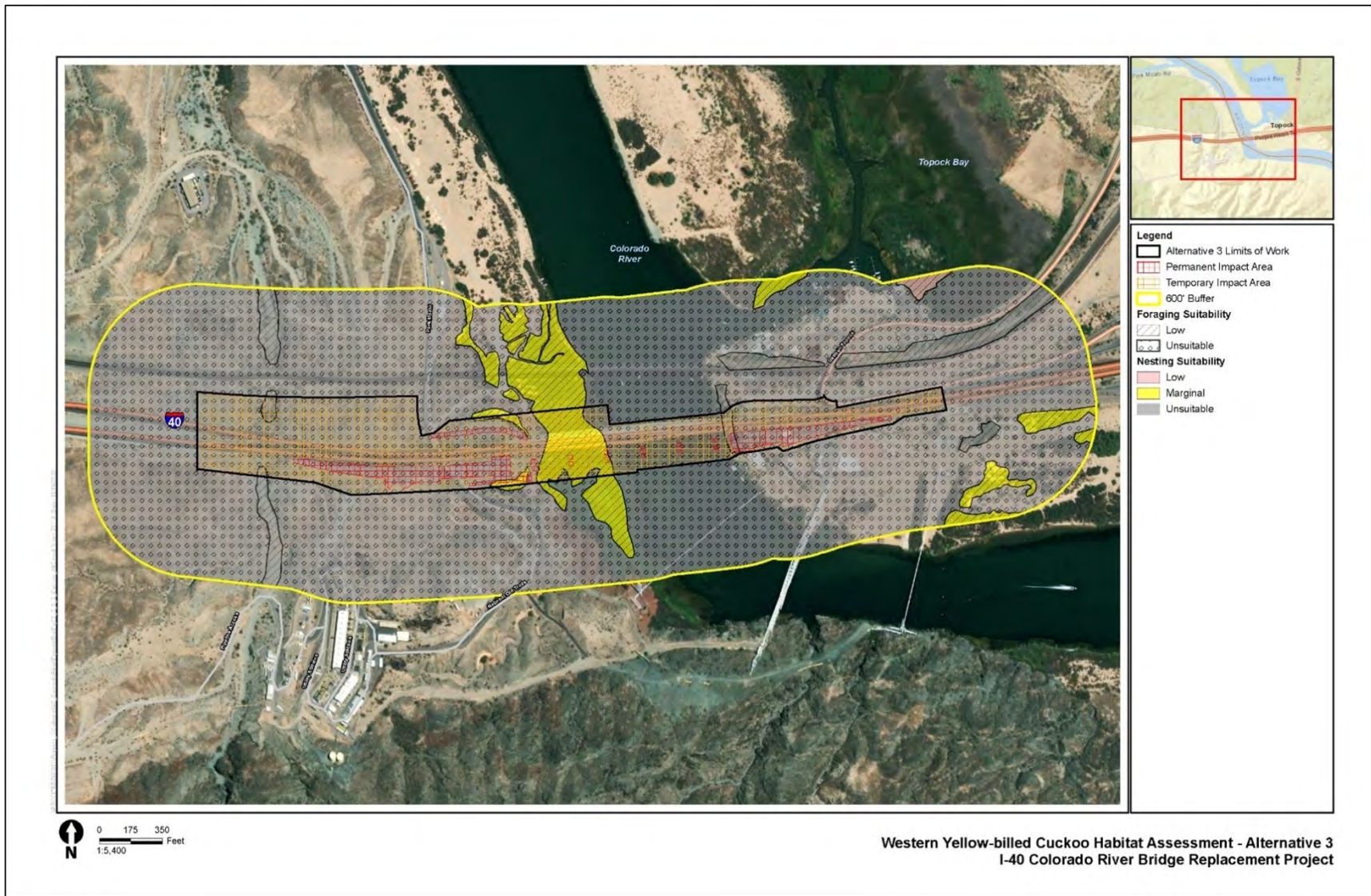


Figure 2.77, Southwestern Willow Flycatcher Habitat Assessment Alternative 1

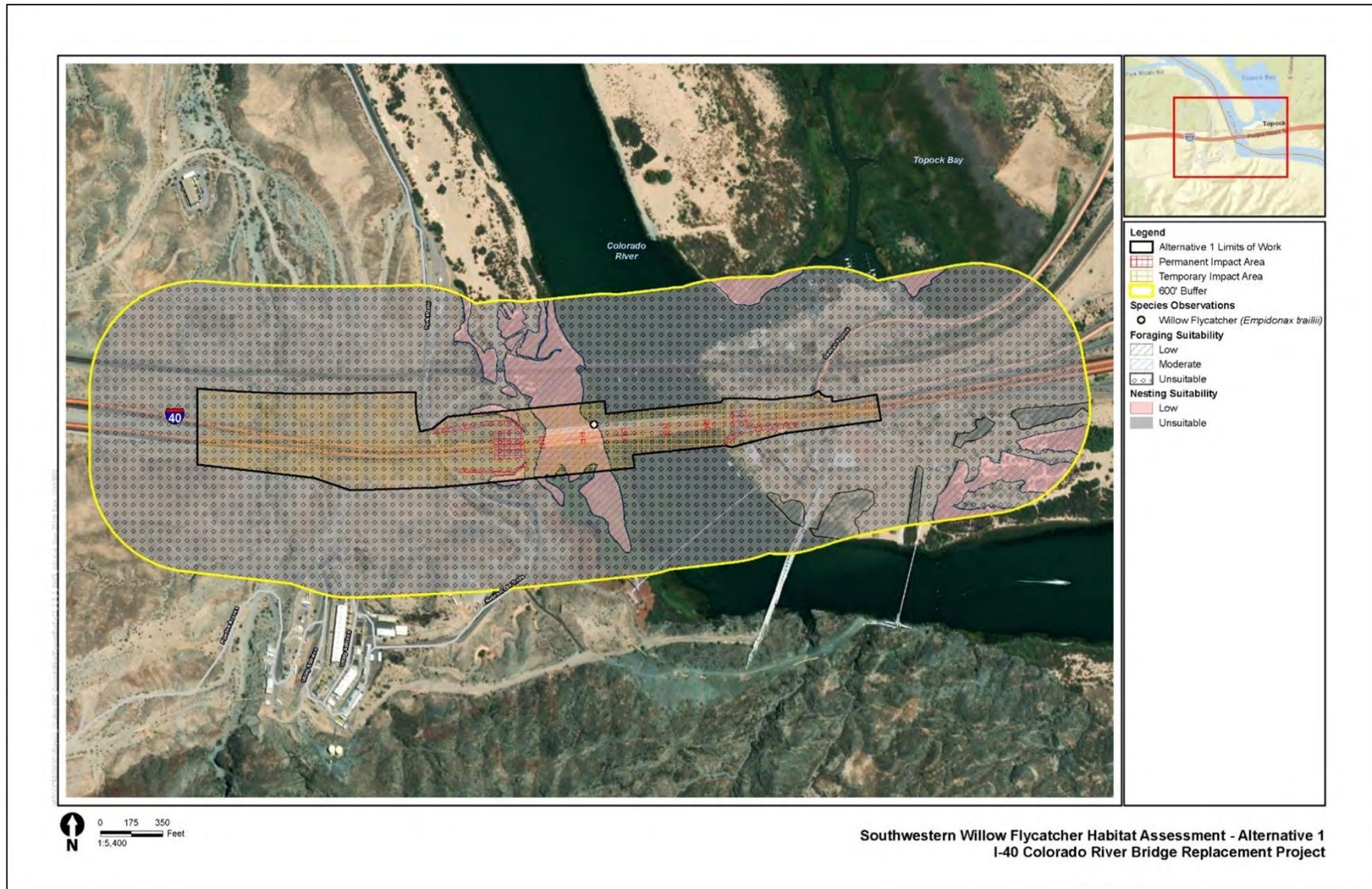


Figure 2.78, Southwestern Willow Flycatcher Habitat Assessment Alternative 2

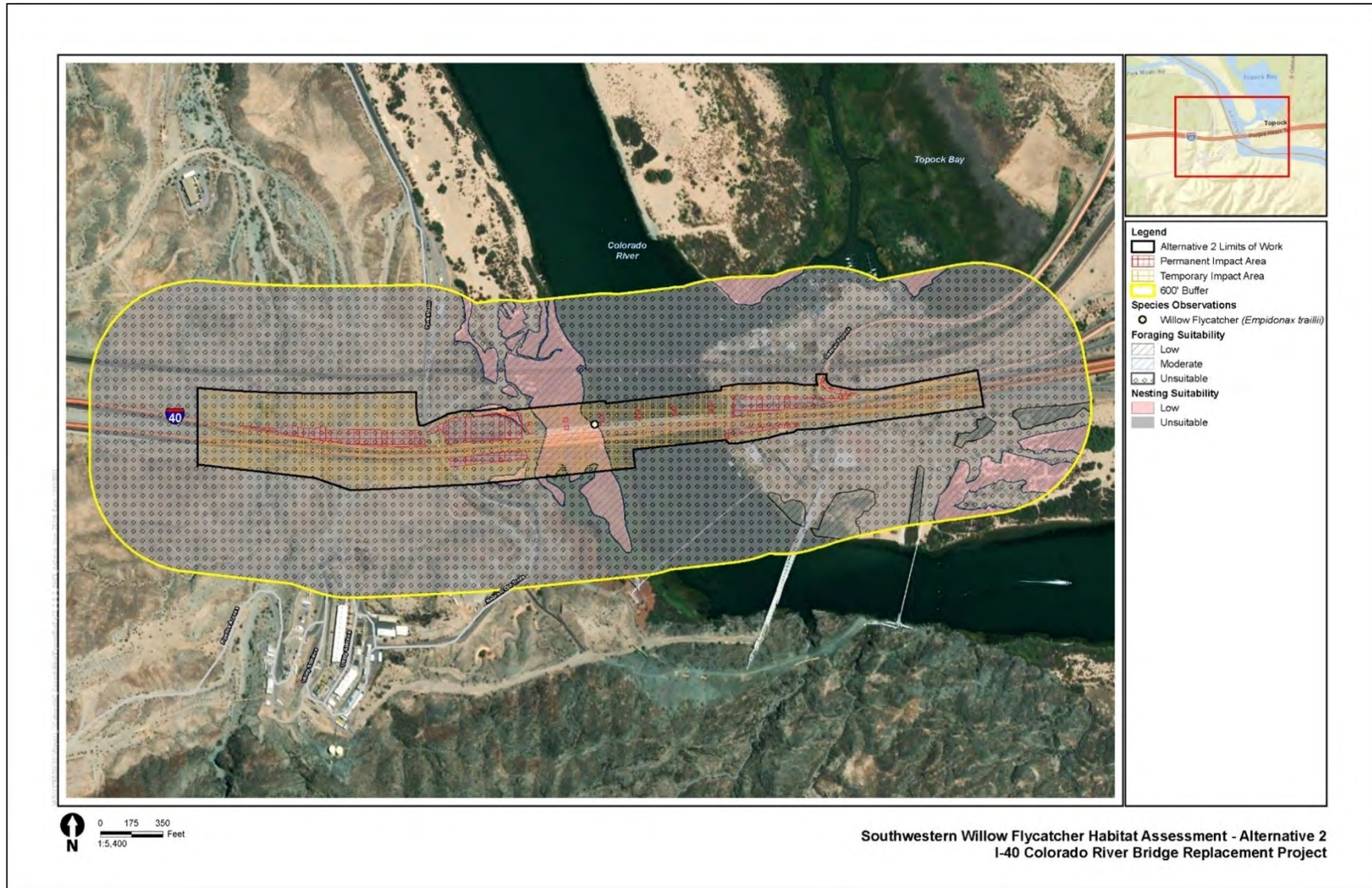


Figure 2.79, Southwestern Willow Flycatcher Habitat Assessment Alternative 3

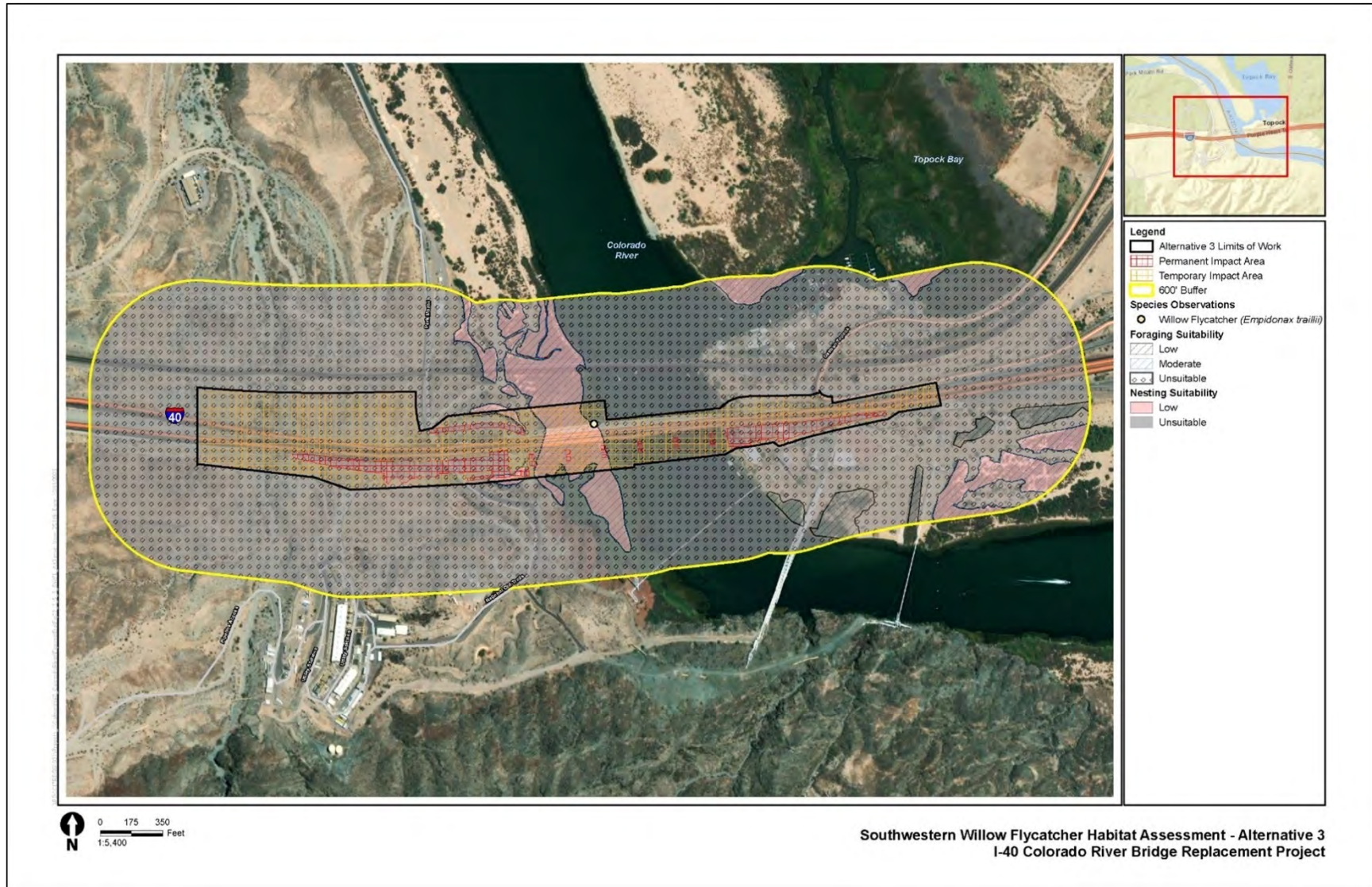


Figure 2.80, Yuma Ridgeway's Rail Habitat Assessment Alternative 1

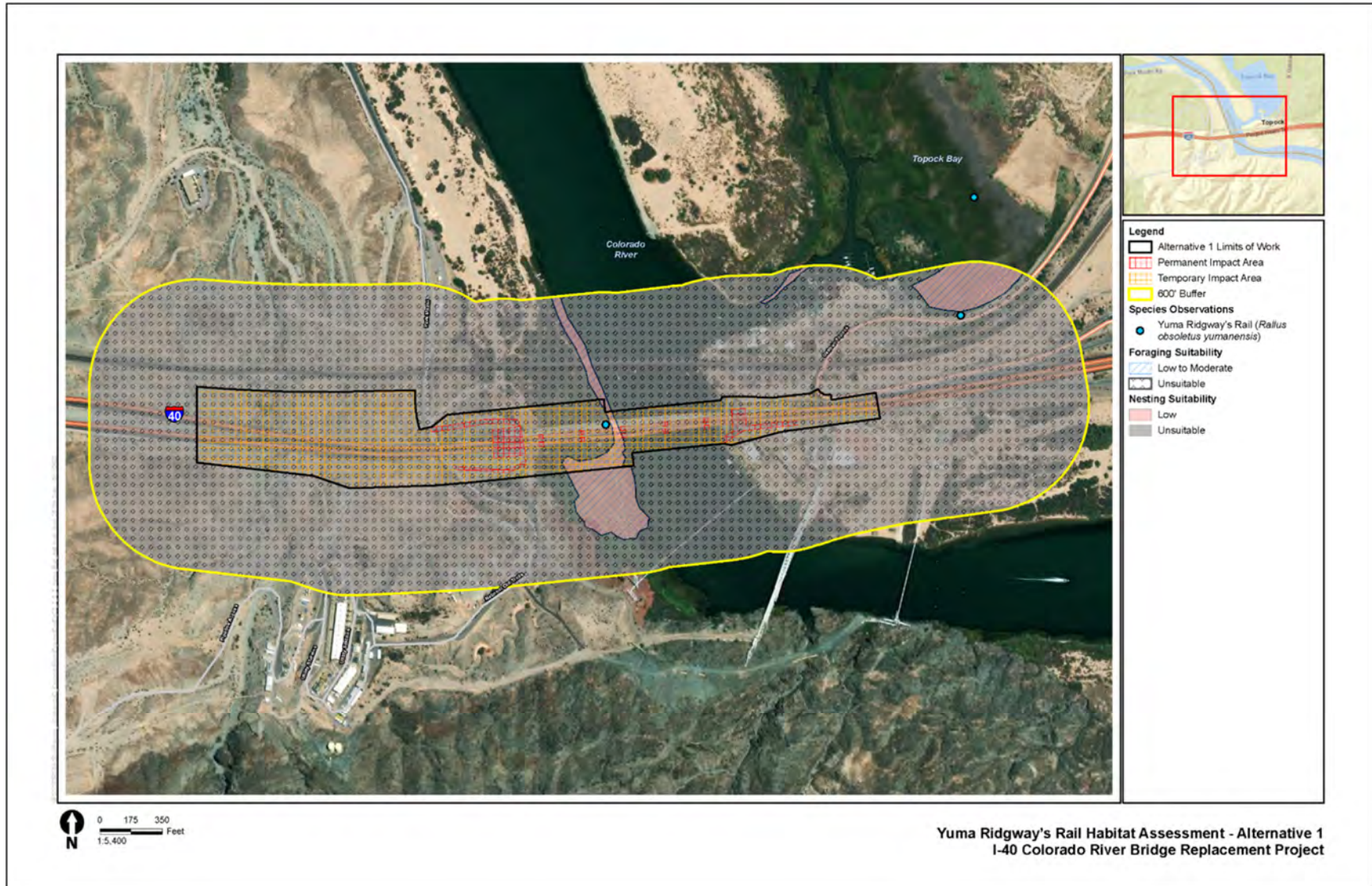


Figure 2.81, Yuma Ridgway's Rail Habitat Assessment Alternative 2

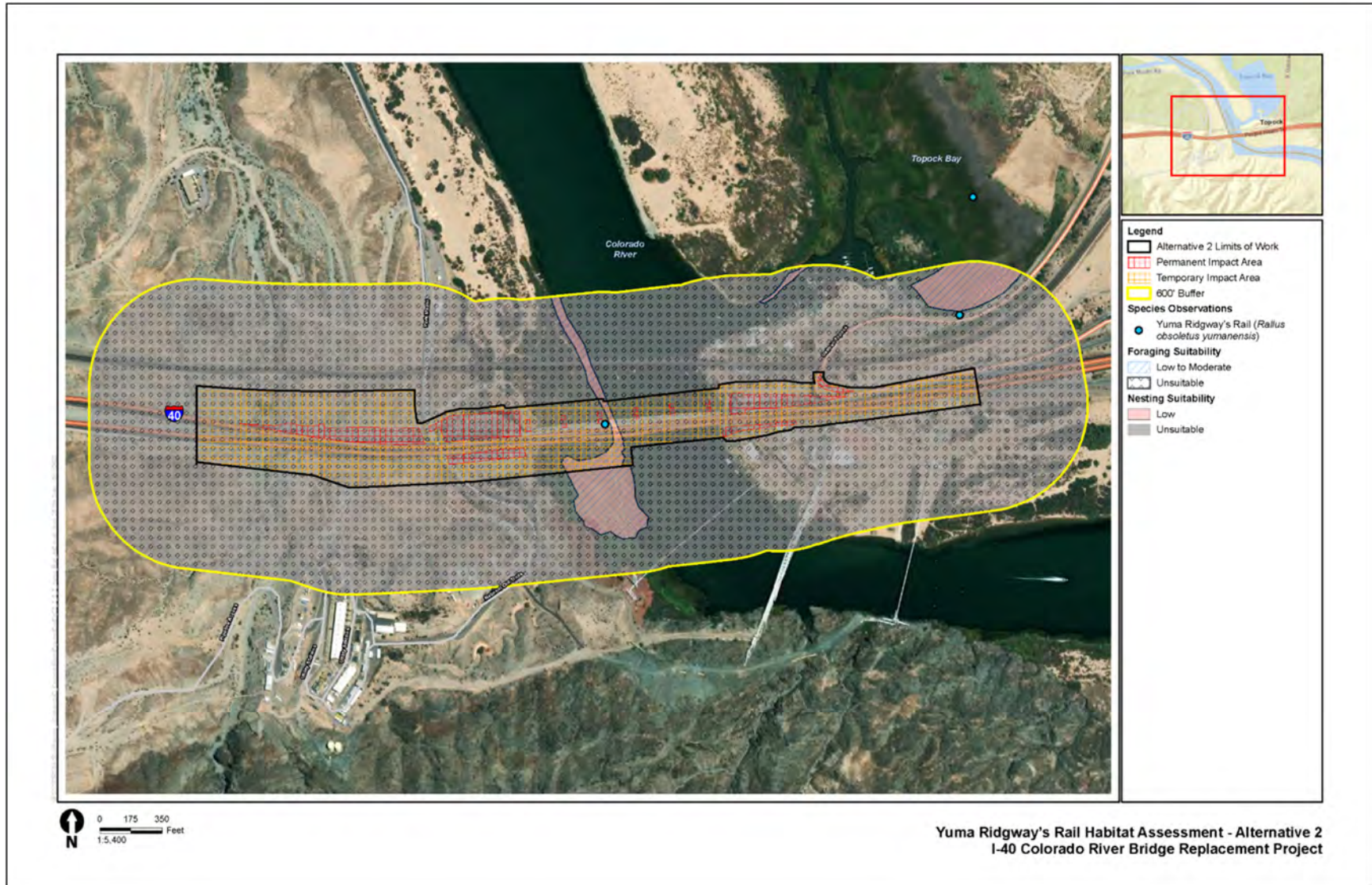


Figure 2.82, Yuma Ridgeway's Rail Habitat Assessment Alternative 3

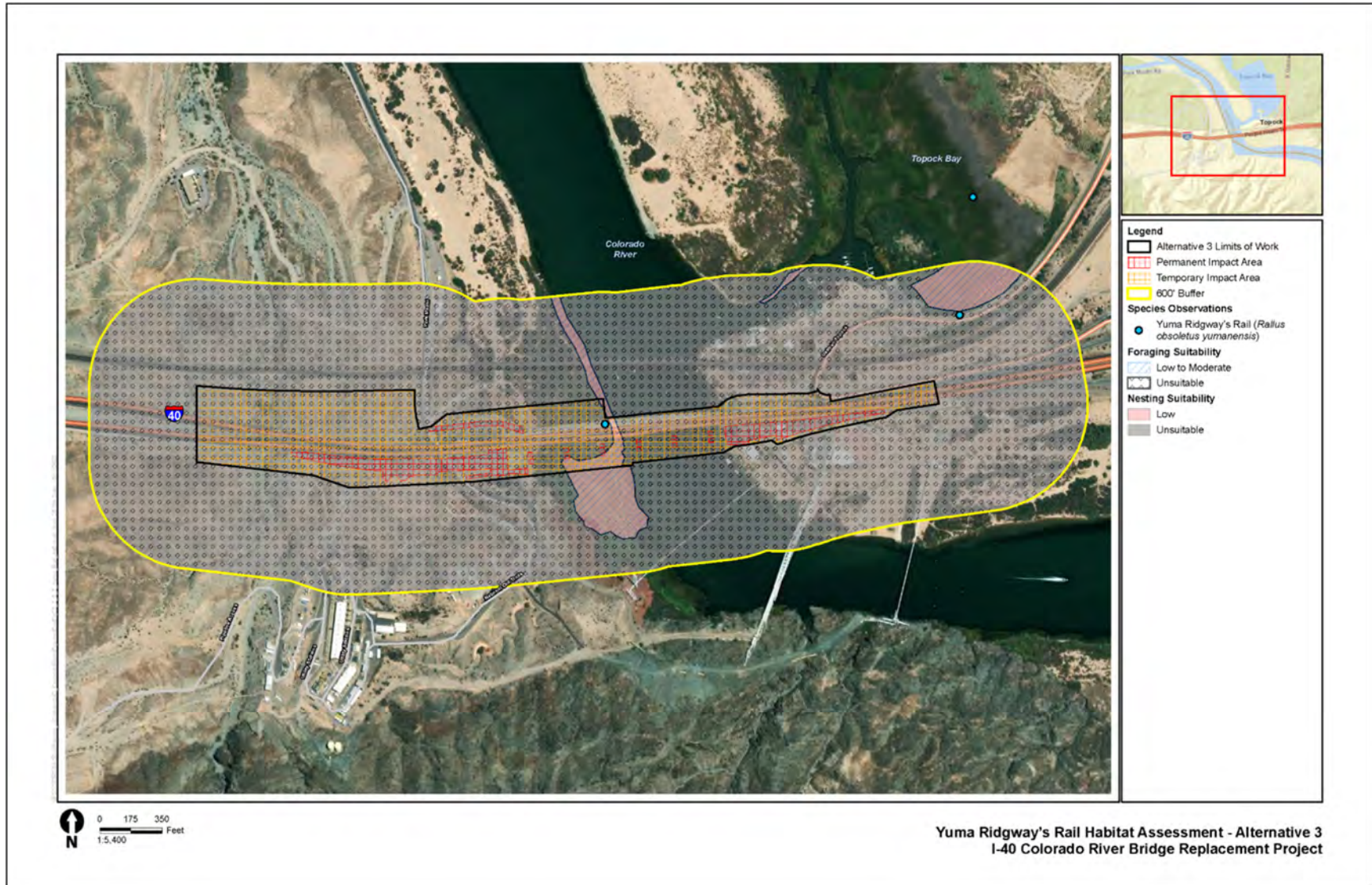


Figure 2.83, California Black Rail Habitat Assessment Alternative 1

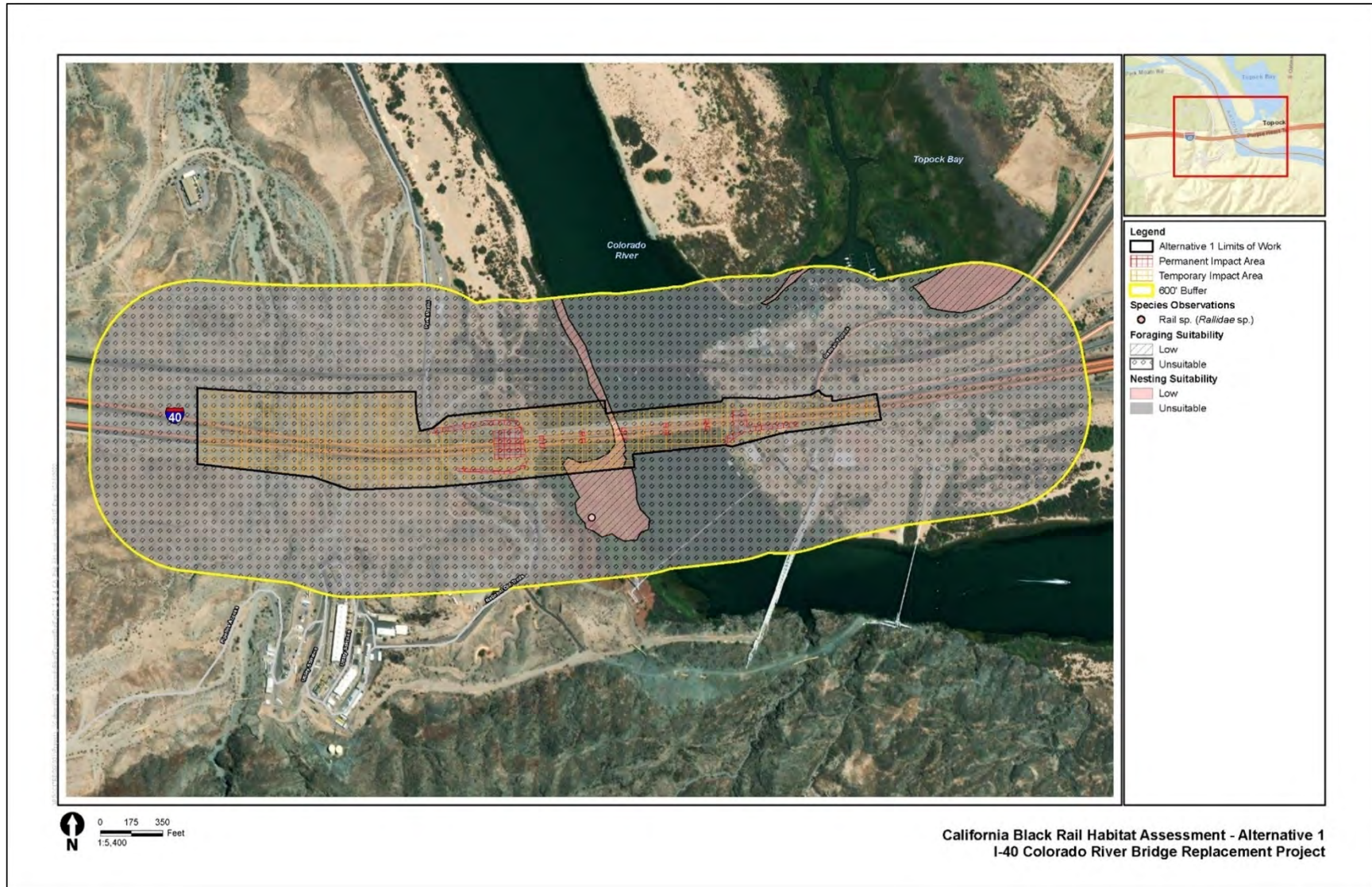


Figure 2.84, California Black Rail Habitat Assessment Alternative 2

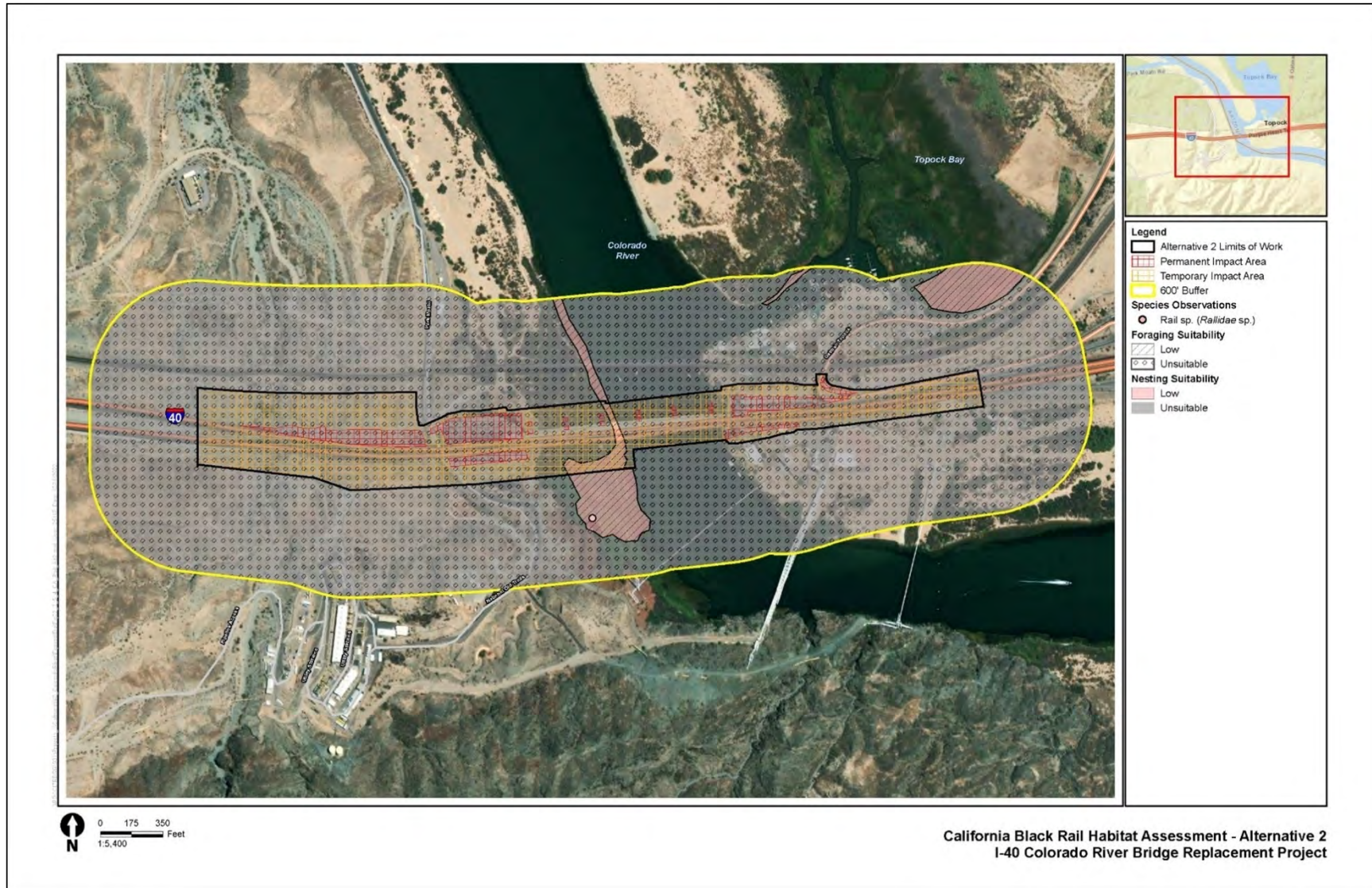


Figure 2.85, California Black Rail Habitat Assessment Alternative 3

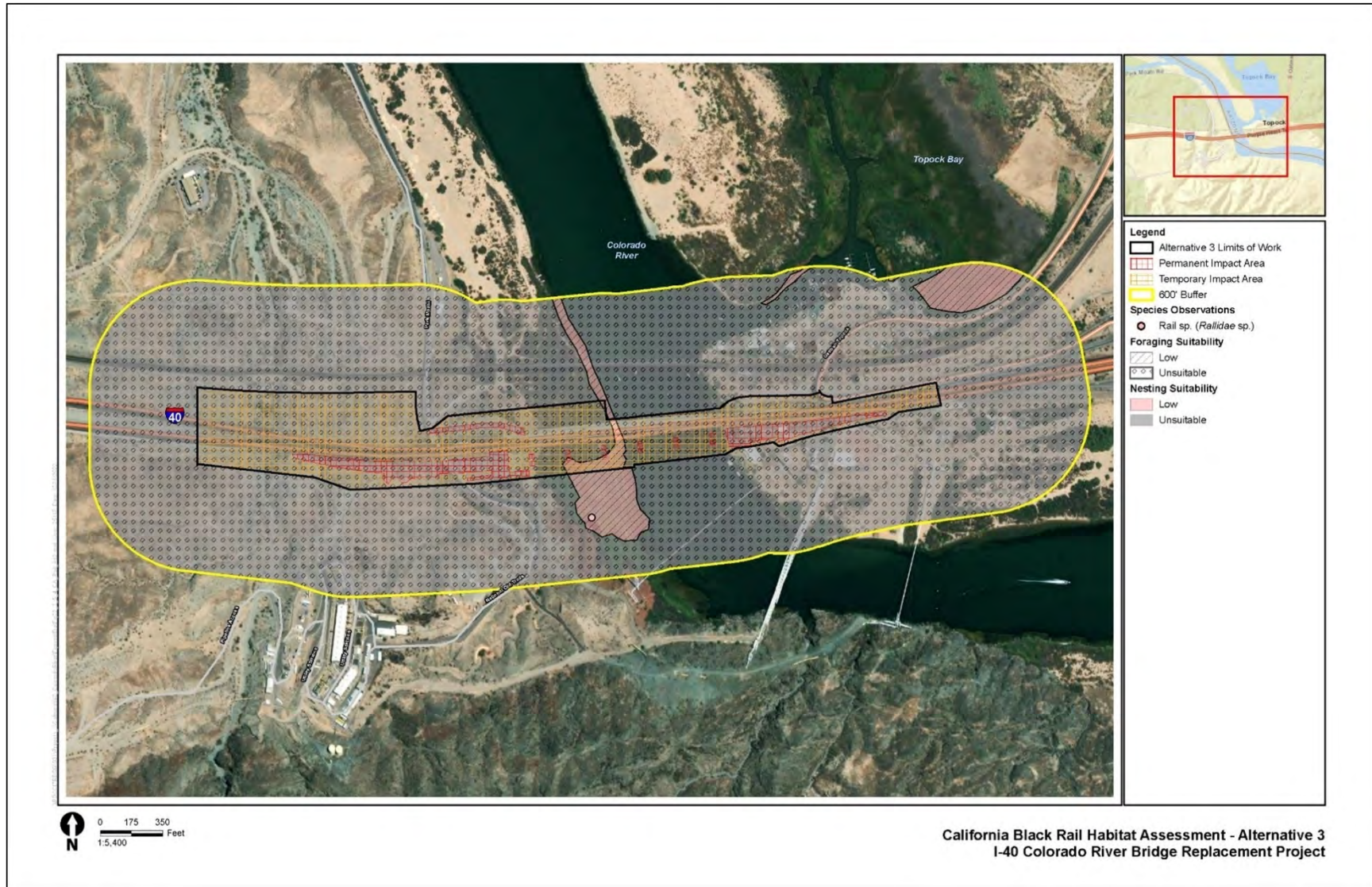


Figure 2.86, Gila Woodpecker Habitat Assessment Alternative 1

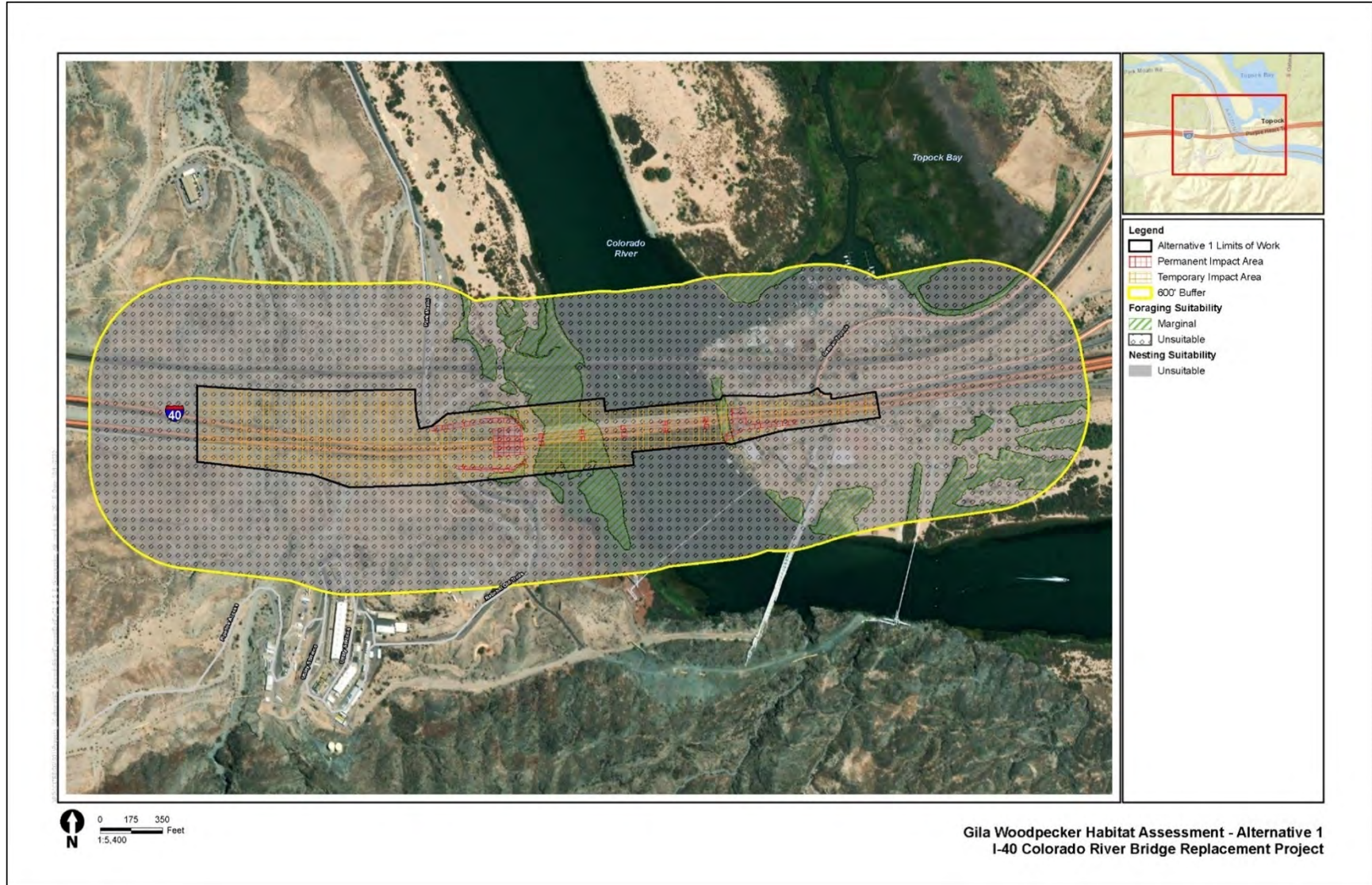


Figure 2.87, Gila Woodpecker Habitat Assessment Alternative 2

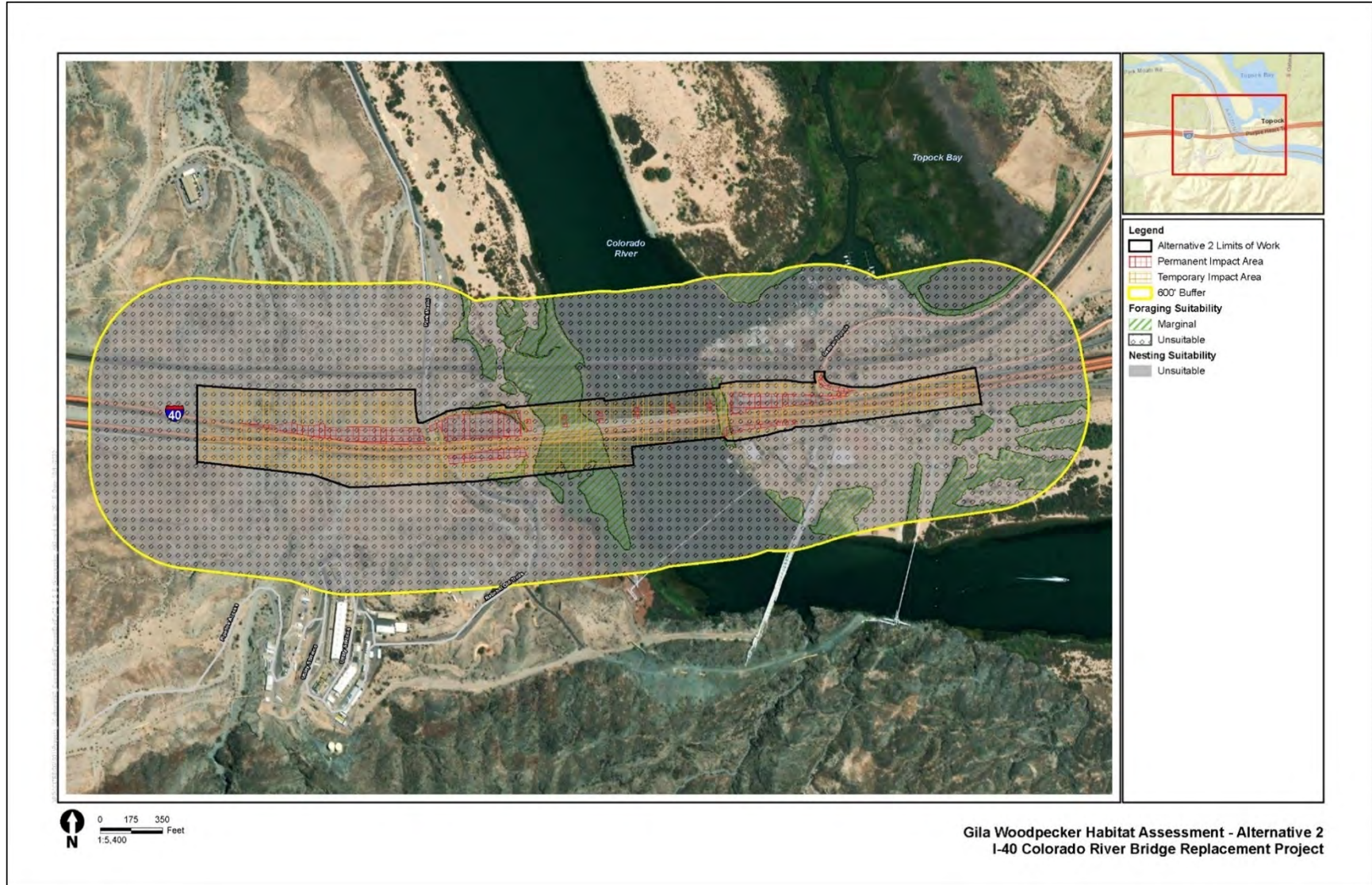


Figure 2.88, Gila Woodpecker Habitat Assessment Alternative 3

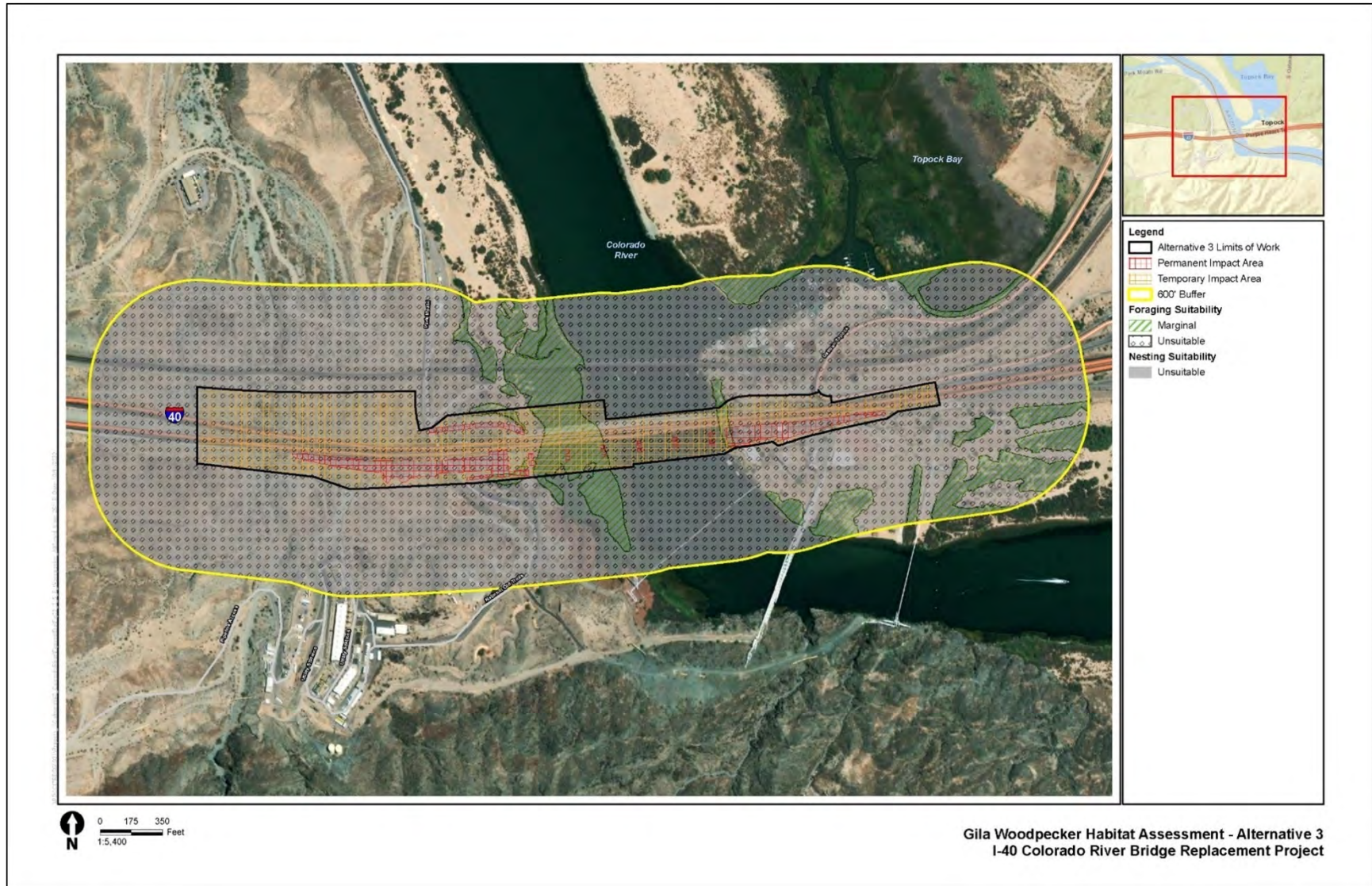


Figure 2.89, Arizona Bell's Vireo Habitat Assessment Alternative 1

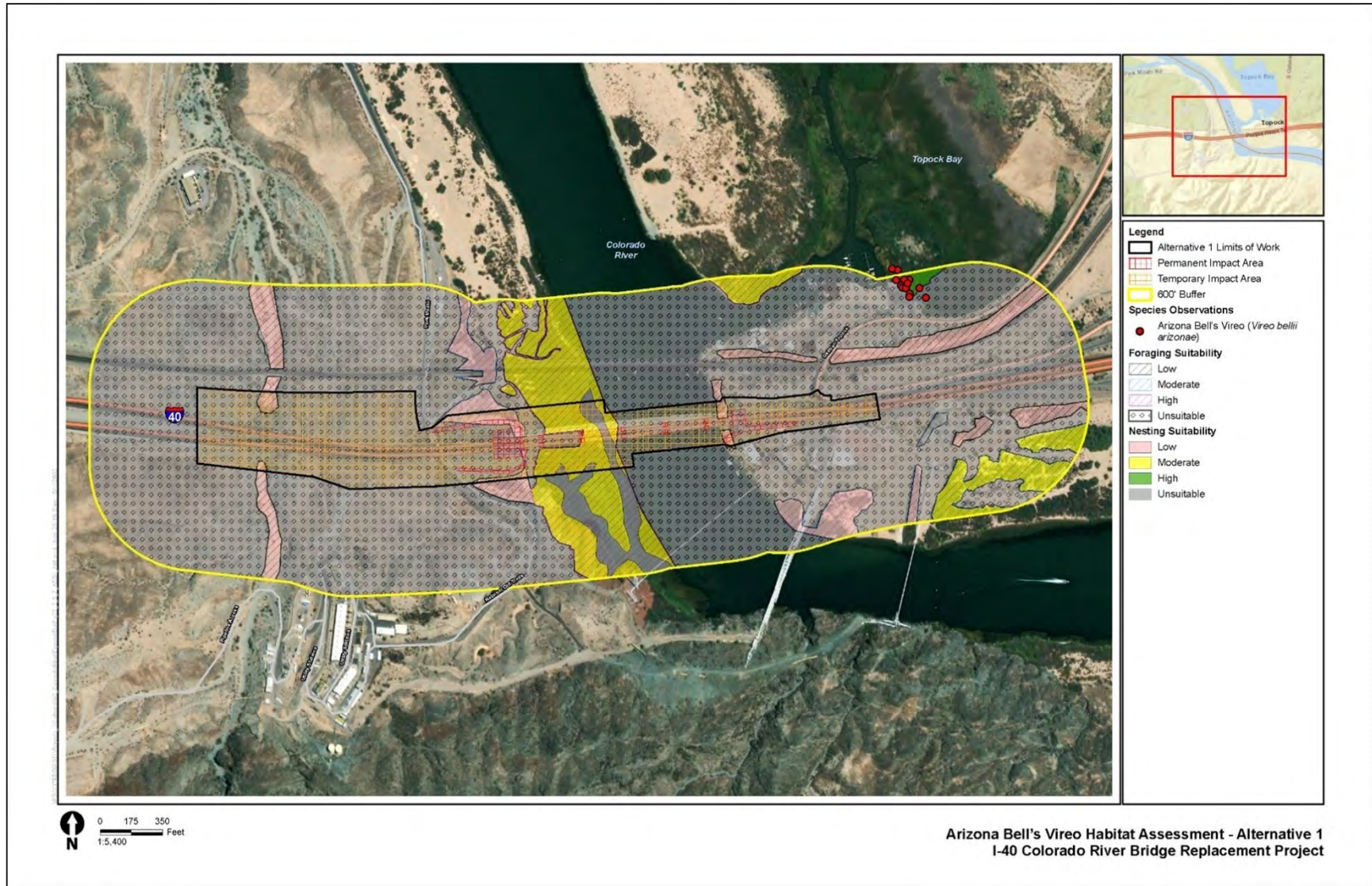


Figure 2.90, Arizona Bell's Vireo Habitat Assessment Alternative 2

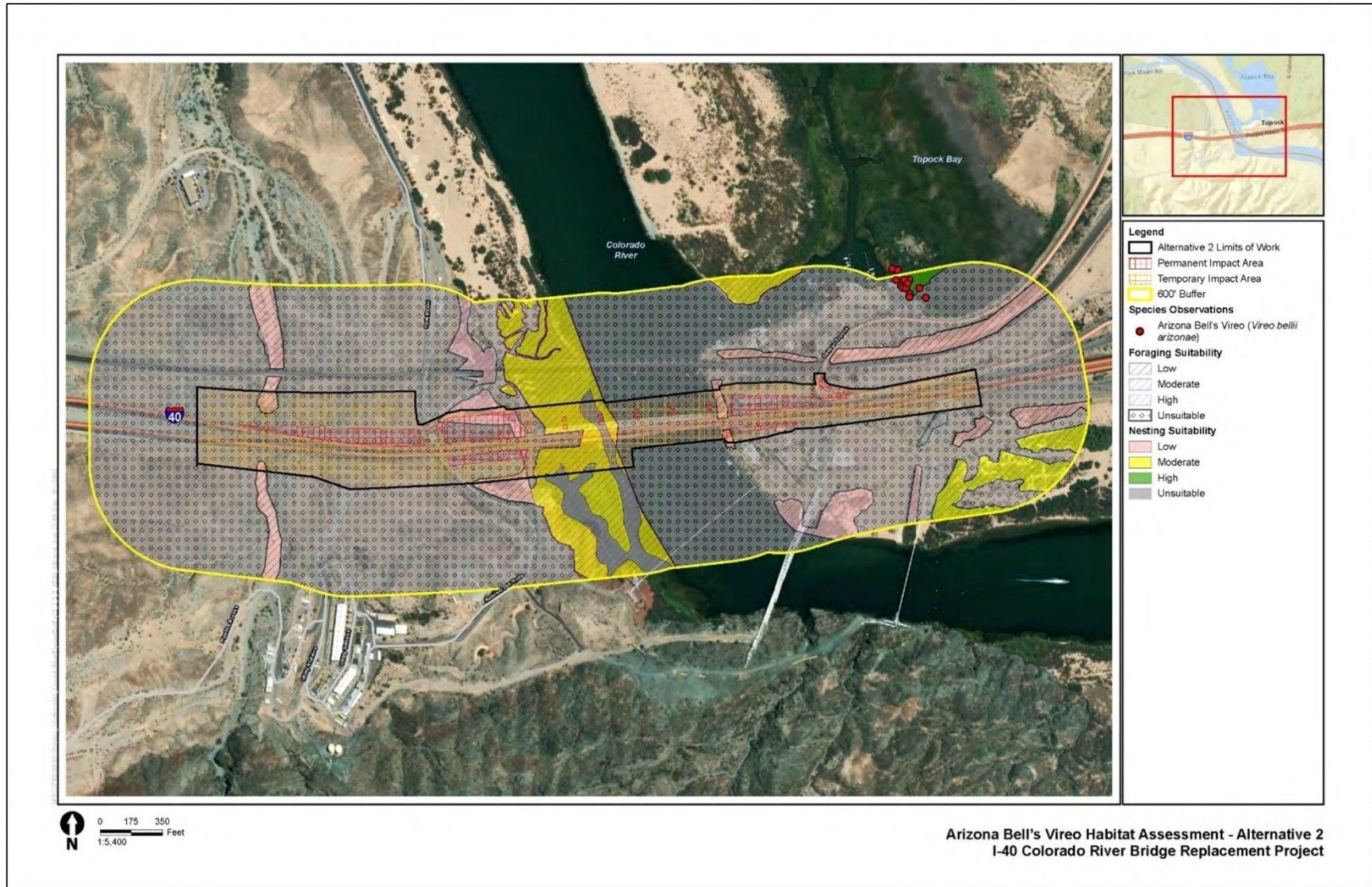


Figure 2.91, Arizona Bell's Vireo Habitat Assessment Alternative 3

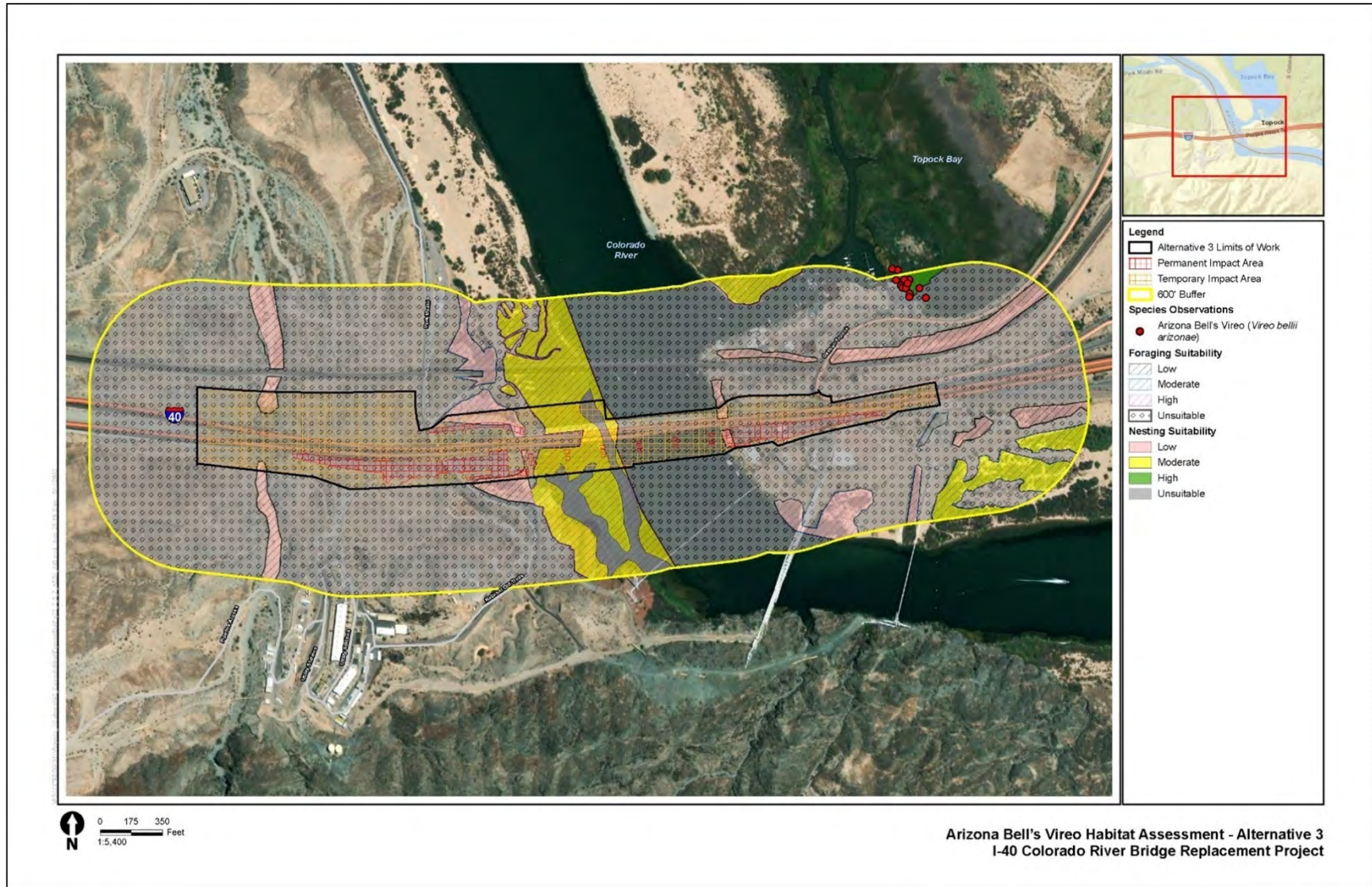


Figure 2.92, Mohave Desert Tortoise Habitat Assessment Alternative 1

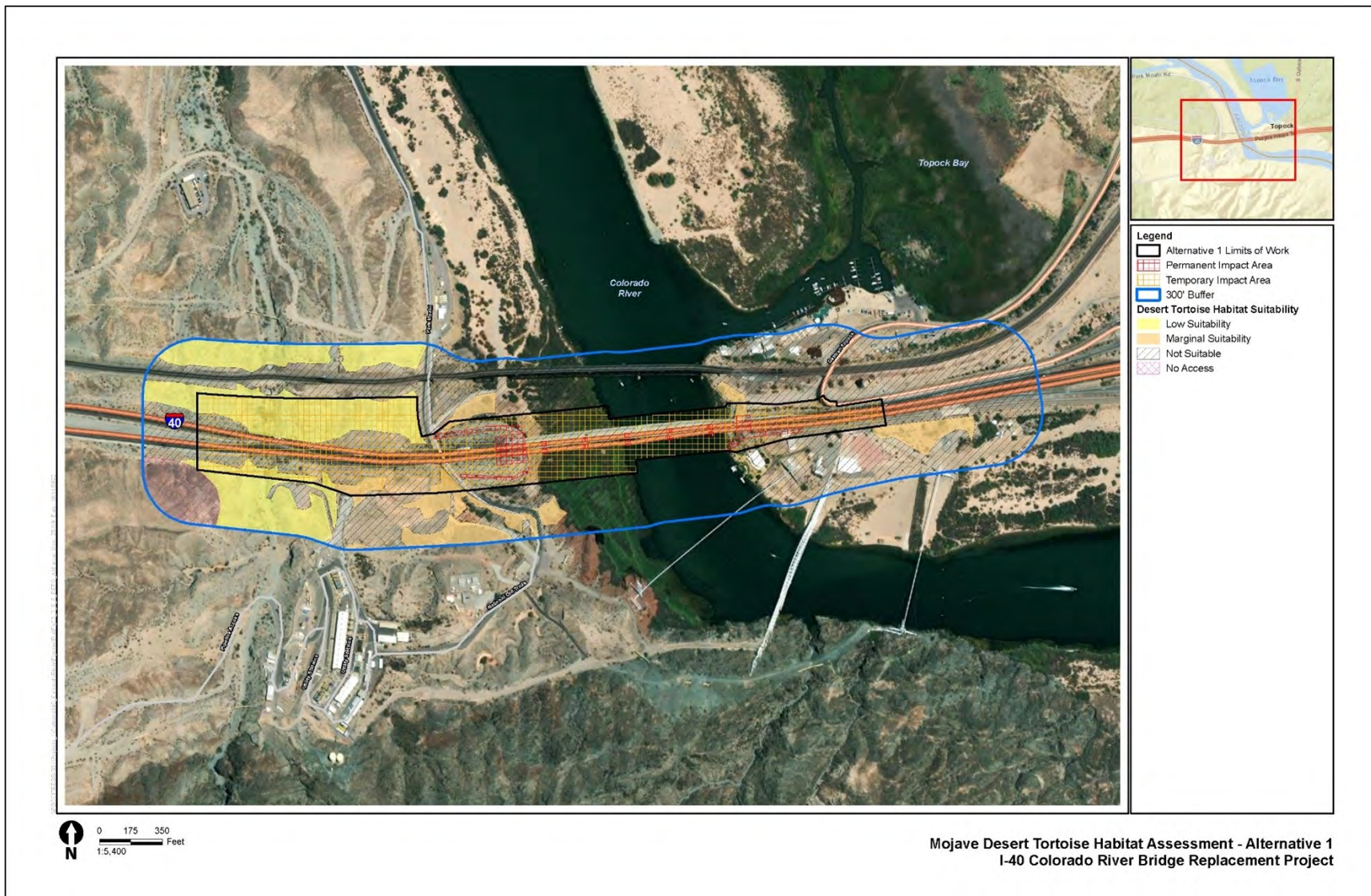


Figure 2.93, Mohave Desert Tortoise Habitat Assessment Alternative 2

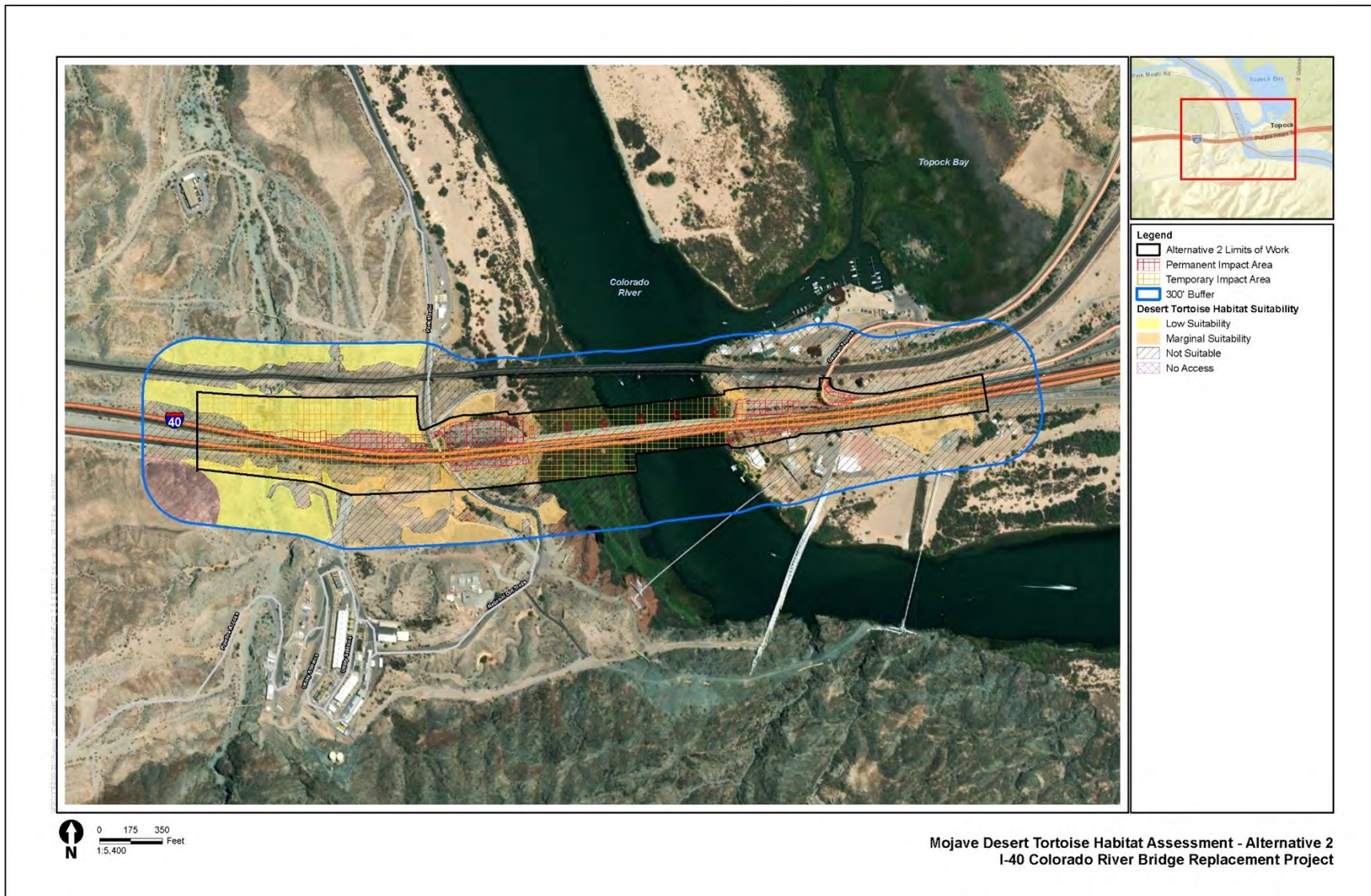
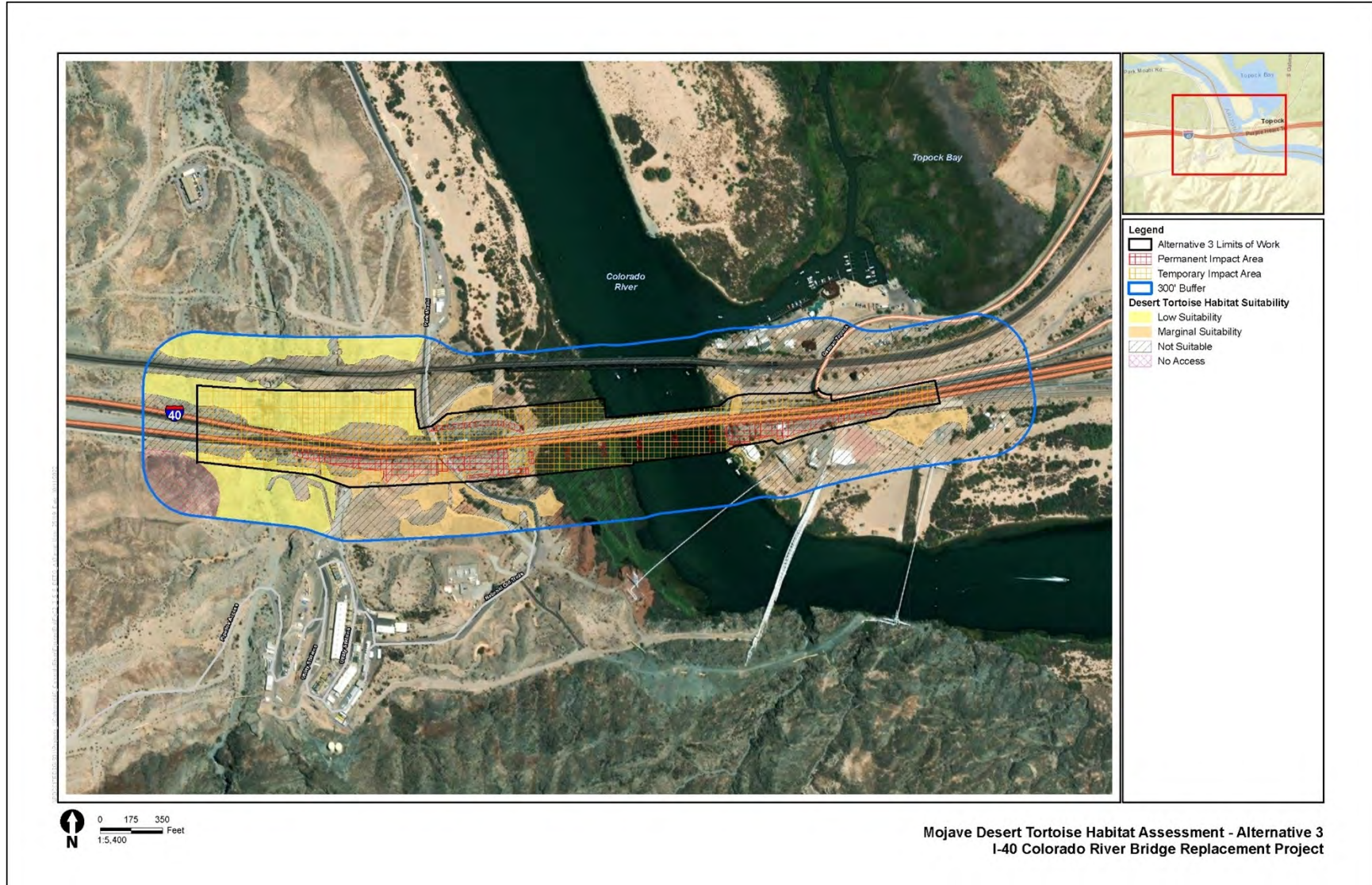


Figure 2.94, Mohave Desert Tortoise Habitat Assessment Alternative 3



2.2.14 Invasive Species

2.2.14.1 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.

2.2.14.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information from this section is based upon the January 2023 NES prepared for the project (Caltrans 2023e). References used in the NES are not carried over into this section.

Nonnative invasive plants invade natural communities in California and can outcompete and displace native plants that many native wildlife species depend on for food and cover. Invasive plants are a leading cause of declines in native plant and animal numbers, and are a factor in Endangered Species Act listings. They also increase wildfire and flood danger and diminish productive rangeland and timberland. Nonnative invasive animal species compete with native wildlife for limited resources and have the potential to displace, remove resources for, or consume native wildlife and can lead to population declines and potentially extinction of native plants and animals, lower biodiversity, and altered habitats for considerable time periods.

During the field surveys conducted for the project, all plant species observed were recorded, and a list was compiled (Appendix B in the NES. Included in the floral list are species classified as invasive by Cal-IPC as High, Moderate, or Limited on the Cal-IPC plant inventory.

Exotic plant species exist within the nonnative plant communities, as well as within patches of native plant communities, landscaped areas, and in areas that have been disturbed by human uses throughout the BSA. Exotic species are typically more numerous in disturbed and ruderal areas. Based on the Cal-IPC classification, 17 species of plants observed within the BSA are classified as invasive exotic plant species (Table 2.57). Five of these are ranked as high, five as moderate, and seven as limited. Invasive plant species that have severe ecological effects are given a rating of high by Cal-IPC.

Table 2-57, Cal-IPC Classified Invasive Species Observed within the BSA

Scientific Name	Common Name	Cal-IPC Rating
<i>Arundo donax</i>	Giant reed	High
<i>Avena</i> sp.	Wild oat	Moderate
<i>Brassica tournefortii</i>	Sahara mustard	High
<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome	High
<i>Bromus tectorum</i>	Downy chess	High
<i>Cynodon dactylon</i>	Bermuda grass	Moderate

Scientific Name	Common Name	Cal-IPC Rating
<i>Erodium cicutarium</i>	Redstem filaree	Limited
<i>Eucalyptus camaldulensis</i>	Red river gum	Limited
<i>Pennisetum setaceum</i>	African fountain grass	Moderate
<i>Phalaris aquatica</i>	Harding grass	Moderate
<i>Salsola tragus</i>	Prickly Russian thistle	Limited
<i>Schismus arabicus</i>	Arabian schismus	Limited
<i>Sisymbrium irio</i>	London rocket	Limited
<i>Tamarix aphylla</i>	Athel	Limited
<i>Tamarix ramosissima</i>	Hairy tamarix	High
<i>Tribulus terrestris</i>	Puncturevine	Limited
<i>Washingtonia robusta</i>	Mexican fan palm	Moderate

Eight nonnative and/or invasive wildlife species were observed (not including domestic animals) and documented within the BSA during field studies. Table 2.58 summarizes the invasive wildlife detected within the BSA.

Table 2-58, Invasive Wildlife Species

Scientific Name	Common Name
<i>Columba livia</i>	Rock pigeon
<i>Cyprinus carpio</i>	Common carp
<i>Dorosoma petenense</i>	Threadfin shad
<i>Equus africanus asinus</i>	Wild burro
<i>Lithobates catesbeianus</i>	American bullfrog
<i>Molothrus ater</i>	Brown-headed cowbird
<i>Streptopelia decaocto</i>	Eurasian collared-dove
<i>Sturnus vulgaris</i>	European starling

2.2.14.3 ENVIRONMENTAL CONSEQUENCES

Build Alternatives 1, 2, and 3

Invasive plant and animal species are known for their propensity to invade and negatively affect natural ecosystems. Seeds of invasive plant species can be transported to natural open space areas through a variety of mechanisms such as wind, wildlife, vehicles, imported soils, and landscaping. Recurring fires can encourage the establishment of colonial invasive species, as can some forms of routine land disturbance (e.g., disking, fire breaks). Invasive plant species can have profound impacts on native vegetation communities, removing or diminishing the value of required habitat for native plants and animals. Invasive animal species may dominate habitat otherwise available to native species and may prey on native species, which can have substantial effects on native wildlife populations. Therefore, a need exists to identify and recommend measures that avoid and/or reduce further transport of invasive species into natural open space areas. Because this project has a federal nexus, Executive Order 13112 is applicable and the project must comply with its requirements, which state that federal agencies

are required to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established.

The project has the potential to spread invasive species by entering and exiting construction with contaminated equipment, the inclusion of invasive species in seed mixtures and mulch, and by the improper removal and disposal of invasive species so that seed is spread along the highway. Post-construction bare ground can serve as a breeding ground for invasive plant species. The potential for adverse effects on natural open spaces from the introduction of invasive species is a possibility, and potential impacts could be severe. However, by remaining on paved and disturbed areas and by limiting the newly disturbed areas to the maximum extent feasible, the project will not encourage the spread of invasive species.

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

No-Build Alternative

If the project is not constructed, there would be no new or additional impacts on the introduction of invasive species to open space beyond those that would be expected to occur from the existing facility.

2.2.14.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

To ensure that the project does not promote the introduction or further spread of invasive species to open spaces within the BSA, Caltrans Standard BMPs, the BMPs in the SWPPP, 2022 Standard Specifications (or latest version), and Measures **NC-1**, **NC-2***, **NC-3**, and **NC-7** under Section 2.2.13 would be implemented for Build Alternatives 1, 2, or 3. With these measures, the project will not contribute to the propagation of invasive species under any of the three build alternatives. (*Note: "*" indicates that the measure is specific to the build alternative and is not proposed for geotechnical borings).*

2.3 Cumulative Impacts

Regulatory Setting

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

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

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

Methodology

In 2005, Caltrans, in conjunction with the Federal Highway Administration (FHWA) and the U.S. Environmental Protection Agency (USEPA), developed a guidance document: Guidance for Preparers of Cumulative Impact Analysis. The following analysis is based on the guidance, which involves the following eight step process:

1. Identify the resources to consider in the cumulative impact analysis by gathering input from knowledgeable individuals and reliable information sources. This project is initiated during project scoping and continues throughout the NEPA/CEQA analysis.
2. Define the geographic boundary or Resource Study Area (RSA) for each resource to be addressed in the cumulative impact analysis.
3. Describe the current health and historical context of each resource.
4. Identify the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
5. Identify a set of other current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impact analysis.
6. Assess cumulative impacts.
7. Report the results of the cumulative impact analysis.

8. Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

As specified in the guidance, if a proposed project would not result in a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource. This cumulative impact analysis includes environmental resources that are substantially affected by the project and resources that are currently in poor or declining health, or at risk even if project impacts would not be substantial.

In addition to the project, there are a number of development and transportation projects that have been identified as planned, approved, or recently constructed projects within the general project vicinity. Each project would be subject to all applicable federal and state environmental compliance requirements, as applicable. The following list of projects, considered in this cumulative analysis is provided below.

Table 2-59, Planned Project in the Project Vicinity

Name	Location	Description	Status
I-40 Regrade Existing Median Project (EA 08-0R142)	16-miles west of City of Needles to California/Arizona state line, in unincorporated San Bernardino County.	Re-grading existing nonstandard I-40 median cross slopes.	Final environmental document completed. Under construction.
I-40 Median Regrade Project (EA 08-0R141)	Along I-40 from Essex Road Overcrossing to east of Homer Wash Bridge in San Bernardino County.	Re-grading the median cross slopes from Post Mile (PM) R100.0 to PM R125.0.	Final environmental document completed. Construction complete.
I-40 Bridge Scour Mitigation Project (EA 08-1G830)	Along I-40 at PM R100.8/R101.8 near Essex in San Bernardino County.	Retrofitting north and south bridges with outrigger bents or replacement of bridges to mitigate scour at Halfway Hills Wash Bridge on I-40.	Final environmental document completed. Under construction.
Source:			
Caltrans District 8 website, Current Projects Listings: https://dot.ca.gov/caltrans-near-me/district-8/district-8-current-projects			
State of California, Governor's Office of Planning and Research, State Clearinghouse CEQAnet Database website: https://ceqanet.opr.ca.gov/			

Resources Excluded from the Cumulative Impact Analysis

If a proposed project would not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource and would not need to be evaluated with respect to a potential cumulative impact. The project would have no effect on timberlands, coastal zone, wild and scenic rivers. Therefore, the project would not have the potential to contribute to a cumulative impact on these resources, and they will not be discussed in this section.

Furthermore, it was determined that the following resources would not require detailed cumulative impact analysis for the reasons described under each resource area.

Farmlands

The RSA for farmlands is defined as a 0.5-mile radius of the right-of-way. This RSA was selected because it is the most likely areas to experience potential impacts from the physical improvements associated with the project. There are no areas within the RSA that are important farmlands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. The build alternatives would not result in impacts to farmlands.

Geology

The RSA is composed of the area of I-40 located on the California-Arizona border at the east boundary of the Mojave Desert California Geomorphic Province and the west boundary of the Basin and Range Geological Province of Arizona. The nearest fault in California is approximately 330 feet southwest of the project site and characterized by an unnamed thrust fault. The next closest faults are the Needles graben faults located approximately 6 miles to the northeast in Mohave County, Arizona. The potential for adverse effects associated with fault rupture within the project site is considered low. Furthermore, seismically induced impacts are localized and would not contribute to cumulative impacts. The project would include standard design measures intended to verify proper geological conditions of the construction site and excavation techniques to minimize adverse effects. Furthermore, hazards mapping provisions require that the location proposed structures be evaluated for their susceptibility to catastrophic risks including seismic and geotechnical hazards. The combination of these provisions ensures that risks to structures and their users are minimized. As such, the build alternatives and planned projects would be required to adhere to these guidelines and regulations.

Utilities and Emergency Services

The RSA for utilities and emergency services is limited to the immediate vicinity of the active construction work areas. Construction activities requiring relocation of an underground fiber optic cable, for example, could be scheduled to coincide with a telephone company project to underground telephone lines. Thus, a situation may be avoided where constant construction and traffic delays occur on a busy street due to poorly coordinated schedules. The effects of other projects on utilities and emergency services would be assessed as part of the environmental review of those other projects. For transportation and public infrastructure projects, the impacts from these projects would be beneficial because they normally result in improved circulation in their respective areas. Emergency services would potentially benefit from improved access and circulation. The project would not be substantially increasing use of utilities after construction and would not contribute to need for new or expanded services. Direct or indirect cumulative impacts on utilities and emergency services are not anticipated to result from this project. Impacts from the project would not be cumulatively considerable.

Growth

The RSA for growth is regional and includes San Bernardino County and Mohave County. The build alternatives would not be expected to influence the amount, location, or distribution of growth within the project area because the project would not encourage population density, result in the construction of new housing, or result in the opportunities for capital investment by the public or private sectors. The build alternatives are not providing new alternate routes through the project area, and would not result in the addition of roadway capacity. The planned projects in the project vicinity would also not result in growth within the project area as the anticipated traffic conditions would remain relatively similar. The build alternatives are not anticipated to affect the rate or location of future development within the project area or region. The build alternatives are also not expected to result in direct or indirect impacts related to growth in the form of providing additional access to new areas that are currently inaccessible. The project itself would also not cause development to occur in the region due to land use controls such as County General Plan land use designation, development restrictions, lands committed to conservation, and lands currently or in the process of being developed. Implementation of the project and other related project would not have a cumulatively considerable contribution related to growth.

Parks and Recreational Facilities

The RSA for parks and recreational resources includes any park, recreational facility, or other recreational uses within 0.5 mile of the project. This RSA was chosen because it includes the populations and communities that are most likely to experience potential impacts associated with the project. There are four resources near the build alternatives: the Colorado River, Havasu National Wildlife Refuge and Havasu Wilderness, the Chemehuevi Mountains Wilderness, and Moabi Regional Park. Furthermore, although I-40 is not designated as a bicycle facility, bicycles are allowed on the segment of I-40 that encompasses the project limits because there is not a parallel alternative route for bicyclists. Build Alternatives 2 and 3 would result in permanent right-of-way from BLM. This permanent right-of-way would not affect how users interact with and utilize the park, refuge, and wilderness areas. Temporary impacts would be addressed through preparation of a TMP and compliance with standard noise reducing measures incorporated as part of the project design. Furthermore, the planned project would be required to address potential impacts on parks and recreational facilities as part of the project approvals by jurisdictions in the areas which they are located. With the implementation of design measures, operation of the build alternatives would result in only a minor contribution to cumulative impacts on parks and recreational facilities within the RSA.

Land Use

The RSA for land use is defined as a 0.5-mile radius of project right-of-way. Based on the San Bernardino County Land Use map, land use designations adjacent to I-40 along the project corridor consists of Open Space, Resource Conservation, and Institutional. The Mohave County Land Use map designates land uses adjacent to I-40 along the project as Ag/Vacant Land Non-Profit, Commercial/Real and Improvement, Non-Primary Residence, and Rental Residential. Build Alternative 1 would not result in any land use designation changes and would generally be consistent with the San Bernardino County General Plan and Mohave County General Plan. Build Alternative 3 would require right-of-way on the California side from a parcel owned by BLM. There are no structures or facilities located on the parcel and no changes to land use designations would occur as a result of the right-of-way acquired. Build Alternative 2 would require the greatest amount of right-of-way with parcels in California and Arizona. The right-of-

way required would consist of parcels owned by BLM, BNSF, and Southwest Water Incorporated. No structures or facilities are located on the parcels for the required right-of-way. No changes to the land use designations would occur as a result of the right-of-way acquisitions. The acquisitions necessary for Build Alternatives 2 and 3 represent a small percentage of the total land within San Bernardino County and Mohave County, as such, appreciable land use change would not occur as a result of the project. No additional property acquisitions are anticipated and operation of the project would not change the existing land uses. Land use impacts involved during construction would be addressed with the incorporation of standard project measures. The project, when combined with other planned projects, would not result in an increase in land acquisitions or noticeable land use changes in the RSA or throughout San Bernardino County or Mohave County. Implementation of the project and other planned projects would not have a cumulatively considerable contribution to land use.

Hydrology and Floodplains

The RSA for hydrology and floodplains are the Colorado River, Lake Havasu, Mohave Wash, and various unnamed blue-line streams within the project area. The project is within an area designated as Flood Hazard Area indicating the 1 percent annual chance flood (100-year flood) Zone A, Without Base Flood Elevation (BFE) and Regulatory Floodway. The potential for temporary hydrologic impacts associated with construction activities of the build alternatives could occur as a result of stormwater runoff. With implementation of the Construction General Permit, the build alternatives would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement construction best management practices (BMPs) to reduce pollutants of concern in stormwater runoff. The construction BMPs would include erosion control, sediment control, and general good housekeeping BMPs that would minimize erosion, retain sediment on-site, and prevent spills. As such, the build alternatives would not result in temporary water quality impacts related to floodplains. Currently, there are no stormwater drainage structures on the existing bridge and no drainage structures are proposed to be constructed with the build alternatives. Potential runoff would be collected on the outside shoulders of the bridge and similar to existing conditions, the runoff from the new bridge would be conveyed on north and south sides of the bridge and flow east. The build alternatives have been designed so that 100-year storm flows would be conveyed and would not result in any new flooding. The build alternatives would result in a more reliable highway and would not result in interruption to emergency services or routes. There would be no substantial flood-related risks to life or property associated with implementation of the build alternatives.

Implementation of the planned projects have the potential to increase impervious surfaces, alter the amount of runoff, and increase potential pollutant loads. All planned projects and future planned development would be required to comply with applicable requirements for water quality standards as defined by local, regional, State, and Federal agencies. All planned future projects would be required to mitigate the effects to hydrology and floodplains on a project-by-project basis.

Water Quality and Stormwater Runoff

The RSA for water quality and stormwater runoff is the Colorado River Basin Region, within the southern portion of the Havasu-Mohave Lakes Watershed, in which the project is located. The project site is also located within the Needles Valley Groundwater Basin. The surface is drained by the Piute Wash, eastward towards the Colorado River. Groundwater levels are generally between 9 and 12 feet below ground surface and under natural conditions, the groundwater typically flows eastward through the basin towards the Colorado River. There are currently no

drainage structures on the existing bridge. The profile of the bridge slopes from the California side towards the Arizona side. As a result, runoff on the bridge currently conveys to the north and south sides of the bridge.

Pollutants of concern during construction of the build alternatives includes sediments, trash, petroleum products, concrete waste, sanitary waste, and chemicals. Furthermore, during construction, excavated soil would be exposed resulting in an increased potential for soil erosion. The project would comply with the State Water Resources Control Board's Construction General Permit, by preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP) to minimize potential adverse effects. Construction best management practices (BMPs) would be designed to retain sediment and other pollutants on the project site. In addition, a Section 401 Water Quality Certification and a Section 404 Nationwide Permit would be obtained for the project. With the implementation of treatment and design pollution prevention BMPs, the build alternatives would not result in any adverse impacts to water quality or stormwater runoff during operation.

Cumulative and planned projects within San Bernardino County and Mohave County would be required to comply with municipal stormwater requirements. Furthermore, cumulative and planned projects would be required to comply with local jurisdictions review on a project-by-project basis to ensure that sufficient local and regional drainage capacity is adequate. As such, cumulative impacts on water quality and stormwater runoff would not be cumulatively considerable.

Transportation

The RSA for cumulative impacts associated with transportation includes I-40, adjacent on-and off-ramps, and area roadways. As the project would improve the safety and integrity of the bridge structure by addressing deck deterioration and strengthening the girders to increase the load rating, no increase in roadway capacity would occur and no additional lanes are proposed. The current bridge accommodates two lanes of traffic in each direction and the build alternatives would also result in two lanes in each direction. Construction related delays could impede movement in the area, however, a TMP would be developed and implemented to address these short-term access and circulation effects during project construction. With implementation of the project the safety of the traveling public, including bicyclists, would be enhanced, as standard lane and shoulder widths would be proposed. The build alternatives would have beneficial effects on traffic and circulation including bicyclists. Therefore, the project would not result in adverse effects on traffic and transportation and bicycle facilities.

Noise

The RSA includes the four segments (NAA1, NAA2, NAA3, and NAA4) as discussed in Section 2.2.8. NAA1 is located on the north side of I-40, west of the Colorado River and includes industrial and undeveloped land. NAA2 is located on the south side of I-40, west of the Colorado River and also includes industrial and undeveloped land. NAA3 is located on the north side of I-40, east of the Colorado River and includes industrial, undeveloped land, residential, and commercial land. NAA4 is located on the south side of I-40, east of Colorado River and includes residential, industrial, and undeveloped land.

A noise impact would occur under NEPA if the project would cause noise levels to approach or exceed the Noise Abatement Criteria (NAC) or would result in a 12 dB increase during the design year relative to the existing traffic noise levels. The results of the traffic noise analysis

indicate that predicted traffic noise levels for the Design Year would approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B (Residential) land uses within NAA4 under all three build alternatives. Abatement in the form of two noise barriers (S8176 and S8178) were considered and analyzed from 8 to 16 feet in two-foot increments. The barriers were analyzed to determine their ability to meet the feasibility requirements (ability to provide 5 dB insertion loss at modeled locations) and the reasonableness requirement (ability to provide 7 dB insertion loss) at one modeled location as well as the cost to construct the barrier. For each of the build alternatives, barrier S8176 and S8178 were found not to be reasonable from a cost perspective and would not be incorporated as part of the project. As the predicted traffic noise levels would approach or exceed the NAC of 67 dBA Leq(h), the project's cumulative impacts would be cumulatively considerable.

Noise levels at residential sites range from 61 dBA Leq to 68 dBA Leq, under the existing condition for all three build alternatives. Noise levels under Design Year Build conditions would range from 61 dBA Leq to 68 dBA Leq for Build Alternative 1, 61 dBA Leq to 67 dBA Leq for Build Alternative 2, and 61 dBA Leq to 71 dBA Leq for Build Alternative 3. The changes in noise levels during the Design Year Build conditions relative to the existing conditions would range from a -1 dB decrease to no change under Build Alternative 1, a -3 dB decrease to no change under Build Alternative 2, and a -2 dB decrease to a 3 dB increase under Build Alternative 3. A 3 dB increase is the generally accepted threshold at which a person of normal sensitivity can begin to identify a perceptible change in noise. A 5 dB increase is considered a noticeable change. Caltrans considers an increase of 12 dB in noise levels, between future build and existing conditions, to be the CEQA threshold of significant substantial increase. As such, one residential location, under Build Alternative 3, would experience a 3 dB increase during the Design Year Build condition relative to the existing condition. No other residential location would experience an increase of greater than 1 dB under any build alternative.

For Build Alternatives 1 and 2, the impact pile driving from construction of the bridge would result in a vibration level of 0.17 inches per second (in/s) peak particle velocity (PPV) at the closest vibration sensitive receptor. This vibration level would not be expected to exceed the vibration criterion of 0.5 in/s PPV for potential building damage, however, it would exceed the vibration criterion of 0.04 in/s PPV for potential human annoyance. For Build Alternative 3, impact pile driving from construction of the bridge would result in a vibration level of 0.24 in/s PPV at the closest vibration sensitive receptor. This vibration level would not exceed the vibration criterion for potential building damage; however, it would exceed the vibration criterion for potential human annoyance. As such, for pile driving, the potential for vibration levels to exceed the distinctly perceptible threshold may lead to human annoyance at the closest residence during construction. With inclusion of measures **NOI-1** and **NOI-2**, impacts associated with vibration would be reduced to less than significant.

As the planned projects in the project area would not increase capacity, they would likely not result in increased traffic noise associated with additional vehicles. As such, the planned projects are not anticipated to contribute to cumulative noise effects in the project area.

Environmental Resources Considered in the Cumulative Impact Analysis

Visual Resources/Aesthetics

The RSA for cumulative impacts on visual resources would consist of the project corridor and its key views. As described in the Visual Impact Assessment (VIA) prepared for the project, the landscape of the immediate area is defined by the Colorado River with its shoreline and surrounding floodplains. California native shrub groupings dot the natural low hills and formed slopes with the riparian landscape denser along the shorelines. The land use within the project corridor is primarily made up of the Havasu National Wildlife Refuge, both to the north and south of the bridge. There are a few single family residences along the shoreline to the north and south of the bridge on the Arizona side and a small commercial resort located to the northeast. A gas line utility station is located to the south on the California side. I-40 is on the State Scenic Highway Eligibility List. The notable scenic resources within the project corridor include the Old Trails Bridge which was added to the National Register of Historic Places in 1988. As indicated in the VIA, the project would address the deteriorating and outdated bridge and would provide standard median and shoulder widths for safer vehicular and bicycle travel. By retaining the open sky aspect, the bridge would preserve the picturesque views of the Colorado River, surrounding mountain ranges, and nearby bridges. These key benefits would apply for all build alternatives and positively impact the collective viewer response and produce a positive impact on the visual corridor. The planned projects have the potential to affect visual change and viewer responses in proximity to the RSA. These future planned projects would be evaluated on a project-by-project basis to determine impacts and applicable measures required to reduce potential impacts on visual and aesthetic resources. As the project would implement standard design features and measure **VIS-1** to minimize visual impacts during construction, its cumulative contribution to visual effects from planned projects within the RSA would not be adverse during construction. Therefore, the project, in conjunction with past, present, and reasonably foreseeable projects would not result in a cumulative effect related to visual resources.

Hazardous Waste/Materials

The RSA for hazardous waste and materials cumulative impacts analysis includes the project site and a quarter mile radius of the project site. The transportation, use, storage, and disposal of hazardous waste and materials are highly regulated by local, state, and federal laws, as such, impacts associated with hazardous waste and materials would be localized. There were four recognized environmental conditions (RECs) identified near the project site. The Topock Compressor Station's cooling tower wastewater was discharged into the Bat Cave Wash adjacent to the compressor station site from 1951 to 1964. The treated wastewater was discharged into ponds for storage and evaporation until 1985. Investigations conducted onsite identified elevated levels of various contaminants in soil, within and adjacent to the project area and within the existing Caltrans right-of-way. Additionally, a hexavalent chromium groundwater plume extends below the western portion of the project area. Implementation of measure **HAZ-1** would protect construction personnel and the surrounding environment from the potential effects associated with encountering contaminated soil or groundwater during construction. Monitoring wells, as part of the existing groundwater remediation activities located within the project area would be preserved during construction activities. Measure **HAZ-2** would require an asbestos and lead-based paint survey for any structures, built prior to 1980, to be demolished. As part of measure **HAZ-3**, an ADL survey would be conducted along the shoulders of I-40 and bridge abutments, adjacent to the project, in areas to be disturbed during construction. In addition, a pile of railroad ties were observed in the southeast portion of the project area adjacent to Oatman Highway. As railroad ties are typically treated with creosote and chromated copper arsenate for preservation, they require proper removal and disposal in accordance with applicable laws and regulations.

Construction of other planned projects in the area may expose or require handling of contaminated soils. Each planned project would be evaluated on a project-by-project basis in order to determine the potential for encountering hazardous materials and any appropriate measures required to reduce potential impacts. The cumulative planned projects within the RSA would be required to adhere to existing laws and regulations regarding the use, storage, transport, and disposal of hazardous materials and waste which would ensure that there would be no adverse hazardous material impacts resulting from future development in the area. As such, the project would not contribute to cumulative hazardous waste and materials impacts.

Cultural

Under CEQA and NEPA, cumulative impacts refer to the indirect and direct cumulative effects on cultural resources for the current project coupled with past, future, and other current projects in or near the project area. The RSA for cultural resources is the Area of Potential Effects (APE). The APE is approximately 73.7 acres and is located along I-40 from PM 153.9 to PM154.7 in San Bernardino County, California and from PM 0.0 to 0.6 in Mohave County, Arizona. The APE includes approximately 0.027% of Mojave homeland and all known or potential components of the Topock Traditional Cultural Property (TCP), within the immediate project area, including all three loci of site CA-SBR-219. The APE was expanded to encompass both archaeological and built environment resources that are either within or adjacent to the project footprint to account for any potential indirect effects to these resources.

The Addendum to the Historic Property Survey Report (HPSR), and Finding of Adverse Effect prepared for the project indicates there are six Historic Properties located within the APE: Topock Maze/Topock Traditional Cultural Property CA-SBR-219 (previously determined individually eligible under Criterion D), BNSF/ATSF Railroad (previously determined individually eligible under Criterion A), NOTH/66 and Old Trails Arch Bridge (previously determined to be Eligible under Criteria A and C), the prehistoric portion of CA-SBR-11910/H and AZ L:7:81 (ASM) (treated as eligible under Criterion D as they can be protected in place with establishment of ESA). Based on the application of the Criteria of Adverse Effect, as defined in the revised Section 106 guidelines [36 CFR 800.5(1)], overall, the project has a Finding of Adverse Effect to one historic property, the Topock Maze/Topock Traditional Cultural Property (TCP) CA-SBR-219 for all proposed build alternatives. In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) was executed on November 9, 2023 in order to mitigate these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories.

Although the project would have a temporary adverse effect on the TCP, the project would have no potential to affect any physical component of the TCP outside of the immediate Colorado River and Topock Maze viewshed. Potential impacts to the TCP include direct physical effects to the Colorado River and visual, atmospheric, and audible effects during demolition and construction of the project. These temporary effects would temporarily, indirectly affect the characteristics of the TCP and the intangible relationship between the Fort Mojave Indian Tribe and the property. The effects to individual components of the TCP would be temporary and limited to the construction period, which is expected to begin after completion of the nearby projects, listed in Table 2-59.

Standard project features **CR-1**, **CR-2**, **CR-3**, and **CR-4** would be implemented to avoid or minimize potential effects on previously undocumented cultural materials or human remains. Measures **CR-5**, **CR-6** and **CR-7** would be implemented to lessen the effects to NOTH/Route 66

Segments 4 and 5. Measures **CR-8** and **CR-9** relate to submerged cultural and paleontological resources discovered during construction that are within the jurisdiction of the California State Lands Commission. Any potential cumulative impact to the Topock Maze TCP would be avoided or minimized through measures developed in the MOA between FHWA, the California State Historic Preservation Office, and the Arizona State Historic Preservation Office (see Measure **CR-108**) and implemented during construction of the project. Therefore, the project is not anticipated to contribute to a cumulative effect on the TCP.

Additionally, to proactively protect and consider the potential for impacts on historical and archaeological resources, federal, state, and local regulations have been created and planned projects would be required to comply with these regulations, which would contribute to a reduction in cumulative impacts on archaeological and historical resources.

Under CEQA and NEPA, cumulative impacts refer to the indirect and direct cumulative effects on cultural resources for the current project coupled with past, future, and other current projects in or near the project area. The Area of Potential Effects (APE) consists of land located along I-40 from PM 153.9 to PM 154.7 in San Bernardino County, and from PM 0.0 to 0.6 in Mohave County, Arizona. The APE was expanded to encompass both archaeological and built environment resources that are either within or adjacent to the project footprint to account for any potential indirect effects to these resources. The Historic Property Survey Report (HPSR) prepared for the project indicates there are six Historic Properties located within the APE: Topock Maze/Topock Traditional Cultural Property CA-SBR-219 (previously determined individually eligible under Criterion D), BNSF/ATSF Railroad (previously determined individually eligible under Criterion A), NOTH/66 and Old Trails Arch Bridge (previously determined to be Eligible under Criteria A and C), the prehistoric portion of CA-SBR-11910/H and AZ L:7:81 (ASM) (treated as eligible under Criterion D as they can be protected in place with establishment of ESA). Based on the application of the Criteria of Adverse Effect, as defined in the revised Section 106 guidelines [36 CFR 800.5(1)], overall, the project proposes a Finding of No Adverse Effect and is seeking SHPOs concurrence of this finding. Standard project features **CR-1**, **CR-2**, **CR-3**, and **CR-4** would be implemented to avoid or minimize potential effects on previously undocumented cultural materials or human remains. Measures **CR-5**, **CR-6** and **CR-7** would be implemented to lessen the effects to NOTH/Route 66 Segments 4 and 5. To proactively protect and consider the potential for impacts on historical and archaeological resources, federal, state, and local regulations have been created and planned projects would be required to comply with these regulations, which would contribute to a reduction in cumulative impacts on archaeological and historical resources.

Wetlands

The RSA for wetlands includes the Lower Colorado River Watershed, specifically the Havasu-Mojave Lakes Watershed. The Lower Colorado River Watershed encompasses over 3,400 square miles and falls within Arizona, California, Nevada, and Mexico. The most prominent feature is the Colorado River, which begins in the Rocky Mountains of Colorado, crosses Utah, Nevada, Arizona, California, Mexico and terminates at the Gulf of California. There are two primary aquatic resources within the project area: Bat Cave Wash and the Colorado River. According to the Natural Environment Study (NES) and Jurisdictional Delineation (JD) prepared for the project, several types of aquatic resources have been mapped within the delineation area consisting of USACE, RWQCB, and CDFW jurisdiction including the Colorado River (a perennial stream), Bat Cave Wash (an ephemeral wash), and associated riparian or marsh (wetland) habitat areas. Impacts to these resources are expected to be subject to Section 404 permitting. Impacts to RWQCB jurisdiction and potential CDFW jurisdiction would require

coordination and permitting for the project under Section 401 of the Clean Water Act, the Porter Cologne Water Quality Act and Section 1600 of the California Fish and Game Code. Implementation of other planned projects may result in temporary and permanent impacts to wetlands and other waters. These actions would be evaluated on a project-by-project basis to determine the acreages of impacts to jurisdictional drainage features and measures to reduce impacts. With the implementation of standard project features and BMPs, the project, in conjunction with other planned projects would not result in a cumulative effect on wetlands and other waters.

Animal Species

The RSA for cumulative animal species effects is the boundaries of the Lower Colorado River Multi-Species Conservation Plan. Based on the NES prepared for the project, 21 special-status animal species were found to be present within the biological survey area (BSA) during field surveys. Habitat assessments for special-status fish was conducted to analyze the suitability of habitat within the BSA. A search of historical and recent records of special-status fish yielded occurrence for bonytail chub (*Gila elegans*), flannelmouth sucker (*Catostomus latipinnis*), and razorback sucker (*Xyrauchen texanus*) within two miles of the BSA. All three populations within the Lower Colorado River have or are currently being augmented by stocking. Only one native species, a dead razorback sucker, was documented during field surveys. Portions of the BSA were considered to have low habitat suitability for all three fish species and Build Alternatives 1, 2, and 3 were determined to have the potential to impact these species and their habitats. Habitat assessments were also conducted for special status bird species, and based on site disturbances, vegetation composition and cover, and proximity to a perennial water source, the majority of the BSA was determined to provide suitable nesting and foraging habitat for multiple special-status bird species. Portions of the BSA that were considered to contain suitable sensitive bird habitat ranged from marginal to high quality nesting and foraging habitat. A habitat assessment for special-status small mammal species was also conducted and based on site disturbances, soil characteristics, vegetation composition and cover, and habitat fragmentation, the majority of the western portion of the BSA was determined to be either moderate or low suitability for Colorado River cotton rat (*Sigmodon arizonae plenus*) and desert pocket mouse (*Chaetodipus sobrinus*), while no suitable habitat was found on the eastern portion of the BSA. A habitat assessment for special-status bats were conducted and structures with suitable day-roosting habitat include I-40 Bat Cave Wash Culvert and the I-40 Colorado River Bridge. At Bat Cave Wash, bats were observed day roosting along the vertical pipes in the ceiling of the easternmost pipes, as well as along the sides of the four corrugated metal pipes. At the I-40 Colorado River Bridge, two joints provide roosting habitat along the entire length of the bridge. As the bridge structure would be removed completed as part of the project, there is potential for “take” from direct mortality and net loss of roosting habitat at those locations. Implementation of the measures in the Bat Management and Mitigation Plan (BMMP) would reduce the potential for adverse effects to bat species. Based on site disturbances, soil characteristics, vegetation composition and cover, the majority of the BSA was considered to contain low suitability or marginal suitability for desert tortoise habitat.

Potential other planned projects in the area may result in loss of foraging, roosting, or nesting habitat for animal species. However, these planned projects would be evaluated on a project-by-project basis to determine the presence of animal species and the appropriate measures required to reduce impacts. The project site is also within the Lower Colorado River Multiple Species Conservation Plan which requires that all projects are consistent with the plan and that species required measures are implemented, based on a project’s potential species impacts. As

such, the project, in conjunction with other planned projects would not make a significant contribution to cumulatively adverse effects to animal species.

Threatened and Endangered Species

The RSA for cumulative threatened and endangered species effects is the jurisdictional boundaries of the Lower Colorado River Multiple Species Conservation Plan. As indicated in the NES prepared for the project, FHWA, in coordination with Caltrans and ADOT, has determined that, in accordance with Section 7 of the Federal Endangered Species Act, the project has the following Effect Determinations: No Effect on California least tern, Colorado pikeminnow, northern Mexican gartersnake, roundtail chub, Monarch butterfly, Sonoran desert tortoise, and a May Affect, Not Likely to Adversely Affect to southwestern willow flycatcher and yellow-billed cuckoo, and May Affect, Likely to Adversely Affect to bonytail chub, Mojave desert tortoise, razorback sucker, and Yuma Ridgway's rail. Caltrans has determined there may be Take to state-listed species (bonytail chub, razorback sucker, California black rail, and Yuma Ridgway's rail) and therefore, a CDFW incidental take permit (pursuant to Section 2081 of the CFG Code) is anticipated for the project. Because razorback sucker, Yuma Ridgway's rail, and California black rail have CDFW fully protected species designation, CDFW has no permit to allow Take of fully protected species for construction projects. Caltrans intends to pursue legislation to amend the CFG Code in order to pursue CDFW Incidental Take Permits for these species. Caltrans has determined there will be No Take to all other state-listed species. Caltrans has also determined that the project will have No Take to fully protected species bald eagle, Colorado pikeminnow (*Ptychocheilus lucius*), and California least tern (*Sterna antillarum browni*), pursuant to CESA. Other planned project in the area may result in loss of threatened and/or endangered species and their habitats. These actions would be evaluated on a project-by-project basis to determine the presence of threatened and/or endangered species and their habitats, and applicable measures to reduce impacts. Compliance with the Lower Colorado River Multiple Species Conservation Plan would ensure that potential regional effects from construction and operation of planned projects are not adverse. As such, the project, in conjunction with other planned project, would not make a significant contribution to cumulatively adverse effects to threatened and/or endangered species.

Invasive Species

The RSA for cumulative invasive species is the jurisdictional boundaries of the Lower Colorado River Multiple Species Conservation Plan. Implementation of the build alternatives have the potential to spread invasive species by entering and existing construction areas with contaminated equipment, from seed mixtures and mulch that contain invasive species, and by the improper removal and disposal of invasive species in which seeds are spread along the highway. Implementation of Caltrans standard BMPs, the BMPs in the SWPPP and the 2018 Standard Specifications, in addition to avoidance and minimization measures would prevent the introduction and spread of invasive species. Planned projects in the area may also result in the germination and spread of invasive species. These planned projects would be evaluated on a project-by-project basis to determine the potential for invasive species and appropriate measures required to reduce impacts. The Lower Colorado River Multiple Species Conservation Plan would also ensure that potential regional effects from construction and operation of the project as well as other planned projects are not adverse. As such, the project, in conjunction with other planned projects, would not make a significant contribution to cumulatively adverse effects from invasive species.

Avoidance, Minimization, and/or Mitigation Measures

No measures beyond those identified in Chapter 2, as well as GHG emission reduction measures discussed in Chapter 3 of this EIR/EA are required to address the effects of the build alternatives.

Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) in coordination with the Arizona Department of Transportation (ADOT) 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). Caltrans is the lead agency under CEQA and FHWA is the lead agency under 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 Caltrans 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 practices that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures direction included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are

summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR AESTHETICS

a) No Impact

Visual impacts on scenic vistas are not anticipated, as there would be no change to the existing height of the bridge or other structural elements thereof. The new bridge would look the same characteristically as the existing bridge. The proposed improvements would not have a significant impact on a scenic vista or obscure significant views.

b), c) Less Than Significant With Mitigation Incorporated

The project is located on I-40 between at the state line of San Bernardino County, California and Mohave County, Arizona. The project area consists of the Colorado River, a few single-family residences, commercial resort, and gas line utility station. I-40 is on the State Scenic Highway Eligibility list as eligible, not officially designated. Notable scenic resources within the project corridor include the Old Trails Bridge which was added to the National Register of Historic Places in 1988. The project would address the deteriorating and outdated bridge and would provide standard median, lane, and shoulder widths for safer vehicular and bicycle travel. By retaining the open sky aspect, the bridge would preserve the picturesque views of the Colorado River, surrounding mountain ranges and nearby bridges. Based on the VIA prepared for the project, the existing I-40 bridge does not compliment or reflect the built, natural, or cultural richness of the surrounding area. With the build alternatives open railing design and enhanced aesthetic elements, the proposed bridge would substantially lessen the negative visual impacts to the project corridor. In addition to standard erosion control treatments, landscape mitigation measures would be implemented to return the surrounding landscape to its existing condition.

Build Alternatives 2 and 3 would result in additional disturbed soils areas due to bridge realignment construction. The visual resource changes, including the open sky quality of the proposed bridge design, aesthetic enhancements, and restorative landscape treatments, would positively impact the collective viewer response in the project corridor. With implementation of the measure below, the impacts to scenic resources would be less than significant with mitigation incorporated.

VIS-1 All ground disturbance in the surrounding landscape would be returned to its existing condition or visual quality with concurrence of the District Landscape Architect.

d) No Impact

The project would not create a new lighting source in an area in which there is currently no lighting. There are no additional lanes or increase in roadway capacity with implementation of the project. As such, no new source of light or glare would be anticipated, compared with existing conditions.

3.2.2 Agriculture and Forest Resources

<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p>				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR AGRICULTURE AND FOREST RESOURCES

a), b), c), d), e) No Impact

As discussed in the Farmland section in Chapter 2, the project would not involve temporary or permanent impacts on Williamson Act contract lands and would not conflict with existing zoning for agricultural uses. There are no agricultural lands located within the project site. Due to the lack of FMMP important farmlands within the project area in California and no soil types being designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland within the project area in Arizona, impacts to important farmland are not anticipated.

3.2.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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) No Impact.

The project is located in the Mojave Desert Air Basin (MDAB), within the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD) and the California Air Resources Board (CARB). MDAQMD is the primary agency responsible for writing the air quality attainment plans, which provides the blueprint for meeting state and federal ambient air quality standards, in cooperation with the Southern California Association of Governments (SCAG), local governments, and the private sector. MDAQMD prepares and updates the air quality plans for various pollutants with emissions inventories, based on data from SCAG, including the regional transportation planning documents prepared by SCAG.

As discussed in Section 2.2.6, the project would not change any land use designations, require any general plan amendments, or increase regional vehicle miles traveled. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan, and there would be no impact.

b), c) Less than Significant Impact.

The project is within a nonattainment area for the federal and state particulate matter with a diameter of 10 microns or less (PM₁₀) standards, the federal and state ozone standards, and the state particulate matter with a diameter of 2.5 microns or less (PM_{2.5}) standard.

As discussed in Section 2.2.6, the operation of the project would not exceed the MDAQMD's significance thresholds. In addition, the project would not change any land use designations, require any general plan amendments, or increase regional vehicle miles traveled. During

construction, the project would be required to comply with MDAQMD rules and regulations to reduce construction-related emissions to the extent feasible. Therefore, the project's impact on regional air quality emissions would be less than significant. In addition, with implementation of these standard measures, the project would not expose sensitive receptors to substantial pollutant concentrations.

d) No Impact.

According to the ARB, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. Because the project would not include any of these types of uses, no impacts would occur.

3.2.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR BIOLOGICAL RESOURCES

a) Less Than Significant With Mitigation Incorporated and Unavoidable Impact.

As detailed in the Threatened and Endangered Species section in Chapter 2, Section 2.2.14, the project would impact candidate, threatened, and/or endangered species that have a potential to occur within the BSA as discussed in question “a” above: bonytail chub (federally and state endangered), razorback sucker (federally and state endangered, CDFW fully protected), western yellow-billed cuckoo (federally threatened and state endangered), southwestern willow flycatcher (federally and state endangered), California black rail (state threatened, CDFW fully protected), Yuma Ridgway’s rail (federally endangered and state threatened, CDFW fully protected), Arizona Bell’s vireo (state endangered), monarch butterfly (federal candidate species), Mojave desert tortoise (federally and state threatened), and

northern Mexican gartersnake (federally threatened). In addition, 9 non-listed special-status plant species and 36 non-listed special-status wildlife species have a potential to occur within the BSA and could be impacted by the project (see Chapter 2, Sections 2.2.12 and 2.2.13 for details). Project impacts include permanent removal and temporary disturbance of suitable habitat, direct mortality and injury during vegetation clearing and grading, and indirect impacts (e.g., edge effects and degradation of habitat through dust, water pollution, introduction of invasive species, noise, human presence, increased fire risk). Because the project could result in take or removal or modification of habitat for species identified as candidate, sensitive, or special-status species by CDFW and USFWS, these impacts would be potentially significant. With implementation of mitigation measures **TE-3** (Section 2.2.14), as well as avoidance and minimization measures **NC-1** through **NC-3** and **NC-6** through **NC-8** (as detailed in Section 2.2.10), **PS-1** through **PS-2** (Section 2.2.13), **AS-1** through **AS-6** (Section 2.2.13), and **TE-1** through **TE-2** and **TE-4** through **TE-8** (Section 2.2.14) the impacts on bonytail chub, western yellow-billed cuckoo, southwestern willow flycatcher, Arizona Bell's vireo, monarch butterfly, Mojave desert tortoise, northern Mexican gartersnake, razorback sucker, California black rail, Yuma Ridgeway's rail, and non-listed special-status species would be reduced and would be less than significant with mitigation incorporated. However, even with the incorporation of the aforementioned measures, impacts on razorback sucker, California black rail, and Yuma Ridgeway's rail would remain significant and unavoidable because these species are CDFW fully protected, and the proposed project would result in take. Therefore, impacts on razorback sucker, California black rail, and Yuma Ridgeway's rail are unmitigable. A compensatory mitigation plan will still be prepared for razorback sucker and Yuma Ridgeway's rail on the federal level for project-related impacts, but because these species are CDFW fully protected, impacts will remain significant and unavoidable at the state level because CDFW fully protected species may not be taken or possessed at any time.

Senate Bill 147 was signed July 10, 2023 and is valid until December 31, 2033. The bill amended sections 395, 3511, 4700, 5050, and 5515 of the Fish and Game Code and added Section 2081.15. The bill authorizes the California Department of Fish and Wildlife (CDFW) to issue an 2081 Incidental Take Permit for fully protected species using the permitting structure in CESA that would authorize the take of a fully protected species resulting from impacts attributable to the implementation of critical infrastructure projects if certain conditions are satisfied. Because razorback sucker, California black rail, and Yuma Ridgeway's rail are CDFW fully protected species, Caltrans, in coordination with CDFW, may apply for a 2081 Incidental Take permit under California Endangered Species Act (CESA) for these species. At this time, the impacts analysis is limited based on the design information and additional analysis is forthcoming in the design phase Caltrans is pursuing a project specific, one-time exemption to the California Fish and Game Code (CFGC) § 3511, 4700, and/or 5515, and amendment of CFGC § 2081 that would allow the incidental take of fully protected species. The exemption will be introduced as an Assembly Bill to the California state legislature. If approved the legislation will allow the California Department of Fish and Wildlife to issue a 2081 permit to Caltrans for the purpose of this project.

- TE-3:** To address effects on federal and state listed species, and if determined necessary for impacts to the species, it will be addressed, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.

b) Less Than Significant With Mitigation Incorporated.

As detailed in the Natural Communities section in Chapter 2, Section 2.2.10, the project would temporarily disturb 0.28 acre of the blue palo verde woodland sensitive natural community under Build Alternatives 1, 2, and 3, as discussed in question “b” above. This is a potentially significant impact due to the limited distributions of this community and its potential to support special-status plants and/or wildlife. With implementation of mitigation measure **NC-4**, summarized below and detailed in Section 2.2.10.4, as well as avoidance and minimization measures **NC-1** through **NC-3** and **NC-5** through **NC-8** (described in Section 2.2.10.4), the impacts on sensitive natural communities would be less than significant with mitigation incorporated.

NC-4: If the CDFW Sensitive Natural Communities cannot be avoided, then this habitat will be restored on site via planting and/or seed mix. (Caltrans District 8 Measure BIO-General-PSM-17: Restoration).

c) Less Than Significant with Mitigation Incorporated.

As detailed in the Wetlands section in Chapter 2, Section 2.2.11, the project would impact wetlands and jurisdictional aquatic resources as discussed in question “c” above. The project would permanently remove and/or temporarily disturb USACE/RWQCB non-wetland WoUS, USACE/RWQCB wetlands, CDFW streambed, and CDFW riparian under all three build alternatives, as shown in Table 3.1 below (see Table 2.35 in Section 2.2.11.3 for temporary and permanent impacts on each individual feature). This is a potentially significant impact due to the quality of aquatic resources and declining health of wetlands and jurisdictional aquatic resources remaining in California.

Table 3-1, Summary of Temporary and Permanent Impacts to Jurisdictional Aquatic Resources by Build Alternative

Build Alternative	USACE/RWQCB WoUS/WoS Non-Wetland Waters		USACE/RWQCB WoUS/WoS Wetland		CDFW Streambed		CDFW Riparian	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
1	3.37	0.09	0.56	--	3.43	0.09	4.32	0.06
2	3.88	0.09	0.56	0.00	3.95	0.09	4.36	0.12
3	3.53	0.09	0.55	--	3.60	0.09	4.23	0.09

“--” indicates no impact; “0.00” indicates < 0.001-acre impact.

With the implementation of mitigation measure **WET-3** below, as well as avoidance and minimization measures **WET-1** through **WET-2** (described in Section 2.2.11.4), and **NC-1** through **NC-2** (Section 2.2.10.5), the impacts on wetlands and jurisdictional aquatic resources would be less than significant with mitigation incorporated.

WET-3: To address effects on jurisdictional aquatic resources, jurisdictional areas may be mitigated and coordinated with USACE, RWQCB, ADEQ, and CDFW during the permitting process. Compensatory mitigation for permanent impacts is potentially anticipated, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu

fee program credits, and/or other mitigation acceptable to the resource agencies involved.

d) Less Than Significant With Mitigation Incorporated.

As detailed in the Corridors and Linkages subsections of the Natural Communities section in Chapter 2, Section 2.2.10, the project would temporarily affect existing wildlife movement corridors and wildlife movement within the BSA and project region, including temporary reduction in passable area of crossings and increased noise and light disturbances. Measure **NC-6** (described in Section 2.2.10.4) would avoid or minimize any potential impacts on wildlife crossings and movement. Thus, the impact/ would be less than significant with mitigation incorporated. No compensatory mitigation would be required.

Trees, shrubs, and structures are present throughout the project site that could provide suitable habitat for nesting birds, including raptors, protected by the MBTA or CFG Code sections. The project has the potential to impact active native resident and/or migratory bird nests if, and to the extent that, those trees and shrubs are trimmed or removed, or the structures are demolished, during the avian nesting season and they contain nests. Construction could also occur adjacent to active nests causing nest failures or abandonment. Measures **NC-7** and **NC-8** (Section 2.2.10.4), and **AS-2** through **AS-3** (Section 2.2.13.4) would avoid or minimize any potential impacts on nesting birds. Thus, the impact would be less than significant with mitigation incorporated. No compensatory mitigation would be required.

e) No Impact.

This project will not conflict with any local policies or ordinances protecting biological resources, as described below.

California Desert Native Plant Act and San Bernardino County Development Code. Although not considered rare, certain plant species are regulated by the California Desert Native Plant Act and by the Desert Native Plant Protection Code under the San Bernardino County Development Code (SBCDC) (Section 88.01.060). These include, but are not limited to, all species of mesquite, palo verde, cacti, catclaw, ironwood, yucca, ocotillo, and candlewood. Unless exempt, permits are required to remove, cut, harvest, and/or destroy native plant species regulated under these provisions.

Cholla (*Cylindropuntia bigelovii*, *C. echinocarpa*), California barrel cactus (*Ferocactus cylindraceus*), common fish hook cactus (*Mammillaria tetrancistra*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), mesquite (*Prosopis pubescens*, *P. glandulosa*), catclaw (*Senegalia greggii*), smoke tree (*Psoralea spinosa*), and blue palo verde trees were detected within the BSA. All of these species are regulated by the CDNPA and SBCDC. However, Caltrans is exempt from the CDNPA under Chapter 5, Section 80117 and from the SBCDC under Section 88.01.030. No further action is necessary.

Plant Protection and Management, San Bernardino County Development Code. Under the SBCDC, mature native trees (i.e., six inch or greater stem diameter or 19 inch DBH) and heritage palm tree plantings (i.e., three or more palm trees in linear plantings, which are 50 feet or greater in length within established windrows or parkway plantings) are considered regulated trees and are protected under Section 88.01.070 of the SBCDC. Riparian plants, including vegetation that is within 200-feet of the bank of a stream or in an area indicated as a protected riparian area on an overlay map or Specific Plan, are also protected under Section 88.01.080 of

the SBCDC. However, Caltrans is exempt from the SBCDC under Section 88.01.030. No further action is necessary.

f) Less Than Significant with Mitigation Incorporated.

As detailed in the Lower Colorado River Multi-Species Conservation Plan subsections of the Natural Communities section in Chapter 2, Section 2.2.10, the project may conflict with the goals and conservation measures outlined in the LCR MSCP to protect Covered Species under the Plan. Implementation of avoidance and minimization measures **NC-1 through NC-3 and NC-5 through NC-8** (Section 2.2.10.5), and **WET-1 through WET-3** (Section 2.2.11.4) shall ensure that the project will follow and be in compliance with the LCR MSCP. No further action is needed.

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

3.2.5 Cultural Resources

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

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

a), b) Less Than Significant with Mitigation Incorporated

As indicated in the Cultural Resources section in Chapter 2, there are cultural resources within the APE that were previously determined eligible for inclusion in the NRHP: CA-SBR-000219 (Topock Maze/Topock Traditional Cultural Property), CA-SBD-6693H/AZ I:14:334 (ASM) BNSF/ATSF Railroad, Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66, and Old Trails Arch Bridge (P-36-027678). The following cultural resources within the APE were not evaluated as a result of the project and are considered to be eligible for inclusion in the NRHP because they can be protected in their entirety.

Tthrough the establishment of an ESA: CA-SBR-11910/H, and AZ L:7:81 (ASM). Implementation of measures **CR-1** through **CR-4**, and **CR-11** would be implemented to avoid or minimize potential effects on undocumented cultural materials. Implementation of mitigation measures **CR-5** through **CR-7** would lessen the effects to NOTH/Route 66 Segments 4 and 5. As indicated in the Cultural Resources section in Chapter 2, CA-SBR-00219 (Topock Maze/Topock Traditional Cultural Property) has been determined eligible for inclusion in the NRHP under Criterion A and Criterion D. FHWA in cooperation with Caltrans and Arizona Department of Transportation (ADOT) has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the project will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property under Alternatives 1, 2, and 3 because of anticipated indirect effects during construction. In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) was executed on November 9, 2023 in order to mitigate these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories. The MOA was executed on November 9, 2023. The project will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (no build) (36 CFR §800.5). Cultural resources within the APE previously determined eligible for inclusion in the NRHP include: CA-SBD-6693H/AZ I:14:334 (ASM) BNSF/ATSF Railroad, Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66, and Old Trails Arch Bridge (P-36-027678). The following cultural resources within the APE were not evaluated as a result of the project and are considered to be eligible for inclusion in the NRHP because they

can be protected in their entirety through the establishment of an ESA: CA-SBR-11910/H, and AZ L:7:81 (ASM). Implementation of measures **CR-1** through **CR-4** would be implemented to avoid or minimize potential effects on undocumented cultural materials. Implementation of mitigation measures **CR-5** through **CR-7** would lessen the effects to NOTH/Route 66 Segments 4 and 5.

CR-1: Stop work if buried cultural resources are encountered during construction until a qualified archaeologist can evaluate the nature and significance of the find. In the event that human remains, including isolated, disarticulated bones or fragments, are discovered during construction-related activity, cease work in the vicinity of the human remains.

CR-2: In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 50 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 Descendent (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

CR-3: Environmentally Sensitive Areas (ESAs) exist and shall protect resources in place for the duration of the Project. The ESAs will be marked on Plans and delineated in the field by an Archaeologist from the Department.

CR-4: An Archaeological Monitor will be assigned to monitor construction related activities within the Archaeological Monitoring Area (AMA). No work shall occur within the AMA unless the Archaeological Monitor is present. If archaeological resources are discovered within the AMA, compliance is required with Standard Plans Section 14-2.02.

As indicated in the Cultural Resources section in Chapter 2, there are cultural resources within the APE that were previously determined eligible for inclusion in the NRHP: CA-SBR-000219 (Topock Maze/Topock Traditional Cultural Property), CA-SBD-6693H/AZ I:14:334 (ASM) BNSF/ATSF Railroad, Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66, and Old Trails Arch Bridge (P-36-027678). The following cultural resources within the APE were not evaluated as a result of the project and are considered to be eligible for inclusion in the NRHP because they can be protected in their entirety through the establishment of an ESA: CA-SBR-11910/H, and AZ L:7:81 (ASM). Implementation of measures **CR-1** through **CR-4** would be implemented to avoid or minimize potential effects on undocumented cultural materials. Implementation of mitigation measures **CR-5** through **CR-7** would lessen the effects to NOTH/Route 66 Segments 4 and 5.

CR-5: Repair of the pavement on CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway/Route 66 (NOTH/66) CA and AZ Segments 4 and 5 will be conducted according to the Secretary of the Interior's Standards (SOIS): Any pavement repair will conform to the existing profile, width, etc. Similar or identical paving techniques as the existing will be utilized such as materials type and aggregate size. Paving plans and specifications shall be reviewed and approved by the Caltrans PQS Principal Architectural Historian for compliance.

CR-6: The historic period 1950s guardrails impacted by the project will be salvaged and re-used as practical. If guardrail cannot be reused, stained or painted Midwest Guardrail System type will be used. If guardrail cannot be salvaged, an alternative rail will be chosen in consultation with the Caltrans PQS Principal Architectural Historian to ensure that it is compatible with the

massing, size, scale, and architectural features of the 1950s guardrail to protect the historic integrity of the property and its environment.

CR-7: The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and Specifications shall be reviewed by Caltrans PQS Principal Architectural Historian for compliance.

Mitigation measure **CR-10** was developed as part of the preparation of the Memorandum of Agreement.

CR-10: The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places.

CR-11: Tribal monitors will work alongside the archaeological monitors during construction related activities within the archaeological monitoring area (AMA).

C) No Impact

No human remains were discovered during field surveys conducted for the project, and no formal cemeteries are located within the project site. In the event that previously unknown buried human remains are encountered during construction, compliance with Caltrans standard features, **CR-1** and **CR-2**, would avoid and minimize potential impacts to previously unknown human remains. Impacts would be considered less than significant in this regard.

3.2.6 Energy

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

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

a), b) No Impact.

The project would use a minimal amount of energy during construction (e.g., excavation, cut-and-fill road work, demolition, and other related activities). Construction-related effects related to energy would very likely be greatest during the site preparation phase because of the energy use associated with excavation and transporting soil to and from the site. However, such construction activities would be short term in duration and, therefore, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction.

During operation, the project would accommodate existing traffic demand but would not create new demand, either directly or indirectly. The project would also not reduce congestion and/or improve the level of service with respect to traffic. As such, operation of the project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

The project is located within the area of San Bernardino County identified in California's Desert Renewable Energy Conservation Plan (DRECP) as potentially suitable for renewable energy development (California Energy Commission 2010). However, the project will be replacing an existing bridge without increasing the capacity of I-10. As such, the project would not result in a significant impact with respect to obstructing a state or local plan regarding renewable energy or energy efficiency. Therefore, no impacts would occur.

3.2.7 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 checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR GEOLOGY AND SOILS

b) i) No Impact.

There are no documented faults within the project footprint and the project site is not located within a California Geological Survey's (CGS) Earthquake Zones of Required Investigation. The nearest fault in California is located approximately 330 feet southwest of the existing Colorado

River Bridge and is characterized as an unnamed thrust fault. The next closest faults are the Needles graben faults located 6 miles to the northeast in Mohave County, Arizona (Stantec 2021). Therefore, the likelihood of the project experiencing potential impacts associated with the rupture of a known earthquake fault is considered negligible. No impact would occur.

a) ii) Less Than Significant Impact.

Due to potential seismic activity associated with faults in the region, including the unnamed thrust fault and the Needles graben faults described under threshold ai), the project site could experience strong seismic shaking and structures constructed as part of the project could be potentially subject to impacts. However, the project would be designed in accordance with Caltrans and the Arizona Department of Transportation (ADOT) requirements, and the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications and California Amendments. In addition to those requirements, a detailed, project-specific geotechnical investigation (**GEO-1**) and Foundation Report (**GEO-2**) would be conducted prior to construction and would ensure that geologic hazard conditions (including the potential for strong seismic shaking to occur) are considered in the project design. Impacts would be less than significant.

a) iii) Less Than Significant Impact.

Liquefaction occurs when saturated, low-density, loose materials are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Liquefaction potential is affected by composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

Within the project site, depth to groundwater varies mostly between 60 feet below ground surface (bgs) to 110 feet bgs, with shallower depths occurring with proximity to the Colorado River. Shallow groundwater depths along with the availability of artificial fill in some areas of the project site have the potential to experience liquefaction during seismic activity. However, as previously mentioned, the project would be designed in accordance Caltrans and the ADOT requirements. In addition, a detailed project-specific geotechnical investigation and Foundation Report (mitigation measures **GEO-1** and **GEO-2**) would be conducted prior to construction and would ensure that geologic and soils conditions are considered in project design, including those that could present the potential for liquefaction. Recommendations found in both the project-specific geotechnical investigation and Foundation Report would be implemented and thus, impacts would be less than significant.

a) iv) No Impact.

As mentioned in section 2.2.3 Geology/Soils/Seismic/Topography landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and/or the earth materials are too weak to support themselves. Depending on onsite topography, earthquake-induced landslides may also occur due to seismic ground shaking.

Elevations within the project site (on both sides of the Colorado River) were identified as being 520 feet above sea level with no steep slopes. Thus, the potential for landslides to occur is considered low. No impacts would occur.

b) Less Than Significant Impact.

Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces. Construction activities associated with the project could create conditions that may experience soil erosion. The construction contractor would be required to obtain NPDES (National Pollution Discharge Elimination System) coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (Construction General Permit) (State Water Resources Control Board 2020) and the AZPDES Construction Activity General Permit (Arizona Department of Environmental Quality 2021). The Construction General Permit and Construction Activity General Permit require the development and implementation of a SWPPP, which includes Best Management Practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion and loss of topsoil. BMPs can include silt fences, straw wattles, sediment traps, gravel sandbag barriers, etc. Erosion management would be implemented during and after construction. Impacts would be less than significant.

c) Less Than Significant Impact.

The potential for liquefaction and landslides is discussed under thresholds aiii) and aiv) above. As mentioned in section 2.2.3 Geology/Soils/Seismic/Topography, compressible soils are those that undergo settlement upon wetting (with or without an additional load), known as hydrocompaction. Compressible soils are generally associated with alluvial fans, windblown materials, or colluvium. Soil compression can occur when the land surface is saturated to depths greater than those reached by typical rain events. Land subsidence is a gradual settling or sudden sinking of the Earth's surface due to removal or displacement of subsurface earth materials. The principal causes of subsidence typically include: (a) aquifer-system compaction associated with groundwater withdrawals; (b) drainage of organic soils; (c) underground mining; and (d) natural compaction or collapse, such as with sinkholes or thawing permafrost.

As mentioned in section 2.2.3 Geology/Soils/Seismic/Topography, the project area is underlain by artificial fill, dredged sands, alluvium, etc. Thus, there is potential for compression to occur, however, the project would be designed in accordance with the requirements of Caltrans and the ADOT. Furthermore, a detailed project-specific geotechnical investigation and Foundation Report (**GEO-1** and **GEO-2**) would be conducted prior to construction and would ensure that geologic and soils conditions are considered in project design, including the potential for soil compression to occur. According to the USGS's Areas of Land Subsidence in California and the Arizona Department of Water Resources' Land Subsidence Areas in Arizona, the project site is not located in an area of recorded subsidence. Impacts would be less than significant.

d) Less Than Significant Impact.

As previously mentioned, the project area is underlain by artificial fill, dredged sands, conglomerate and floodplain and deltaic deposits, and could contain varying amounts of clays. Expansive soils are soils containing high plasticity clays that can undergo an increase in volume with an increase in water content, as well as a significant decrease in volume with a decrease in water content. This increase/decrease in volume can result in distress for structures constructed on or against the soils.

The project would be designed in accordance with the requirements of Caltrans and the ADOT. Additionally, a detailed project-specific geotechnical investigation and Foundation Report (mitigation measures **GEO-1** and **GEO-2**) would be conducted prior to construction and would ensure that soil conditions are considered in project design, including the potential for expansion in soils within the project footprint. Impacts would be less than significant.

e) No Impact.

The project proposes to replace the Colorado River Bridge spanning the California/Arizona state line on I-40 in San Bernardino County (California) and in Mohave County (Arizona). The project does not feature the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

f) No Impact.

Based on the San Bernardino County Policy Plan and Mohave County General Plan, the project site is not specifically identified as being within a paleontological resources area or an area having unique geological features.

3.2.8 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<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 type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR GREENHOUSE GAS EMISSIONS

a) Less Than Significant Impact.

Construction activities would generate approximately 5,000 metric tons of CO₂e over the approximately 28-month construction period, while project operations would not result in any increase in GHG emissions. Because the project will improve the safety and integrity of the bridge without increasing roadway capacity, there would be no increase in long-term GHG emissions due to project operations, environmental impacts resulting from project GHG emissions are considered to be less than significant.

b) No Impact

Caltrans continues to be involved on the Governor’s Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. Caltrans remains committed to implementing measures to reduce the potential effects of the project. Caltrans is also involved in other major initiatives that are underway to help meet these targets, as discussed in detail in Section 3.4, Climate Change. As such, the project would not be conflicting with any applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions.

3.2.9 Hazards and Hazardous Materials

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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) Less Than Significant Impact.

Construction activities associated with the project would involve the handling of hazardous materials such as fuels, solvents, paints, oils, and grease. These materials are typically used in construction projects and would not include the use of acutely hazardous materials (i.e., substances listed in 40 CFR 355 Appendix A: Extremely Hazardous Substances and Their Threshold Planning Quantities). The handling of hazardous materials would be compliant with applicable Federal, State and local regulations, as well as Caltrans policies. Releases involving common construction materials would typically be small and localized, and spills would be contained and cleaned according to the Safety Data Sheet (SDS). A hazardous material SDS would include accidental release clean up measures such as appropriate techniques for neutralization, decontamination, cleaning or vacuuming, and adsorbent materials, etc.

Projects requiring greater than 1 acre of soil disturbance (including the proposed project) would be required to obtain coverage under both the California State Water Resources Control Board's Construction General Permit Order No. 2009-0009-DWQ and the Arizona Department of Environmental Quality's Construction Activity General Permit. Both permits would require the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) intended to regulate and prevent contamination of stormwater runoff, including by the potential release of hazardous materials. Therefore, potential impacts associated with the use, transport, storage, and disposal of hazardous materials would be less than significant. No mitigation is required.

b) Less Than Significant With Mitigation Incorporated.

According to the 2021 ISA, there were no hazardous materials sites located within the project's footprint. Furthermore, a supplemental search of CalEPA's Cortese List Data Resources conducted during the preparation of this section did not identify any sites meeting Cortese List requirements within the project footprint (also mentioned as part of threshold d., below).

Hazardous Material Sites

A hazardous materials site with a potential for contaminated soil and/or groundwater exists adjacent to the project area. A summary of the hazardous materials sites located adjacent to the project area are included in section 2.2.4.2 Affected Environment. As mentioned, the Topock Compressor Station's cooling tower wastewater was discharged into the Bat Cave Wash adjacent to the compressor station site from 1951 to 1964. Subsequently, treated wastewater was discharged into ponds for storage and evaporation until 1985. Additionally, a hexavalent chromium groundwater plume extends below the western portion of the project area. Investigations conducted onsite (Stantec 2023) identified levels of various contaminants in soil, within and adjacent to the project area and within the existing Caltrans right-of-way. Contaminants identified in the investigations include Title 22 heavy metals, sodium, PAHs, TPH, PCBs, and SVOCs. However, none of the reported concentrations of contaminants with the exception of arsenic was above residential and commercial human health screening levels. However, arsenic occurs naturally in California soils and levels (2.5 to 7.8 mg/kg) are consistent with DTSC Southern California regional upper bound background arsenic concentrations of 12 mg/kg (Stantec, 2023).

Construction activities as part of the project could encounter contaminated groundwater or contaminated soils associated with the historical operation of PG &E Topock Compressor Station. However, implementation of measure **HAZ-1** and **HAZ-8** would protect construction personnel and the surrounding environment from the potential adverse effects associated with encountering contaminated groundwater or contaminated soils during construction activities.

Construction activities as part of the proposed project could encounter contaminated groundwater. However, implementation of measure **HAZ-1** would protect construction personnel and the surrounding environment from the potential adverse effects associated with encountering contaminated groundwater during construction activities.

Mitigation Measure HAZ-1

As part of the implementation of measure **HAZ-1**, a groundwater sampling program will be conducted if construction work requires infrastructure that will enter groundwater or generate

wastewater or saturated soils as a result of construction activities, further assessment (via sampling) should be conducted at the locations where such work would occur. If construction dewatering is required, an evaluation of plume migration and treatment and disposal shall be conducted.

Mitigation Measure HAZ-8

Measure HAZ-8 will be implemented due to historical operation of the PG&E Topock Compressor Station prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. To protect workers during construction, discolored soil and potential waste debris encountered during construction should be tested for metals, dioxin, PCB, and asbestos containing material within California limits from the end of the bridge deck to the Park Moabi Road exit.

Furthermore, monitoring wells as part of existing groundwater remediation activities located within the project area will need to be preserved during construction activities, however, if removal is necessary due to construction, wells will need to be abandoned and reinstalled under purview of the RWQCB.

Hazardous Building Materials and Aerially Deposited Lead

Construction activities associated with the project would involve the demolition of existing buildings and structures; therefore, hazardous structural materials such as lead-based paint and asbestos may be encountered during these activities. The Site Investigation (Stantec, 2023) detected concentrations of asbestos in the leveling shims of the Colorado River Bridge. Implementation of measures **HAZ-2** and **HAZ-3** would require an Asbestos Compliance Plan (ACP) and NESHAP notification. In addition, lead paint was identified on the metal support beams of the Colorado River Bridge during the Site Investigation. Measure **HAZ-5** will be implemented to mitigation impacts from lead paint.

The IS report (Stantec, 2023) identified the presence of aerially deposited lead (ADL) in soil resulting from the historical combustion of leaded gasoline along the I-40 corridor. The presence of ADL in soils may pose a potential concern to the environment and on-site workers during construction activities and may result in disposal consideration if removed off site. As part of measure **HAZ-4**, a lead compliance plan will be required by the contractor.

If project work included the removal and/or upgrade of guard rail or removal of signposts, **HAZ-6** will be implemented for the disposal of treated wood waste. In addition, a pile of railroad ties was observed in the southeast portion of the project area adjacent to Oatman Highway. As railroad ties are typically treated with creosote and chromated copper arsenate (for preservation), they require proper removal and disposal (prior to construction) in accordance with applicable laws and regulations.

c) No Impact. There are no schools within 0.25 mi of the project site. The closest school is Topock Elementary School, located approximately 3.75 miles north of the project area. No impacts would occur, and no mitigation is required.

d) No Impact. According to the November 2021 ISA, there were no hazardous materials listings associated with the project footprint. In addition, a supplemental search of CalEPA's Cortese List Data Resources did not identify any sites meeting Cortese List requirements within the

project footprint. No impacts would occur, and no mitigation is required. For an analysis of potential impacts associated with offsite/adjacent hazardous materials sites, see threshold b. above.

e) No Impact.

The project site is not located within an airport land use plan or within 2 mi of a public airport or public use airport. The closest airport is the Needles Airport, located approximately 7.6 miles to the northwest of the project area. No impacts would occur, and no mitigation is required.

f) Less Than Significant Impact.

During construction, fire and police response time delays in the project area may occur. However, these are temporary impacts, occurring only during the construction of the project, and would be substantially minimized through the implementation of a Transportation Management Plan (TMP). As with most construction projects, the project would result in temporary road detours and access restrictions during construction. However, the project does not include any long-term characteristics (e.g., permanent road closures) that would physically impair or otherwise interfere with emergency response or evacuation in the vicinity. If lane closures are required, they would be on a temporary basis. All large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic. Impacts would be less than significant and no mitigation is required.

g) No Impact.

According to the California Department of Forestry and Fire Protection's (CalFIRE) Very High Fire Hazard Severity Zones in LRA SE San Bernadino County the project site is not located in a Very High Fire Hazard Severity Zone. Additionally, the Arizona Department of Forestry and Fire Management Wildfire Risk Assessment Portal, the wildfire threat in the project area east of the Colorado River is located in low to moderate risk area. However, the project proposes to replace the Colorado River Bridge spanning the California/Arizona state line along Interstate 40 and does not include features that would expose people or property to new increased wildland fire risks. No impacts would occur, and no mitigation is required.

3.2.10 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR HYDROLOGY AND WATER QUALITY

a) Less Than Significant Impact.

Soils excavated during construction activities would be exposed and there would be an increased potential for soil erosion compared to existing conditions. The acreage of disturbed soils areas associated with the Build Alternatives are anticipated to be approximately 3.4 acres for Build Alternative 1, 16.7 acres for Build Alternative 2, and 14.8 acres for Build Alternative 3. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction with the potential to be transported via storm runoff into receiving waters.

The project would be required to comply with applicable NPDES permits for construction (Construction General Permit) and operation (Caltrans Municipal Separate Storm Sewer Systems [MS4] Permit) to reduce pollutants in storm water. In compliance with the NPDES permits, BMPs would be implemented during construction and operation of the project. The BMPs would target and reduce pollutants of concern in storm water runoffs. Standard water quality protection measures **WQ- 1** through **WQ-4** (described in section 2.2.1 Hydrology and Floodplain) would ensure that the project would not violate water quality standards or waste discharge requirements or substantially degrade surface water quality. Impacts would be less than significant, and no mitigation is required.

Construction dewatering as part of project implementation is expected to occur as needed. Potential pollutants during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Construction BMPs would be implemented to target these pollutants of concern, minimizing the potential impacts to surface and exposed groundwater during dewatering. Construction BMPs along with permanent Design Pollution Prevention and treatment BMPs will be identified (and updated) in the Storm Water Data Report (SWDR) during the Project Approval and Environmental Document (PA&ED) and Plans, Specifications, and Estimate (PS&E) phases of the project. With the implementation of Construction BMPs, the Build Alternatives would not result in any water quality impairments during construction. Thus, it is not expected that storm water that may infiltrate during project construction or operation would affect groundwater quality. Because it is unlikely that pollutants will reach the groundwater, the project would not violate groundwater quality standards or waste discharge requirements or substantially degrade groundwater quality. Impacts would be less than significant, and no mitigation is required.

b) No Impact.

As mentioned above, construction dewatering as part of project implementation is only expected to occur as needed and would not be required during operation. Therefore, the project would not substantially decrease groundwater supplies, interfere with groundwater recharge, or impede sustainable groundwater management of the Needles Valley Groundwater Basin. No significant groundwater supply impacts would occur, and no mitigation is required.

c) i) Less Than Significant Impact.

Soil would be disturbed, and drainage patterns temporarily altered during grading, excavation, and other construction activities. Consequently, there would be an increased potential for onsite and downstream erosion and siltation compared with existing conditions. However, the project would comply with the Construction General Permit as described in threshold a) above. The Construction General Permit requires preparation of a SWPPP and implementation of erosion and sediment control BMPs to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation.

Additionally, storm water runoff from the project site would be treated with Treatment BMPs. Treatment BMPs shall be sized and designed to retain and infiltrate the water quality volume and would not result in an increase in velocity or volume of downstream flow. Treatment BMPs can include infiltration basins and biofiltration swales, while Design Pollution Prevention BMPs can include preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization and replanting of vegetation) concentrated flow conveyance systems, and low-impact design (LID) efforts. With implementation of Treatment BMPs and Design Pollution

Prevention BMPs, impacts related to on- or off-site erosion would be less than significant. No mitigation is required.

c) ii) Less Than Significant Impact.

Construction activities would alter the on-site drainage pattern, potentially compact on-site soils, and increase the potential for flooding compared to existing conditions. As discussed previously, construction activities would comply with the Construction General Permit, which requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the project to manage storm water during construction. Proper management of storm water during construction would reduce impacts associated with flooding.

c) iii) Less Than Significant Impact.

Implementation of the build alternatives would not increase peak storm flows such that they would impact downstream drainage facilities. Compliance with the Construction General Permit would minimize incremental pollutant loading associated with construction and implementation of construction BMPs would reduce pollutants of concern in stormwater runoff. As such, impacts related to the exceedance of capacity of a stormwater drainage system or additional sources of polluted runoff would be less than significant.

c) iv) Less Than Significant Impact.

The project area is primarily within a Flood Hazard area indicating the 1 percent annual chance of flood (100-year flood), Zone A, Without Base Flood Elevation and Regulatory Floodway. The project would result in the replacement of the existing Colorado River Bridge and would not impede or redirect flood flows. Runoff from the bridge would likely be collected on the shoulders of the new bridge and conveyed to the north and south sides of the bridge, similar to existing conditions. A Final Hydraulic Report would be prepared as part of the project in order to analyze and determine hydrologic impacts, including changes in flow rates.

d) Less Than Significant Impact.

Due to the distance of the project site from the ocean, there is no foreseeable risk of tsunami inundation. The project area is primarily within a Flood Hazard area indicating the 1 percent annual chance of flood (100-year flood), Zone A, Without Base Flood Elevation and Regulatory Floodway. However, the project is an existing transportation facility and would not introduce a new use that would substantially change the pollutants that currently exist in the project area. Furthermore, the project would include operational BMPs to reduce pollutants from the transportation uses associated with the project. As such, the project would not substantially increase the risk of release of pollutants resulting from inundation.

e) Less Than Significant Impact.

The project would comply with the applicable NPDES permits and implement construction and operational BMPs to reduce pollutants of concern in stormwater runoff so that the project would not degrade water quality or conflict with or obstruct implementation of a water quality control plan.

3.2.11 Land Use and Planning

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

CEQA SIGNIFICANCE DETERMINATIONS FOR LAND USE AND PLANNING

a), b) No Impact.

The project would replace the existing Colorado River Bridge with a bridge with standard lane and shoulder widths as well as an upgraded bridge rail system. The proposed bridge would be within the similar alignment with the existing bridge and would not divide an established community. Implementation of the project would not conflict with any land use plan, policy, or regulation. The build alternatives would be consistent with the San Bernardino County General Plan Land Use Element and the Mohave County General Plan Land Use Element.

3.2.12 Mineral Resources

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

CEQA SIGNIFICANCE DETERMINATIONS FOR MINERAL RESOURCES

a), b) No Significant Impact.

Based on the San Bernardino County, Countywide Plan, the project site is not within a MRZ 2 Class (known or highly likely location) for industrial minerals. Portions of the project area are designated as MRZ3 (moderate potential or possible location) for industrial minerals MRZ class. The project site is currently developed with an existing freeway facility and local roadways and would not result in the loss of availability of a known mineral resource that would be of value to the region.

3.2.13 Noise

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<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 checked="" type="checkbox"/>	<input 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, would the project 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"/>

a) Less than Significant Impact.

As discussed in the Noise Section 2.2.8 of Chapter 2, noise level at residential sites range from 61 dBA Leq to 68 dBA Leq, under the existing conditions for all three alternatives. Noise levels under Design-Year Build conditions would range from 61 dBA Leq to 68 dBA Leq under alternative 1, 61 dBA Leq to 67 dBA Leq under alternative 2, and 61 dBA Leq to 71 dBA Leq under alternative 3. The changes during the Design-Year Build condition relative to the existing conditions would range from a -1 dB decrease to no change under Build Alternative 1, a -3 dB decrease to no change under Build Alternative 2, and a -2 dB decrease to a 3 dB increase under Build Alternative 3. A 3 dB increase is the generally accepted threshold at which a person of normal sensitivity can begin to identify a perceptible change in noise. A 5 dB increase is considered a noticeable change. Caltrans considers a substantial increase of 12 dB in noise levels, between future build and existing conditions, to be the CEQA threshold of significance.

One residential location, under Build Alternative 3 would experience a 3 dB increase during the design year build condition relative to the existing condition. No other residential location would experience an increase of greater than 1 dB under any alternative.

No noise barriers would be constructed (under NEPA, 23 CFR 772, requirements), under any alternative as the barriers were found not to be reasonable.

No other modeled receivers would experience more than a 4 dB increase during the design year build condition relative to the existing condition. Therefore, the project would not cause significant impacts at any locations along the project corridor.

b) Less than Significant with Mitigation Incorporated.

As discussed in Section 2.2.8 of Chapter 2, the three build alternatives under consideration would replace the bridge alignment to the north, south, or replace the existing bridge alignment. The following discussion outlines impact from vibration from the project. The potential vibration impacts from pile driving were evaluated using methods and criteria provided in Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020) and assumptions used for similar construction projects.

Construction

Build Alternatives 1 and 2 (Pile Driving)

The trestle design for Build Alternatives 1 & 2 would be located near three residential (vibration-sensitive receptors); Residences A/Modeled Noise Receptor M04.01/ST04.01, B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03 in the southeastern quadrant) would be approximately 114, 480, and 600 feet, respectively, from the closest temporary trestle where pile driving would occur.

Impact pile driving from construction of the replaced or relocated bridges would result in a vibration level of 0.17 in/s PPV at the closest vibration-sensitive receptor. This vibration level would not exceed the vibration criterion of 0.5 in/s PPV for potential building damage; however, it would exceed the vibration criterion of 0.04 in/s PPV for potential human annoyance. Predicted groundborne vibration levels at the other two nearby vibration-sensitive receivers would be below both the damage and annoyance thresholds. It should be noted that, according to calculations, the maximum distance at which structural damage may occur would be 50 feet from pile driving. Therefore, because the closest pile would be 114 feet from the nearest vibration-sensitive receptor, damage is not anticipated.

Build Alternative 3 (Pile Driving)

Build Alternative 3 would replace the bridge and realign it to the south of the existing I-40 centerline. The three closest vibration-sensitive receptors (Residences A/Modeled Noise Receptor M04.01/ST04.01, B/Modeled Noise Receptor M04.02/ST04.02, and C/Modeled Noise Receptor M04.03 in the southeastern quadrant) in the southeastern quadrant) would be approximately 86, 450, and 570 feet, respectively, from the closest temporary trestle where pile driving would occur.

Impact pile driving from construction of the replaced or relocated bridges would result a vibration level of 0.24 in/s PPV at the closest vibration-sensitive receptor. This vibration level would not exceed the vibration criterion of 0.5 in/s PPV for potential building damage; however, it would exceed the vibration criterion of 0.04 in/s PPV for potential human annoyance. Predicted groundborne vibration levels at the other two nearby vibration-sensitive receiver would be below both the damage and annoyance thresholds. It should be noted that, according to calculations, the maximum distance at which structural damage may occur would be 50 feet from pile driving. Therefore, because the closest pile would be 86 feet from the nearest vibration-sensitive receptor, damage is not anticipated.

Conventional Construction Equipment

In addition to pile drivers, the proposed project alternatives would use conventional construction equipment, including large bulldozers (and other heavy earthmoving equipment that produces

similar vibration levels, such as graders and backhoes), trucks loaded with soil or construction materials, and jackhammers.

Based on the project alignment, it is anticipated that conventional construction equipment could be as close as 15 feet from the nearest vibration-sensitive receptor (Residence A/Modeled Noise Receptor M04.01/ST04.01) if Alternative 3 is chosen as the preferred alternative. Alternatives 1 and 2 would be no closer than 100 feet from Residence A/Modeled Noise Receptor M04.01/ST04.01. None of these pieces of equipment would exceed the damage criteria of 0.5 PPV. However, vibration levels may exceed the annoyance threshold of 0.04 PPV at Residence A under Alternative 3. Therefore, while damage from conventional construction equipment is not anticipated, levels of vibration could be noticeable at the nearest vibration-sensitive receptor.

Operational

No operational impacts are anticipated as the project would not result in new or increased vibration sources.

For pile driving, the potential for building damage from vibration at locations close to the activity is not expected. However, levels of vibration from pile driving are anticipated to exceed the distinctly perceptible threshold and may lead to human annoyance if the closest residence is occupied during construction. With the inclusion of mitigation measure **NOI-1** and **NOI-2** impacts associated with vibration would be reduced to less than significant.

NOI-1 **Alternatives to Pile Driving.** During construction, to the extent practical alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:

- Jetting,
- Pre-drilling,
- Cast-in-place or auger cast piles,
- Non-displacement piles,
- Pile cushioning,
- Scheduling, and/or
- Using alternative non-impact drivers.

NOI-2 Caltrans will take the following steps to avoid and minimize impacts on adjacent structures:

Prior to the start of construction, conduct a preconstruction survey to document the existing condition of nearby structures. The preconstruction survey may consist of but is not limited to documentation of nearby structures using high-definition video, photographs of the existing structures, or any other method to document existing damage or defects. Notify surrounding vibration-sensitive land uses of the expected schedule for pile driving activities.

During pile driving operations, monitor and record vibration from the activity. Monitor and record PPVs near sensitive receptors identified while the highest vibration-producing activities are taking place.

Schedule pile driving activities during times of maximum human activity and avoid pile driving during times of extreme quiet (nighttime) to the greatest extent practical.

When especially egregious activities are expected to be conducted at night, arrange motel rooms for residents living adjacent to the proposed activity when protracted vibrations approaching 0.20 in/s are expected at their residences.

Respond to and investigate complaints from nearby vibration-sensitive receptors.

Subsequent to construction, conduct a postconstruction survey to confirm that construction-related damage did not occur at nearby structures.

c) No Impact.

The project alignment is not located within the vicinity of a private airstrip or in an airport land use plan zone. Nor would the project expose people residing or working to excessive noise from aircraft or airport noise. Impacts would not occur.

3.2.14 Population and Housing

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

CEQA SIGNIFICANCE DETERMINATIONS FOR POPULATION AND HOUSING

a), b) No Impact.

The purpose of the project is to improve the safety and integrity of the existing structure by addressing deck deterioration and strengthening the girders to increase the load ratings. The project would not induce unplanned population growth, and would not result in extension of new roads or infrastructure. Furthermore, the project would not displace a substantial number of existing people or housing, and would not result in the construction of housing elsewhere.

3.2.15 Public Services

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

CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

a) No Impact.

Coordination would occur with the CHP, San Bernardino County and Mohave County Sheriff's Department, San Bernardino County Fire Protection District, and Desert Hills Fire. After completion of the project, the safety of the traveling public would be enhanced due to standard lane and shoulder widths as well as an upgrade to the bridge rail system. The project does not include construction of structures or features that would increase demand on public services for the project area. The project does not include the construction of housing or other uses that would necessitate the construction of additional public facilities such as schools or parks in the project area.

3.2.16 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 checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR RECREATION

a), b) No Impact.

As previously mentioned, the purpose of the project is to improve the safety and integrity of the bridge structure. There are no residential components associated with the project that would cause a direct or indirect increase in population and would not result in increased demand for parks or recreational facilities. Furthermore, no increase in physical deterioration of a recreational facility would occur.

b) Less than Significant.

The project will have temporary impacts on recreational river use and has the potential to intermittently impact access to the river. The implementation of measure **CI-2** will require Caltrans in coordination with the U.S. Coast Guard, that a navigable channel will remain open under the Colorado River Bridge for the duration of construction. In addition warning signs will be placed on the Colorado River up and downstream of the Project area and at nearby boat launches prior to construction to ensure public safety. The implementation of CI-2 would ensure that impacts remain less than significant in relation to recreational facilities.

3.2.17 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 checked="" type="checkbox"/>	<input type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

a) No Impact.

The project proposes to replace the existing Colorado River Bridge spanning the California and Arizona state line on I-40. The project would improve the safety and integrity of the bridge with standard lane and shoulder widths. Under the build alternatives, no additional lanes would be added and no increase to traffic capacity is assumed. As indicated in Section 2.1.10 of this document, the project would be consistent with the San Bernardino County, Countywide Plan, Transportation and Mobility Element and the Mohave County 2015 General Plan Transportation Element.

b) No Impact.

As the project involves improvements to the safety and integrity of the Colorado River Bridge, no additional lanes would be added, and no increase to traffic capacity would occur. As such, the project is not projected to result in increases to vehicle miles traveled (VMT). Furthermore, although I-40 is not designated as a bicycle facility, bicyclists are allowed on the segment of I-40 that encompasses the project limits because there is no parallel route of travel. The project would result in widening the shoulders to standard widths which would provide shoulder width continuity that would allow for safer use of the roadway by bicyclists.

c) No Impact.

The project would not increase hazards due to design features because the project would be required to implement Caltrans design standards. The existing Colorado River Bridge has non-standard 2-foot inside shoulders and non-standard 4-foot outside shoulders with Type 2 bridge rails. Implementation of the project would widen the shoulders to standard widths. No additional roadway improvements have been proposed that would substantially increase hazards due to a

design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). No impacts would occur.

d) Less Than Significant Impact.

Construction activities associated with the project would result in temporary access restrictions, which may result in some delays to emergency response times. Construction of Build Alternative 1 would occur in two stages. The first stage would remove half of the existing bridge and constructing half of the new bridge. Traffic would remain on half of the existing bridge and limited to one lane in each direction. The second stage would shift traffic to the newly constructed portion of the bridge deck and remove the remaining existing bridge and constructing the second half of the new bridge. The traffic would be limited to one lane in each direction for the duration of the construction period. Construction of Build Alternative 2 would result in construction of the new bridge to the north while the existing bridge remains fully operational. Staging would be necessary for transitioning the newly realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. This alternative would also require the bridge at National Trails Highway Undercrossing to be replaced. Additionally, a minor realignment is proposed to the Oatman Highway to accommodate the bridge realignment. Build Alternative 3 would realign to the south of the existing I-40 centerline and would allow the construction of the new bridge to occur while the existing bridge is still fully operational. Staging would be necessary for transitioning the newly realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. Under this alternative, the bridge at National Trails Highway Undercrossing will also be replaced. With all build alternatives emergency access would be accommodated during construction and the project would implement a TMP (measure **TR-1**) as part of standard project measures. Implementation of standard measure **TR-1** would ensure that impacts remain less than significant in relation to emergency access.

3.2.18 Tribal Cultural Resources

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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRIBAL CULTURAL RESOURCES

a), b) Less Than Significant Impact. The NAHC was contacted to initiate a search of the Sacred Lands File. The NAHC responded with a negative Sacred Lands File search, along with a list of Native American contacts. The Native American contacts provided were sent consultation letters for the project. The Hopi Tribe wished to be consulted on the project and requested to be notified of any cultural deposits discovered during construction. The Hopi Tribe will continue to receive project updates and consultation remains ongoing. The Hopi Tribe will also be afforded the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction. The Hualapai Tribe requested to be contacted if human remains are found during construction but had no further concerns with the project. The Yavapai-Prescott Tribe requested to consult on the project and review the survey report once completed. Project update materials and reports were sent and the Yavapai-Prescott Tribe will continue to receive project updates and consultation remains ongoing. The Colorado River Indian Tribe stated that all prehistoric sites be avoided and requested to continue consultation for the project. The Colorado River Indian Tribe will continue to receive project updates and consultation remains ongoing. The Fort Mojave Indian Tribe considers the areas around the Colorado River to have spiritual importance regardless of any physical manifestations. The Fort Mojave Indian Tribe will be afforded the opportunity to consult further and consultation remains ongoing. In the event that previously unknown tribal cultural resources are encountered during construction, compliance with standard Caltrans measures **CR-1, CR-2, and CR-3** would avoid and/or minimize potential impacts to previously unknown tribal cultural resources. **a), b) Less Than Significant Impact with Mitigation Incorporated.**

As indicated in the Cultural Resources section in Chapter 2.1.12, CA-SBR-00219 (Topock Maze/Topock Traditional Cultural Property) has been determined eligible for inclusion in the NRHP under Criterion A and Criterion D. FHWA in cooperation with Caltrans and Arizona Department of Transportation (ADOT) has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the project will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property under Alternatives 1, 2, and 3 because of anticipated indirect effects during construction. The project will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (No Build) (36 CFR §800.5). In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) was executed on November 9, 2023 in order to mitigate these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories. The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places, **(CR-10)**. Consultation and active engagement with the Fort Mojave Indian Tribe will continue throughout the life of the undertaking in order to achieve the stipulations outlined in the MOA.

The NAHC was contacted to initiate a search of the Sacred Lands File. The NAHC responded with a negative Sacred Lands File search, along with a list of Native American contacts. The Native American contacts provided were sent consultation letters for the project. The Hopi Tribe wished to be consulted on the project and requested to be notified of any cultural deposits discovered during construction. The Hopi Tribe will continue to receive project updates and consultation remains ongoing. The Hopi Tribe will also be afforded the opportunity to consult further if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction. The Hualapai Tribe requested to be contacted if human remains are found during construction but had no further concerns with the project. The Yavapai-Prescott Tribe requested to consult on the project and review the survey report once completed. Project update materials and reports were sent, and the Yavapai-Prescott Tribe will continue to receive project updates and consultation remains ongoing. The Colorado River Indian Tribe stated that all prehistoric sites be avoided and requested to continue consultation for the project. The Colorado River Indian Tribe will continue to receive project updates and consultation remains ongoing. The Fort Mojave Indian Tribe considers the areas around the Colorado River to have spiritual importance regardless of any physical manifestations. The Fort Mojave Indian Tribe will be afforded the opportunity to continue consultation. In the event that previously unknown tribal cultural resources are encountered during construction, compliance with standard Caltrans measures **CR-1, CR-2, and CR-3** would avoid and/or minimize potential impacts to previously unknown tribal cultural resources.

3.2.19 Utilities and Service Systems

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

The project would improve the safety and integrity of the Colorado River Bridge structure by addressing deck deterioration and strengthening the girders to increase the load rating. The amount of water used during construction would be minimal and cease upon completion of construction. No wastewater would be generated as a result of construction or operation of the project and the project would not require or result in demand for new wastewater treatment capacity. The project would not require or result in construction or expansion of existing facilities. Furthermore, the project is not anticipated to generate a substantial demand for water over existing conditions and would have sufficient water supplies available to serve the project during normal, dry, and multiple dry years.

d), Less Than Significant Impact.

The solid waste disposal requirements for the project would primarily occur during the construction phase of the project. The project would result in the removal of asphalt concrete pavement, concrete, and aggregate base material. The removed materials would be stockpiled on-site to be recycled for construction uses where feasible. The non-recycled materials would

be limited and properly disposed of off-site. The construction waste generated would be disposed of in accordance with Federal, State, and local regulations related to recycling, including, but not limited to, the California Integrated Waste Management Act (AB 939), which would minimize the amount of waste material entering local landfills. Long-term operation of the completed project is not expected to generate waste material, except the limited amount related to the maintenance of the facility.

e) No Impact.

The project would be in compliance with all federal, state, and local solid waste statutes and regulations; therefore, there would be no impact.

3.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>
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) Less Than Significant Impact.

Based on the State of California, Office of the State Fire Marshall, Fire Hazard Severity Zones Maps for San Bernardino County, the project is not located within a Moderate, High, or Very High designated Fire Hazard Severity Zone. Furthermore, the State of Arizona, Department of Forestry and Fire Management’s Arizona Wildfire Risk Assessment map indicates the project site as within the Very Low and Low-Moderate level for wildfire threat. As previously discussed, the project would result in traffic delays during construction. Build Alternative 1 would result in traffic limited to one lane in each direction during the construction phase. Construction of Build Alternatives 2 and 3 would occur while the existing bridge remains fully operational, except during staging to transition the new bridge to the existing I-40 centerline alignment at both ends of the bridge. A TMP with traffic plans to avoid, and/or minimize construction related traffic delays (TR-1) would be implemented under all build alternatives. The project does not include permanent road closures or long-term blocking of road access that would impair or interfere with emergency response or evacuation in the project area. Once completed, the project would improve the safety of the traveling public and emergency access with standard lane and shoulder widths as well as an upgrade to the bridge rail system.

b), c) No Impact.

The project would not increase exposure to existing risks within the project area and would not expose local occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. Although the project would replace the existing Colorado River Bridge, the project would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. The

project does not require the installation of maintenance of fuel breaks, emergency water sources, power lines, or other utilities.

d) No Impact.

The project would result in the replacement of the existing Colorado River Bridge and would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability or drainages changes. The project would not increase the population in the project area and would not present an increase risk compared to the No-Build Alternative.

3.2.21 Mandatory Findings of Significance

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CEQA SIGNIFICANCE DETERMINATIONS FOR MANDATORY FINDINGS OF SIGNIFICANCE

a) **Less Than Significant With Mitigation Incorporated and Unavoidable Impact.**

As discussed in Section 2.2.13, the project would impact candidate, threatened, fully protected, and/or endangered species that have a potential to occur within the BSA. In addition, 9 non-listed special-status plant species and 36 non-listed special-status wildlife species have a potential to occur within the BSA and could be impacted by the project. Impacts include permanent removal and temporary disturbance of suitable habitat, direct mortality and injury to species during vegetation clearing and grading, and indirect impacts. Although mitigation measures would be implemented, impacts on bonytail chub, razorback sucker, California black rail, and Yuma Ridgway's rail would remain significant and unavoidable. Because Razorback sucker, California black rail, and Yuma Ridgway's rail are CDFW fully protected species and take of these species is unmitigable Caltrans is pursuing a 2081 Incidental Take permit under Senate Bill 147. Senate Bill 147 was signed July 10, 2023, and is valid until December 31, 2033. The bill amended sections 395, 3511, 4700, 5050, and 5515 of the Fish and Game Code and added Section 2081.15. The bill authorizes the California Department of Fish and Wildlife (CDFW) to issue an 2081 Incidental Take Permit for fully protected species using the permitting structure in CESA that would authorize the take of a fully protected species resulting from impacts attributable to the implementation of critical infrastructure projects if certain conditions are satisfied. Because razorback sucker, California black rail, and Yuma Ridgway's rail are

CDFW fully protected species, Caltrans, in coordination with CDFW, may apply for a 2081 Incidental Take permit under California Endangered Species Act (CESA) for these species. At this time, the impacts analysis is limited based on the design information and additional analysis is forthcoming in the design phase. project specific, one-time exemption to the California Fish and Game Code (CFGC) § 3511, 4700, and/or 5515, and amendment of CFGC § 2081 that would allow the incidental take of fully protected species. The exemption will be introduced as an Assembly Bill to the California state legislature in 2023. If approved the legislation will allow the California Department of Fish and Wildlife to issue a 2081 permit to Caltrans for the purpose of this project.

As discussed in Section 2.1.12, the project has an adverse effect on one historic property, Topock Maze Traditional Cultural Property, for both tangible and intangible effects. In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) has been prepared in order to mitigate these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories. The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places.

b), c) Less Than Significant Impact With Mitigation Incorporated.

The project would have impacts that are individually limited but are not cumulatively considerable with implementation of standard project features and mitigation and minimization measures. No other measures beyond those discussed in Section 2 would be required to address the effects of the build alternatives.

3.3 Senate Bill 743/Induced Demand Analysis

3.3.1 Regulatory Setting

Senate Bill (SB) 743 was signed into law in September 2013 and codified in Public Resources Code Section 21099. The law modifies the way transportation impacts are assessed under the California Environmental Quality Act (CEQA) and requires lead agencies to focus on “Vehicle Miles Traveled” (VMT) as the metric for analysis as opposed to Level of Service (LOS). The CEQA guidelines were updated in December 2018 which changed the thresholds of significance for evaluating impacts to transportation.

3.3.2 Affected Environment

The Colorado River Bridge was originally built in 1966 and currently accommodates four 12-foot lanes of traffic, two in each direction of travel, separated by a median barrier. As the project aims to improve the safety and integrity of the bridge structure by addressing deck deterioration and strengthening the girders to increase the load rating, the project would not increase the number of travel lanes or result in an increase in traffic capacity from current conditions.

3.3.3 Environmental Consequences

The environmental impacts to transportation under all three-build alternative and the no-build alternative are the same. The project as currently described, as stated above, has a scope that is not likely to lead to a measurable and substantial increase in VMT and therefore an induced travel analysis is not required and subsequently a VMT based CEQA significance determination is not required.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Because the project will not increase VMT, avoidance, minimization, and/or mitigation measures are not required.

3.4 Wildfire

3.4.1 Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

3.4.2 Affected Environment

Based on the State of California, Office of the State Fire Marshall, Fire Hazard Severity Zones Maps for San Bernardino County, the project is not located within a Moderate, High, or Very High designated Fire Hazard Severity Zone. Furthermore, the State of Arizona, Department of Forestry and Fire Management’s Arizona Wildfire Risk Assessment map indicates the project site as within the Very Low and Low-Moderate level for wildfire threat.

3.4.3 Environmental Consequences

The project would result in improvements to the safety and integrity of the Colorado River Bridge by addressing deck deterioration and strengthening the girders to increase the load rating. The operation of the project would result in increased safety of the traveling public and emergency access would be enhanced with the standard lane and shoulder widths as well as an upgrade to the bridge rail system. The project does not include elements that would impair or otherwise interfere with emergency response or evaluation in the project area. Traffic delays are expected during construction of the project. However, a TMP with traffic control plans would be implemented to avoid and/or minimize circulation and delay impacts.

3.4.4 Avoidance, Minimization, and/or Mitigation Measures

The project would not result in impacts related to wildfires. No avoidance, minimization, or mitigation measures are required.

3.5 Climate Change

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

Human activities generate GHGs consisting primarily of carbon dioxide (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 and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂ that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO₂.

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

3.5.1 Regulatory Setting

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

Federal

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

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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2022). This approach encourages planning for sustainable highways by addressing

climate risks while balancing environmental, economic, and social values— “the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

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

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. The updated GHG emissions standards will avoid more than 3 billion tons of GHG emissions through 2050. In April 2022, NHTSA announced corresponding new fuel economy standards for model years 2024 through 2026, which will reduce fuel use by more than 200 billion gallons through 2050 compared to the old standards and reduce fuel costs for drivers (U.S. EPA 2022a; NHTSA 2022).

State

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

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

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

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in

September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

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

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 CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO_{2e}). [GHGs differ in how much heat each traps in the atmosphere, called 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", or 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.] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

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

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

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

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

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

AB 1279, Chapter 337, 2022, The California Climate Crisis Act: This bill mandates carbon neutrality by 2045 and establishes an emissions reduction target of 85% below 1990 level as part of that goal. This bill solidifies a goal included in EO B-55-18. It requires ARB to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified.

3.5.2 Environmental Setting

The project is in a rural area of San Bernardino County located adjacent to the Colorado River and the Arizona state line. I-40 is the main transportation route to and through the area for both passenger and commercial vehicles. The nearest alternate route is SR-62, fifty miles to the south. Railroad tracks running parallel to I-40 right-of-way carry several passenger and freight trains each day. A Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) by the Southern California Association of Governments (SCAG) guides transportation and housing development in the project area. The San Bernardino County Regional Greenhouse Gas Reduction Plan addresses GHGs in the project area.

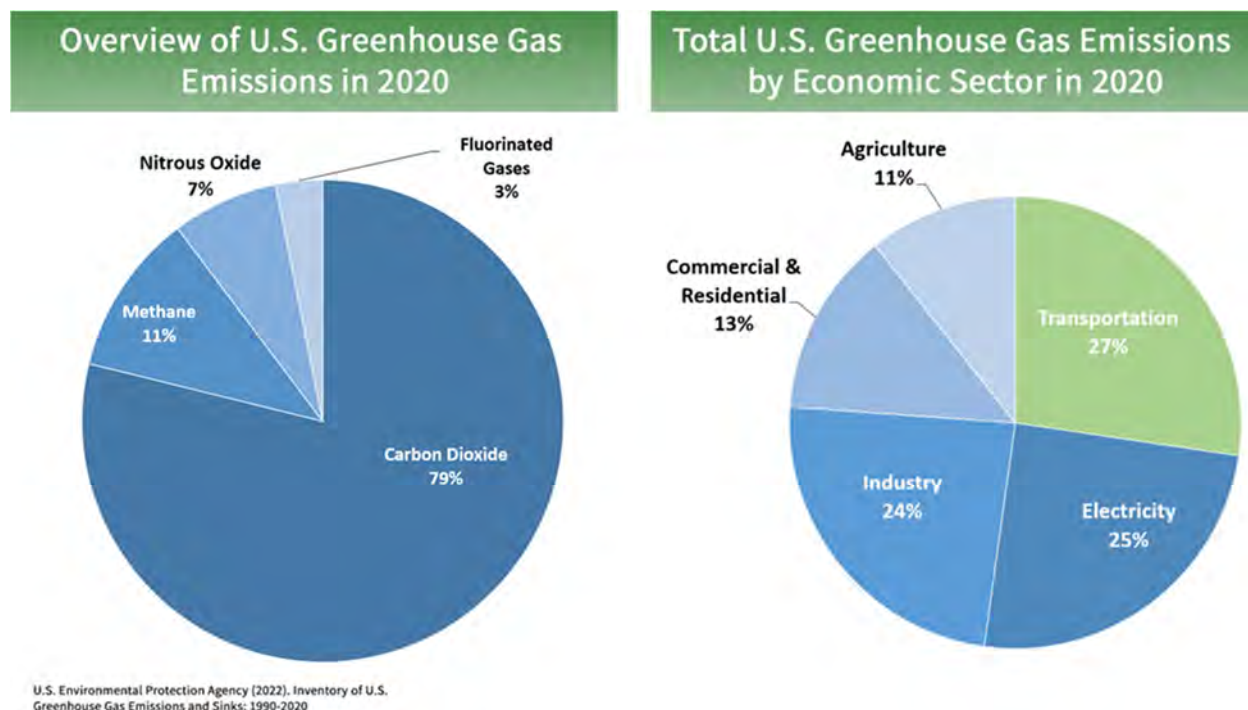
GHG Inventories

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

NATIONAL GHG INVENTORY

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total GHG emissions from all sectors in 2020 were 5,222 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. Of these, 79 percent were CO₂, 11 percent were CH₄, and 7 percent were N₂O; the balance consisted of fluorinated gases. Total GHGs in 2020 decreased by 21% from 2005 levels and 11% from 2019. The change from 2019 resulted primarily from less demand in the transportation sector during the COVID-19 pandemic. The transportation sector was responsible for 27 percent of total U.S. GHG emissions in 2020, more than any other sector (Figure 3.1), and for 36% of all CO₂ emissions from fossil fuel combustion. Transportation CO₂ emissions for 2020 decreased 13 percent from 2019 to 2020, but were 7 percent higher than transportation CO₂ emissions in 1990 (Figure 3.1) (U.S. EPA 2022b).

Figure 3.1, U.S. 2020 Greenhouse Gas Emissions (Source: U.S. EPA 2022b)



STATE GHG INVENTORY

CARB 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 2022 edition of the GHG emissions inventory reported emissions trends from 2000 to 2020. Total California GHG emissions in 2020 were 369.2 MMTCO₂e, a reduction of 35.3 MMTCO₂e from 2019 and 61.8 MMTCO₂e below the 2020 statewide limit of 431 MMTCO₂e. Much of the decrease from 2019 to 2020, however, is likely due to the effects of the COVID-19 pandemic on the transportation sector, during which vehicle miles traveled declined under stay-at-home orders and reductions in goods movement. Nevertheless, transportation remained the largest source of GHG emissions, accounting for 37 percent of statewide emissions (Figure 3.2). (Including upstream emissions from oil extraction, petroleum refining, and oil pipelines in California, transportation was responsible for about 47 percent of statewide emissions in 2020; however, those emissions are accounted for in the industrial sector.) California’s gross domestic product (GDP) and GHG intensity (GHG emissions per unit of GDP) both declined from 2019 to 2020 (Figure 3.3). It is expected that total GHG emissions will increase as the economy recovers over the next few years (ARB 2022a).

Figure 3.2, California 2020 Greenhouse Gas Emissions by Scoping Plan Category (Source: ARB 2022a)

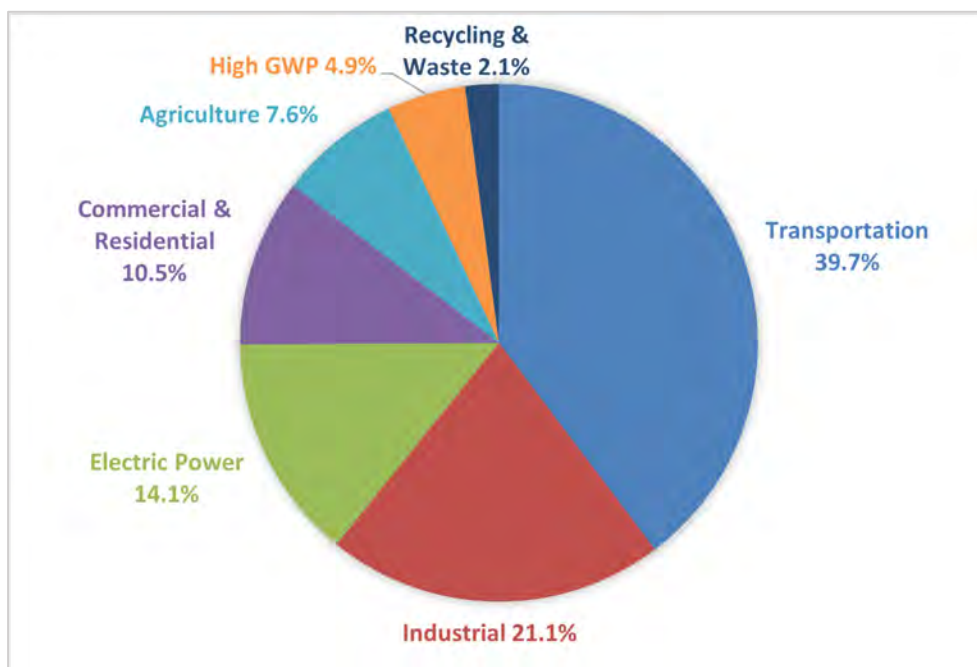
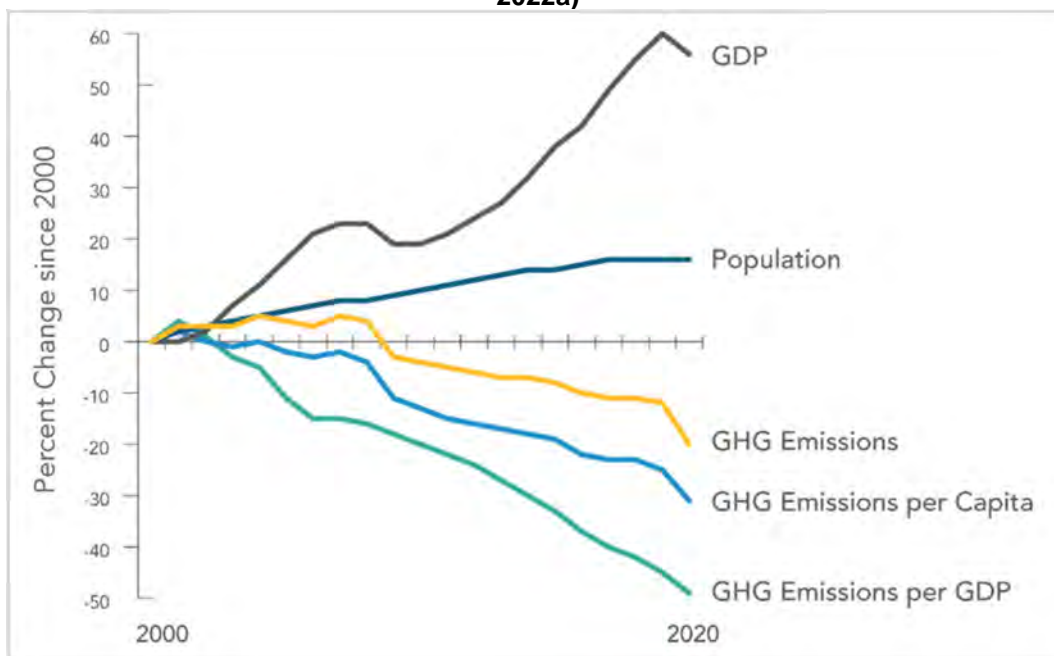


Figure 3.3, Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2022a)



AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB 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 draft 2022 Scoping Plan Update additionally lays out a path to achieving carbon neutrality by 2045 (ARB 2022b).

Regional Plans

CARB sets regional GHG reduction targets for California’s 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The project is included in Connect SoCal, the 2020-2045 RTP/SCS for the Southern California Association of Governments (SCAG), as RTP ID REG0702-SBDLS07. The regional reduction target for SCAG is 19 percent by 2035 (ARB 2022c). The 2020-2045 RTP/SCS concluded that implementing the plan would result in an 8 percent per capita GHG reduction by 2020 and a 19 percent reduction by 2035 compared to 2005 levels (SCAG 2020).

Additionally, the County of San Bernardino developed the San Bernardino County Regional Greenhouse Gas Reduction Plan (GHGRP) in March 2021 as a community level climate action plan. The County’s GHGRP outlines measures to help San Bernardino County meet CARB and State-wide reduction goals. The GHGRP updates outlines measures to reduce GHG reductions by 40 percent by 2030 from 2007 levels. The 2030 target will put the County on track to meet the State’s long-term goal to achieve zero-net carbon emissions by 2045 (San Bernardino County 2021).

Table 3-2, Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
<p><i>Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (adopted September 3, 2020)</i></p>	<p>The SCS prepared as part of Connect SoCal complies with the emission reduction targets established by ARB and meets the requirements of SB 375 by achieving GHG emission reductions at 8% below 2005 per capita emissions levels by 2020 and 19% below 2005 per capita emissions levels by 2035.</p> <p>The RTP/SCS includes the following strategies:</p> <ul style="list-style-type: none"> • Improve mobility, accessibility, reliability, and travel safety for people and goods • Enhance the preservation, security, and resilience of the regional transportation system • Reduce greenhouse gas emissions and improve air quality • Adapt to a changing climate and support an integrated regional development pattern and transportation network
<p><i>San Bernardino County Countywide Plan (adopted in 2020)</i></p>	<p>Goal TM-3 Vehicle Miles Traveled:</p> <ul style="list-style-type: none"> • Policy TM-3.1 VMT reduction

	<ul style="list-style-type: none"> • Policy TM-3.2 Trip reduction strategies • Policy TM-3.3 First mile/last mile connectivity <p>Goal TM-4 Complete Streets, Transit & Active Transportation</p> <ul style="list-style-type: none"> • Policy TM-4.1 Complete streets network • Policy TM-4.5 Transit access to job centers and tourist destinations • Policy TM-4.7 Regional bicycle network • Policy TM-4.8 Local bicycle and pedestrian networks
<p><i>San Bernardino County Regional Greenhouse Gas Reduction Plan (March 2021, updated June 2021)</i></p>	<ul style="list-style-type: none"> • On-Road Goal 3: Transportation Demand Management and Signal Synchronization • On-Road Goal 4: Expand Bike Routes • Off-Road Goal 2: Idling Ordinance

3.5.3 Project Analysis

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

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

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

Operational Emissions

The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic and will not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on I-40, no increase in vehicle miles traveled (VMT) would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

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

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

Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model (RCEM), Version 9.0. Construction of the project is expected to be approximately 24 months.

Construction emissions were estimated for the project using default equipment inventories provided in RCEM, project construction scheduling information provided by the project engineer, and emissions factors from the EMFAC 2017 and OFFROAD models. The emissions presented are the worst-case maximum daily construction emissions (pounds per day) for each activity that would be generated from the construction of the project and converted to metric tons of CO₂e.

Overall project construction emissions of GHGs would be approximately 4,910 metric tons CO₂e for Build Alternative 1, 5,108 metric tons CO₂e for Build Alternative 2, and approximately 5,073 metric tons CO₂e for Build Alternative 3.

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

CEQA Conclusion

While the 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 project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG reduction measures, the impact would be less than significant.

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

3.5.4 Greenhouse Gas Reduction Strategies

Statewide Efforts

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (CARB 2022d).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) reducing petroleum use by up to 50 percent by 2030; (3) increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) reducing emissions of short-lived climate pollutants; and (5) stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015). OPR later added strategies related to achieving statewide carbon neutrality by 2045 in accordance with EO B-55-18 and AB 1279 (OPR 2022).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks by 50% is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency (2022a) released *Natural and Working Lands Climate Smart Strategy*, with a focus on nature-based solutions.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40

percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

CLIMATE ACTION PLAN FOR TRANSPORTATION INFRASTRUCTURE

The *California Action Plan for Transportation Infrastructure* (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

CALIFORNIA TRANSPORTATION PLAN

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

CALTRANS STRATEGIC PLAN

The *Caltrans 2020–2024 Strategic Plan* includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020a) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Departmental and State goals.

Project-Level GHG Reduction Strategies

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

GHG-1 The contractor must comply with MDAQMD'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 with current practices.
- GHG-4** The project will maintain equipment in proper tune and working condition.
- GHG-5** A traffic management plan (TMP) will be implemented to minimize traffic disruptions from project construction.

3.5.5 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.”

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (U.S. DOT 2011). The U.S. DOT Climate Action Plan of August 2021 followed up with a statement of policy to “accelerate reductions in greenhouse gas emissions from the transportation sector and make our transportation infrastructure more climate change resilient now and in the future,” following this set of guiding principles (U.S. DOT 2021):

- Use best-available science
- Prioritize the most vulnerable
- Preserve ecosystems
- Build community relationships
- Engage globally

U.S. DOT developed its climate action plan pursuant to the federal EO 14008, *Tackling the Climate Crisis at Home and Abroad* (January 27, 2021). EO 14008 recognized the threats of climate change to national security and ordered federal government agencies to prioritize actions on climate adaptation and resilience in their programs and investments (White House 2021).

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. A number of state policies and tools have been developed to guide adaptation efforts.

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) is the state's effort to "translate the state of climate science into useful information for action." It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The State's approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience a 2.7 to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages that will impact agricultural production; a 77% increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67% of Southern California beaches and inundation of billions of dollars' worth of residential and commercial buildings due to sea level rise (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018. This EO also gave rise to the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the *California Climate Adaptation Strategy*, incorporating key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate*

Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio, and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2022b).

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change in addition to 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.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group to help actors throughout the state address the findings of California's Fourth Climate Change Assessment. It released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*, in 2018. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts (Climate Change Infrastructure Working Group 2018).

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Project Adaptation Analysis

SEA LEVEL RISE

The project is outside the coastal zone and not in an area subject to sea level rise. Accordingly, direct impacts to transportation facilities due to projected sea level rise are not expected.

PRECIPITATION AND FLOODING

According to the Federal Emergency Management Agency Flood Insurance Rate Map, the bridge structures are located within Zone AE and Zone A (Area of High-Risk Flood Hazard). Based on the Caltrans District Climate Change Vulnerability Assessment Map (Caltrans 2019), the 100-year storm precipitation depth in the project area is expected to increase by up to 1.4% in 2025, up to 1.4% in 2055, and up to 1.6% by 2085. This indicates heavier rainfall during storm events. Average annual rainfall in Needles is about 4.4 inches; the wettest month is

January, with 0.63 inch on average (Western Regional Climate Center 2022). Accordingly, even a 10% increase of precipitation in the flood hazard area would amount to only a fraction of an inch more rainfall. With implementation of adaptation measure **CC-1**, it is expected that the project would be adapted to the anticipated changes in storm precipitation under climate change.

Project-Level Adaptation Strategies

The following adaptation measures will be implemented to reduce the effects of climate change on the project:

- CC-1** Drainage facilities will be modified to accommodate additional runoff from the interchange and the projected increase in the 100-year storm precipitation depth and rainfall in the project area.

WILDFIRE

Based on the Caltrans District 8 Climate Change Vulnerability Assessment Map (Caltrans 2019), the project area is outside of the areas of concern for wildfire exposure as projected in 2025, 2055, and 2085. Based on CalFire's Fire Hazard Severity Zone mapping tool, the project is not in an area designated as a High or Very High Fire Hazard Severity Zone in a State or Local Responsibility Area. Therefore, the project would not require the installation or maintenance of infrastructure that would be vulnerable to fire. Caltrans standard specifications mandate fire prevention procedures, including a fire prevention plan, to avoid accidental fire starts during construction. Accordingly, the project would be adapted and resilient to future wildfire.

TEMPERATURE

The Caltrans District 8 Climate Change Vulnerability Assessment Map (Caltrans 2019), indicates temperature changes during the project's design life. Based on the Caltrans District 8 Climate Change Vulnerability Assessment Map (Caltrans 2019), the average minimum air temperature in the project area is projected to increase by 1.0 degree Fahrenheit by 2025 and by 3.7 degrees Fahrenheit by 2055, and by 7.2 degrees Fahrenheit by 2085. The average maximum temperature, over seven consecutive days in the project area, is projected to increase by up to 2.6 degrees Fahrenheit by 2025 and up to 6.6 degrees Fahrenheit by 2055., and by up to 10.1 degrees Fahrenheit by 2085. Therefore, the overall minimum and maximum temperatures of the day in the project area are projected to continue to increase between 2022 and 2085. The mean annual maximum temperature in Needles, California is 86.3 degrees Fahrenheit. The coldest month in Needles is January when the average lowest temperature is 42.1 degrees Fahrenheit. The hottest month in Needles is July when the average highest temperature is 108.9 degrees Fahrenheit (<https://wrcc.dri.edu>, 2022). Accordingly, a 7.2 degrees Fahrenheit increase in the absolute minimum air temperature and 10.1 degrees Fahrenheit increase in the average maximum temperature over seven consecutive days in the project area, could increase the annual low or minimum temperature to 49.3 degrees Fahrenheit, (a 17.1% increase), and the annual high or maximum temperature to 119 degrees Fahrenheit, (a 9.3% increase).

The average minimum and maximum temperatures in the project area are projected to increase during the design life of the project. Therefore, Climate Change measures **CC-2** and **CC-3** will be implemented to minimize the effects of increasing temperatures on the project.

Project-Level GHG Reduction and Mitigation Strategies

The following adaptation measures will be implemented to reduce the effects of climate change on the project:

- CC-2** Use pavement binder and mix design specifications to better match expected future environmental conditions. Move to stiffer asphalt grades and use slower aging binders as needed to address increased temperatures and projected temperature change.

- CC-3** Design pavement structure to account for temperature and climatic changes. Incorporate design elements, like shorter joint spacing and others, to reduce damage from high temperatures. For concrete pavements, robust designs that limit moisture damage and shrinkage are a good alternative. Stabilized subbases and base materials may be a good alternative to unbound bases especially in areas where the ground water table may rise or precipitation is increasing.

Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, and Project Development Team (PDT) meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Scoping Process

A Notice of Preparation (NOP) was prepared for the project to notify responsible agencies, trustee agencies, involved federal agencies, and interested parties that the lead agency plans to prepare an EIR for the project (refer to NOP included as an attachment after Section 4.2.9). The NOP was distributed on November 3, 2020, both in English and Spanish to agencies, organizations, elected officials, and other interested parties. The NOP included information describing the project, location, and potential environmental effects and requested comments from the agencies and interested parties. The public scoping comment period was from November 3, 2020 until December 2, 2020.

A virtual public scoping meeting/webinar for the project was held on November 18, 2020. The public scoping meeting provided an opportunity for the public, community, interested groups, media, and government agencies to obtain information, ask questions, and provide comments regarding the project. The public scoping meeting was open to the public and took place between 5:00 p.m. to 6:30 p.m. and hosted on a secure webinar platform. The public scoping meeting included a presentation followed by a public comment session. A project fact sheet was available for download on the webinar platform and Spanish interpretation was provided via a separate call-in number during the public scoping meeting. A total of 35 people attended the public scoping meeting with 21 people being members of the public.

A majority of the public scoping meeting comments received were submitted as written comments by agencies and organizations including the Environmental Protection Agency (EPA), California Lands Commission, Native American Heritage Commission (NAHC), San Bernardino County Public Works, California Highway Patrol (CHP), Arizona State Land Department, and Adventure Cycling Association. The remainder of the comments received were from the general public during the public scoping webinar, emailed, or mailed. The key issues raised in the comments are summarized in the table below.

Table 4.1, NOP Comments Summary

Comment Category	Agency	Comment
General	EPA	In the Draft Environmental Assessment, describe potential impacts to ecological, aesthetic, historic, cultural, economic, and social resources and values, as well as potential health effects, that could result from each alternative
	California State Lands Commission	Caltrans should consider all comments submitted by California State Lands Commission when preparing the Draft EIR/EA to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the Final EIR/EA to support a future lease approval for the Project.
	Arizona State Land Department	In an email dated November 16, 2020 inquired if there is a virtual meeting that is held during the daytime.
	Public Comment	Member of the public stating that he conducted a research project which covers the history of the Santa Fe railway and highway bridges in Topock and offered his research findings to the staff if interested.
	Public Comment	Member of the public inquired if Caltrans will be assigning a project biologist during construction or will the Project Special Provisions include a line item for a Contractor-Supplied Biologist.
Project Description	California State Lands Commission	Requested a thorough and complete Project Description be included in the Draft EIR/EA to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives.
Mitigation Measures and Alternatives	California State Lands Commission	In order to avoid the improper deferral of mitigation, mitigation measures must be specific, feasible, and fully enforceable to minimize significant adverse impacts from a project, and "shall not be deferred until some future time."
	California State Lands Commission	In addition to describing mitigation measures that would avoid or reduce the potentially significant impacts of the Project, Caltrans should ensure that the three alternatives identified in the NOP would attain most of the Project objectives while avoiding or reducing one or more of the potentially significant impacts (see State CEQA Guidelines, § 15126.6).
	California Highway Patrol (Needles Area)	Expressed concern regarding traffic impacts related to the proposed alternatives: Alternative 1 would restrict traffic flow from two lanes to one lane, in both eastbound and westbound direction of travel. CHP indicated that this option will have substantial impact on traffic; consequences include increased number of traffic collisions, large commercial type vehicles will be constricted by reduced lanes, no freeway shoulders. CHP suggested that Alternatives 2 or 3 would have less impacts to traffic flow. Would like to ensure other agencies are informed of the NOP, requests the NOP be provided to Arizona Department of Public Safety.
Water Resources	EPA	Draft EA should provide a robust analysis of impacts to water resources, including disclosure of potential discharges of dredged or fill material into jurisdictional wetlands and waterways; identify commitments to minimize impacts to waters to the fullest extent feasible; and incorporate provisions to ensure no net loss of habitat quantity or quality. We recommend that construction-related water quality impacts be avoided to the greatest extent feasible. There are three main categories of impact that must be considered during the Section 404(b)(1) Guidelines review process: In general, these include: Direct impacts, secondary effects and cumulative effects.
Biological Resources, Habitat, Wildlife	EPA	Given that the project area is located within the Havasu National Wildlife Refuge, EPA fully recommends that the Draft EA include a detailed analysis of impacts to biological resources and commit to avoiding impacts feasible.

	California State Lands Commission	For land under the California State Lands Commission's jurisdiction, the Draft EIR/EA should disclose and analyze all potentially significant effects on sensitive species and habitats in and around the Project area.
	California State Lands Commission	Recommends the Draft EIR/EA should consider the Project's potential to encourage the establishment or proliferation of aquatic invasive species (AIS) such as the quagga mussel, or other nonindigenous, invasive species including aquatic and terrestrial plants.
	California State Lands Commission	Recommends evaluation of noise and vibration impacts on fish, birds, and bats from bridge construction, restoration, or flood control activities in the water, on the levees, and for landside supporting structures.
Air Quality	EPA	The Draft EA should analyze impacts to air quality, including ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, and criteria pollutant nonattainment areas. Evaluate compliance with state and federal air quality regulations and discuss the potential for impacts to air quality. The EPA recommends an evaluation of the following measures to reduce emissions of criteria and hazardous air pollutants: Quantify Emissions, Specify Emission Sources and Construction Emissions Mitigation Plan, which includes, Fugitive Dust Source Controls, Mobile and Stationary Source Controls, and Administrative Controls.
Climate Change	California State Lands Commission	A GHG emissions analysis consistent with the California Global Warming Solutions Act (Assembly Bill (AB) 32) and required by the State CEQA Guidelines should be included in the Draft EIR/EA.
Cultural Resources	California State Lands Commission	The Draft EIR/EA should also mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state and under the jurisdiction of the California State Lands Commission.
	California State Lands Commission	The Draft EIR/EA should evaluate potential impacts to submerged cultural resources in the Project area.
Recreation	California State Lands Commission	The Draft EIR/EA should include a section describing the potential for the Project to affect recreational uses and public access to the subject waterway, particularly considering the Project's construction schedule. Pursuant to California Streets and Highways Code section 84.5, during the design hearing process, full consideration of, and a report on, the feasibility of providing public access to the subject waterway is required to be provided (Access Report)
Transportation	California State Lands Commission	Recommends that the Draft EIR/EA analysis discuss the VMT generated during the Project's construction period to account for all vehicles considered part of the Project to evaluate whether the Project is inconsistent with CEQA Guidelines.
	Adventure Cycling	Indicated in an email that the subject bridge is part of a published bicycle route, the Adventure Cycling Bicycle Route 66 and stated cyclists use this bridge with some regularity. There are two specific concerns; what class of bicycle facilities will be included on the bridge, and how bicyclists will be accommodated during the construction phase within preliminary timeline.
	Public Comment	Member of the public asked if river traffic will be affected during the project.
Tribal Cultural Resources	EPA	Establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Tribes.
	California State Lands Commission	Commission staff recommend that the Draft EIR/EA describe any Section 106 consultation outreach that has already occurred in addition to noting the date a tribal contact list was requested from the Native American Heritage Commission.
	Native American	Recommended consultation with legal counsel about compliance with AB 52 and SB 18 as well as

	Heritage Commission (NAHC)	compliance with other applicable laws. In addition, NAHC provided recommendations for cultural resource assessments to adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or baring both, mitigation of project-related impacts to tribal resources.
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4.2 Interagency Coordination and Consultation

The project development process has been carried out through a cooperative dialogue among representatives of the following agencies and organizations:

- Federal Highway Administration (FHWA);
- U.S. Fish and Wildlife Service (USFWS);
- State Historic Preservation Officer (SHPO);
- Arizona Department of Transportation;
- Arizona Game and Fish Department;
- California Department of Fish and Wildlife (CDFW);
- Native American Heritage Commission (NAHC);
- Native American Tribal Representatives.

The following sections summarize the results of the efforts of Caltrans to fully identify, address and resolve project issues through early and ongoing coordination.

4.2.1 Federal Highway Administration

On May 13, 2020, a virtual focus meeting was held to discuss the project with FHWA representative, Dave Tedrick. The communication and consultation protocols for the NEPA process were verified and confirmed during the meeting. Coordination has continued since that time with FHWA representative, Shawn Oliver.

4.2.2 U.S. Fish and Wildlife Service

Caltrans has been in close coordination with the USFWS representative, John Bourne during the Spring biological survey season of 2021 during which marsh bird surveys were conducted at designated survey points that also encompassed the project BSA. The survey information was shared with Caltrans. Conversely, Caltrans has also shared project species surveys with the USFWS. On February 3, 2021, USFWS representative, John Taylor, participated in a Caltrans Value Analysis Study and provided input regarding the bridge railing designs for bird species and lighting requirements for nocturnal bird species.

An official USFWS Species List was also obtained from the Information for Planning and Consultation (iPaC) dated March 11, 2022. An updated species list was requested and obtained on January 12, 2023 and included as an attachment in Appendix F Agency Correspondence.

4.2.3 Havasu National Wildlife Refuge

FHWA initiated consultation with Havasu National Wildlife Refuge on September 7th, 2022 on the Section 4(f) finding. On September 7th, Richard Meyers, the Complex Refuge Manager responded and requested additional information on the proposed project. A meeting between Caltrans District Staff and Havasu National Wildlife Refuge staff was held on October 23rd, 2023 to discuss the project. On October 31st, 2023, FHWA sent a letter requesting concurrence of the 4(f) finding to Joseph Barnett, Refuge Manager. On November 1st, 2023, Joseph Barnett concurred with the Section 4(f) finding and is included as an attachment in Appendix A Consultation Correspondence.

4.2.4 Arizona State Historic Preservation Officer

FHWA initiated consultation with the Arizona SHPO regarding the proposed project in a letter dated August 16, 2022. The FHWA requested concurrence from Arizona SHPO regarding the adequacy of the delineation of the APE for the undertaking, identification of potential historic properties located within the undertaking's APE, and with the evaluation of resources. FHWA has continued consultation with the Arizona SHPO on effects and resolution of effects to historic properties.

4.2.5 Arizona Department of Transportation

The Arizona Department of Transportation (ADOT) has regularly attended PDT monthly status meetings, and Caltrans Biological Resources Staff have been in close coordination with ADOT Biologists and ADOT Water Resources Specialists during preparations and reviews of the biological resources reports.

4.2.6 Arizona Game and Fish Department

An official AGFD species list generated through the Arizona Environmental Online Review Tool Report was requested and received on January 10, 2022.

4.2.7 California State Historic Preservation Officer

FHWA initiated consultation with the California SHPO regarding the project in a letter dated August 16, 2022. The FHWA requested concurrence from California SHPO regarding the adequacy of the delineation of the APE for the undertaking, identification of potential historic properties located within the undertaking's APE, and with the evaluation of resources. The FHWA requested concurrence from the California SHPO on effects finding and resolution of effects to historic properties. On August 29, 2023, the draft Memorandum of Agreement (MOA) was submitted to the California SHPO. The California SHPO provided comments on the draft MOA on September 12, 2023. A revised version was then provided to the California SHPO on September 27, 2023. On October 2, 2023, a meeting was held with Caltrans, FHWA, and the Arizona and California SHPOs to discuss comments on the draft MOA. On October 4, 2023, the California SHPO submitted comments on the draft MOA and the revised version was returned by FHWA on October 5, 2023. A second meeting to discuss comments with Caltrans, FHWA, and the Arizona and California SHPOs was held on October 5, 2023. The revised MOA was submitted to the California SHPO on October 16, 2023. On November 9, 2023 the MOA was executed with signatories, Arizona FHWA, California FHWA, Arizona SHPO, and California SHPO.

4.2.8 California Department of Fish and Wildlife

On May 12, 2021, CDFW representative Wendy Campbell provided comments and discussion on the draft Bat Management and Mitigation Plan (BMMP) report. An informal discussion was held briefly afterwards.

Coordination meetings with CDFW to discuss fully protected species have occurred with CDFW representative, Wendy Campbell, and her supervisor, Alisa Ellsworth, on April 11, 2022, and April 15, 2022, respectively. A follow-up discussion occurred on May 5, 2022.

An official CDFW species list generated through the California Natural Diversity Database (CNDDDB) was requested and received on March 11, 2022.

4.2.9 Native American Consultation

The Native American Heritage Commission (NAHC) was contacted on January 27, 2020, to initiate search of the Sacred Lands File (SLF). The NAHC responded on February 7, 2020, stating the SLF search was negative, and provided a list of tribal groups to contact for additional information. The ADOT Historic Preservation Specialist was also contacted to request information from groups that should be contacted as part of the project. As a result, the following nine tribes were sent consultation initiation letters on June 4, 2020:

- Hopi Tribe (Stewart Koyiumyewa, Tribal Historic Preservation Officer): Response letter received on June 15, 2020, stating that the Hopi Tribe wished to consult on the project if determined to adversely affect prehistoric resources. The tribe also wished to be notified if any cultural deposits were discovered during construction. A project update with summary letters and updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent to the tribe on March 10, 2022, and a follow up was sent on March 30, 2022. No comments were received from the tribe. The tribe will continue to receive project updates and would be afforded the opportunity to consult if there are any adverse effects to prehistoric resources or if cultural deposits are uncovered during construction. As such, consultation remains ongoing.
- Hualapai Tribe (Dr. Damon R. Clarke, Tribal Chairman and Peter Bungart, Tribal Historic Preservation Officer): A follow up email was sent to the tribe on August 6, 2020, after the initial letter. The tribe responded on November 6, 2020, stating that the tribe defers consultation to the Fort Mojave and Chemehuevi Tribes. The tribe requested to be contacted if human remains are found during construction but had no further concerns with the project.
- Yavapai-Prescott Tribe (Greg Glassco, Compliance Officer, Robert Ogo, Acting President, and Linda Ogo, Director of Cultural Research Department): A response was received on June 16, 2020, stating the tribe wished to consult on the project and to review the survey report when completed. A project update with summary letters and updated footprint maps were sent to the tribe on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were also sent on March 10, 2022, and follow up was set on March 30, 2022. The tribe will continue to receive project updates and afforded the opportunity to consult.
- Moapa Band of Paiute Indians (Vickie Simmons, Tribal Chairperson): A follow up email to the initial letter was sent on June 4, 2020, and August 6, 2020. A project update with summary letters and updated footprint maps were sent to the tribe on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, with a follow up on March 30, 2022. To date, no responses have been received. The tribe will continue to receive project updates when available.
- Chemehuevi Indian Tribe (Charles Wood, Tribal Chairman): A follow up email to the initial letter was sent on August 6, 2020. A project update with summary letters and

updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, with a follow up on March 30, 2022. To date, there has been no response from the tribe. The tribe will continue to receive project updates when available.

- Colorado River Indian Tribes (Dennis Patch, Tribal Chairman): A response letter was received on June 24, 2020, stating their wish that all prehistoric sites be avoided and their desire to continue consultation for the project. A project update with summary letters and updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, and a follow up on March 30, 2022. The tribe will continue to receive project updates when available.
- Fort Mojave Indian Tribe (Timothy Williams, Tribal Chairman and Linda Otero, Director of the Aha-Makav Cultural Society): A response letter was received on June 22, 2020, requesting the consultation initiation letter be resent. The letter was resent the same day and a response was received on June 24, 2020, asking for contact information for the FHWA and Caltrans District 8 Director. All requested contact information was emailed on June 25, 2020. A project update with summary letter and updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, and follow up on March 30, 2022. Another follow up was sent on April 14, 2022, and a response received on April 19, 2022, indicating that the information was under review by the tribe. Caltrans reached out to the tribe again on April 26, 2022, requesting a review completion date of May 8, 2022. Caltrans sent the draft Finding of Effects (FOE) document to the tribe on June 30, 2022. On September 15, 2022, the Tribe provided comments on the FOE document wherein the requested a reconsideration of the findings for the project. On December 19, 2022, Caltrans sent a letter to the tribe addressing the tribe's comments and to provide details on the methodology used by Caltrans and FHWA to determine the findings of the project. On May 2, 2023, Caltrans District 8's District Native American Coordinator meet with Tribal representatives at the Pipa AhaMaKav Cultural Center in Mohave Valley Arizona to gain a better understanding of the tribe's perspective and to aid in addressing the Project's effects. On July 19, 2023, a videoconference between Caltrans, FHWA, CA SHPO, and the Fort Mojave Indian Tribe occurred. During this and the May 2 meeting, the tribe emphasized moving forward, that the most important consideration is that the work be done in a respectful way. Caltrans and the tribe developed a list of conditions to be implemented during construction which would meet the Tribe's needs. Caltrans will continue to work with and update the tribe. On August 4, 2023, a draft addendum to the Finding of Effect was submitted to the Tribe. After SHPO concurrence on the addendum to the FOE, a draft Memorandum of Agreement (MOA) was submitted to the Tribe on August 23, 2023. A revised draft MOA was provided to the Tribe on September 27, 2023 and the Tribe provided comments on October 12, 2023. A revised version was then submitted on October 17, 2023. The Fort Mojave Indian Tribe signed the MOA on October 27, 2023.
- Twenty-Nine Palms Band of Mission Indians (Darrel Mike, Tribal Chairman and Anthony Madrigal, Tribal Historic Preservation Officer): A project update with summary letters and updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, and a follow up sent on March 30, 2022. To date, there have been no responses from the tribe. The tribe will continue to receive project updates when available.

- Fort Yuma Quechan Tribe (Jill McCormick, Tribal Historic Preservation Officer): A consultation initiation letter was sent on August 11, 2020. A project update with summary letters and updated footprint maps were sent on November 17, 2020, and November 24, 2021. The inventory and evaluation reports were sent on March 10, 2022, and a response was received on March 14, 2022 stating that the tribe had no comments on the project and deferred to the Fort Mojave Tribe with support for their decision on the project.

4.2.10 Cultural Resources Consultation with Government, Utility, and Historical Societies

Initial consultation letters and follow up communications for cultural resources were sent to potentially interested local parties including land managing agencies within the APE, regulatory agencies, local museums, and historical societies. Coordination has also occurred with ADOT Historic Preservation Specialist requesting contact information from groups that should be contacted. A list was provided and these contacts were incorporated into the consultation list. The consultation and coordination are summarized below.

- U.S. Army Corps of Engineers (Archaeology) (Daniel Grijalva, Archaeologist): A consultation initiation letter was sent on October 26, 2020. A project update letter was sent on November 16, 2021. An update letter was sent on March 10, 2022 and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review should they request to review them. To date, there has been no comments received. The USACE will continue to receive project updates when available.
- Arizona State Museum (Shannon Plumber, Arizona Antiquities Act Administrator, Permits Office Manager and Patrick Lyons, Director): A consultation initiation letter was sent on October 26, 2020. A project update letter was sent on November 16, 2021. A response was received on November 17, 2021 requesting they be a consulting party of the project. The inventory and evaluation reports were sent on March 10, 2022 and comments were received on April 11, 2022. The comments were technical in nature and will be addressed in a separate document to fulfill the Arizona State Museum's permitting requirements. The museum will continue to receive project updates when available.
- Arizona Historical Society (James Burns, Executive Director): A consultation initiation letter was sent on October 26, 2020. A project update letter was sent on November 16, 2021. An update letter was sent on March 10, 2022 and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review should they request to review them. A response was received on March 31, 2022 stating they had no questions but requested to review the environmental report and FOE. The Arizona Historical Society will continue to receive project updates when available.
- Bureau of Land Management, Lake Havasu District (Archaeology) (Collin Price, Archeologist): A consultation initiation letter was sent on October 26, 2020 and an update letter was sent to Adam Cochran, Assistant Field Director on November 16, 2021. An update letter was sent on March 10, 2022 and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review. A response

was received on March 30, 2022 stating that they could not locate the original letter. The original letter was resent the same day. To date, there have been no further comments or responses. The Bureau of Land Management will continue to receive project updates when available.

- California Historic Route 66 Association (Glen Duncan, President): A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. An update letter was sent on March 10, 2022 and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there has been no comments received. The California Historic Route 66 Association will continue to receive project updates when available.
- California Route 66 Preservation Foundation (Jim Conkle, President): A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. An update letter was sent on March 10, 2022 and follow up on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there have been no comments received. The California Route 66 Preservation Foundation will continue to receive project updates when available.
- California State Lands Commission (Nicole Debroski, Chief Division of Environmental Planning and Management): The California State Lands Commission was identified as a potential consulting party as a respondent to the Notice of Preparation. A response was received on December 2, 2020 with requests including a submerged resources survey through their database, language reflecting California State Lands Commission on abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide of submerged lands as vested in the state and under the jurisdiction of the California State Lands Commission, and consultation continue with local Native American groups. A submerged resources survey request was sent to the California State Lands Commission on August 10, 2021 and a response was received the same day indicating negative findings for known resources within the project area.
- Mohave Museum of History and Arts (Bill Wales, President): An consultation letter was sent on October 26, 2020 and update letter was sent on November 16, 2021. To date, there have been no comments received. The Mohave Museum of History and Arts will continue to receive project updates when available.
- Mojave River Valley Museum (Robert Hilburn, President): A consultation initiation letter was sent on October 26, 2020 and an update letter sent on November 16, 2021. Another update letter was sent on March 10, 2022 and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there have been no comments received. The Mojave River Valley Museum will continue to receive project updates when available.
- National Park Service, Route 66 Corridor Preservation Program (Kaisa Barthuli, Program Manager): A consultation initiation letter was sent on July 15, 2021. A response was received on December 16, 2021 requesting clarification on location of the bridge. A response was sent on December 20, 2021 along with an additional map showing the project location. The inventory and evaluation reports were sent on March 10, 2022 and a follow up email sent on March 30, 2022. A response was received stating the information was inaccessible. A response with further instructions was sent for

accessing the materials. To date, no further comments have been received. The National Park Service will continue to receive project updates when available.

- National Historic Route 66 Federation (David Knudson, President): A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. A second update letter was sent on March 10, 2022 and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there has been no comments received. The National Historic Route 66 Federation will continue to receive project updates, when available.
- Needles Regional Museum: A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. A second update letter was sent on March 10, 2022 and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there has been no comments received. The Needles Regional Museum will continue to receive project updates, when available.
- Pacific Gas & Electric Company (Jennifer Darcangelo, Tribal and Cultural Resource Land Consultant): A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. A second update letter was sent on March 10, 2022, and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. A response was received on March 30, 2022, stating to review the documents. The documents were made available and confirmed received on March 30, 2022. No further comments have been received to date. The Pacific Gas & Electric Company will continue to receive project updates, when available.
- Route 66 Historical Association: A consultation initiation letter was sent to the Route 66 Historical Association on October 26, 2020, however, an updated website search redirects to the National Historic Route 66 Federation. As such, consultation was redirected with this group.
- San Bernardino Historical Society: A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. A second update letter was sent on March 10, 2022, and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. To date, there has been no comments received. The San Bernardino Historical Society will continue to receive project updates, when available.
- United States Coast Guard: A consultation initiation letter was sent on October 26, 2020. An update letter was sent on November 16, 2021. A response was received on November 26, 2020, stating that Carl Hausner, Chief Bridge Section, Eleventh Coast Guard District would be the point of contact and they are in contact with the Caltrans Project Manager, requested to be a cooperating agency under NEPA, and environmental documentation, technical studies, and consultation should be sent through this office. A second update letter was sent on March 10, 2022, and follow up sent on March 30, 2022 stating that the inventory and evaluation reports were available for review. A response was received on April 4, 2022, requesting review of all technical reports. The inventory and evaluation reports were made available and confirmed

received on April 7, 2022. To date, there has been no further response. The United States Coast Guard will continue to receive project updates, when available.

- United States Fish and Wildlife Service, Lake Havasu Refuge (Linda Miller, Richard Meyers, Lake Havasu Refuge): A consultation initiation letter was sent on October 26, 2020. A response was received on October 27, 2020 stating a new contact person. The consultation initiation letter was sent on October 27, 2020 to the new contact, Richard Meyers. An update letter was sent on November 16, 2021. The inventory and evaluation reports were sent on March 10, 2022 and a response was received on March 15, 2022 stating that the regional archaeologist would review the reports. A follow up email was sent on March 30, 2022. To date, there has been no further response. The United States Fish and Wildlife Service will continue to receive project updates, when available.
- Advisory Council on Historic Preservation: In an email dated August 12, 2020, and in response to a letter sent by the Fort Mojave Indian Tribe, the Advisory Council on Historic Preservation has requested to consult on the project. A formal consultation initiation letter was sent on October 26, 2020. An update letter was sent on March 10, 2022. A response was received on March 14, 2022 indicating a new point of contact. A follow up email was sent on March 30, 2022. On September 13, 2023, FHWA submitted a revised finding of effect with supporting documentation to the ACHP. On October 11, 2023, the ACHP responded and indicated that because they did not respond within 15 days with a decision regarding our nonparticipation, they assume that the Federal Highway Administration has continued the consultation to resolve adverse effects. The ACHP also stated that pursuant to 36 CFR § 800.6(b)(1)(iv), FHWA needed to file the final Section 106 agreement document, developed in consultation with the Arizona and the California SHPO's and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The executed Memorandum of Agreement was submitted to the ACHP on November 9, 2023.
- Arizona State Historic Preservation Office: In an email dated August 12, 2020, and in response to a letter sent by the Fort Mojave Indian Tribe, the Arizona State Historic Preservation Office has asked to consult on the project. A formal consultation initiation letter was sent on October 26, 2020. FHWA/Caltrans continued consultation by submitting the DOE to Arizona SHPO on August 16, 2022. The Arizona SHPO concurred with the finding of No Adverse Effect on September 14, 2022. In a letter dated August 4, 2023, the FHWA sent the HPSR and FOE HPSR Addendum and requested that the Arizona SHPO concur with the APE Delineation, identification of historic properties located within the Undertaking's APE, Evaluation of resources, and proposed Finding of Adverse Effect for the Undertaking. The Arizona SHPO concurred with the APE and Finding of Adverse Effect in a letter dated August 28, 2023. A draft MOA was submitted to the Arizona SHPO on August 29, 2023 and comments were received from the Arizona SHPO on September 11, 2023. A revised draft MOA was submitted to the Arizona SHPO on September 27, 2023 and a meeting to discuss MOA comments was held on October 2, 2023 with Caltrans, FHWA, and the Arizona and California SHPO. A second meeting was held on October 5, 2023 to continue discussion on the MOA. On October 10, 2023, the Arizona SHPO provided comments on the draft MOA and a revised version was submitted on October 16, 2023. The Arizona SHPO signed the MOA on October 18, 2023. Consultation with the Arizona State Historic Preservation Office remains ongoing.

- California State Historic Preservation Office: A formal consultation initiation letter was sent on October 26, 2020. FHWA/Caltrans continued consultation by submitting the DOE to SHPO on August 16, 2022. Consultation remains ongoing. On December 19, 2022, Caltrans sent a letter to the Fort Mojave Tribe and CA SHPO addressing each of the Tribe's comments and providing details on the methodologies used by Caltrans/FHWA to determine the finding for the project. On March 3, 2023, CA SHPO concurred with the eligibility determinations for several sites within the project footprint but requested additional information about the tangible and intangible effects mentioned by the Tribe before SHPO could concur on the finding for the project. During a videoconference between Caltrans, FHWA, CA SHPO, and the Fort Mojave Indian Tribe on July 19, 2023, the Tribe reiterated the points made during the May 2, 2023 meeting with Caltrans for the benefit of CA SHPO and FHWA staff. In brief, the Tribe considers their placement on the reservation, construction of the railroads in the 1800s, the original building of the Colorado River Bridge in the 1960s, and the effects on the landscape by the PG&E Compressor Station and the resulting toxic soil removal efforts which are currently ongoing south of the I-40 right-of-way, to be part of a single continuous series of adverse effects on the Mojave people.

In a letter dated August 4, 2023, the FHWA sent the HRSP and FOE Addendum and requested that the California SHPO concur with the APE Delineation, identification of historic properties located within the Undertaking's APE, Evaluation of resources, and proposed finding of Adverse Effect for the Undertaking. The California SHPO concurred with the Undertaking's APE, Evaluation of resources, and finding of Adverse Effect for the Undertaking in a letter dated August 15, 2023.

On August 29, 2023, the draft Memorandum of Agreement (MOA) was submitted to the California SHPO. The California SHPO provided comments on the draft MOA on September 12, 2023. A revised version was then provided to the California SHPO on September 27, 2023. On October 2, 2023, a meeting was held with Caltrans, FHWA, and the Arizona and California SHPOs to discuss comments on the draft MOA. On October 4, 2023, the California SHPO submitted comments on the draft MOA and the revised version was returned by FHWA on October 5, 2023. A second meeting to discuss comments with Caltrans, FHWA, and the Arizona and California SHPOs was held on October 5, 2023. The revised MOA was submitted to the California SHPO on October 16, 2023. On November 9, 2023 the MOA was executed with signatories, Arizona FHWA, California FHWA, Arizona SHPO, and California SHPO. In an email dated August 12, 2020 and in response to a letter sent by the Fort Mojave Indian Tribe, the California State Historic Preservation Office has asked to consult on the project. A formal consultation initiation letter was sent on October 26, 2020. Consultation with the California State Historic Preservation Office remains ongoing.

4.3 Notice of Preparation

Notice of Preparation

Notice of Preparation

To: Responsible and Trustee Agencies

From: California Department of Transportation, District 8 Division of Environmental Planning

464 W. 4th Street

(Address)

San Bernardino, CA 92401
(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

Caltrans District 8

_____ will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (is is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Julie Scrivner, Associate Environmental Planner, MS 829 at the address shown above. We will need the name for a contact person in your agency.

Project Title: I40/Colorado River Bridge Replacement Project

Project Applicant, if any: _____

Date 11/3/2020

Signature *Gabrielle Duff*

Title Senior Environmental Planner

Telephone (909) 383-6933

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

PROJECT DESCRIPTION

The California Department of Transportation (Caltrans) District 8, in cooperation with the Arizona Department of Transportation (ADOT), proposes to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 near Topock, AZ. The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic. The safety of the traveling public will be enhanced because of the following proposed improvements: standard lane and shoulder widths, a standard median barrier, and a standard bridge railing system. Deck deterioration on the existing facility is characterized by spalls and delaminations along the outside shoulders, and transverse cracks are present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the structure. Also, the bridge has a permit vehicle rating of PPPGO (purple permit rating up to 9-axle vehicles and a reduced permit rating for 11 and 13 axle vehicles).

Caltrans will be the lead agency for the proposed project under the California Environmental Quality Act (CEQA) and the Federal Highway Administration (FHWA) will be the lead agency for the project under the National Environmental Policy Act (NEPA).

The document for environmental analysis of this project under CEQA and NEPA was originally scoped as an Initial Study/Complex Environmental Assessment (IS/EA) anticipated to result in a Mitigated Negative Declaration/Finding of No Significant Impact (MND/FONSI). However, Caltrans, as the CEQA lead agency, has determined that an Environmental Impact Report (EIR) would be the most appropriate level of environmental document under CEQA due to changes in the regulatory environment and to address potentially significant impacts. Therefore, a joint EIR/EA is anticipated to be prepared in accordance with CEQA and NEPA.

LOCATION OF STUDY AREA

The project is located in San Bernardino County, California and in Mohave County, Arizona on Interstate 40 between Park Moabi Road and Topock Road. The total length of the project on I-40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.64 in California, and PM 0.0 to 0.6 in Arizona. The attached figure shows the project location and project vicinity.

ALTERNATIVES

Alternative 1

Build Alternative 1 proposes to replace the bridge on the existing alignment. This alternative will require staging the construction operation in two major stages Stage 1 will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing bridge. Stage-2 Shift traffic to the newly constructed portion of the deck.

then remove the rest of existing bridge and build the second half of new bridge. This traffic reduction will remain through the length of the construction zone and then transition to the original roadbed.

Alternative 2

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will realign to the north of existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 3

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will realign to the south of existing I-40 centerline and this will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 4 (No Build Alternative)

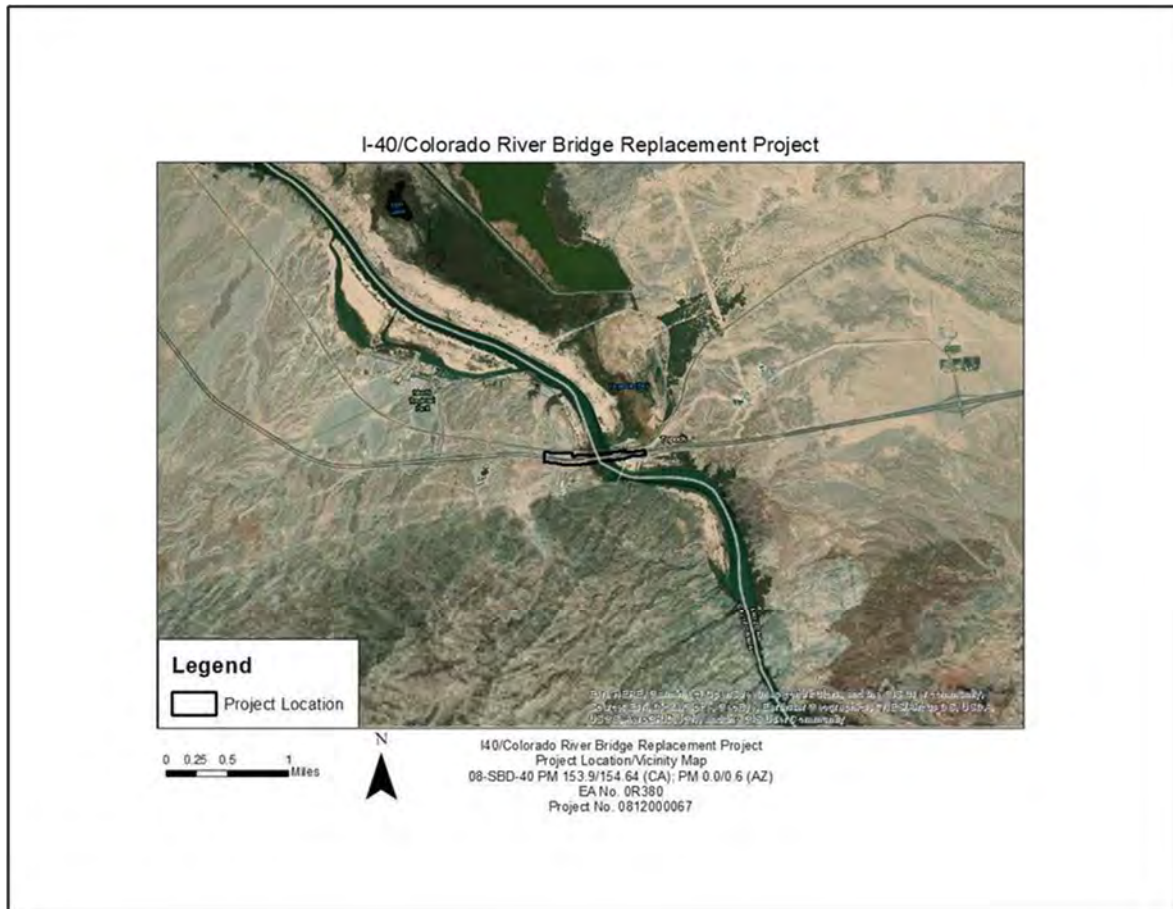
The No-Build Alternative assumes that no improvements will be made to the Colorado River bridge. Without the planned improvements proposed as part of the project (e.g., rehabilitating and strengthening the existing bridge, or replacing the bridge) the existing bridge will continue to deteriorate, ultimately compromising the integrity and safety of the structure. Also, the load rating of the bridge will not accommodate all permit vehicle traffic to move goods and people between two states. As a result, Alternative 4 would not meet the purpose and need of the project. This alternative would not satisfy the proposed project's purpose and need.

POTENTIAL ENVIRONMENTAL EFFECTS

Various environmental and community resources are known to exist within the limits of the study area and the potential effects to these resources will be studied in the Environmental Impact Report/Environmental Assessment (EIR/EA). Environmental effects anticipated for the study include, but are not limited to: Land Use, Farmlands, Growth, Community Impacts, Utilities and Emergency Services, Traffic and Transportation/Pedestrian and Bicycle Facilities, Visual/Aesthetics, Cultural Resources, Water Quality and Stormwater Runoff, Hydrology and Floodplains, Geology/Soils/Seismicity/Topography, Paleontology, Hazardous Waste/Materials, Air Quality/Greenhouse Gas Emissions/Climate Change, Noise, Mineral Resources, wildfire, Energy, Biological Resources, and Cumulative Impacts. Of these environmental resources, further study may determine potentially significant impacts to Biological Resources. It is anticipated that the project will have a less than significant impact on all other environmental resources.

PUBLIC SCOPING MEETING


Caltrans will hold a public scoping meeting to provide an overview of the project, present a summary of the environmental process and issues addressed, and receive input regarding environmental issues and the suggested scope and content of the EIR/EA. The scoping meeting will be held virtually on 11/18/2020 from 5:00 PM – 6:30 PM as a webinar at <https://tinyurl.com/i40Webinar>.





4.4 Notice of Availability

On June 14, 2023, Caltrans released the Draft EIR/EA for public review and comment. The original comment period was established as June 14, 2023 to Friday, July 28, 2023. An extension was granted on Friday, July 28, 2023 to allow the public to review and comment until Friday, August 11, 2023. A Notice of Availability (NOA) of the Draft EIR/EA was filed with the California State Clearinghouse as well as mailed to 126 local, state, and federal government agencies, as well as seven local Federally Recognized Tribes. The Notice of Availability was also published in two local newspapers within San Bernardino County in California and Mojave County in Arizona. Arellano & Associates, on behalf of Caltrans mailed the public notice to 2,294 addresses via USPS. The mailing was sent to local, state, and federal government agencies, as well as Federally Recognized Tribes and properties near the proposed project. Arellano & Associates, on behalf of Caltrans distributed eblasts to the project database. The purpose of the eblasts were to notify database contacts regarding the project alternatives, the public review and comment period of the Draft EIR/EA, and the virtual public hearing.




PUBLIC NOTICE

Draft Environmental Impact Report (EIR)/Environmental Assessment (EA)
Available for the

I-40 Colorado River Bridge Replacement Project

Announcement of Virtual Public Hearing



WHAT'S BEING PLANNED?	<p>The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated. Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment, Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge, Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge, and Alternative 4 (No-Build Alternative).</p> <p>The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.</p>
WHY THIS NOTICE?	<p>Caltrans has studied the effects this project may have on the environment. Our studies show it would significantly affect the quality of the environment. The report that explains why is called an EIR/EA. This notice is to inform you of the preparation of the Draft EIR/EA and of its availability for you to read. A virtual public hearing will be held to give you an opportunity to comment and provide relevant input before an alternative is selected.</p>
WHAT'S AVAILABLE?	<p>Maps for the EIR/EA and other project information are available for review and copying at the Caltrans District 8 Office (464 W 4th Street, San Bernardino, 92401) on weekdays from 8am to 4pm. Please call the number below and provide a minimum 24-hour notice prior to visiting the District office to view available documents.</p>
WHERE YOU COME IN	<p>Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the Draft EIR/EA, you may submit your written comments beginning June 14 until July 28, 2023 to California Department of Transportation, District 8, ATTN: Gabrielle Duff, Branch Chief, Environmental Studies 'B', 464 West 4th Street, MS-829, San Bernardino, CA 92401-1400;</p> <p>Or via email to D8.0R380.ColoradoRiverBridge.Comments@dot.ca.gov</p>
WHEN AND WHERE	<p>A virtual public hearing will be held live on the Zoom platform, June 29, 2023 from 6 to 7 p.m. To participate in the hearing using a computer, please visit the following link: https://tinyurl.com/I-40CRBRPPubMtg Enter Meeting ID: 844 1844 0766</p> <p>To participate in the hearing using a landline telephone: Dial: (213) 338-8477</p> <p>Individuals who require special accommodations (American Sign Language interpreter, documentation in alternate formats, etc.) are requested to contact Gabrielle Duff at (909) 383-6933 at least 7 days prior to the scheduled hearing date. TDD users may contact the California Relay Service TDD line at 1(800) 735-2929 or Voice Line at 1(800) 735-2922.</p>
CONTACT	<p>For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910.</p> <p>EA 08-0R380</p>

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DECLARATION

I am a resident of Los Angeles County, over the age of eighteen years and not a party to or interested in the matter noticed.

The notice, of which the annexed is a printed copy appeared in the:

NEEDLES DESERT STAR

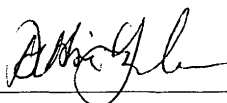
On the following dates:

06/14/2023

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Los Angeles, California, this

14th day of June 2023



Debbie Yerkes

Signature

3696402

*"The only Public Notice which is justifiable
from the standpoint of true economy and the public interest,
is that which reaches those who are affected by it"*



* A 0 0 0 0 0 6 3 3 5 6 9 0 *

PUBLIC NOTICE
 Draft Environmental Impact Report (EIR)/Environmental Assessment (EA)
 Available for the
I-40 Colorado River Bridge Replacement Project
 Announcement of Virtual Public Meeting

WHAT'S BEING PLANNED?
 The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated. Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment. Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge. Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge, and Alternative 4 (No-Build Alternative).

The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.

WHY THIS NOTICE?
 Caltrans has studied the effects this project may have on the environment. Our studies show it would significantly affect the quality of the environment. The report that explains why is called an EIR/EA. This notice is to inform you of the preparation of the Draft EIR/EA and of its availability for you to read. A virtual public hearing will be held to give you an opportunity to comment and provide relevant input before an alternative is selected.

WHAT'S AVAILABLE?
 Maps for the EIR/EA and other project information are available for review and copying at the Caltrans District 8 Office (464 W 4th Street, San Bernardino, 92401) on weekdays from 8am to 4pm. Please call the number below and provide a minimum 24-hour notice prior to visiting the District office to view available documents.

WHERE YOU COME IN
 Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the Draft EIR/EA, you may submit your written comments beginning June 14 until July 28, 2023 to California Department of Transportation, District 8, ATTN: Gabrielle Duff, Branch Chief, Environmental Studies 'B', 464 West 4th Street, San Bernardino, CA 92401-1400.
 Or via email to DR.0R380.ColoradoRiverBridge.Comments@dot.ca.gov

WHEN AND WHERE
 A virtual public hearing will be held live on the Zoom platform, June 29, 2023 from 6 to 7 p.m. To participate in the hearing using a computer, please visit the following link: <https://tinyurl.com/4OCRRPPubMtg>
 Enter Meeting ID: 844 1844 0766
 To participate in the hearing using a landline telephone:
 Dial: (213) 338-9477
 Individuals who require special accommodations (American Sign Language interpreter, documentation in alternate formats, etc.) are requested to contact Gabrielle Duff at (909) 383-6933 at least 7 days prior to the scheduled hearing date. TDD users may contact the California Relay Service TDD line at (1800) 735-2929 or Voice Line at 1 (800) 735-2922.

CONTACT
 For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910
 EA 08-0R380

AVISO PÚBLICO
 Borrador del Informe de Impacto Ambiental (EIR)/Evaluación Ambiental (EA)
 Disponible para el
Proyecto de Reemplazo del Puente Colorado River en la I-40
 Anuncio de la Audiencia Pública Virtual

¿QUÉ SE ESTÁ PLANEANDO?
 El Departamento de Transporte de California (Caltrans), en cooperación con el Departamento de Transporte de Arizona (ADOT) propone reemplazar el Puente Colorado River (Puente de California No. 54-0415, Puente de Arizona No. 957) que abarca la línea estatal de California/Arizona en la I-40 cerca de Topock, Arizona. El propósito del proyecto es mejorar la seguridad e integridad de la estructura al abordar el deterioro del tablero y fortalecer los vigas para aumentar la capacidad de carga. La seguridad del público que viaja también se mejorará porque la propuesta incluye anchos estándar de los carriles y acotamiento, así como una renovación del sistema de barrandales del puente. Hay tres alternativas de construcción además de la alternativa de no construcción que se están evaluando. Con la Alternativa 1 (Alineación Existente) se construirá un nuevo puente en la alineación existente, con la Alternativa 2 (Alineación Norte) se propone reemplazar el puente con una alineación al norte del puente existente, con la Alternativa 3 (Alineación Sur) se propone reemplazar el puente con una alineación al sur del puente existente, y la Alternativa 4 (Alternativa de No Construcción).

El trabajo propuesto invadirá los humedales. El proyecto está siendo evaluado para determinar si existen alternativas prácticas para evitar esta invasión o, de no ser así, para garantizar que se tomen todas las medidas prácticas para minimizar el daño a los humedales.

¿POR QUÉ ESTE AVISO?
 Caltrans ha estudiado los efectos que este proyecto puede tener en el medio ambiente. Nuestros estudios muestran que afectaría significativamente la calidad del medio ambiente. El informe que lo explica se conoce como EIR/EA. Este aviso es para informarle de la elaboración del Borrador de EIR/EA y de su disponibilidad para su lectura. Se llevará a cabo una audiencia pública virtual para darle la oportunidad de comentar y proporcionar información relevante antes de seleccionar una alternativa.

¿QUÉ HAY DISPONIBLE?
 Los mapas para el EIR/EA y otra información del proyecto están disponibles para su revisión y para sacar copias en la Oficina del Distrito 8 de Caltrans (464 W 4th Street, San Bernardino, 92401) de lunes a viernes de 8 am a 4pm. Por favor llame al número a continuación y dar aviso con un mínimo de 24 horas antes de visitar la oficina del Distrito para ver los documentos disponibles.

PARTICIPACIÓN
 ¿Se han abordado los posibles impactos? ¿Tiene información que deba incluirse? Sus comentarios serán parte del registro público. Si desea hacer un comentario sobre el Borrador de EIR/EA, puede enviar sus comentarios por escrito a partir del 14 de junio hasta el 28 de julio de 2023 al Departamento de Transporte de California Distrito 8, ATTN: Gabrielle Duff, Branch Chief, Environmental Studies 'B', 464 West 4th Street, MS-829, San Bernardino, CA 92401-1400.
 O por correo electrónico a DR.0R380.ColoradoRiverBridge.Comments@dot.ca.gov

¿CUÁNDO Y DÓNDE?
 Se llevará a cabo una audiencia virtual en vivo en la plataforma de Zoom, el 29 de junio de 2023 de 6 a 7 p.m. Para participar en la audiencia utilizando una computadora, visite el siguiente enlace: <https://tinyurl.com/4OCRRPPubMtg>
 Ingrese el identificador de la audiencia (Meeting ID): 844 1844 0766
 Para participar en la audiencia utilizando un teléfono fijo:
 Favor de marcar: +1 (498) 650-3123
 Ingrese el código de la conferencia telefónica: 305-957-085

Las personas que requieren adaptaciones especiales (intérprete de lenguaje de señas americano, documentación en formatos alternativos, etc.) deben comunicarse con Gabrielle Duff al (909) 383-6933 al menos 7 días antes de la fecha programada de la audiencia. Los usuarios TDD pueden comunicarse a la línea TDD del Servicio de Re-transmisión de California al (1800) 735-2929 o con la Línea de Voz al (1800) 735-2922.

CONTACTO
 Para obtener más información sobre este proyecto o cualquier asunto relacionado con transporte, comuníquese con la Oficina de Asuntos Públicos del Distrito 8 de Caltrans al (909) 383-1910
 EA 08-0R380

CNSBP5196403

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San Francisco, Oakland, San Jose, Sacramento
Special Services Available in Phoenix

DECLARATION

I am a resident of Los Angeles County, over the age of eighteen years and not a party to or interested in the matter noticed.

The notice, of which the annexed is a printed copy appeared in the:

MOHAVE VALLEY NEWS

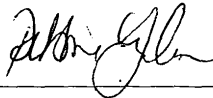
On the following dates:

06/14/2023

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Los Angeles, California, this

14th day of June 2023

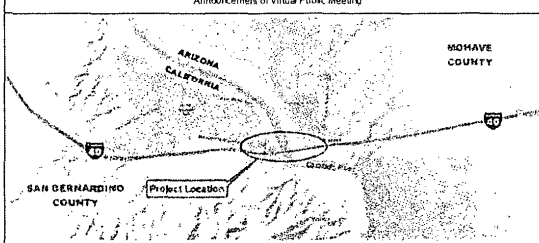
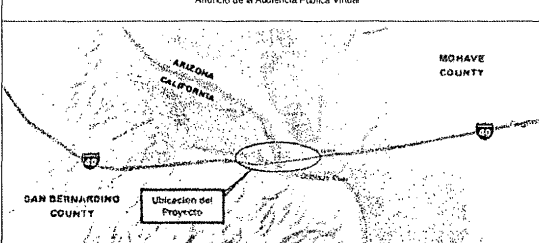


Debbie Yerkes
Signature

3696403

*"The only Public Notice which is justifiable
from the standpoint of true economy and the public interest,
is that which reaches those who are affected by it"*



			
<p>PUBLIC NOTICE Draft Environmental Impact Report (EIR)/Environmental Assessment (EA) Available for the I-40 Colorado River Bridge Replacement Project Announcement of Virtual Public Meeting</p>		<p>AVISO PÚBLICO Borrador del Informe de Impacto Ambiental (EIR)/Evaluación Ambiental (EA) Disponible para el Proyecto de Reemplazo del Puente Colorado River en la I-40 Anuncio de la Audiencia Pública Virtual</p>	
<p>WHAT'S BEING PLANNED?</p>	<p>The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated: Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment; Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge; Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge; and Alternative 4 (No-Build Alternative).</p> <p>The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.</p>	<p>¿QUÉ SE ESTÁ PLANEANDO?</p>	<p>El Departamento de Transporte de California (Caltrans) en cooperación con el Departamento de Transporte de Arizona (ADOT) proponen reemplazar el Puente Colorado River (Puente de California No. 54-0415, Puente de Arizona No. 957) que abarca la línea estatal de California/Arizona en la I-40 cerca de Topock, Arizona. El propósito del proyecto es mejorar la seguridad e integridad de la estructura al abordar el deterioro del tablero y fortalecer las vigas para aumentar la capacidad de carga. La seguridad del público que viaja también se mejorará porque la propuesta incluye anchos estándar de los carriles y acotamiento, así como una renovación del sistema de barandales del puente. Hay tres alternativas de construcción además de la alternativa de no construcción que se están evaluando. Con la Alternativa 1 (Alineación Existente) se construirá un nuevo puente en la alineación existente; con la Alternativa 2 (Alineación Norte) se propone reemplazar el puente con una alineación al norte del puente existente; con la Alternativa 3 (Alineación Sur) se propone reemplazar el puente con una alineación al sur del puente existente; y la Alternativa 4 (Alternativa de No Construcción).</p> <p>El trabajo propuesto invadirá los humedales. El proyecto está siendo evaluado para determinar si existen alternativas prácticas para evitar esta invasión o, de no ser así, para garantizar que se tomen todas las medidas prácticas para minimizar el daño a los humedales.</p>
<p>WHY THIS NOTICE?</p>	<p>Caltrans has studied the effects this project may have on the environment. Our studies show it would significantly affect the equity of the environment. The report that explains why is called an EIR/EA. This notice is to inform you of the preparation of the Draft EIR/EA and of its availability for you to read. A virtual public hearing will be held to give you an opportunity to comment and provide relevant input before an alternative is selected.</p>	<p>¿POR QUÉ ESTE AVISO?</p>	<p>Caltrans ha estudiado los efectos que este proyecto puede tener en el medio ambiente. Nuestros estudios muestran que afectará significativamente la equidad del medio ambiente. El informe que lo explica se conoce como EIR/EA. Este aviso es para informarle de la elaboración del Borrador de EIR/EA y de su disponibilidad para su lectura. Se llevará a cabo una audiencia pública virtual para darle la oportunidad de comentar y proporcionar información relevante antes de seleccionar una alternativa.</p>
<p>WHAT'S AVAILABLE?</p>	<p>Maps for the EIR/EA and other project information are available for review and copying at the Caltrans District 8 Office (164 W 4th Street, San Bernardino, 92401) on weekdays from 8am to 4pm. Please call the number below and provide a minimum 24-hour notice prior to visiting the District office to view available documents.</p>	<p>¿QUÉ HAY DISPONIBLE?</p>	<p>Los mapas para el EIR/EA y otra información del proyecto están disponibles para su revisión y para sacar copias en la Oficina del Distrito 8 de Caltrans (164 W 4th Street, San Bernardino, 92401) de lunes a viernes de 8 am a 4pm. Por favor llame al número de continuación y dé aviso con un mínimo de 24 horas antes de visitar la oficina del Distrito para ver los documentos disponibles.</p>
<p>WHERE YOU COME IN</p>	<p>Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the Draft EIR/EA, you may submit your written comments beginning June 14 until July 28, 2023 to California Department of Transportation, District 8 ATTN: Gabrielle Duff, Branch Chief, Environmental Studies B, 464 West 4th Street, MS-629, San Bernardino, CA 92401-1400. Or via email to 08.0R380.ColoradoRiverBridge.Comments@aot.ca.gov</p>	<p>SU PARTICIPACIÓN</p>	<p>¿Se han abordado los posibles impactos? ¿Tiene información que deba incluirse? Sus comentarios serán parte del registro público. Si desea hacer un comentario sobre el Borrador del EIR/EA, puede enviar sus comentarios por escrito a partir del 14 de junio hasta el 28 de julio de 2023 al Departamento de Transporte de California, Distrito 8, ATTN: Gabrielle Duff, Branch Chief, Environmental Studies B, 464 West 4th Street, MS-629, San Bernardino, CA 92401-1400. O por correo electrónico a 08.0R380.ColoradoRiverBridge.Comments@aot.ca.gov</p>
<p>WHEN AND WHERE</p>	<p>A virtual public hearing will be held live on the Zoom platform, June 29, 2023 from 6 to 7 p.m. To participate in the hearing using a computer, please visit the following link: https://tinyurl.com/840CRBRP-PubMtg Enter Meeting ID: 844 1844 0766 To participate in the hearing using a landline telephone: Dial: (713) 338-8477</p> <p>Individuals who require special accommodations (American Sign Language interpreter, documentation in alternate formats, etc.) are requested to contact Gabrielle Duff at (909) 383-6933 at least 7 days prior to the scheduled hearing date. TDD users may contact the California Relay Service TDD line at (1800) 735-2929 or Voice Line at (1800) 735-2922.</p>	<p>¿CUANDO Y DÓNDE?</p>	<p>Se llevará a cabo una audiencia virtual en vivo en la plataforma de Zoom, el 29 de junio de 2023 de 6 a 7 p.m. Para participar en la audiencia utilizando una computadora, visite el siguiente enlace: https://tinyurl.com/840CRBRP-PubMtg Ingrese el identificador de la audiencia (Meeting ID), 844 1844 0766</p> <p>Para participar en la audiencia utilizando un teléfono fijo: Favor de marcar: +1 (408) 650-3123 Ingrese el código de la conferencia telefónica: 305-657-085</p> <p>Las personas que requieren adaptaciones especiales (intérprete de lenguaje de señas americano, documentación en formatos alternativos, etc.) deben comunicarse con Gabrielle Duff al (909) 383-6933 al menos 7 días antes de la fecha programada de la audiencia. Los usuarios TDD pueden comunicarse a la línea TDD del Servicio de Retransmisión de California al (1800) 735-2929 o con la Línea de Voz al (1800) 735-2922.</p>
<p>CONTACT</p>	<p>For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910 EA 08-0R380</p>	<p>CONTACTO</p>	<p>Para obtener más información sobre este proyecto o cualquier asunto relacionado con transporte, comuníquese con la Oficina de Asuntos Públicos del Distrito 8 de California al (909) 383-1910 EA 08-0R380</p>

CNSBR3056403

4.4.1 Virtual Public Hearing

The project team hosted a virtual public hearing via Zoom on Thursday, June 29, 2023 from 6-7 p.m. The hearing included a formal presentation portion that gave an overview of the project, including the project alternatives and public commenting options. In addition, participants were invited to make live public comments on the project alternatives. Participants were given two minutes for oral public comments. The virtual public hearing included a court reporter to transcribe the public comments and a Spanish interpreter to provide live interpretation.

There was a total of five public participants in attendance. Four of the participants were representing government agencies, while one was a local community member. There were no public comments made during the virtual public hearing. A post-hearing eblast was sent on July 21, 2023 to the project database that featured the presentation and a reminder of the comment submission methods.

4.4.2 Comments on the Draft EIR/EA

Comments on the Draft EIR/EA were accepted from June 14 through July 28, 2023, then extended to August 11, 2023 through mail, email, and during the virtual public hearing. A total of 9 comments were submitted during the comment period. The public comments received during the public review period are provided on the following pages along with responses to the comments.

Comment 1

State of California-Transportation Agency
DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
Needles Area
1916 J Street
Needles, CA 92363
(760) 326-2000
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

GAVIN NEWSOM, Governor



July 18, 2023

File No.: 834.16081.17050

Gabrielle Duff, Senior Environmental Planner
Caltrans District 8
464 W. 4th Street, 6th Floor
San Bernardino, CA 92401-1400

RE: SCH # 2020110050

The Needles Area of the California Highway Patrol received the "Notice of Completion" of the Environmental document for the proposed I-40/Colorado River Bridge Replacement Project, State Clearinghouse (SCH) # 2020110050. After review, we have concerns with the potential impact this project could have on traffic congestion.

Our concern relates to the utilization of Alternative #1, which would require restricting traffic flow from two lanes down to one lane, in both eastbound and westbound directions of travel. This option will have a substantial impact on traffic congestion in both directions, on a consistent basis, throughout the project. The traffic congestion may also potentially increase the number of traffic collisions prior to and within the project construction zone, potentially demand additional enforcement efforts, and/or increase response time to emergency situations. Large, commercial type vehicles consistently traverse the I-40/Colorado River Bridge. Constricting the bridge to one lane of travel in each direction, with limited to no freeway shoulders available may cause a clearance issue for larger type vehicles. Alternatives 2 or 3 would have less potential of restricting traffic flow and would likely result in fewer traffic collisions throughout the course of this project. Alternatives 2 or 3 would also have less negative impact on the general traffic flow as motorist could proceed as normal, utilizing two traffic lanes in both directions, at normal freeway speeds throughout completion of the project.

The I-40 Colorado River Bridge separates the states of Arizona and California. This project has potential to subsequently cause traffic congestion within the state of Arizona. Therefore, the Needles Area of the California Highway Patrol requests this "Notice of Completion" be provided to the Arizona Department of Public Safety, District 1, at 2319 East Andy Devine, Kingman AZ 86401.

Sincerely,

R. ADELMANN, Lieutenant
Commander



Safety, Service, and Security

An Internationally Accredited Agency

Response to Comment 1a:

Alternative #1 was discussed and concurred with Arizona DOT and Caltrans District 8 Traffic Management and it was determined that there is no significant impact on traffic congestion. There may be a short duration of traffic congestion. This strategy has been used on other bridge projects on I-40.

Response to Comment 1b:

Large commercial vehicles will be redirected to the Needles Bridge (I-95) or Parker (SR-62) Bridge. Currently the bridge has a permit vehicle rating of PPPGO (Purple permit rating for 5, 7 and 9-axle vehicles and reduced permit ratings of Green and Orange for 11 and 13 axle vehicles respectively).

Response to Comment 1c:

In the case of traffic collision during construction, emergency crews will have to take over the two lanes Available to traffic to take care of the incident. This is a valid concern and will be considered with all other pros and cons of alternative, prior to an alternative is selected.

Comment 2



July 28, 2023

File Ref: SCH # 2020110050

Gabrielle Duff, Branch Chief
Environmental Studies "B"
Caltrans, District 8
464 West 4th Street, MS-829
San Bernardino, CA 92401-1400

VIA ELECTRONIC MAIL ONLY (gabrielle.duff@dot.ca.gov)

Subject: Draft Environmental Impact Report/Environmental Assessment for I-40 Colorado River Bridge Replacement Project, San Bernardino County

Dear Gabrielle Duff:

The California State Lands Commission (Commission) staff has reviewed the draft Environmental Impact Report/Environmental Assessment (EIR/EA) for the I-40 Colorado River Bridge Replacement Project (Project), which is being prepared by the California Department of Transportation (Caltrans). Caltrans, as the public agency proposing to carry out the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and the Federal Highway Administration is the lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). The Commission is a trustee agency for projects that could directly or indirectly affect State sovereign land and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on State sovereign land, the Commission will act as a responsible agency.

Commission Jurisdiction and Public Trust Lands

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and

Response to Comment 2a (SLC #1 Project Description):

The exact size and location of the CIDH Piles or how the Bridge bents are constructed will be available once these structural elements are designed in phase 1 (design phase). This information will be available when requesting for permits at the PS&E stage.

Response to Comment 2b (SLC #2 Alternatives):

The preferred alternative, which will identify the alternative with the least environmental impacts will be chosen by the Project Delivery Team (PDT) prior to Project Approval.

Response to Comment 2c (SLC #3 Criteria Pollutants):

This project, is exempt from all emissions analyses per Table 1 of Caltrans Carbon-monoxide Protocol under project categories "*Widening narrow pavements or reconstructing bridges (no additional travel lanes).*"

Thus, criteria pollutant construction or operations emissions analyses for project were not performed or emissions quantified for comparison being an exempt project. The Federal EPA, and FHWA consider the exempt projects do not generate enough or significant emissions to impact or violate the established or exceed the existing NAAQS (National Ambient Air Quality Standards) or CAAQS (California Ambient Air Quality Standards) or Significance

<p>Comment 2</p> <p>Gabrielle Duff Page 2 July 28, 2023</p> <p>waterways, are subject to the protections of the common law Public Trust Doctrine. As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the state for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low-water mark and a Public Trust easement landward to the ordinary high-water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.</p> <p>Based on the EIR/EA, staff understands that the Project spans the Colorado River, which is non-tidal and within the Commission's jurisdiction. The lease (PRC 572) with Caltrans began December 20, 1950, for the protection, construction, and continued use and maintenance of the Red Rock Bridge on the Colorado River. On January 30, 1964, the lease was amended to add an additional 2 acres and further construction to the right-of-way, coinciding with the planning and construction of the I-40 Colorado River Bridge. The Project would require construction work within the Colorado River; therefore, a new or amended lease from the Commission will be required for the Project. An application may be submitted to the Commission through the online application portal (OSCAR.slc.ca.gov). If you have questions specific to jurisdiction, lease provisions, or the application process, please contact Public Land Management Specialist, Drew Simpkin (contact information below).</p> <p>Project Description</p> <p>The lead agencies propose to replace the Colorado River Bridge due to safety and integrity concerns about the existing bridge structure, including deck deterioration, non-standard shoulder widths, and load rating.</p> <p>From the Project Description, Commission staff understands that the Project would include the following components that have potential to affect State sovereign land:</p> <ul style="list-style-type: none"> • Temporary trestles. Trestles would be placed under the existing bridge to be used as a work platform for foundation construction, material hauling, falsework erection, and removal of the existing bridge. • Geotechnical borings. Borings RC-20-009, -010, and -011 will be made from a barge in the Colorado River. At the boring locations, the method involves setting a casing, hammering the casing approximately 5 feet deep, sealing the inside with bentonite, and then drilling through the bentonite seal. • Pier foundations on large diameter cast-in-drilled-hole (CIDH) piles will be installed for the new bridge. 	<p>Response to Comment 2c SLC #3 Criteria Pollutants continued</p> <p>Thresholds in MDAQMD for the Criteria Pollutants Table 6 (CEQA and federal Conformity Guidelines – 2020. Hence, the project generated emissions both operation and construction would not exceed the MDAQMD significant Emissions Thresholds (Annual or Daily) as shown in the Table 6.” In addition, based on Design Alternative 1, the existing substandard bridge will be replaced with a standard bridge which is safe, efficiency, and accommodation for oversized-load vehicles by improving traffic flow with the wider bridge shoulder areas. There are no traffic volume increasing for this design alternative. The construction measures are incorporated during construction such as the Non-Standard Specification (NSSP) 14-9.08 will require contractor to comply with air district rules and responsible for payment of all fees by the AQMD/APCD. NSSP 5-1.33, 7-1.02 will require contractor to use Tier 4 equipment. Per Rule 403, a district-approved dust control Plan is required from contractor. Therefore, this project will have a less than significant impact and should be in compliance with the Mojave Desert Air Quality District.</p> <p>The numbering in the Final Environmental Document has been corrected.</p>
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<p>Comment 2</p> <p>Gabrielle Duff Page 3 July 28, 2023</p> <p><u>Environmental Review</u></p> <p>Commission staff requests that the lead agencies consider the following comments on the Project's EIR/EA, to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the EIR/EA when considering a future lease application for the Project.</p> <p><u>General Comments</u></p> <ol style="list-style-type: none"> 1. <u>Project Description:</u> The EIR/EA (section 1.3.2) states that "The pier foundations for each of the build alternatives would be on large diameter CIDH piles;" however, there are no details provided on the precise size of the CIDH piles or how the piers would be constructed. As mentioned in our comment letter on the Notice of Preparation dated December 2, 2020, the Project Description should be as precise as possible in describing the details of all allowable activities (e.g., types of equipment or methods that may be used, maximum area of impact or volume of sediment removed or disturbed, seasonal work windows, locations for material disposal, etc.), as well as the details of the timing and length of activities. Commission staff request that more detailed descriptions of work within State sovereign lands be included in the EIR/EA's Project Description to facilitate agency and public review. 2. <u>Alternatives:</u> In accordance with CEQA requirements, an "environmentally superior alternative" must be identified among the alternatives analyzed in the EIR. The environmentally superior alternative is the alternative found to have an overall environmental advantage compared to the other alternatives based on the impact analysis in the EIR. The EIR/EA does not appear to identify an Environmentally Superior Alternative. <p><u>Air Quality</u></p> <ol style="list-style-type: none"> 3. <u>Criteria Pollutants:</u> The Project is in a nonattainment area for particulate matter. In section 2.2.5 (EA), the document states that "During construction, short-term air quality degradation could occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities," and air quality measures AQ-1, AQ-2, and AQ-3 are proposed to "minimize potential impacts." Please explain in section 3.2.3 (CEQA) why air quality impacts associated with Project construction are assumed to comply with Mojave Desert Air Quality Management District (MDAQMD) regulations and determined to be less than significant. The EIR should clarify the CEQA significance threshold for O3, PM10, and PM2.5 and explain how the Project activities are not potentially significant. MDAQMD has four possible approaches in their 2020 CEQA guidance document https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/638126583450270000). The EIR should indicate whether Caltrans applied one of MDAQMD's evaluation criteria or not. If so, please either include reference to 	<p>Response to Comment 2d (SLC #4 Special Status Species):</p> <p>Senate Bill 147 was signed July 10, 2023 and is valid until December 31, 2033. The bill amended sections 395, 3511, 4700, 5050, and 5515 of the Fish and Game Code and added Section 2081.15. This bill authorizes the California Department of Fish and Wildlife (CDFW) to issue an 2081 Incidental Take Permit for fully protected species using the permitting structure in CESA that would authorize the take of a fully protected species resulting from impacts attributable to the implementation of critical infrastructure projects if certain conditions are satisfied. Because razorback sucker, California black rail, and Yuma Ridgway's rail are CDFW fully protected species, Caltrans in coordination with CDFW, may apply for a 2081 Incidental Take permit under California Endangered Species Act (CESA) for these species. At this time, the impacts analysis is limited based on the design information and additional analysis is forthcoming in the design phase.</p> <p>Response to Comment 2e (SLC #5 Greenhouse Gas):</p> <p>Significant Emissions Thresholds: Given in the CEQA Guidelines are limits for daily and annual thresholds for pollutants total generated emissions (direct or indirect), and if evaluation criteria as given in Table 6 of CEQA and Federal Conformity Guidelines (2020) are exceeded, it causes significant air quality impacts. The MDAQMD significance criteria has established quantity limits for the</p>
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<p>Comment 2</p> <p>Gabrielle Duff Page 4 July 28, 2023</p> <p>criteria number 1 (the default, quantitative approach) or explain the choice of criteria number 2, 3, or 4.</p> <p>In addition, there does not appear to be a Section 2.2.6 as noted in the air quality analysis in section 3.2.3 (page 373).</p> <p><u>Biological Resources</u></p> <p>4. <u>Special-Status Species</u>: Section 3.2.4(a) states that impacts to State-listed species (razorback sucker, California black rail, and Yuma Ridgway's rail) would remain significant and unavoidable, because these species are California Department of Fish and Wildlife fully protected, and the proposed Project would result in "take," which is not allowed for fully protected species. Therefore, in addition to several mitigation measures, Caltrans is pursuing a Project-specific, one-time exemption to the California Fish and Game Code (CFGC) sections 3511, 4700, and/or 5515, and amendment of CFGC section 2081 that would allow the incidental take of these fully protected species. As temporary impacts to the Colorado River exceed 3 acres in each alternative, Commission staff request that the EIR/EA be more detailed regarding the type and extent of anticipated impacts to the razorback sucker.</p> <p><u>Climate Change</u></p> <p>5. <u>Greenhouse Gas (GHG)</u>: Section 3.2.8 and Section 3.5 (page 423, under <i>Construction Emissions</i>) states that construction emissions for the proposed Project would be approximately 5,000 metric tons CO_{2e} over an estimated 24 months of construction. However, a threshold of significance on which to base the "less than significant impact" determination for construction emissions is not provided. Commission staff request that the EIR/EA provide an explanation as to why a threshold for construction emissions was not used, and how the less than significant determination for construction emissions was made. Commission staff recommends the EIR use the 2020 MDAQMD thresholds that include a short ton annual threshold and a daily pound threshold.</p> <p><u>Cultural Resources and Tribal Cultural Resources</u></p> <p>6. <u>Submerged Resources</u>: The EIR/EA should state that the title to archaeological sites and historic or cultural resources on or in the submerged lands of California is vested in the State and under the jurisdiction of the Commission (Pub. Resources Code, § 6313). Commission staff requests that the lead agencies consult Commission staff should any cultural resources on State lands be discovered during construction of the proposed Project.</p> <p>Staff also requests that the following statement be included in the EIR/EA's Mitigation Monitoring Program: "The final disposition of archaeological, historical, and paleontological resources recovered on State land under the</p>	<p>pollutants emitted (yearly or daily) in Table 6.</p> <p>Response to Comment 2f (SLC #6 Submerged Resources):</p> <p>Reference to title of Submerged Resources within the lands of California per PRC § 6313, has been added to Section 2.12.2. Measures CR-8 and CR-9 have been added to section 2.1.12.4 Avoidance, Minimization, and/or Mitigation Measures.</p> <p><u>Response to Comment 2g (SLC # 7 Tribal Consultation):</u></p> <p>Sections 2.1.12 and 3.2.18 have been updated to demonstrate that the FHWA in cooperation with Caltrans and Arizona Department of Transportation (ADOT) have applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and have determined that the project will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property under Alternatives 1, 2, and 3 because of anticipated indirect effects during construction. The project will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (No Build) (36 CFR §800.5). Additional measures have been developed as mitigation measures included in the Memorandum of Agreement (MOA) between FHWA and the California SHPO and the Arizona SHPO.</p>
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<p>Comment 2</p> <p>Gabrielle Duff Page 5 July 28, 2023</p> <p>jurisdiction of the California State Lands Commission must be approved by the Commission."</p> <p>7. <u>Tribal Consultation</u>: As noted in sections 2.1.12 and 3.2.18, Caltrans initiated tribal consultation in June 2020 and consultation remains ongoing. However, the EIR/EA does not specify the issues requiring ongoing consultation or explain how Caltrans determined that impacts to tribal cultural resources would be less than significant. Commission staff recommend that Caltrans include this information in the EIR/EA to maintain a clear record of Caltrans' efforts to comply with AB 52 and to assist the Commission's Tribal Liaison with review of the conducted outreach per the Commission's Tribal Policy (https://www.slc.ca.gov/wp-content/uploads/2018/07/Tribal.pdf).</p> <p><u>Hydrology and Water Quality</u></p> <p>8. <u>Construction Debris</u>: Section 3.2.10(a) states that to avoid degradation of surface waters, "BMPs [best management practices] would be implemented during construction and operation of the project." Because it is not expressly called out, please verify that the planned BMPs include a measure to prevent construction waste from the bridge falling into the Colorado River during construction, and what actions that measure would entail.</p> <p><u>Recreation</u></p> <p>9. <u>River Use</u>: Although, as stated in Section 3.2.16 of the EIR/EA, there would be no increased demand for parks or recreational facilities or increased physical deterioration of a recreational facility, the Project could have temporary, potentially significant impacts on recreational river users during bridge demolition and construction. The EIR/EA addresses this impact in Section 2.1.6, and recommends mitigation measure CI-2. Commission staff request that this potential impact be acknowledged in Section 3.3.16, and mitigation proposed to reduce the impact. In addition, Commission staff request that mitigation measure CI-2 include additional language requiring the placement of warning signs on the Colorado River up and downstream of the Project area and at nearby boat launches prior to construction to better ensure public safety.</p> <p>Thank you for the opportunity to comment on the EIR/EA for the Project. As a responsible and trustee agency, the Commission will rely on the certified EIR/EA for issuing a lease as specified above (see Section "Commission Jurisdiction and Public Trust Lands"). We request that you consider our comments before certifying the EIR/EA.</p> <p>Please send electronic copies of the certified EIR/EA, Mitigation Monitoring Program, Notice of Determination, approving Resolution, CEQA Findings, and, if applicable, Statement of Overriding Considerations when they become available. Please note that federal and state laws require all government entities to improve accessibility of information technology and content by</p>	<p>Response to Comment 2h (SLC # 8 Construction Debris):</p> <p>Best Management Practices to avoid degradation of surface waters will be included in the phase 1 PS&E Package for this project.</p> <p>Response to Comment 2i (SLC # 9 River Use):</p> <p>Measure CI-2 has been amended to include the placement of warning signs on the Colorado River up and downstream of the Project area and at nearby boat launches prior to construction to ensure public safety. Section 3.2.16 b) has been updated to less than significant impact with implementation of measure CI-2</p>
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Comment 2

Gabrielle Duff

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complying with established accessibility requirements. (29 U.S.C. § 794d; 36 C.F.R. § 1194.1 et seq.; Gov. Code, § 7405.) California State law prohibits State agencies from publishing on their websites content that does not comply with accessibility requirements. (Gov. Code, § 115467.) Therefore, any documents submitted to Commission staff during the processing of a lease or permit, including all CEQA documentation, must meet accessibility requirements for Commission staff to place the application on the Commission agenda.

Please refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at cynthia.herzog@slc.ca.gov or (916) 574-1310. For questions concerning Commission leasing jurisdiction, please contact Drew Simpkin, Public Land Management Specialist, at drew.simpkin@slc.ca.gov or (916) 574-2275.

Sincerely,



Nicole Dobroski, Chief
Division of Environmental Science,
Planning, and Management

cc: Office of Planning and Research
C. Herzog, Commission
D. Simpkin, Commission
L. Calvo, Commission

Comment 3

RESOLUTION NO. 2023R-31

A RESOLUTION OF THE MAYOR AND THE CITY COUNCIL OF THE CITY OF BULLHEAD CITY SUPPORTING THE PROPOSED I-40 COLORADO RIVER BRIDGE REPLACEMENT PROJECT PLANNED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION IN COOPERATION WITH THE ARIZONA DEPARTMENT OF TRANSPORTATION.

WHEREAS, the California Department of Transportation (Caltrans), in cooperation with the Arizona Department of Transportation (ADOT), proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona; and

WHEREAS, the purpose of this project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed, as well as an upgrade to the bridge rail system; and

WHEREAS, the project is needed as the concrete deck of the Colorado River Bridge has begun to deteriorate, and with no rehabilitation, the existing deterioration will worsen and ultimately compromise the integrity and safety of the bridge structure; and

WHEREAS, the bridge replacement project will improve roadway conditions and enhance safety for Bullhead City commuting residents, while also creating opportunity to further drive and enhance local tourism; and

WHEREAS, in carrying out the bridge replacement project, the City encourages due consideration to ameliorating the environmental impacts posed by the project to the surrounding wetlands and associated wildlife.


NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Bullhead City does hereby support the I-40 Colorado River Bridge Replacement Project.

PASSED AND ADOPTED by the Mayor and City Council of the City of Bullhead City this 18th day of July, 2023.


Steve D'Amico, Mayor

ATTEST:

APPROVED AS TO FORM:


Susan Stein, City Clerk
(SEAL)


Garret K. Emery, City Attorney

Response to Comment 3

Caltrans acknowledges Bullhead City's support for the project. The resolution has been forwarded to the appropriate Caltrans managers, so they are aware of the City's support.

Comment 4



July 28, 2023

Ms. Gabrielle Duff
Branch Chief, Environmental Studies
California Department of Transportation
464 West 4th Street
San Bernardino, CA 92401-1400

Electronically submitted to: D8_OR380.ColoradoRiverBridge.Comments@dot.ca.gov

Re: I-40 Colorado River Bridge Replacement Project Draft EIR/EA

Dear Ms. Duff:

The Arizona Game and Fish Department (Department) received Public Notice of the I-40 Colorado River Bridge Replacement Project Draft Environmental Impact Report (EIR) and Environmental Assessment (EA) on June 21, 2023. The Department understands that the California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the bridge structure by addressing deck deterioration and strengthening the girders to increase load rating. The project is located in San Bernardino County, California and in Mohave County, Arizona along postmile (PM) 153.9 and PM 154.7 in California and PM 0.0 and 0.6 in Arizona. Three alternatives are being evaluated, in addition to a no build option, to determine if any practical alternatives exist to avoid encroachment upon wetlands along the Colorado River; and/or to ensure that all practical measures are taken to minimize harm to the wetland habitat and wildlife species of the area.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's 10(a)1(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. The Department recognizes and supports planning efforts that contribute to the state's and regional economic growth needs. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

azgfd.gov | 928.692.7700

KINGMAN OFFICE: 5325 N. STOCKTON HILL ROAD, KINGMAN AZ 86409

GOVERNOR: KATIE HOBBS COMMISSIONERS: CHAIRMAN TODD G. CEILER, PRESCOTT | CLAY HERNANDEZ, TUCSON | MARSHA PETRIE SUE, SCOTTSDALE
JEFF BUCHANAN, PATACONIA | JAMES E. COUCHNOUR, PAYSON DIRECTOR: TY E. GRAY DEPUTY DIRECTOR: TOM P. FINLEY

Comment 4

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As noted in the generated Heritage Data Management System (HDMS) On-Line Environmental Tool (ERT) report for this project [I-40 Colorado River Bridge Replacement ERT Project Report](#)¹, a number of special status species have been identified in the vicinity of the proposed project, including: southwestern willow flycatcher, yellow-billed cuckoo, razorback sucker, flannelmouth sucker, loggerhead shrike and the yuma ridgway's rail, which are federally listed and regulated under the Endangered Species Act (ESA); the area also intersects with designated critical habitat for the bonytail chub. Many of these wildlife species are associated with the Colorado River corridor, and all of these species have been documented within 2 miles of the project vicinity. In addition, Bald Eagles, which are regulated under the Bald and Golden Eagle Protection Act (BGEPA), over-winter in the area and have the potential to be near the project site. The Department recommends contacting the [U.S. Fish and Wildlife Service](#)² (USFWS) Arizona Ecological Services Field Office to provide options to comply with the Bald and Golden Eagle Act, the Migratory Bird Treaty Act (MBTA) and the Endangered Species Act (ESA), as well as the Department's Raptor Biologist, Tuk Jacobson at raptors@azged.gov or 623-236-7575 for additional measures to avoid or minimize adverse effects on eagles. In addition, the Department recommends the following conservation measures to lessen project impacts:

Wildlife Conservation Measures

- Install cofferdams and exclusion fencing prior to the January fish spawning season to prevent entrapment of adult fish, interactions with spawning aggregations, and larval fish mortality from construction activities. If dewatering of areas is needed, employ qualified fish biologists to monitor and remove entrapped fish within these zones.
- Consider design elements that allow the use of bridges by bats. Bats use bridges for both day roosting and night roosting. Day roosts protect bats from predators and buffer weather changes while resting and rearing their young. Night roosts are where bats gather to rest and digest food in between nightly feeding trips. Refer to the [Guidelines for Bridge Construction or Maintenance to Accommodate Fish & Wildlife Movement and Passage](#)³ for additional guidance on bats as appropriate.
- If trenching or digging of large holes is necessary for anchoring project infrastructure, trenching/digging and backfilling crews should be close together to minimize the amount of open trenches/holes at any given time. Where trenches or holes cannot be back-filled immediately, escape ramps should be constructed in each hole and at least every 90 meters in trenches. Escape ramps can be short lateral trenches or wooden planks sloping to the surface at slopes less than 45 degrees (1:1). Any trenches and holes that have been left open should be inspected daily, and prior to backfilling to remove entrapped animals.
- Project crews should check beneath their vehicles for desert tortoise before moving their vehicles after they have been parked at the site: the desert tortoise and other species may seek shelter in the shade of parked vehicles.
- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., bats, owls, and migratory birds), and may affect wildlife behavior. It is recommended only the minimum amount of light needed for safety be used, especially in areas immediately

¹ https://ert.azafd.gov/system/files/project_report_i_40_colorado_river_bridge_66636_68546.pdf

² <https://www.fws.gov/office/arizona-ecological-services/contact-us>

³ <https://s3.amazonaws.com/azafd-portal-wordpress-PortalImages/files/wildlife/planning/ForWildlifeFriendlyGuidelines/BridgeGuidelines.pdf>

Response to Comments

Caltrans has been and continues, close coordination with the US Fish and Wildlife Service. The following conservation concerns were considered and incorporated into the Environmental Document as NC-2, NC-3, NC-6, WET-1, AS-1, AS-4, AS-6, TE-4, WQ-3, WQ-4.

Comment 4

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adjacent to open space or undeveloped lands. Motion sensing lighting and narrow spectrum lighting are preferred, and the Department encourages their use as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Vegetation Conservation Measures

- Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. Providing a specific staging area for this purpose ensures greater potential for containment and avoidance of spreading invasives. Please see the Arizona Department of Agriculture website for prohibited and restricted noxious weeds. [Noxious Weeds/ Arizona Department of Agriculture](https://agriculture.az.gov/pests/pests-controlled/agriculture-pests/noxious-weeds)⁴

General Mitigation Measures:

- Maintain fueling/petroleum stations away from the watersheds to the furthest boundaries of the limits of disturbance. The Department encourages adding additional protections in the event of a fuel leak, spillage, or accident by providing chemical spill kits and developing response protocols in case of an unforeseen accident, adding further protections to the above mentioned watershed.

Based on review of the alternatives and analysis of the permanent and temporary project impacts, (as provided in Table 2.35 and shown in Figures 2.25 – 2.36) to acreages, and impacts to bat roosting structures like the I-40 Bat Wash Cave Culvert, the Department recommends **Build Alternative 1** based on its lower level of acreage impacts, maintaining the current disturbance footprint and non-modification or removal of Bat Wash Cave Culvert. Permanent and temporary impacts in both California and Arizona would be greatest under Build Alternative 2, specifically to the Colorado River and associated wetland areas. Build Alternative 3 would have the next highest level of impact, in addition to potentially impacting maternal roosting habitat for bats with extension of the Bat Wash Cave Culvert.

The Department appreciates the opportunity to provide feedback on the I-40 Colorado River Bridge Replacement Project. Please feel free to contact Dee Kephart at 928-263-8855, or by email dkephart@azgfd.gov, if you have any questions, concerns or would like to further discuss our comments.

Sincerely,



Karen Klima
Regional Supervisor, Kingman, Region 3

cc: Luke Thompson, AZGFD, Habitat Evaluation and Lands Program Branch Chief

⁴ <https://agriculture.az.gov/pests/pests-controlled/agriculture-pests/noxious-weeds>

Comment 4

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July 28, 2023
Page 4*

Ginger Ritter, AZGFD, Project Evaluation Program Supervisor, Habitat Branch

AGFD #M23-06211350

Comment 5



July 26, 2023

Ms. Gabrielle Duff, Branch Chief
Caltrans District 8
464 West Fourth Street
San Bernardino, CA 92401
gabrielle.duff@dot.ca.gov

DEPARTMENT OF TOXIC SUBSTANCES CONTROL COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR I-40 COLORADO RIVER BRIDGE REPLACEMENT PROJECT JUNE 2023 (STATE CLEARINGHOUSE NUMBER: [2020110050](#))

Dear Ms. Duff:

The Department of Toxic Substances Control (DTSC) received a Draft Environmental Impact Report (DEIR) for I-40 Colorado River Bridge Replacement Project. Based on a review of the DEIR, DTSC requests consideration of the following comments:

1. DTSC is conducting environmental remediation at the PG&E Topock Compressor Station and surrounding impacted areas including the I-40 Bridge Replacement Project Area. DTSC was the Lead Agency for the PG&E Topock Compressor Station Soil Investigation Project Environmental Impact Report (EIR) State Clearinghouse Number [2012111079](#), the EIR and Subsequent EIR

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Response to Comment 5a (DTSC #1):

Caltrans District 08 will be engaged in close communication and coordination with DTSC and PG&E on pending work locations to avoid potential impacts to existing infrastructure and ongoing remediation.

Comment 5

Ms. Gabrielle Duff
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for the Topock Compressor Station Final Groundwater Remediation Project State Clearinghouse Number [2008051003](#). As a result of these projects there are significant remediation infrastructures (wells, pipelines, communication lines and power lines) that are located near and directly beneath the existing I-40 bridge. All replacement alternatives may impact existing remediation infrastructures. DTSC recommends close communication and coordination on pending work locations to avoid potential impacts to existing infrastructure and ongoing remediation.

2. Due to the historical operation of PG&E prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. Construction should proceed with care to protect workers. Discolored soil and potential waste debris encountered should be tested for metals, dioxin, PCB, and asbestos containing material within California limits from the end of the bridge deck to the Park Moabi Road exit.
3. DTSC has implemented revegetation mitigation directly below the current I-40 bridge. The location of this revegetation project was determined in coordination with PG&E and the U.S. Fish and Wildlife Service. All proposed alternatives may impact the vegetation that has been replanted. Any "take" of vegetation from the revegetation program due to impacts from the bridge replacement project would impact the long-term success and establishment of native vegetation in the Mitigation Monitoring and Reporting Program (MMRP) for the PG&E Topock Compressor Station Groundwater Remediation Project. A detailed account of native plants within the project area and a MMRP for their replacement should be coordinated with PG&E and the U.S. Fish and Wildlife Service.

Response to Comment 5b (DTSC #2):

A measure (HAZ 8) has been added to Section 2.2.4. and Section 3.2.9 of the Final Environmental Document. The measure states that due to historical operation of PG&E Topock Compressor Station prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. To protect workers during construction, discolored soil and potential waste debris encountered during construction should be tested for metals, dioxin, PCB, and asbestos containing material within California limits from the end of the bridge deck to the Park Moabi Road exit. Environmental will work closely with DTSC and PG&E, conduct periodic meetings to provide project updates, and share information. Construction should proceed with care to protect workers.

Response to Comment 5c (DTSC #3):

[PG&E identified the Replacement of the Caltrans/ADOT I-40 Colorado River Bridge in multiple documents including the PG&E Groundwater SEIR \[December 2017\] Volume 2 Table 6.3 and Soil Non-Time-Critical Removal Action Biological Assessment \[September 2021\] Section 4.3.2. Caltrans has had ongoing coordination with PG&E prior and continuing through the Project Approval and Environmental Document Phase of the I-40 Colorado River Bridge Replacement Project and will coordinate post-construction revegetation efforts with the appropriate resource agencies.](#)

Comment 5

Ms. Gabrielle Duff
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As a result of the Topock Compressor Station Final Groundwater Remediation Project, DTSC has remedy infrastructures which are situated within locations of the proposed alignment alternatives. DTSC's recommendation for the preferred alternative is based on a comparison of the proposed alignments with the existing remedy infrastructures and gas pipeline alignments around the site. The proposed Alternative 1 - existing alignment will have the least impact to DTSC's remedy infrastructure and is the preferred alternative from DTSC's perspective. The second preferred alternative would be Alternative 3 - as the southern alignment would impact less DTSC infrastructures, but also existing gas pipeline and sensitive habitat in comparison to Alternative 2 - the northern alignment.

DTSC appreciates the opportunity to comment on the DEIR. Should you have any questions regarding this comment letter, please contact Aaron Yue, Project Manager at (714) 484-5439 or via email at Aaron.Yue@dtsc.ca.gov or respond to this letter for additional guidance.

Sincerely,



Rebecca De Pont
Supervising Environmental Planner
Hazardous Waste Management Program
Permitting Division – CEQA Unit
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and
Research State Clearinghouse
State.Clearinghouse@cpr.ca.gov

Mr. Dave Kereazis
Associate Environmental Planner

Comment 5

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Hazardous Waste Management Program
Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Ms. Tamara Purvis
Associate Environmental Planner
Hazardous Waste Management Program
Permitting Division - CEQA Unit
Department of Toxic Substances Control
Tamara.Purvis@dtsc.ca.gov

Comment 6



IN REPLY, REFER TO:

LCB-8200
2 2 1.06

VIA ELECTRONIC MAIL ONLY

Gabrielle Duff, Senior Environmental Planner
Caltrans District 8
464 W. 4th Street
San Bernardino, CA 92401

Subject: Compatibility Review for the *I-40 Colorado River Bridge Replacement Project Draft Environmental Impact Report/Environmental Assessment and Draft Section 4(f) Evaluation*

Dear Ms. Duff:

The Bureau of Reclamation has reviewed the *I-40 Colorado River Bridge Replacement Project Draft Environmental Impact Report/Environmental Assessment and Draft Section 4(f) Evaluation* dated June 2023 to determine compatibility with the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). Reclamation has determined that the activity will not affect implementation of the LCR MSCP or conflict with any of the program activities or goals based upon the description of the alternatives, the analysis of environmental consequences, and the avoidance, minimization, and mitigation measures included. The LCR MSCP Habitat Conservation Plan and its Avoidance and Minimization measures were considered and incorporated, as appropriate.

For questions, please contact Ms. Carolyn Ronning, LCR MSCP Wildlife Group Manager, at (702) 293-8106 or via email at cronning@usbr.gov. Individuals in the United States, who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunication relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

Sincerely,

TERENCE MURPHY
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TERENCE MURPHY
Date: 2023.07.24 15:12:28
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Terence Murphy
Program Manager
Lower Colorado River
Multi-Species Conservation Program

INTERIOR REGION 8 • LOWER COLORADO BASIN

ARIZONA, CALIFORNIA, NEVADA*

* PARTIAL

Response to Comment 6:

No comments were provided as the Bureau of Reclamation has determined that the Draft EIR/EA is compatible with the Lower Colorado River Multi-Species Conservation Program.

Comment 7



Commander
Eleventh Coast Guard District

Coast Guard Island, Bldg 50-2
Alameda, CA 94501-5100
Staff Symbol: (gaw)
Phone: (510) 437-3516
Fax: (510) 437-5835
Email: Carl.T.Hausner@uscg.mil

16591
Colorado River (233.9)
July 31, 2023

Caltrans District 8
Attn: Gabrielle Duff, Senior Environmental Planner
464 W. 4th Street
San Bernardino, CA 92401

Dear Ms. Duff:

The Coast Guard (USCG) has completed its review of the draft Environmental Assessment (DEA), dated June 2023, for the proposed replacement Topock (I-40) bridge, river mile 233.9, across the Colorado River, spanning the California/Arizona state line on Interstate 40 south of Topock, Mohave County, Arizona.

Please consider the following DEA edits for the final document:

a. The Bald Eagle is mentioned five times in the document, Sections 2.2.14.2, 2.2.14.3; Tables 2-46, 2-47; and Chapter 2.3. However, no mention of the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) is found. We recommend adding the "*Bald and Golden Eagle Protection Act*" in section 2.2.13.1 under "Federal laws and regulations relevant to wildlife..."

b. In Section S-4, under PLAC for Coast Guard, please replace current wording with the following: "*Coast Guard Bridge Permit issued under the authority of the General Bridge Act of 1946, as amended.*"

You may contact me at (510) 219-4366 to discuss this letter.

Sincerely,

CARL T. HAUSNER
Chief, Bridge Section
Eleventh Coast Guard District
By direction of the District Commander

Copy: Aaron Barra, USACE, LA District, Regulatory Division
Andrew Archuleta, U.S. BLM, California Desert District Office
William Mack, Jr., U.S. BLM, Colorado River District Office
Shawn Oliver, U.S. Federal Highway Administration
Jennifer Toth, Arizona Department of Transportation
Todd Steinberger, Arizona Department of Transportation
U.S. Coast Guard Sector San Diego, Waterways Management

Response to Comment 7a:

The following was added to Section 2.2.13.1:
The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) is a United States federal statute that protects two species of eagle. The bald eagle was chosen as a national emblem of the United States by the Continental Congress of 1782 and was given legal protection by the Bald Eagle Protection Act of 1940. This act was expanded to include the golden eagle in 1962. Since the original Act, the Bald and Golden Eagle Protection Act has been amended several times. The purpose of the Bald and Golden Eagle Protection act is to not agitate the bald and golden eagle to the extent of not 1.) Abusing an eagle, 2.) Interfering with its substantial lifestyle, including shelter, breeding, feeding, or 3.) Nest abandonment. It currently prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles. Taking is described to include their parts, nests, or eggs, molesting or disturbing the birds. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

Response to Comment 7b:

The language in Section S-4 under PLAC for the Coast Guard has been replaced with the following:
Coast Guard Bridge Permit issued under the authority of the General Bridge Act of 1946, as amended.

Comment 8



David Diaz
Topock Site Operations
Manager
Environmental Remediation

Mailing Address:
PO Box 337
Needles, CA 92363

Location:
345453 National Trails Highway
Needles, CA 92363
760 903.3013

E-Mail: DDiaz@pge.com

July 28, 2023

California Department of Transportation, District 8
ATTN: Gabrielle Duff, Branch Chief, Environmental Studies B
464 West 4th Street, MS-829
San Bernardino, CA 92401-1400

Subject: Comment on the Draft Environmental Impact Report (EIR)/Environmental Assessment (EA) for the I-40 Colorado River Bridge Replacement Project

Dear Ms. Duff:

As noted in Caltrans' Draft EIR/EA, Pacific Gas and Electric Company's (PG&E's) Topock Compressor Station is located south of I-40 on the California side of the Colorado River, at 145453 National Trails Highway. PG&E's Topock Compressor Station compresses natural gas so it can be transported through pipelines to PG&E's customers in northern and central California. The site is also undergoing remediation for groundwater and soil contamination due to historical disposal and waste handling practices.

PG&E's gas operations and environmental remediation activities and/or assets are potentially affected by Caltrans' I-40 Colorado River Bridge Replacement Project. A brief summary is provided below.

Current Groundwater Remediation

PG&E is currently implementing a groundwater cleanup project at and near the Topock Compressor Station as directed by the California Department of Toxic Substances Control (DTSC) and the U.S. Department of the Interior (DOI). The contaminated groundwater plume bisects I-40 and lies underneath the work limits identified under all build alternatives identified in the Draft EIR/EA. The DTSC is the State of California lead agency overseeing corrective actions at the Compressor Station in accordance with the Resource Conservation and Recovery Act (RCRA) Corrective Action. The DOI is the lead federal agency overseeing response actions for land under its jurisdiction, custody, or control near the Compressor Station pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In a coordinated effort in 2011, DOI and DTSC selected the final groundwater remedy to address chromium in groundwater near the Topock Compressor Station. The DOI decision is presented in the 2011 Record of Decision (ROD) and the DTSC decision is presented in a decision package that includes the certification of the 2011 Final Environmental Impact Report (EIR), the Final Statement of Basis (SOB), the Statement of Decision, and the Resolution of Approval. The final design for the groundwater remedy was approved by DTSC and DOI in April 2018. Agencies' decision documents and PG&E's final design document are available on the project website at <https://topockremediation.pge.com> and/or <https://envirostor.dtsc.ca.gov/public>.

Response to Comment 8:

The Project Development Team acknowledges PG&E's ongoing remediation efforts within the project area. Caltrans District 08 Design and Environmental Engineering will coordinate with PG&E and DTSC to provide project updates during the appropriate design and construction phases.

Comment 8

Construction of the groundwater remedy commenced in October 2018, with Phase 1 completed in December 2021. Operation of Phase 1 groundwater remedy began in 2021 and is anticipated to last about 30 years (i.e., 2051). Remediation infrastructure (underground wells, underground pipes/conduits, etc.) exist within Caltrans' Right-of-Way (ROW) on National Trails Highway and the floodplain on the California side of the Colorado River, as permitted under Caltrans' encroachment permit 08-18-S-MW-0533. As-built drawings were provided to Caltrans on July 12, 2022, in accordance with the encroachment permit condition. These and other groundwater remediation infrastructure are also located within the work limits under all build alternatives identified in the Draft EIR/EA, and therefore, are potentially affected by the I-40 Colorado River Bridge Replacement Project.

Current Soil Removal Action

In addition to groundwater cleanup, PG&E is also conducting a removal action to remove contaminated soil/debris near the Topock Compressor Station under DOI's direction. Two of the fourteen contaminated areas are located within Caltrans' ROW, one area along the west bound lane of I-40 and one area is below I-40 in Bat Cave Wash. Under Caltrans' encroachment permit 0822NUT0838, removal of contaminated materials from the two areas within Caltrans' ROW began in January 2023 and was temporarily paused in mid-March 2023 prior to the start of bat maternity season. Work will resume after the end of bat maternity season in September 2023. The soil removal action is anticipated to complete in early 2024. It is noted that infrastructure will not be placed within Caltrans' ROW as part of this soil removal action.

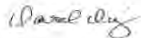
PG&E requests to be provided with project updates, when available. The primary PG&E contact in this matter is below.

David Diaz
Topock Site Operations Manager
Email: d3d6@pge.com
Mobile Phone: (760) 903-3013

Mailing Address
PO Box 337
Needles, CA 92363

Location
145433 National Trails Highway
Needles, CA 92363

Sincerely,



David Diaz
Topock Site Operations Manager

Copy: Iain Baker/PG&E, Aaron Yue/DTSC, Veronica Dickerson/DOI

Comment 9

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



August 7, 2023
Sent via email.

Ms. Gabrielle Duff
Senior Environmental Planner
California Department of Transportation
464 West 4th Street, 8th Floor, Mail Station 829
San Bernardino, CA 92401

Subject: Draft Environmental Impact Report/Environmental Assessment - Interstate
40 Colorado River Bridge Replacement Project
State Cleannghouse No. 2020110050

Dear Ms. Duff:

The California Department of Fish and Wildlife (CDFW) received Draft Environmental Impact Report (DEIR)/Environmental Assessment (EA) from the California Department of Transportation, District 8 (Caltrans) for the Interstate 40 Colorado River Bridge Replacement Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations on the DEIR, regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Conserving California's Wildlife Since 1870

Comment 9

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Ms. Gabrielle Duff, Senior Environmental Planner
California Department of Transportation
August 7, 2023
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CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The Caltrans and Federal Highway Administration in cooperation with the Arizona Department of Transportation, is proposing to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, Arizona. The project work involves bridge replacement, pier installation, bridge demolition, temporary access roads and trestle bridge construction, retaining wall construction, rock slope protection replacement, navigational lighting, and road realignment depending on the build alternative, as well as geotechnical borings to be completed during the design phase. Depending on the build alternative chosen, the National Trails Highway Undercrossing bridge (Bridge No. 54-0670) may also need to be replaced.

Build Alternative 1 proposes to construct a new bridge on the existing alignment. The proposed bridge would be a six-span, cast-in-place/pre-stressed (CIP/PS) box girder structure, and 1,294- feet in length, which matches the existing bridge. Pier foundations would be on large diameter cast-in-drilled-hole (CIDG) piles. The 84-foot-wide deck will carry two 12-foot lanes, a 5-foot inside shoulder and a 10-foot outside shoulder in each direction. With this alternative, the bridge at National Trails Highway (Bridge No. 54-0670) undercrossing would not need replacing.

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will realign to the north of existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational.

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will realign to the south of existing I-40 centerline and will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge. The bridge at National Trails Highway undercrossing would also be replaced.

<p>Comment 9</p> <p>DocuSign Envelope ID: 31BE64CC-C0C0-4EC5-B7C9-9BDCCC189C56</p> <p>Ms. Gabrielle Duff, Senior Environmental Planner California Department of Transportation August 7, 2023 Page 3</p> <p>Alternative 4, the No-Build Alternative assumes that no improvements will be made to the Colorado River Bridge. Without the planned improvements proposed as part of the project (e.g., rehabilitating and strengthening the existing bridge, or replacing the bridge), the existing bridge will continue to deteriorate, ultimately compromising the integrity and safety of the structure.</p> <p>COMMENTS AND RECOMMENDATIONS</p> <p>CDFW offers the comments and recommendations below to assist Caltrans in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.</p> <p>CDFW recommends that the forthcoming DEIR address the following:</p> <p>CDFW Fully Protected Species</p> <p>The DEIR indicates that the project will have impacts on razorback sucker, California black rail, and Yuma Ridgway's rail, CDFW fully protected species. The DEIR also includes that "Caltrans is pursuing a project specific, one-time exemption to the California Fish and Game Code (CFG) § 3511, 4700, and/or 5515, and amendment of CFG § 2081 that would allow the incidental take of fully protected species. The exemption will be introduced as an Assembly Bill to the California state legislature. If approved the legislation will allow the California Department of Fish and Wildlife to issue a 2081 permit to Caltrans for the purpose of this project."</p> <p>CDFW would like to note that Senate Bill No. 147 has been approved by the Governor and allows CDFW to issue incidental take permits that meet the requirements of 2081 (b) and (c) between the time it was enacted and December 31, 2033 for certain type of projects, including transportation projects, including any associated habitat connectivity and wildlife crossing project, undertaken by a state, regional, or local agency, that does not increase highway or street capacity for automobile or truck travel.</p> <p>CDFW looks forward to coordinating with Caltrans regarding the permitting of project.</p> <p>Bats</p> <p>The DEIR indicates the Project may have a significant impact on the bat population within the I-40 Colorado River Bridge and within the I-40 Bat Cave Wash Culvert. There are several bat species (collectively, bats) potentially roosting (day, night and maternal) and foraging within the project area, which may include some Species of Special Concern (SSC) including but not limited to:</p> <ul style="list-style-type: none"> • pallid bat (<i>Antrozous pallidus</i>) (SSC) • Townsend's big-eared bat (<i>Corynorhinus townsendii</i>) (SSC) 	<p>Response to Comment 9a (CDFW Fully Protected Species):</p> <p>At the time of Draft Environmental Document circulation, Senate Bill No. 147 had not yet been enacted. Since its passage in the California state legislature, Caltrans intends to pursue an incidental take permit for this project under Senate Bill No. 147.</p> <p>Response to Comment 9b (Bats):</p> <p>Caltrans has completed a Draft Bat Management Plan, which was completed by a CDFW-approved bat biologist and reviewed by CDFW. Measures are anticipated to be project-specific and updated upon the final design and alternative chosen.</p>
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Comment 9

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Ms. Gabrielle Duff, Senior Environmental Planner
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- western mastiff bat (*Eumops perotis*) (SSC)
- western red bat (*Lasiurus blossevillii*) (SSC)
- western yellow bat (*Lasiurus xanthinus*) (SSC)
- hoary bat (*Lasiurus cinereus*) (SSC)
- California myotis (*Myotis californicus*)
- Arizona myotis (*Myotis occultus*) (SSC)
- Cave myotis (*Myotis velifer*) (SSC)
- Yuma myotis (*Myotis yumanensis*) (SSC)
- Pocketed free-tailed bat (*Myctinopops ferosaccus*) (SSC)

Project construction and activities may result in direct and indirect impacts to bats. Direct impacts include removal of structures occupied by roosting bats. This could result in injury or mortality to bats as well as loss of roosting habitat. Indirect impacts to bats and roosts could result from increased noise disturbances, human activity, dust, vegetation clearing, ground-disturbing activities (e.g., staging, mobilizing, excavating, and grading), and vibrations caused by heavy equipment.

Bats are considered non-game mammals and are afforded protection by State law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs, § 251.1). Several bat species are considered SSC. An SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role;
- is listed as ESA-, but not CESA-, threatened, or endangered; meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for CESA threatened or endangered status (CDFW 2022b).

The DEIR indicates that a Bat Management and Mitigation Plan (BMMP) will be developed. The BMMP shall be developed by a CDFW-approved Project Biologist with significant experience in bat survey methods, bat exclusion methodologies.

If active hibernacula or day roosts are identified in the work area or within 500 feet of the work area, during pre-construction surveys, they will be avoided to the extent feasible. For maternity roosts, Project construction will only occur between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30). Maternity roosts shall not be evicted, excluded, removed, or otherwise disturbed.

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CDFW recommends a minimum 500-foot no-work buffer shall be provided around hibernacula. The buffer shall not be reduced. Project-related construction and activities shall not occur within 500 feet of or directly under or adjacent to hibernacula. Buffers should be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed. If avoidance of a hibernacula is not feasible, the Project Biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area. A bat roost relocation plan shall be submitted for CDFW review prior to construction activities. The Project Biologist will implement the relocation plan and new roost sites shall be in place before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. New roost sites shall be in place prior to the initiation of Project-related activities to allow enough time for bats to relocate. Removal of roosts will be guided by accepted exclusion and deterrent techniques.

CDFW notes that Alternative 1 will avoid impacts to the Bat Cave Wash Culvert which will minimize impacts to the Yuma myotis maternity colony that is located within the culvert. Impacts to night roosting bats of a variety of different species would also be minimized under Alternative 1.

Blue Palo Verde Desert Woodland

The DEIR indicates that all Alternatives (1, 2, and 3 except the No-Build Alternative) will have impacts to Blue Palo Verde Desert Woodland, a CDFW Sensitive Natural Community. Impacts are often considered to be permanent in nature due to the extended time period to restore this long-lived woodland plant community. Any restoration of Blue Palo Verde Desert Woodland should be directed by a site-specific Habitat Mitigation Monitoring Plan. If full restoration of the habitat is not obtainable in a reasonable time period, impacts to this community shall be considered permanent.

Nesting Birds

The DEIR includes Measure NC-8, which states, *"If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300- feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey)"*

Response to Comment 9c (Blue Palo Verde Desert Woodland):

Caltrans anticipates minimal impacts to this community, as feasible. Further coordination with CDFW is anticipated in the design phase. Any impacts related to the CDFW 1600 LSA will be addressed at the time of permit applications.

Response to Comment 9d (Nesting Birds):

Caltrans proposes a biological monitor on site regardless of time of year (BIO-General-8: Biological Monitor). Based on the above recommendations, Caltrans anticipates further coordination with CDFW during the design phase to ensure minimal impacts to these species. The following measure has been updated based on the recommendations:
BIO-Avian-1 Preconstruction Nesting Bird Survey: If Project activities cannot avoid the nesting season, generally regarded as Feb 1 – Sept 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (up to: 100 feet for non-passerine, 300 feet for passerine, and 500 feet for raptors or CESA-/FESA- listed species) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing.

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California Department of Transportation
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CDFW is concerned that the nesting season is generally between February 1 – September 30, however, this is just a general guideline. Some bird species nest outside of these timeframes, especially in arid desert ecosystems where nesting can be year-round. A qualified ornithologist should conduct pre-construction nesting bird surveys prior to the start of construction, regardless of the start date of construction. Additionally, the buffer distances suggested in NC-8 should be able to be altered based on sensitivity of species, field conditions and bird behavior. CDFW supports the inclusion of NC-8 in the DEIR, as per below to avoid impacts to nesting birds and provides the suggested revisions below (edits are in strikethrough and additions are in bold).

NC-8 - If project activities cannot avoid the nesting season, ~~generally regarded as February 1 – September 30~~, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. **Surveys shall encompass all suitable areas including trees, shrubs, bare ground, burrows, cavities, and structures. Survey duration shall take into consideration the size of the property; density, and complexity of the habitat; number of survey participants; survey techniques employed; and shall be sufficient to ensure the data collected is complete and accurate. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior (e.g., copulation, carrying of food or nest materials, nest building, removal of fecal sacks, flushing suddenly from atypically close range, agitation, aggressive interactions, feigning injury or distraction displays, or other behaviors). If a nest is suspected, but not confirmed, the qualified Biologist(s) shall establish a disturbance-free buffer until additional surveys can be completed, or until the location can be inferred based on observations. The qualified Biologist(s) shall not risk failure of the nest to determine the exact location or status and will make every effort to limit the nest to potential predation as a result of the survey/monitoring efforts (e.g., limit number of surveyors, limit time spent at/near the nest, scan the site for potential nest predators before approaching, immediately depart nest area if indicators of stress or agitation are displayed). If a nest is observed, but thought to be inactive, the qualified biologist(s) shall monitor the nest for 1 hour (4 hours for raptors during the non-breeding season) prior to approaching the nest to determine status. The qualified biologist(s) shall use their best professional judgement regarding the monitoring period and whether approaching the nest is appropriate.**

When an active nest is confirmed, the qualified biologist(s) shall immediately establish a conservative buffer surrounding the nest based on their best professional judgement and experience. The minimum buffer size for listed species and species of special concern shall be 300 feet. The buffer shall be delineated to ensure that its location is known by all persons working within the vicinity but shall not be marked in such a manner that it attracts predators. Once the buffer is established, the qualified biologist(s) shall document

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Ms. Gabrielle Duff, Senior Environmental Planner
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 Page 7

baseline behavior, stage of reproduction, and existing site conditions, including vertical and horizontal distances from proposed work areas, visual or acoustic barriers, and existing level of disturbance. Following documentation of baseline conditions, the qualified biologist (s) may choose to adjust the buffer based on site characteristics, stage of reproduction, and types of Project activities proposed at/near that location. The qualified biologist (s) shall monitor the nest at the onset of Project activities t, and at the onset of any changes in Project activities (e.g., increase in number or type of equipment, change in equipment usage, etc.) to determine the efficacy of the buffer. If the qualified biologist (s) determines that Project activities may be causing an adverse reaction, the qualified biologist(s) shall adjust the buffer accordingly.

If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300-feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey)

Special Status Small Mammals

The DEIR indicates that the project contains suitable habitat for two special status small mammals (Colorado River cotton rat, *Sigmodon anzonae plenus* and desert pocket mouse, *Chaetodipus penicillatus sobrinus*). CDFW is concerned that the DEIR did not include target trapping for these species and the project related impacts to the species may not be adequately addressed. Additionally, it is not clear whether avoidance and minimization measures and potentially compensatory mitigation measures are needed. Targeted trapping for these species should be conducted in suitable habitat for the species to determine if species specific mitigation measures are required.

Special Status Fish

The DEIR includes Measure AS-1* which requires *“the use of underwater sound pressure attenuation devices, foundations designed to span the wet channel, air bubble curtains, cofferdams, isolation casings, and/or use of smaller piles, must be incorporated into the project, as feasible, during design, project development, and construction phases to avoid or minimize the exposure of fish and other aquatic species to underwater sound pressure generated during pile driving. Appropriate attenuation methods will be dependent upon the final design.”*

The DEIR also indicates that AS-1 is specific to the build alternative and is not proposed for geotechnical borings. CDFW is concerned that geotechnical borings could have impacts to fish and other aquatic species and a qualified ichthyologist should be consulted prior to work to ensure impacts are adequately minimized and avoided.

Response to Comment 9e (Special Status Small Mammals):

Caltrans completed a special status small mammal habitat assessment by qualified personnel in 2021. Trapping was not recommended due to noncontiguous habitat and fragmentation, anthropogenic disturbances, compacted soils, and presumably, if present, the species may be in such small numbers and very sparsely distributed (possibly even below detection by trapping in some years). Avoidance and minimization measures were developed based on qualified staff recommendations.

Response to Comment 9f (Special Status Fish):

Caltrans has qualified staff in Caltrans Headquarters, Division of Environmental Analysis. Caltrans District 8 staff have coordinated with Caltrans Headquarters and Resource Agency staff during PA&ED and have made every effort to ensure minimal impacts following the best available science. Caltrans Hydroacoustics Guidance can be found at: <https://dot.ca.gov/programs/environmental-analysis/biology/hydroacoustics>. Additionally, geotechnical borings within the Colorado River are within Arizona jurisdiction.

Comment 9

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Ms. Gabrielle Duff, Senior Environmental Planner
California Department of Transportation
August 7, 2023
Page 8

CDFW recommends when the construction methods and project alternatives are chosen a qualified ichthyologist shall design a special status fish avoidance plan in conjunction with the Attenuation Plan in AS-1.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). Information can be submitted online or via completion of the CNDDDB field survey form at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

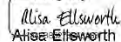
The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment and recommends that the Caltrans address the CDFW's comments and concerns in the forthcoming EIR. If you should have any questions pertaining to the comments provided in this letter, please contact Jason Bill, Senior Environmental Scientist, Specialist, at Christopher.Bill@wildlife.ca.gov.

Sincerely,

Decoded by:


Alisa Ellsworth

Environmental Program Manager

cc: Office of Planning and Research, State Clearinghouse, Sacramento.
state.clearinghouse@opr.ca.gov

Response to Comment 9g (Environmental Data):

Caltrans intends to coordinate with the consultants who conducted the work. If results of listed or special status species, within California jurisdiction, have not been submitted through CNDDDB, then form submittals will be forthcoming.

Response to Comment 9h (Filing Fees):

Caltrans will continue to work with CDFW on payment of required filing fees.

4.5 Partial Recirculation of Draft Environmental Impact Report (EIR)

Caltrans recirculated a portion of the Draft EIR from August 18, 2023 to October 2, 2023. The decision was made after on-going Section 106/AB52 consultation resulted in additional identification, evaluation, and significance determinations for Cultural Resources and Tribal Cultural Resources. The specific sections that were recirculated included: 2.1.12.2, 2.1.12.3, 2.1.12.4, 2.3, 3.25, 3.2.18, 3.2.21, and Chapter 4.


As part of the notification effort for the partial recirculation, Arellano and Associates mailed the public notice to the same 2,294 addresses included in the Draft EIR/EA distribution via USPS. The mailing was sent to local, state, and federal government agencies, as well as Federally Recognized Tribes and properties near the proposed project.

The project team also published the Notice of Availability for partial recirculation of the Draft EIR with the Mohave Daily News and Needles Desert Star newspapers on August 18, 2023. The Notice of Availability, Notice of Completion with Environmental Document Transmittal Form, Summary Form, and Partially Recirculated Draft EIR were also submitted to the State Clearinghouse on August 17, 2023.

No public hearing or public meeting was conducted as part of the partially recirculated Draft EIR.

4.5.1 Comments on the Partial Recirculated Draft Environmental Impact Report (EIR)


Comments on the Partial Recirculation of the Draft EIR were accepted through mail and email from August 18, 2023 until October 2, 2023. No comments were received during the comment period.



PUBLIC NOTICE

Partially Recirculated Draft Environmental Impact Report (EIR)
Available for the

I-40 Colorado River Bridge Replacement Project



WHAT'S BEING PLANNED?	<p>The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topeck, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated. Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment, Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge, Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge, and Alternative 4 (No-Build Alternative).</p> <p>The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.</p>
WHY THIS NOTICE?	<p>Caltrans has decided to recirculate a part of the draft EIR (Sections 2.1.12.2, 2.1.12.3, 2.1.12.4, 2.3, 3.25, 3.2.18, 3.2.21, and Chapter 4). This decision was made after on-going Section 106/AB52 consultation resulted in additional identification, evaluation, and significance determinations for Cultural Resources and Tribal Cultural Resources.</p>
WHAT'S AVAILABLE?	<p>Maps for the partially recirculated EIR and other project information are available for review and copying at the Caltrans District 8 Office (464 W 4th Street, San Bernardino, 92401) on weekdays from 8am to 4pm. Please call the number below and provide a minimum 24-hour notice prior to visiting the District office to view available documents.</p>
WHERE YOU COME IN	<p>Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the Partially Recirculated Draft EIR, you may submit your written comments beginning 8/18/23 until 10/2/23 to California Department of Transportation, District 8, ATTN: Gabrielle Duff, Branch Chief, Environmental Studies 'B', 464 West 4th Street, MS-829, San Bernardino, CA 92401-1400.</p> <p>Or via email to DR_08380_ColoradoRiverBridge_Comments@dot.ca.gov</p> <p>Pursuant to procedures set forth in Section 15088.5(f)(2) of the State CEQA Guidelines, reviewers are directed to limit their comments to the revised information contained in this Partially Recirculated Draft EIR. Reviewers should not resubmit comments on the Draft EIR. Comments on the Partially Recirculated Draft EIR will be responded to in the Final EIR, along with comments previously received on the Draft EIR.</p>
CONTACT	<p>For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910 EA 08-0R380</p>

From: [Porter, Jeanine E@DOT](mailto:Porter.Jeanine.E@DOT)
To: [Scrivner, Julie@DOT](mailto:Scrivner.Julie@DOT); [Duff, Gabrielle@DOT](mailto:Duff.Gabrielle@DOT)
Subject: FW: Confirmation of Order 3729038 for I-40 Colorado River Bridge Replacement Project
Date: Thursday, August 10, 2023 1:33:54 PM

-----Original Message-----

From: melinda_vazquez@dailyjournal.com <melinda_vazquez@dailyjournal.com>
Sent: Thursday, August 10, 2023 10:08 AM
To: Porter, Jeanine E@DOT <jeanine.porter@dot.ca.gov>
Subject: Confirmation of Order 3729038 for I-40 Colorado River Bridge Replacement Project


EXTERNAL EMAIL. Links/attachments may not be safe.

The order listed below has been received and processed. If you have any questions regarding this order, please contact your ad coordinator or the phone number listed below.

Customer Account Number: 142039
Type of Notice : DPN - DISPLAY PUBLIC NOTICE
Ad Description : I-40 Colorado River Bridge Replacement Project
Our Order Number : 3729038
Newspaper : NEEDLES DESERT STAR
Publication Date(s) : 08/16/2023

Thank you.


MELINDA VAZQUEZ
DAILY JOURNAL CORPORATION
CALIFORNIA NEWSPAPER SERVICE BUREAU
Phone:
Fax: (800) 540 4089 / (213)229-5481



PUBLIC NOTICE

Partially Recirculated Draft Environmental Impact Report (EIR)
Available for the

I-40 Colorado River Bridge Replacement Project



WHAT'S BEING PLANNED?	<p>The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated. Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment, Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge, Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge, and Alternative 4 (No-Build Alternative).</p> <p>The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.</p>
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CONTACT	<p>For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910 EA 08-0R380</p>

CNSB #3729038

From: [Porter, Jeanine E@DOT](mailto:Porter.Jeanine.E@DOT)
To: [Scrivner, Julie@DOT](mailto:Scrivner.Julie@DOT); [Duff, Gabrielle@DOT](mailto:Duff.Gabrielle@DOT)
Subject: FW: Confirmation of Order 3729046 for I-40 Colorado River Bridge Replacement Project
Date: Thursday, August 10, 2023 1:33:27 PM

-----Original Message-----

From: melinda_vazquez@dailyjournal.com <melinda_vazquez@dailyjournal.com>
Sent: Thursday, August 10, 2023 10:02 AM
To: Porter, Jeanine E@DOT <jeanine.porter@dot.ca.gov>
Subject: **REVISED PUB DATE**Confirmation of Order 3729046 for I-40 Colorado River Bridge Replacement Project



EXTERNAL EMAIL. Links/attachments may not be safe.

The order listed below has been received and processed. If you have any questions regarding this order, please contact your ad coordinator or the phone number listed below.

Customer Account Number: 142039
Type of Notice : DPN - DISPLAY PUBLIC NOTICE
Ad Description : I-40 Colorado River Bridge Replacement Project
Our Order Number : 3729046
Newspaper : MOHAVE VALLEY NEWS
Publication Date(s) : 08/16/2023

Thank you.

MELINDA VAZQUEZ
DAILY JOURNAL CORPORATION
CALIFORNIA NEWSPAPER SERVICE BUREAU
Phone:
Fax: (800) 540 4089 / (213)229-5481

 <h2 style="margin: 0;">PUBLIC NOTICE</h2> <p style="margin: 0;">Partially Recirculated Draft Environmental Impact Report (EIR) Available for the I-40 Colorado River Bridge Replacement Project</p>	
	
WHAT'S BEING PLANNED?	<p>The California Department of Transportation (Caltrans) in cooperation with the Arizona Department of Transportation (ADOT) proposes to replace the Colorado River Bridge (California Bridge No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on I-40 near Topock, Arizona. The purpose of the project is to improve the safety and integrity of the structure by addressing deck deterioration and strengthening the girders to increase the load rating. The safety of the traveling public will also be enhanced because standard lane and shoulder widths are proposed as well as an upgrade to the bridge rail system. There are three build alternatives in addition to the No-Build Alternative being evaluated. Alternative 1 (Existing Alignment) would construct a new bridge on the existing alignment, Alternative 2 (Northern Alignment) proposes to replace the bridge with an alignment to the north of the existing bridge, Alternative 3 (Southern Alignment) proposes to replace the bridge with an alignment to the south of the existing bridge, and Alternative 4 (No-Build Alternative).</p> <p>The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that all practical measures are taken to minimize harm to the wetlands.</p>
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CONTACT	For more information about this project or any transportation matter, please contact the Caltrans District 8 Office of Public Affairs at (909) 383-1910 EA 08-0R380
CNSB #3729046	

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The following personnel were involved in the preparation of this document.

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Chapter 6 References Cited

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Appendix A Section 4(f)

I-40 Colorado River Bridge Replacement Project Section 4(f) Evaluation

Submitted Pursuant to 49 USC 303

San Bernardino County, California
08-SBD-40 PM 153.9/154.7 (CA); PM 0.0/0.6 (AZ)
EA No. 08-0R380, Project No. 0812000067



November 2023



**STATE OF CALIFORNIA
Department of Transportation**

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Acronyms and Abbreviations

ADOT	Arizona Department of Transportation
APE	Area of Potential Effects
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
dBA	A-weighted decibel
DOI	United States Department of the Interior
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
FOE	Finding of Effect
HCP	Habitat Conservation Plan
HPSR	Historic Property Survey Report
I-40	Interstate 40
MLD	Most Likely Descendant
NAC	noise abatement criteria
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHPO	State Historic Preservation Officer
USC	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service

Chapter 1 Introduction

This Section 4(f) analysis has been amended since circulation of the Draft Environmental Document. This evaluation identifies the Section 4(f) resources in the Interstate 40 (I-40) Colorado River Bridge Replacement Project study area, describes the nature and extent of the potential effects on these properties, evaluates alternatives that would avoid the use of Section 4(f) resources, and describes measures to minimize harm to the affected resources.

1.1 Section 4(f)

1.1.1 Section 4(f) of the Department of Transportation Act

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 recreational 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, recreational 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, 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, recreational area, wildlife and waterfowl refuge, or historic site resulting from the use.”

Section 4(f) further requires coordination 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 may receive federal funding and/or discretionary approvals through the U.S. Department of Transportation (i.e., Federal Highway Administration [FHWA]); therefore, documentation of compliance with Section 4(f) is required.

This Section 4(f) analysis provides documentation of compliance with Section 4(f) through the analysis of effects and determination of use of public parks, recreational facilities, wildlife refuges, and historic properties as a result of the project, and the identification and evaluation of avoidance alternatives and measures to minimize harm, as applicable, in accordance with the requirements of Section 4(f).

To determine whether Section 4(f) applies to a federal transportation project, two prerequisites are considered: (1) the project must involve a resource that is protected under the provisions of Section 4(f), and (2) there must be a use of that resource. Resources subject to Section 4(f) consideration include publicly owned lands that are considered part of a public park; or a recreational area of national, state, or local significance, whether publicly or privately owned, as well as wildlife or waterfowl refuges, and historic sites listed on or eligible for the National Register of Historic Place (NRHP).

1.1.2 Use of 4(f) Resources

As defined in 23 Code of Federal Regulations (CFR) 774.17, a “use” of a protected resource occurs when any of the following conditions are met:

- **Permanent Use:** Land is permanently incorporated into a transportation facility.
- **Temporary Use:** There is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose as determined by the criteria in 23 CFR 774.13(d).
- **Constructive Use:** There is a constructive use of a Section 4(f) property as determined by the criteria in 23 CFR 774.15.

Permanent Use

Permanent use of a Section 4(f) resource takes place when part or all of the property designated for protection under Section 4(f) is permanently incorporated into a transportation project (23 CFR Section 774.17). This may occur as a result of partial or full acquisition of a fee simple interest, permanent easements, or temporary easements that exceed regulatory limits.

Temporary Use

A temporary use of a Section 4(f) property occurs when there is temporary occupancy of a protected property for construction-related activities and when that temporary occupancy is considered adverse in terms of the preservationist purposes of the Section 4(f) statute.

Temporary Occupancy without Use

If the following five conditions set forth in 23 CFR Section 774.13(d) can be satisfied, Section 4(f) does not apply.

1. The duration of the occupancy must be temporary (i.e., shorter than the period of construction) and does not involve a change in ownership of the property.
2. The scope of the work must be minor, with only minimal changes to the protected resource.
3. There are no anticipated permanent adverse physical impacts on the protected resource and no temporary or permanent interference with the activities or purpose of the resource.
4. The land being used must be fully restored to a condition that at least equals the condition that existed prior to the proposed project.
5. There must be documented agreement by the appropriate officials having jurisdiction over the Section 4(f) resource regarding the above conditions.

Constructive Use

A constructive use of a Section 4(f) resource happens when a transportation project does not permanently incorporate land from the resource in the transportation facility, but the proximity of the project to the Section 4(f) property results in adverse proximity impacts (i.e., noise, vibration, visual, access, and/or ecological impacts) so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired (23 CFR Section 774.15). Substantial impairment occurs only if the protected activities, features, or attributes of the Section 4(f) property are substantially diminished by the indirect adverse impacts of the project (23 CFR Section 774.15(a)). This determination is made through the following process:

- Identification of the current activities, features, or attributes of the resource that may be sensitive to proximity impacts
- Analysis of the potential proximity impacts of the project on the resource
- Consultation with the appropriate officials having jurisdiction over the resource (23 CFR Section 774.15(d))

1.2 Organization of Section 4(f) Analysis

The section 4(f) documentation is organized as follows:

Chapter 2, *Project Description*: This chapter states the purpose of and need for the project, and briefly describes the build alternatives and the No-Build Alternative.

Chapter 3, *Section 4(f) Resources*: This chapter describes the Section 4(f) resources.

Chapter 4, *Section 4(f) Analyses for Archaeological and Historic Sites*: This chapter discusses the Section 4(f) evaluation and potential use of the historic properties.

Chapter 5, *Section 4(f) Analyses for Wildlife Refuges and Public Parks*: This chapter focuses on the potential use of land in Havasu National Wildlife Refuge by the build alternatives and coordination conducted with the official with jurisdiction. Moabi Regional Park and Chemehuevi Mountains Wilderness are discussed briefly.

Attachment A: Consultation Correspondence

Chapter 2 Project Description

The Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans), in cooperation with the Arizona Department of Transportation (ADOT), propose to replace the Colorado River Bridge (California Bridge No. 5400415, Arizona Bridge No. 957) spanning the California and Arizona state line on Interstate 40 (I-40) near Topock, Arizona. The project proposes standard lane and shoulder widths, a standard median barrier, and a standard bridge railing system. Deck deterioration on the existing facility is characterized by spalls and delamination along the outside shoulders, and transverse cracks are present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the structure.

The project is located in San Bernardino County, California and Mohave County, Arizona along I-40 between Park Moabi Road and Topock Road. The total length of the project on I-40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.7 in California, and PM 0.0 to PM 0.6 in Arizona.

2.1 Project Purpose and Need

As mentioned, the purpose of the project is to:

- Improve the safety and integrity of the bridge by addressing deck deterioration.
- Strengthening the girders to increase the load rating to accommodate all permit vehicle traffic.

The project is needed to enhance the safety of the traveling public by addressing nonstandard lane and shoulder widths, median barrier, and bridge railing systems. Deck deterioration on the existing facility is characterized by spalls and delamination along the outside shoulders, and transverse cracks are currently present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the bridge structure.

2.2 Project Alternatives

Three Build Alternatives have been developed and one No-Build alternative. The project alternatives are described below.

2.2.1 Build Alternative 1

Replace Bridge on Existing Alignment

Build Alternative 1 proposes to replace the bridge on the existing alignment. This alternative will require staging the construction operation in two major stages. Stage 1 will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing bridge. Stage 2 shifts traffic to the newly constructed portion of the deck then removes the rest of the existing bridge and builds the second half of the new bridge. This traffic reduction will remain through the length of the construction zone and then transition to the original roadbed.

2.2.2 Build Alternative 2

Northern Alignment

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will allow the construction of the new bridge to take place while the existing bridge remains fully operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both ends of the bridge.

2.2.3 Build Alternative 3

Southern Alignment

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

2.2.4 No-Build Alternative

The No-Build Alternative assumes that no improvements will be made to the Colorado River Bridge. Without the planned improvements proposed as part of the project, the existing bridge will continue to deteriorate, ultimately compromising the integrity and safety of the bridge structure. Also, the load rating of the bridge will not accommodate all permitted vehicle traffic to move goods and people between California and Arizona. As the No-Build Alternative does not meet the project purpose and need for the project, it is neither feasible nor prudent.

Chapter 3 Section 4(f) Resources

This chapter identifies the steps taken to confirm Section 4(f) resources in the Project study area, confirms resources that are either not subject to Section 4(f) protection or not in close enough proximity to project activities to be affected, and confirms resources subject to Section 4(f) protection discussed further in this analysis.

3.1 Determining Section 4(f) Resources

There are two steps in determining whether Section 4(f) applies to a project:

1. The project must involve a resource that is protected by the provisions of Section 4(f).
2. There must be a “use” of that resource.

Protected resources include:

- Public parks and schools with publicly accessible recreational areas
- Recreational areas of national, state, or local significance
- Wildlife or waterfowl refuges
- Historic sites of national, state, or local significance

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

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 waterfowl refuges;
- Existing public bicycle, pedestrian, and equestrian trails; or
- National Register of Historic Places (NRHP) listed or eligible historic sites.

3.2 Section 4(f) Resources

Research was conducted to identify publicly owned parks, recreational areas, wildlife and waterfowl refuges, and historic sites listed on or eligible for the NRHP within and immediately adjacent to the project limits, and nearby the project alternatives.

Based on this research, there are properties within the project study area that qualify as Section 4(f) resources, the Havasu National Wildlife Refuge and Havasu Wilderness area, Chemehuevi

Mountains Wilderness, the Moabi Regional Park, and NRHP eligible historic resources. A summary of the number of resources identified in the study area is provided in Table 3-1.

Table 3-1. Summary of Properties Subject to Section 4(f) Consideration

Type of Property	Proximity to Project	Number of Properties Identified
Public Parks	Nearby	2
Public Schools with Recreational Areas	Nearby	0
Trails	Nearby	0
Wildlife and Waterfowl Refuges	Nearby	1
NRHP Eligible Sites	Within APE	4
Source: HPSR		

3.2.1 Public Parks and Recreational Facilities

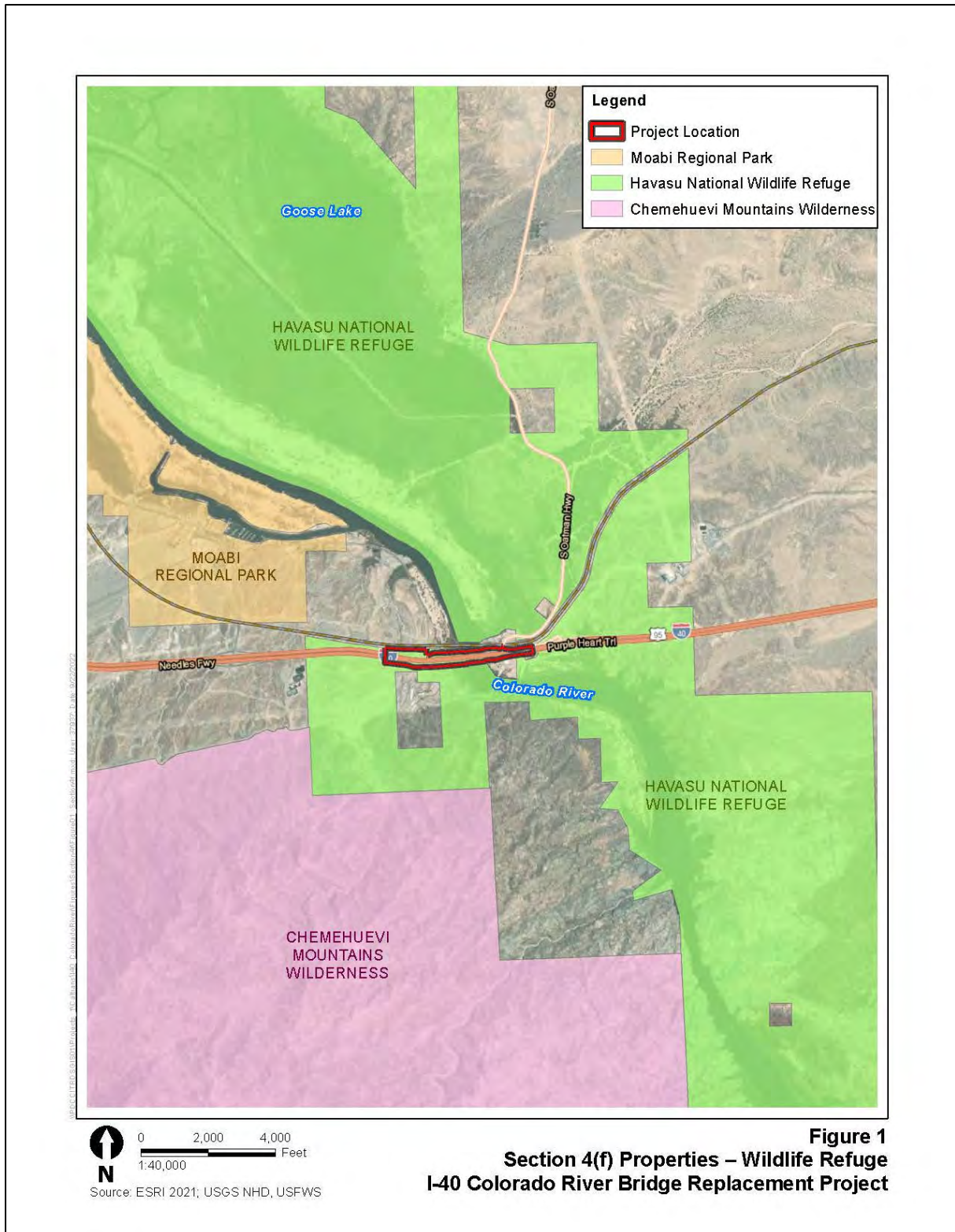
A park qualifies for protection under Section 4(f) if: (1) the property is publicly owned, (2) the park is open to the general public, (3) it is being used for outdoor recreation, and (4) it is considered significant by the authority with jurisdiction. The park must be publicly owned at the point at which “use” occurs.

The Moabi Regional Park located at 100 Park Moabi Road in Needles, California is a regional park offering recreational opportunities including a campground, fishing, swimming, hiking, picnic areas, boating, and off-road driving. The regional park is located along the banks of the Colorado River, north of I-40, at the California and Arizona state lines. The Moabi Regional Park is part of the San Bernardino County Regional Parks and operated by the Pirate Cove Resort and Marina. The Moabi Regional Park is located approximately 0.3-mile northwest of the project.

The Chemehuevi Mountains Wilderness contains a total of 85,840 acres and is managed by the Bureau of Land Management. All of the Chemehuevi Mountains Wilderness is located within California. In 1994, the Chemehuevi Mountains Wilderness became part of the now over 109 million acre National Wilderness Preservation System. Recreational activities include hiking, horseback riding, hunting, camping, and backpacking. Motorized equipment and vehicles are prohibited from the Chemehuevi Mountains Wilderness. The Chemehuevi Mountains Wilderness lies 10 miles southeast of Needles, California along US-95, in San Bernardino County. The northern portion of the wilderness is located approximately .75-miles southwest of the project.

Figure 1 provides a map of the public parks, recreational facilities, and wildlife and waterfowl refuges subject to Section 4(f).

Figure 1 Section 4(f) Properties Parks and Recreation, and Wildlife Refuge



3.2.2 Wildlife or Waterfowl Refuges

Any significant publicly owned public property (including waters) where the primary purpose of such land is the conservation, restoration, or management of wildlife and waterfowl resources including, but not limited to, endangered species and their habitat is considered by FHWA to be a wildlife and waterfowl refuge for purposes of Section 4(f).

In determining the primary purpose of the land, consideration should be given to:

1. The authority under which the land was acquired,
2. Lands with special national or international designations,
3. The management plan for the land, and
4. Whether the land has been officially designated, by a federal, state, or local agency with jurisdiction over the land, as an area whose primary purpose and function is the conservation, restoration, or management of wildlife and waterfowl resources including, but not limited to, endangered species and their habitat.

Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge qualify for Section 4(f) protection.⁶ Publicly owned land is considered to be a wildlife or waterfowl refuge when the land has been officially designated as such by a federal, state or local agency, and the officials with jurisdiction over the land determine that its primary purpose is as a refuge. Primary purpose is related to a property's primary function and how it is intended to be managed. Incidental, secondary, occasional, or dispersed activities similar to refuge activities do not constitute a primary purpose within the context of Section 4(f) (FHWA 2012).

The Havasu National Wildlife Refuge is a wildlife refuge determined to trigger Section 4(f) protection. The Havasu National Wildlife Refuge and Havasu Wilderness area is located along the Colorado River for 30 miles between Needles, California and Lake Havasu City, Arizona, to the north and south of I-40. The U.S. Congress designated the Havasu Wilderness area in 1990 and has a total of 17,801 acres within the Havasu National Wildlife Refuge, with California containing 3,195 acres and Arizona containing approximately 14,606 acres. Approximately one-third of the Havasu National Wildlife Refuge consists of the Havasu Wilderness area. Hunting is allowed in designated areas as well as hiking, but camping is not permitted. The Havasu Wildlife National Refuge and Havasu Wilderness area are both managed by the U.S. Fish and Wildlife Service. The project is located within the Havasu National Wildlife Refuge. The location of the Havasu National Wildlife Refuge relative to the project site are shown on Figure 1.

3.2.3 Historic Sites

For purposes of Section 4(f), a historic site is significant only if it is on or eligible for the National Register (NR). Pursuant to the National Historic Preservation Act (NHPA), FHWA in cooperation with the applicant consults with the SHPO and/or THPO, tribes that may attach religious and cultural significance to the property, and when appropriate, with local officials to determine whether a site is eligible for the NR. If a site is determined to not be on or eligible for the NR,

⁶ Because the primary purpose of a refuge may make it necessary for the resource manager to limit public access for the protection of wildlife or waterfowl, FHWA's policy is that these facilities are not required to always be open to the public. Some areas of a refuge may be closed to public access at all times or during parts of the year to accommodate preservation objectives (FHWA 2012).

FHWA still may determine that the application of Section 4(f) is appropriate when an official (such as a president of a local historic society, etc.) formally provides information to indicate that the historic site is of local significance. In such rare cases, FHWA may determine that it is appropriate to apply Section 4(f) to that property.

When a project permanently incorporates land of a historic site, regardless of the Section 106 determination, Section 4(f) will apply. If a project does not permanently incorporate land from the historic property but results in an adverse effect, it will be necessary to further assess the proximity impacts of the project in terms of the potential for constructive use. This analysis is necessary to determine if the proximity impact(s) substantially impair the features or attributes that contribute to the NRHP eligibility of the historic site. The determination if there is a substantial impairment is made by consulting with all identified officials with jurisdiction, including the State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer (THPO) and the Advisory Council on Historic Preservation (ACHP) if participating, to identify the activities, features, and attributes of the property that qualify it for Section 4(f) protection and by analyzing the proximity impacts of the project (including any mitigation) on those activities, features, and attributes (see 23 CFR 774.15(d)(3)). The determination of Section 4(f) applicability is ultimately FHWA's decision.

The project's APE encompasses the limits of construction, including the limits of the current and proposed right-of-way, proposed permanent easements, temporary construction easements plus a sufficient buffer to allow heavy equipment to maneuver, and staging areas as well as accounting for any potential indirect effects including visual, noise, and vibration effects. A map of the project APE is included in the *Historic Property Survey Report* (HPSR) prepared for the Project.

The quality of significance in American history, architecture, archaeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, setting, materials, workmanship, feeling, and association is considered relative to one or more of the following criteria:

- (A) associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) associated with the lives of persons significant in our past; or
- (C) embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) have yielded, or may be likely to yield, information important in prehistory or history.

Section 4(f) applies to archaeological sites that are on or eligible for the NRHP and that warrant preservation in place. Section 4(f) does not apply if FHWA determines, after consultation with the SHPO/THPO, federally recognized Indian tribes (as appropriate), and the ACHP (if participating) that the archaeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place, and the SHPO/THPO and ACHP (if participating) does not object to this determination (see 23 CFR 774.13(b)).

A total of six NRHP eligible sites are located in the study area, however only 4 resources are considered Section 4(f) resources.

Historic sites in the study area include the following resources within the APE that were previously determined eligible for inclusion in the NRHP and to which Section 4(f) is applicable:

- CA-SBR-000219: Topock Maze/Topock Traditional Cultural Property is listed on both the NRHP and CRHR under Criterion D and is eligible for the NRHP under Criterion A.
- CA-SBR-6693H/AZ I:14:334 (ASM) BNSF/ATSF Railroad. This resource consists of a segment of the BNSF railroad that extends through the APE. This resource was determined eligible for listing in the NRHP (Criterion A) with California SHPO in 1994.
- Segments 4 and 5 of NOTH/66: National Old Trails Highway/Route 66 (NOTH/66). CA-SBR-2910 and AZ I:15:156 (ASM). This resource consists of five different sections or alignments of NOTH/66, four in California and one section in Arizona. Generally, NOTH/66 within California is considered eligible for the NRHP and CRHP under Criteria A and C. However, multiple segments within the California portion of the APE have been previously evaluated and SHPO concurred upon, with varying levels of NRHP status. The Arizona portion of NOTH/66 was evaluated and found to be eligible for the NRHP under Criteria A and C.
- Old Trails Arch Bridge (P-36-027678). This resource is a steel-trussed, single span center hinged, through-type arch bridge. This resource was listed in the NRHP in 1988 under Criterion A and C.

Furthermore, there are cultural resources within the APE that were not evaluated as a result of this project but are considered to be eligible for inclusion in the NRHP under Criterion D for the purposes of the Project for their data potential. These sites will be protected in their entirety through the establishment of an ESA. Because these archaeological resources are important chiefly because of what can be learned by data recovery and have minimal value for preservation in place, these two sites are not considered Section 4(f) resources:

- CA-SBR-11910/H. This archaeological site is a small, discrete lithic scatter on desert pavement.
- AZ L:7:81 (ASM). This site consists of a very discrete, prehistoric isolate lithic scatter location upon a highly disturbed tract of land between the extended northern shoulder and pull-out area of AZ-95 Oatman to Topock Highway, and the BNSF railroad at the southern end of the Mohave Valley.

The Arizona SHPO concurred with FHWA's eligibility determinations and treatments discussed in the Historic Property Survey Report and Finding of Effect via letter September 14, 2022. Similarly, the California SHPO provided concurrence on several eligibility determinations via letter March 3, 2023.

FHWA in coordination with Caltrans prepared an addendum to the HPSR and FOE in August 2023 that updated the significance finding on the Topock Maze/Topock Traditional Cultural Property and changed the finding of effect for the project. FHWA has determined that the Project will have an Adverse Effect on historic properties, namely the Topock Maze/Topock Traditional Cultural Property. The California SHPO concurred with the finding pursuant to 36 CFR 800.5(d) via letter August 15, 2023. FHWA has continued consultation regarding resolution of adverse effects pursuant to 36 CFR 800.6 through preparation of an MOA between FHWA, the California SHPO, and the Arizona SHPO. The MOA presents treatments to mitigate the Project's Adverse Effect on the Topock Maze/Topock Traditional Cultural Property.

The table below summarizes the historic sites located within the study area and whether the historic site meets Section 4(f) criteria.

Table 3-2. Historic Site Within Study Area

Site Number	Description	NRHP Status	Finding of Effect	Considered 4(f) Resource?
CA-SBR-000219	Topock Maze/Topock Traditional Cultural Property	NRHP Criterion A and D.	Finding of Adverse Effect	Yes
CA-SBR-6693H/AZ I:14:334 (ASM)	BNSF/ATSF Railroad	Eligible for listing in NRHP Criterion A with California SHPO in 1994	No Adverse Effect	Yes
CA-SBR-2910 and AZ I:15:156 (ASM)	Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66	Found to be eligible for NRHP under Criteria A and C.	No Adverse Effect	Yes
P-36-027678	Old Trails Arch Bridge	NRHP Listed under Criterion A and C.	No Adverse Effect	Yes
CA-SBR-11910/H	Small, discrete lithic scatter	Prehistoric component considered NRHP eligible Under Criterion D	No Adverse Effect	No
AZ L:7:81 (ASM)	Prehistoric isolate lithic scatter	Site considered NRHP eligible Under Criterion D	No Adverse Effect	No

Chapter 4 Section 4(f) Analyses for Archaeological and Historic Sites

4.1 Archaeological and Historic Section 4(f) Properties

There are significant historic sites in the project area that are considered to be Section 4(f) resources. The resources that are on the list or eligible for listing are provided in the table below.

Table 4-1. Section 4(f) Resources Listed or Eligible for Listing in the NRHP

Identification, Name	Location, Description	Significance
CA-SBR-000219	Topock Maze/Topock Traditional Cultural Property	Listed on NRHP
CA-SBR-6693H/AZI:14:334	BNSF/ATSF Railroad	Eligible for NRHP
CA-SBR-2910 and AZ I:15:156 (ASM)	Segments (4 and 5) of NOTH/66: National Old Trails Highway/Route 66 (NOTH/66) CA and AZ	Eligible for NRHP
P-36-027678	Old Trails Arch Bridge	Eligible for NRHP

Source: Historic Property Survey Report

4.1.1 CA-SBR-000219 (Topock Maze/Topock Traditional Cultural Property)

Initially, in line with traditional archaeological treatment, CA-SBR-000219 was considered to consist of the three loci that comprise the Topock Maze archaeological site. In keeping with the Tribe's understanding of the region, the site is being redesignated as a Traditional Cultural Property (TCP) which needs to be reconsidered within the context of the surrounding area known to the Mojave People as Nyo-Haive-Kee-Matche-Eve.

Traditional Cultural Properties are resources whose significance comes from their roles in a community's historically rooted traditional beliefs, customs, and practices. A TCP is defined generally as land that is eligible for inclusion in the NRHP with its association to cultural practices or beliefs of a living community that are rooted in its history, and are important in maintaining cultural identity of the community. As an outcome of consultation with the CA SHPO, FHWA, Caltrans, and the Fort Mojave Indian Tribe, the Topock Maze/Topock Traditional Cultural Property was re-examined to better describe and holistically consider the tangible and intangible effects of the project on TCP.

Referred to as the Topock Maze/Topock Traditional Cultural Property, the main site (Locus A) is approximately 17.7 acres and is located south of I-40 between PM 153.9 and 154.2, south of the western end of the APE. The maze is a large geoglyph consisting of parallel windrows of dark desert-pavement gravels piled up from the surrounding desert-pavement surface. The creation of the windrows has exposed the lighter-colored soils underlying the desert pavement between windrows, which creates a pattern of alternating dark rock piles separated by light-colored areas. The rock windrows and the cleared areas range from 30 to 60 centimeters in width, and between 10 and 20 centimeters tall. In the southern part of the site, the windrows are oriented primarily north-south, in the western part of the site the windrows are oriented east-west and southwest-northeast, and in the eastern part of the site they are oriented both east-west and north-south.

Based on the Tribal conception of the TCP, the Topock Intaglio itself described above and the Colorado River are its most salient and discernable features. For the purposes of this assessment all prehistoric archaeological sites and isolates are also components of the TCP, at least until such time as a more detailed assessment/documentation of the TCP can be performed. Within the broader landscape, mountain ranges, rock intaglios, geoglyphs, and all the animals, trees, and the Mojave people themselves, are also elements of the TCP. These are the tangible features of the TCP. The TCP would be significant in its entirety under NRHP Criterion A for its fundamental significance within the cultural and religious worldview of the Mojave People, as well as under Criterion D for its ability to provide information important in history or prehistory.

The TCP is bounded by the APE of the Undertaking and includes previously recorded archaeological site CA-SBR-219 Locus A, as well as the entirety of the project footprint (Area of Direct Impacts).

4.1.2 CA-SBR-2910 and AZ I:15:156 (ASM)

This historic route consists of segments of the NOTH/66 road alignment and associated features and runs through the project area towards the City of Needles in California and the communities of Topock and Oatman in Arizona. Within the California portion of the APE, the records search identified Segments 1 to 4 associated with this resource, and Segment 5 within the Arizona portion of the APE. The following is a description of each of the segments.

- Segment 1: An unpaved, graded road segment that extends southeastward from Segment 4 to the Old Trails Arch Bridge. A culvert and a trash scatter were previously recorded in 2008 as well as the remains of the original timber guard rails and a Route 66 welcome sign. This segment was in use as part of the National Old Trails Highway from 1914 to 1925 and as part of Route 66 from 1926 to 1947. This road segment is still in use as a PG&E access road.
- Segment 2: This north-south oriented, unpaved segment consists of an abandoned segment of NOTH/66 located in the northwestern portion of the APE. Site records indicated that along with the road segment, there were a series of upright wooden posts and a large berm along with a light scatter of cans.
- Segment 3: This segment consists of an abandoned segment of NOTH/66 from 1914 to 1946, located on the southwestern portion of the APE.
- Segment 4: This segment consists of a currently in use, asphalt paved portion of NOTH/66 with steel guard rails along the river side that extends northward from the PG&E Compressor Station on the California portion of the APE.
- Segment 5: This segment consists of an asphalt paved roadway of Oatman Highway used as part of Route 66 until 1952 when the right-of-way through the community of Oatman was changed. Site records indicate that this segment was an unimproved road extending from the communities of Topock to Oatman before 1921 but was later incorporated into Route 66 from 1921 to 1952, after the abandonment of the National Old Trails Highway.

4.1.3 CA-SBR-6693H/AZI:14:334

This resource is the BNSF railroad, originally built in the 1880s and extends across the Colorado River along the northern boundary of the APE. This resource was determined eligible for listing in the NRHP with California SHPO consensus in 1994.

4.1.4 P-36-027678

This is the Old Trails Arch Bridge with a length of 832 feet and 20 feet in width with a steel-trussed, single-span, center-hinged, through-type arch. The bridge was constructed in 1916 and functioned as an automobile bridge along the National Old Trails Highway until 1947, when the bridge was decommissioned, and traffic was redirected to the newly repurposed Red Rock Bridge. At the time of construction, the Old Trails Arch Bridge was the largest three-hinged arch bridge in the country and with the Red Rock Bridge, one of only two bridges crossing the Colorado River in the area. Currently, the bridge supports natural gas pipelines as they traverse the Colorado River from Arizona to the Topock Compressor Station in California. The bridge is listed in the NRHP under Criteria A and C and in the CRHR under Criteria 1 and 3.

4.2 Impacts on Section 4(f) Properties

4.2.1 CA-SBR-000219

Table 4-2. Section 4(f) Use Summary for Build Alternatives – Topock Traditional Cultural Property

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	Permanent incorporation	No	No
Build Alternative 3 (Southern Alignment)	Permanent incorporation	No	No

Permanent Use

CA-SBR-000219/the Topock Maze has been previously determined eligible for the NRHP under Criterion D and the resource can be protected through the establishment of an ESA. The Tribe also stated their view that the maze is part of a larger spiritual landscape which is central to their traditional lifeways and the land holds special significance in both tangible and intangible ways. As such, the resource may also be considered under NRHP Criterion A. Criterion A recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends. The event or trend must also be considered important, within the applicable context, and retain historic integrity. There are no physical remains of the Topock Maze complex within the Caltrans right-of-way as the interstate was cut below the natural ground surface during construction in the mid-1960s. No project related work is currently proposed at any of the three loci. This property is located well away from the ADI and was brought into the APE out of an abundance of caution due to the cultural sensitivity of the area and to ensure there was no inadvertent damage to the site. The physical features of

this site will be protected through the establishment of the ESA to ensure there are not direct effects to this property from construction related activities.

Following additional Section 106 consultation with the Fort Mojave Indian Tribe, further consideration was determined to be necessary in order to understand the tangible and intangible holistic characteristics of the Topock Traditional Cultural Property. FHWA in cooperation with Caltrans and ADOT has determined that project Alternatives 1, 2 and 3 will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property. Based on the descriptions provided by the Tribe, the boundary of the Traditional Cultural Property encompasses a vast region consisting of the Mojave traditional homeland. For the purposes of this Section 4(f) analysis, the analysis will focus on impacts to the contributing elements of the Topock Traditional Cultural Property within the APE.

The setting will somewhat change based on the Build Alternative as the existing bridge would be removed and a new bridge would be constructed in its place. Although the proposed bridge would be slightly taller and longer, it is of similar construction and is being constructed in roughly the same location as the existing bridge. Indirect effects upon this property's setting or character will be lessened with the implementation of measures **LU-1**, **NOI-1**, **VIS-1**, **WQ-1**, **WQ-2**, and **WQ-4**. These measures will be implemented to minimize noise, stormwater runoff, and ground disturbance that would result from construction activities and have the potential to cause indirect impacts to the Topock Traditional Cultural Property.

Furthermore, a Memorandum of Agreement (MOA) was executed on November 9, 2023 between FHWA, the California State Historic Preservation Office (SHPO), and the Arizona SHPO that provides stipulations to lessen impacts associated with the intangible characteristics of the Topock Maze/Topock Traditional Cultural Property.

Build Alternative 1

Build Alternative 1 proposes to replace the I-40 Colorado River Bridge on the existing alignment. This alternative will require phasing the construction operation in two major stages. Stage 1 will remove half of the existing bridge in one direction of travel, then construct the corresponding half of the new bridge, running traffic on the remaining half of the existing bridge. Stage 2 shifts traffic to the newly constructed portion of the deck then removes the rest of the existing bridge and builds the second half of the new bridge.

FHWA in cooperation with Caltrans and ADOT has determined that project Alternative 1 will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property. The determination of adverse effect under the Section 106 process (see 36 CFR 800.5) does not automatically mean that Section 4(f) will apply. Section 4(f) applies to the actual use or occupancy of a historic site, while Section 106 involves an assessment of adverse effects of an action on historic properties. There is no direct correlation between "use" in the Section 4(f) context and "adverse effect" in the Section 106 context.

Under Build Alternative 1, the Project is anticipated to require temporary construction easements (TCE's) on six parcels. No permanent right-of-way acquisitions or relocations would occur under this alternative. This alternative would be consistent with all State, Regional and Local planning documents or programs. The estimated project cost for this alternative is \$85 million. Construction of Alternative 1 will occur on the existing alignment of I-40, will not result in permanent right-of-way acquisitions or zoning updates and will match existing visual aesthetics of the existing bridge. Therefore, it is determined that Alternative 1 will have "no use" of the Topock Maze/Topock Maze Traditional Cultural Property.

Build Alternative 2 (Northern Alignment)

Build Alternative 2 proposes to replace the current Colorado River Bridge with an alignment slightly to the north of the existing bridge. This alternative will realign to the north of the existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. For this alternative, I-40 will also need to be realigned to match the new Colorado River Bridge location. Marina Road Under Cross (54 0670) (MRUC) will also be demolished and reconstructed to the north, over Route 66, as part of the approach to the new Colorado River Bridge.

FHWA in cooperation with Caltrans and ADOT has determined that project Alternative 2 will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property.

Under this alternative, there would be inconsistency with the San Bernardino County, Countywide Plan, Land Use Element policy and the Mohave County General Plan, Land Use Element goal due to conflicting planned and existing land uses. The estimated project cost for this alternative is \$95 to \$100 million.

Land is considered permanently incorporated into a transportation project when it has been purchased as right-of-way or sufficient property interests have otherwise been acquired for the purpose of project implementation. Build Alternative 2 would result in temporary construction easements on three parcels and partial permanent acquisition of property on seven parcels. Due to the encompassing nature of the Topock Traditional Cultural Property, it is assumed that all permanent acquisitions adjacent to the existing bridge location are within the sensitive resource area and contribute to the TCP. Therefore, it has been determined that Alternative 2 would result in permanent incorporation and “permanent use” of the Topock Traditional Cultural Property.

Build Alternative 3 (Southern Alignment)

Build Alternative 3 proposes to replace the current Colorado River Bridge with an alignment slightly to the south of the existing bridge. This alternative will realign to the south of the existing I-40 centerline, and this will allow the construction of the new bridge to take place while the existing bridge is still operational. For this alternative I-40 will also need to be realigned to match the new Colorado River Bridge location. Marina Road Under Cross (54 0670) (MRUC) will also be demolished and reconstructed to the south, over Route 66, as part of the approach to the new Colorado River Bridge.

FHWA in cooperation with Caltrans and ADOT has determined that project Alternative 3 will result in a finding of Adverse Effect on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property.

In the same capacity as Alternative 2, Alternative 3 would also be inconsistent with the San Bernardino County, Countywide Plan, Land Use Element policy and the Mohave County General Plan, Land Use Element goal due to conflicting planned and existing land uses. The estimated project cost for this alternative is \$95 to \$100 million.

Build Alternative 3 would result in temporary construction easements on one parcel and partial permanent acquisition of property on five parcels. It is assumed that all permanent acquisitions adjacent to the existing bridge location are within the Topock Traditional Cultural Property, therefore it has been determined that Alternative 3 would result in permanent incorporation and “permanent use” of the Topock Traditional Cultural Property.

No-Build Alternative 4 (No-Build)

Under the No-Build Alternative 4, no new replacement bridge or other physical improvements will be made to the Colorado River Bridge. The existing bridge will be left in its current condition, and no structural or functional deficiencies would be corrected. The existing bridge will continue to deteriorate, and safety of the structure could be compromised. A finding of No Historic Properties Affected for this historic property was determined for the No-Build Alternative 4. Alternative 4 would have “no use” of the CA-SBR-000219/the Topock Maze site, Topock Traditional Cultural Property or its contributing features. The No Build Alternative does not meet the project purpose and need; therefore, the No Build Alternative is not a prudent and feasible avoidance alternative.

Constructive Use

Proximity impacts, such as impacts from noise or visual impacts, while considered adverse in the Section 106 context would not rise to the level of substantially impairing the activities, features, and attributes that qualify the Topock TCP for Section 4(f) protection. The TCP at large will still function for the Mojave People in the same manner as in the pre-project condition. Visual impacts during construction would be temporary and typical of roadway construction projects, including construction fencing, construction equipment, material stockpiles, and vegetation removal, which would collectively temporarily disturb the portion of the TCP within the Project’s APE. Similarly, the incremental increase in noise during construction and operation of the build alternatives would be temporary and limited to the portion of the large TCP that is proximate to the Project footprint.

Because the primary significance of the Topock TCP is the important role it plays in the Fort Mojave community’s historically and traditionally based customs, beliefs, and practices. The Build Alternatives would not impair the intangible spiritual and religious qualities of the TCP beyond the limits of the project and/or the ability of the Fort Mojave tribe to recognize or maintain their relationship to their history, religion, and customs, or to the landscape. The sacred and spiritual components of the TCP would continue to exist and the physical characteristics of the landscape would not be permanently or substantially diminished.

The proximity impacts on the Build Alternatives would not be so severe that they substantially impair the activities, features, and attributes that qualify the property for Section 4(f) protection. With the application of project avoidance, minimization and compensatory measures listed below, impacts to the Topock TCP would be minimized and the project would not interfere with the continued primary purpose and functions of the TCP. Therefore, Build Alternatives 1, 2 and 3 would not result in a constructive use of the Topock Traditional Cultural Property as determined by the criteria in 23 CFR 774.15.

Measures to Minimize Harm to the Topock Traditional Cultural Property

As part of the Section 106 process, a Memorandum of Agreement (MOA) has been executed between the California and Arizona State Historic Preservation Officers (SHPO) and FHWA that proposes treatments to mitigate the finding of Adverse Effect on Topock TCP. FHWA/Caltrans continued consultation with the Fort Mojave Indian Tribe regarding mitigation of adverse effects to CA-SBR-00219/Topock Maze/Topock Traditional Cultural Property throughout the preparation of the MOA.

A number of conditions were proposed in the FHWA August 2022 Historic Property Survey Report and Finding of Effect, and in the August 2023 Addendum to the Historic Property Survey Report and Finding of Effect that remain pertinent to avoiding adverse effects the Topock TCP.

These conditions, along with measures requested by the Fort Mojave Indian Tribe, will be further developed as treatment measures as part of a Memorandum of Agreement (MOA), **CR-10**. In addition, other Land Use, Noise and Visual measures will also assist in mitigating the Adverse effect on the Topock TCP. These measures are described below:

- CR-1** Stop work if buried cultural resources are encountered during construction until a qualified archaeologist can evaluate the nature and significance of the find. In the event that human remains, including isolated, disarticulated bones or fragments, are discovered during construction-related activity, cease work in the vicinity of the human remains. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- CR-2** In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 50 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 Descendent (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. 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, DEBC, (909) 260-5178, Caltrans District 8 Division of Environmental Planning, 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.
- CR-3** All project-related activities or inadvertent disturbances will be prohibited within the Environmentally Sensitive Areas (ESA).
- CR-3** Environmentally Sensitive Areas (ESAs) exist and shall protect resources in place for the duration of the Project. The ESAs will be marked on Plans and delineated in the field by an Archaeologist from the Department.
- CR-4** An Archaeological Monitor will be assigned to monitor construction related activities within the Archaeological Monitoring Area (AMA). No work shall occur within the AMA unless the Archaeological Monitor is present. If

archaeological resources are discovered within the AMA, compliance is required with Standard Plans Section 14-2.02.2.

CR-10 The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places.

CR-11 Tribal monitors will work alongside the archaeological monitors during construction related activities within the archaeological monitoring area (AMA).

LU-1 Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.

NOI-1 Alternatives to Pile Driving. During construction, to the extent practical alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:

- Jetting,
- Pre-drilling,
- Cast-in-place or auger cast piles,
- Non-displacement piles,
- Pile cushioning,
- Scheduling, and/or
- Using alternative non-impact drivers.

VIS-1 All ground disturbance in the surrounding landscape would be returned to its existing condition or visual quality with concurrence of the District Landscape Architect.

WQ-1 **401 Certification.** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.

WQ-2 **404 Permit.** The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.

WQ-4 Construction SWPPP. The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction.

4.2.2 CA-SBR-2910 and AZ I:15:156 (ASM), Segments 4 and 5

Table 4-3. Section 4(f) Use Summary for Build Alternatives – National Old Trails Highway/Route 66

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	No	No	No
Build Alternative 3 (Southern Alignment)	No	No	No

The NOTH/Route 66 Segments 4 and 5 are located within the APE with Segment 4 located within the ADI on the California side and Segment 5 located outside of the ADI in Arizona. Segments 4 and 5 are eligible under Criteria A and C, with Segment 4 consisting of approximately 1,600 feet of roadway within the APE and Segment 5 consisting of approximately 100 feet of roadway within the APE. Segment 4 is a local access road currently in fair condition, and Segment 5 is part of the Oatman Highway and used for regular traffic, currently in good condition. Each of the build alternatives are analyzed separately below, as the effects to each segment vary based on the build alternative.

Build Alternative 1

There is no work proposed at any locations within the ADI or APE on either segment. However, there is potential for the segments to be affected as the resource may potentially be utilized as part of the construction haul road and as an access point to temporary roads to be constructed to the north and south of the existing fill used as part of the approach to the Colorado River bridge. This potential temporary construction related traffic is not anticipated to damage the road but incidental damage to the roadbed may occur during hauling and moving construction vehicles to temporary roads or staging and storage areas.

If the roadbed is damaged as part of the construction process, the repair work will be conditioned to reflect an in-kind replacement of the pavement (measure **CR-5**) with similar components of the existing road surface. A second condition (measure **CR-7**) states that the repair work would not modify the horizontal or vertical dimensions of the roadbed structure or realign portions of the resource. The overall character of the property will not change as the conditions would ensure the road is repaired in a manner consistent with current conditions. The

overall character of the property will also be preserved as the proposed bridge is of similar size and scale of the existing bridge. As such, Build Alternative 1 would have No Adverse Effect on the NOTH/Route 66 Segments 4 and 5. There will be no permanent incorporation of land from the historic property. The project would not result in the use of this property under the provisions of Section 4(f).

Build Alternative 2 and 3

With Build Alternative 2 and 3, the effects to Segment 5 will be the same as discussed under Build Alternative 1 and would result in No Adverse Effect for that segment. As such, the analysis will examine the effects to Segment 4 under Build Alternatives 2 and 3. The effects to Segment 4 discussed under Build Alternative 1 still apply to Build Alternatives 2 and 3, and additional effects are anticipated. With Build Alternative 2 and 3, the Marina Road Undercrossing would be removed and a new bridge, either slightly to the north (Build Alternative 2) or south (Build Alternative 3) would be constructed. The Marina Road Undercrossing is not part of the historic property (Segment 4) but crosses above the linear resource, and the work on the bridge has the potential to affect the resource located below. Part of the demolition of the bridge is the removal of piers in close proximity to one of the character defining features of Segment 4, the 1950's guardrail. There is the potential for partial removal of the 1950s guardrail. Modern Midwest Guardrail System (MGS) would be installed to meet current safety standards and to protect the new bridge from vehicular collisions. The installation of MGS would be conditioned (measure **CR-6**) to either be stained or painted white to match the 1950s guardrail, if the original cannot be salvaged and replaced, and be of similar massing, size and scale. The potential loss of the 1950s guardrail is an effect to Segment 4, however, this effect does not rise to the level of adverse as there are other associated road features that are present along this segment which would continue to convey the character and feeling of this property. As such, Build Alternatives 2 and 3 would have No Adverse Effect on Segment 4 and 5. There will be no permanent incorporation of land from the historic property. Similar to Build Alternative 1, The project would not result in the use of this property under the provisions of Section 4(f).

A number of conditions were proposed in the FHWA August 2022 Finding of No Effect that remain pertinent to avoiding adverse effects on NOTR/Route 66. These conditions will be incorporated as treatment measures into the Memorandum of Agreement (MOA) that will be prepared and executed for the project:

- CR-5** Repair of the pavement on CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway/Route 66 (NOTH/66) CA and AZ Segments 4 and 5 will be conducted according to the Secretary of the Interior's Standards (SOIS): Any pavement repair will conform to the existing profile, width, etc. Similar or identical paving techniques as the existing will be utilized such as materials type and aggregate size. Paving plans and specifications shall be reviewed and approved by the Caltrans PQS Principal Architectural Historian for compliance.
- CR-6** The historic period 1950s guardrails impacted by the project will be salvaged ad re-used as practical. If guardrail cannot be reused, stained or painted Midwest Guardrail System type will be used. If guardrail cannot be salvaged, an alternative rail will be chosen in consultation with the

Caltrans PQS Principal Architectural Historian to ensure that it is compatible with the massing, size, scale, and architectural features of the 1950s guardrail to protect the historic integrity of the property and its environment.

CR-7 The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and Specifications shall be reviewed by Caltrans PQS Principal Architectural Historian for compliance.

4.2.3 ATSF/BNSF CA-SBR-6693H (P-36-006693)/AZ I:14:334 (ASM)

Table 4-4. Section 4(f) Use Summary for Build Alternatives – ATSF/BNSF railroad line

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	No	No	No
Build Alternative 3 (Southern Alignment)	No	No	No

This property is a continually utilized and maintained railroad line by BNSF. The property includes the raised bed, trestle bridge, and two overcrossings over NOTH/66 and the Oatman Highway. No work is proposed at this location and it is outside of the ADI for Build Alternatives 1, 2, and 3. As such, the build alternatives would have No Adverse Effect. There will be no permanent incorporation of land from the historic property. The project would not result in the use of this property under the provisions of Section 4(f).

4.2.4 Old Trails Arch Bridge (P-36-027678)

Table 4-5. Section 4(f) Use Summary for Build Alternatives – Old Trails Arch Bridge

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	No	No	No
Build Alternative 3 (Southern Alignment)	No	No	No

The effects to this property are the same under Build Alternatives 1, 2, and 3. This resource was previously used as an automobile bridge that crossed the Colorado River, but was converted in 1948 to carry natural gas and continues to function in this capacity currently. This resource is located within the APE but outside of the ADI and located between 350 to 1,150 feet to the south of the Colorado River Bridge. There will be no permanent incorporation of land from the historic property. As such, the build alternatives would have No Adverse Effect on this resource. The project would not result in the use of this property under the provisions of Section 4(f).

4.3 Coordination Conducted for Topock Maze/Topock Tribal Cultural Property

The official with jurisdiction over Historic Sites that are Section 4(f) resources is the State Historic Preservation Officer (SHPO). Typically, Section 4(f) requires FHWA to coordinate with the SHPO prior to making determinations on the "use" of historic sites. FHWA coordinates with the SHPO through the Section 106 consultation process using concurrence with Section 106 findings as the basis for FHWA's subsequent Section 4(f) determinations. FHWA has consulted with the CA and AZ SHPOs regarding the Section 106 significance determinations, whether archaeological sites have minimal value for preservation in place (are eligible under NRHP Criteria other than D), and effect finding.

The Arizona SHPO concurred with FHWA's eligibility determinations and treatments discussed in the Historic Property Survey Report and Finding of Effect via letter September 14, 2022. Similarly, the California SHPO provided concurrence on several eligibility determinations via letter March 3, 2023. Further, FHWA has consulted with the SHPOs on the Project's Adverse Effect finding on the Topock TCP and No Adverse Effect Finding on the remaining properties in the APE and has received concurrence in writing from the CA SHPO via letter dated August 15, 2023 on the determination. The Arizona SHPO concurred on the Finding of Adverse Effect on August 28, 2023.

On August 23, 2023, the draft Memorandum of Agreement (MOA) was submitted to the Fort Mojave Indian Tribe and to the Arizona and California SHPOs on August 29, 2023. In mid-September, the Arizona and California SHPOs provided comments on the draft MOA. A revised version was then provided to the two SHPOs and the FMIT on September 27, 2023. On October 2, 2023, a meeting was held with Caltrans, FHWA, and the Arizona and California SHPOs to discuss comments on the draft MOA. On October 4, 2023, the California SHPO submitted comments on the draft MOA and the revised version was returned by FHWA on October 5, 2023. A second meeting to discuss comments with Caltrans, FHWA, and the Arizona and California SHPOs was held on October 5, 2023. On October 10, 2023, the Arizona SHPO provided comments on the draft MOA, followed by FMIT who submitted comments on October 12, 2023. The revised MOA was submitted to the Arizona and California SHPOs on October 16, 2023 and to the FMIT on October 17, 2023. On November 9, 2023 the MOA was executed with signatories, Arizona FHWA, California FHWA, Arizona SHPO, and California SHPO. The FMIT, and invited signatory, signed the MOA on October 27, 2023. Pursuant to 36 CFR § 800.6(b)(1)(iv), the executed Memorandum of Agreement was submitted to the ACHP on November 9, 2023.

As a result of the above ongoing consultation between Caltrans on behalf of FHWA, the Fort Mojave Indian Tribe, and the California and Arizona SHPOs offices, the overall finding for the undertaking was elevated to a Finding of Adverse Effect for both tangible and intangible effects on the Topock Maze Traditional Cultural Property. In accordance with 36 CFR Part 800, a Memorandum of Agreement (MOA) was executed on November 9, 2023 in order to mitigate

these adverse effects. The California and Arizona FHWA offices, and the California and Arizona SHPOs offices are Signatories to the MOA, and The Fort Mojave Indian Tribe, Caltrans, and ADOT are Invited Signatories. The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places. Consultation and active engagement with the Fort Mojave Indian Tribe will continue throughout the life of the undertaking in order to achieve the stipulations outlined in the MOA. The MOA has a duration of five years and can be amended by any signatory party.

Chapter 5 Section 4(f) Analyses for Wildlife Refuges and Public Parks

This section of the document will discuss *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU 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 amendment provides that once the 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 CFR 774.3 and CFR 774.17.

FHWA has responsibility for compliance with Section 4(f), 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.

This chapter describes the Havasu National Wildlife Refuge and Havasu Wilderness, Moabi Regional Park, Chemehuevi Mountains Wilderness, and the potential effects of each project alternative.

5.1 Description of Section 4(f) Properties

The Havasu National Wildlife Refuge, managed by the USFWS, was established in 1941 by Executive Order by then President Franklin D. Roosevelt for the primary purpose of providing migratory bird habitat and includes 37,515 acres along the Colorado River for 30 miles between Needles, California and Lake Havasu City, Arizona with most of the refuge situated in Arizona. One-third of the refuge, all in Arizona, was designated as the Havasu Wilderness in 1990. The Havasu Wilderness includes Topock Gorge, where the Colorado River flows through a narrow, mountainous area with high peaks and cliffs. Several recreational activities are allowed on the refuge including boating, canoeing, kayaking, hunting (in designated areas only) and fishing (with proper license), nature walks, wildlife observation and photography, and hiking. Off road vehicles are not permitted and camping (both on land and water) is not allowed on the refuge. A portion of Topock Marsh is closed seasonally to all entry from October 1 through the end of the state waterfowl season. Temperature varies based on season, with typical daytime highs in the 60 to 70 degrees Fahrenheit with nighttime lows in the 40 degrees Fahrenheit. Summers are hot and dry with average daytime temperatures of 115 degrees Fahrenheit from June through September.

Adjacent to the Havasu Wilderness is the Chemehuevi Mountains Wilderness area, which is managed by the Bureau of Land Management and is used for recreational activities including hiking, horseback riding, hunting, camping, and backpacking. The northern portion of the wilderness is located approximately .75-miles southwest of the project.

The Moabi Regional Park located at 100 Park Moabi Road in Needles, California is the San Bernardino County Regional Parks and operated by the Pirate Cove Resort and Marina, offering recreational opportunities including a campground, fishing, swimming, hiking, picnic areas, boating, and off-road driving. The Moabi Regional Park is located approximately 0.3-mile northwest of the project.

5.2 Impacts on Section 4(f) Properties

5.2.1 Build Alternatives 1, 2, and 3

The build alternatives would result in temporary construction staging and storage areas for construction equipment, and temporary access roads for construction vehicles and equipment in areas adjacent to I-40. Construction activities within the Havasu National Wildlife Refuge lands would be temporary in duration. As the temporary “use” of the property would occur in areas adjacent to I-40, it would not adversely affect the activities, features, and attributes of the Section 4(f) property. The nearest trail to the project site, the Needles Mountain Trail located approximately 4 miles southeast, would remain open and accessible and not be adversely affected by the project. Furthermore, the existing parking areas near the project site, including the Topock Marina Overflow lot, Route 66 Parking lot, and Topock Maze lot would remain accessible and open to the public during construction. The majority of the activities, features, and attributes of Havasu National Wildlife Refuge are located to the north and south of I-40 and not located in areas adjacent to I-40 where the temporary “use” would occur. The temporary construction activities would not prevent access to Havasu National Wildlife Refuge or result in changes to the existing activities or features.

No direct or indirect impacts to The Moabi Regional Park and Chemehuevi Mountains Wilderness are anticipated, due to their distance from the project location. No construction activity is proposed in or adjacent to these two properties, and the Colorado River Bridge is not visible from those locations.

Table 5-1. Section 4(f) Use Summary for Build Alternatives – Moabi Regional Park

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	No	No	No
Build Alternative 3 (Southern Alignment)	No	No	No

Moabi Regional Park is located approximately 0.3 miles northwest of the project location. All Build Alternatives (Build Alternative 1, 2, and 3) would result in no permanent, temporary, or constructive use of the Section 4(f) resource (Moabi Regional Park). There would be no use of Moabi Regional Park, therefore it is not required to perform a Section 4(f) analysis.

Table 5-2, Section 4(f) Use Summary for Build Alternatives – Chemehuevi Mountains Wilderness

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	No	No
Build Alternative 2 (Northern Alignment)	No	No	No
Build Alternative 3 (Southern Alignment)	No	No	No

The Chemehuevi Mountains Wilderness is located approximately .75 miles southwest of the project. All Build Alternatives would result in no permanent, temporary, or constructive use of the Chemehuevi Mountains Wilderness. There would be no use of Chemehuevi Mountains Wilderness, therefore it is not required to perform a Section 4(f) analysis.

Table 5-3. Section 4(f) Use Summary for Build Alternatives – Havasu National Wildlife Refuge

	Permanent Use	Temporary Use	Constructive Use
Build Alternative 1 (Existing Alignment)	No	Yes	No
Build Alternative 2 (Northern Alignment)	No	Yes	No
Build Alternative 3 (Southern Alignment)	No	Yes	No

As discussed above, the Build Alternatives would require temporary use but no permanent use of Havasu National Wildlife Refuge.

5.2.2 Constructive Use Analysis

The potential for proximity impacts and indirect effects on the protected activities, features, and attributes of the Havasu National Wildlife Refuge under all three build alternatives is discussed further below.

Accessibility

The Havasu National Wildlife Refuge is not anticipated to be interrupted or otherwise changed as a result of the project. Agency access to Havasu National Wildlife Refuge lands would be always maintained during construction and operation of all three build alternatives. The primary purpose of a refuge may make it necessary for the resource manager to limit public access for the protection of wildlife or waterfowl, FHWA's policy is that these facilities are not required to always be open to the public. Some areas of a refuge may be closed to public access at all times or during parts of the year to accommodate preservation objectives. The project is not anticipated to preclude recreation access to the refuge that currently exist or introduce new

points of access. Therefore, no impacts on accessibility would occur as a result of construction or operation of any of the three build alternatives.

Visual

Visual impacts during construction would be typical of roadway and bridge construction projects, including construction fencing, construction equipment, and material stockpiles, which would collectively temporarily disturb the visual aesthetic of the refuge. However, the main visual impacts would be caused by construction of the proposed build alternatives, and these would not constitute a constructive use, as construction activities would be temporary and short-term in nature and the project areas disturbed would be restored to pre-project conditions with implementation of measure **VIS-1**.

Air Quality

Indirect air quality impacts as a result of the build alternatives are not expected to result in a constructive use of the affected refuge. As detailed in the Section 2.2.6, although construction emissions would result from excavation, grading, hauling, and other construction related activities, the emissions would be temporary, and the contractor would comply with all air pollution control ordinances and statutes that apply to any work performed pursuant to the contract. Air quality during operation of the build alternatives would be minimal as the project would not increase the capacity of the existing roadway or involve the installation of traffic signals. The incremental increase in air quality impacts during construction and minimal impacts once the project is in operation would not inhibit the function of the existing refuge. As such, the build alternatives would not result in a Section 4(f) constructive use of the refuge due to air quality impacts.

Noise and Vibration

The Havasu National Wildlife Refuge lands are currently subject to indirect noise impacts due to their proximity to I-40 and surrounding roadways. Activities associated with construction of the project, including disturbance from noise or vibrations, may result in temporary disruptions. Typical noise levels at 50 feet from an active construction area could reach 91 dBA L_{max} during the noisiest construction phases. The site preparation phase of construction, which includes grading and paving, tends to generate the highest noise levels due to the type of construction equipment used. Construction would implement **NOI-1** for alternatives to pile driving and be conducted in accordance with applicable noise standards and Caltrans' provisions in Section 14-8-02, "Noise Control" of the 2023 Standard Specifications or most recent. Furthermore, the incremental increase in noise once the build alternatives are in operation would not inhibit the function of the existing refuge that is already subject to noise. As such, the build alternatives would not result in a Section 4(f) constructive use of the refuge due to indirect noise impacts.

Vibration impacts as a result of the build alternatives would not result in a constructive use of any of the refuge. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance from the piece of construction equipment. These impacts would be short term and would not inhibit the function of the refuge with the incorporation of standard design features that would control and minimize the amount of vibration exposed to surrounding areas during construction. The project would implement **NOI-1** for alternatives to pile driving to avoid or minimize a potential increase in ground vibration. During operation of the build alternatives, ground-borne vibration impacts are not anticipated beyond the impacts currently experienced as a result of

vehicles traveling through the study area. Therefore, there would be no vibration impacts at the Havasu National Wildlife Refuge that would result in a Section 4(f) constructive use.

Vegetation

As described in The Jepson Manual, the study area is located within the Mojave Desert Region. This region exhibits greater temperature ranges and more extreme elevational relief than the Sonoran Desert to the south.

Vegetation community mapping follows the classifications described in A Manual of California Vegetation and its updated online version. Dominant vegetation communities within the BSA consisted of upland desert scrub and riparian communities. In total, 10 natural vegetation communities occur within the BSA: creosote bush desert scrub (*Larrea tridentata* alliance), creosote bush-white bursage desert scrub (*Larrea tridentata-Ambrosia dumosa* alliance), blue palo verde woodland (*Parkinsonia florida* association and disturbed *Parkinsonia florida* association), common reed marsh (*Phragmites australis* alliance), arrow weed thicket (*Pluchea sericea* alliance), narrowleaf willow thicket (*Salix exigua* alliance), California bulrush marsh (*Schoenoplectus californicus* association), catclaw acacia-desert lavender-chuparosa scrub (*Senegalia greggii-Condea emoryi-Justicia californica* shrubland alliance), tamarisk thicket (*Tamarix* spp. alliance), and cattail marshes (*Typha* [*angustifolia*, *domingensis*, *latifolia*] herbaceous alliance). Removal of these habitats will be avoided, as feasible; however, direct and indirect impacts for Project Build Alternatives 1, 2, and 3 (all options except the No Build Alternative) are anticipated.

Implementation of the project would result in permanent and temporary impacts on natural vegetation communities through disturbance and/or removal of existing vegetation. Temporary indirect impacts may be caused by construction activities (e.g., dust, increased fire risk, chemical spills, sedimentation, and littering) on vegetation communities that are adjacent to the Project limits, which could lead to temporary degradation of these communities. The use of construction equipment could also damage adjacent native vegetation through airborne sedimentation, for example. Project equipment and vehicles may import invasive plant materials and seed into the project area. Importing invasive species into the Project area could pose a risk to the native plant species due to competitive exclusion. Furthermore, adding more trash and debris to the project site would reduce the quality of the soil conditions, preventing native plant species from colonizing the site. However, these impacts are expected to be greatly reduced with implementation of the avoidance and minimization measures **NC-1**, **NC-2**, **NC-3**, **NC-4** and **NC-5** associated with the build alternatives would not impair vegetation such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Wildlife

A habitat assessment for special-status fishes, small mammals, birds, bats, and desert tortoise was conducted to characterize and map the suitability of habitat up to a 600 ft buffer based on the species. Caltrans conducted focused surveys for Arizona Bell's vireo, desert tortoise, and bats while also utilizing focused surveys conducted by USFWS and PG&E.

Fish

Permanent impacts from construction activities may include instream and bank habitat modifications based on the placement of the piers, pilings, abutments, shoreline structures, and/or riprap. Modifications to instream and bank habitats may directly affect flow types,

sediment deposition, and emergent and bank vegetation, which may indirectly affect water quality, benthic invertebrate communities, and fish habitat utilization.

Hydrological connectivity would be maintained during project construction. No dewatering or construction within the entire current active river channel is anticipated other than potential placement of coffer dams, if required for pier or temporary trestle construction; thus, no injury to or death of individual flannelmouth sucker are anticipated. If water diversions are required, then it is anticipated that water would be diverted only within a portion of the channel, while the remainder of the channel remains open to allow hydrological connectivity. Otherwise, a culvert pipe or system of pipes may be installed under a temporary coffer dam that will maintain hydrological connectivity.

Temporary impacts from construction activities could include temporary degradation of water quality due to erosion and road runoff, turbidity, temporary changes to bed materials or existing channel contours or slope, downstream siltation, and physiological and behavioral changes to fishes. Construction activities adjacent to and within the river would likely cause indirect disturbances to bank soils and streambed sediments resulting in temporary increases in turbidity and suspended sediments. Increased turbidity can coat and damage gill filaments of fish, impairing their ability to respire. Suspended sediments can also degrade foraging and spawning habitats resulting in avoidance or displacement of fish. Pollutants or trash entering the water through accidental discharge or equipment failures could also temporarily affect fish and their habitats within and/or downstream of the project.

Underwater noise generated from removing or constructing piers or abutments can cause behavioral and/or physiological changes in fish that could impact migration or dispersal, spawning, feeding and growth, or even reductions in their ability to avoid predation. Additionally, the use of artificial lighting may temporarily impact fish and their habitats.

The magnitude of these impacts depends on several factors, including the extent, concentration, duration, and type of disturbance, and the species (its life stage and sensitivity) being affected. These impacts could be considered significant to both the habitat and fish populations within and/or downstream of the project; however, these impacts would be avoided and/or minimized with the implementation of the measures described below under Build Alternatives 1, 2, and 3.

The improvements to the bridge will increase the load rating to accommodate all permit vehicle traffic which will likely increase the amount of rubber, oil, metal, and other potential contaminants from vehicular wear onto the roadway. If not properly addressed in the design phase, stormwater run-off has the potential to increase the concentration of leachate entering the river and impairing water quality or causing acute mortality or other negative (sometimes long-term) impacts to fish. However, operation of the expanded bridge and roadway is not anticipated to result in any relevant changes to volumes, flow regimes, point sources, or the quality of upland water (e.g., stormwater flows) because the project will implement BMPs for permanent operating conditions, including a SWPPP and water quality control measures, which will maintain or improve water volumes and quality from bridge and roadway surface flows at the I-40 Colorado River Bridge.

Measure **NC-1, NC-2, NC-3, NC-7, WET-1, WET-2, WET-3, AS-1, TE-1, TE-2** and **TE-3** would avoid or minimize environmental effects associated with the build alternatives and not impair fish species such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected. In addition, measures implemented to comply with the project SWPPP, as well as USACE, CDFW, and RWQCB permit conditions for impacts on jurisdictional waters, will ensure avoidance and/or minimization of impacts on water quality.

Migratory and Listed Birds

Native bird species and their nests are protected under the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, California Fish and Game Code and Arizona Revised Statutes Title 17. Listed avian species include those species protected under Endangered Species Act(s). The Project footprint including up to a 600 ft buffer contains suitable nesting habitat for a variety of avian species. Suitable nesting habitat is present throughout this area in mature trees, shrubs, and ground cover, particularly in riparian and desert scrub habitats and this vegetation is likely utilized by many birds in the project area.

Vegetation removal and/or grading could result in injury or mortality to any individuals in the area. Birds flying out of the area to escape could collide with machinery or vehicles. Other direct impacts may include nest destruction or damage if vegetation is cleared during the nesting season. If any birds are inhabiting the project site at the time of construction work, then they may be displaced.

The project has the potential to temporarily directly affect bird species from noise and vibrations associated with construction, including pile driving operations for pier construction and temporary trestle installation, should any individuals be present. Masking (i.e., the inability to hear environmental cues and animal signals) could limit an individual's ability to communicate and receive important cues from the environment and other wildlife, which could negatively impact their ability to procreate and respond to a threat, as well as increase the risk of predation. However, depending on the noise levels and duration, birds may also adjust behavior to acclimate to the disturbance, such as adjusting calling height and location, turning their heads, increasing their call volume, and timing calls during periods of low noise.

If nighttime construction occurs, then bird species may be disturbed by night lighting. Increased risk of predation and harassment could occur due to predators (e.g., raccoon [*Procyon lotor*], common raven [*Corvus corax*], feral cats) attracted to project-related food trash and debris and by pets brought into the project area by project personnel. Increased predation risks could result in mortality of both adults and nestlings.

The direct effects from exposure to increased noise levels, night lighting, and increased risk of predation and harassment could lead to behavioral modifications and negative physiological stressors. Behavioral modifications, including habitat avoidance and nest abandonment, could result in decreased reproductive success. Habitat avoidance could reduce the availability of suitable nesting and foraging habitat for bird species with suitable habitat, making successful reproduction more challenging. Nest abandonment could result in egg failure and/or the death of nestlings. Physiological stressors could lead to energetic losses and increased stressors to the body, potentially resulting in lowered reproductive performance, increased susceptibility to diseases and predation, inability to successfully forage and feed young, and death of both adults and nestlings. Depending on whether individuals are foraging or nesting in the area, all life stages associated with the breeding season could be exposed to these stressors.

Potential indirect impacts may include edge effects and degradation of riparian marsh habitat and water quality associated with litter, fire, introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, and dust and pollutants associated with vehicles and machinery. Indirect effects on suitable habitat could cease use of the area within and adjacent to the construction footprint if habitat restoration has limited success and/or habitat degradation was severe enough to diminish resources needed for foraging, nest placement, and nest construction. Habitat avoidance could strain individuals searching for suitable nesting and foraging habitat that could result in lowered reproductive success. Construction and soil disturbance of adjacent habitat may adversely affect suitable marsh habitat on site by altering

drainage patterns and encouraging the spread of invasive plant species, which could indirectly result in loss of quality habitat and an increase in fire frequency.

Operation of the expanded bridge and roadway is not expected to result in any relevant changes related to bird species or their habitat. Because individuals that use the area are already acclimated to traffic noise and other road disturbances, no appreciable increases in impacts from operation are anticipated. Project operation would not contribute to an increased risk related to the degradation of riparian habitat or overall water quality.

Measures **NC-1, NC-3, NC-4, NC-5, NC-6, NC-7, NC-8, AS-2, AS-3, TE-1** and **TE-2** would avoid or minimize environmental effects associated with the build alternatives and not impair bird species such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Bats

Bridge construction or the removal or trimming of suitable roost trees could harm roosting bats as a direct result of implementation of Build Alternative 1, 2 or 3. Because the I-40 Colorado River Bridge will be completely removed and replaced as part of the project, and the I-40 Bat Cave Wash Culvert might be modified or removed, there is potential for mortality of day-roosting bats as well as potential for “take” resulting from net loss of roosting habitat unless strategies are implemented. Alternatively, the final design may be beneficial to bats in the long term if additional roosting habitat is incorporated into the bridge. Day-roosting bats have been confirmed at the I-40 and BNSF Colorado River bridge structures during the fall and winter seasons, and the results of the spring 2021 focused surveys suggest that maternity colonies of Yuma myotis use the I-40 Colorado River bridge structure. In addition, the I-40 Bat Cave Wash Culvert is known to house a maternity colony of *Yuma myotis*. Maternity colonies, which consist of females and their young and often involve large numbers of individuals, are particularly vulnerable to roost disturbance. Disruption and disturbance of a maternity roost would be a substantial impact because disturbance of these roosting areas that are crucial to reproduction in bats can lead to roost abandonment and/or mortality of the bats in that roost.

Noise and vibration generated by construction activities (e.g., pile driving and demolition) could result in temporary, indirect impacts to any bats roosting in the vicinity of project-related activities. For example, all three build alternatives will involve pile driving for the construction of new pier foundations as well as for the installation of the temporary trestle bridge. Night-roosting bats can also be subject to impacts if nighttime construction occurs and night lighting is used. This lighting can be disruptive to roosting and foraging behaviors, particularly over time. Bats may also be subject to temporary, direct impacts as the result of any humane eviction/exclusion activities that are conducted to prevent direct mortality during demolition of the I-40 Colorado River Bridge or if the I-40 Bat Cave Wash Culvert is removed.

Measure **NC-1, NC-3, NC-5, NC-6**, and **AS-4** would avoid or minimize environmental effects associated with the build alternatives and not impair bat species such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Small Mammals

Project construction and vegetation clearing could result in direct mortality, injury, or harassment of individual Colorado River cotton rat and/or desert pocket mouse as a result of construction vehicles and heavy equipment. Other direct impacts may include individuals being crushed or entombed in their burrows, collection by project personnel, and injury or mortality from opportunistic predators during construction activity. Activities associated with construction,

including disturbance by noise or vibrations from the heavy equipment, may result in disruption of individual's behavior. If construction occurs during the breeding season, it could disturb breeding behavior, resulting in negative impacts on reproduction.

Other potential direct impacts include the compaction of soil due to construction vehicles, which may decrease the availability of friable soils for burrow creation. Capturing, handling, and relocating Colorado River cotton rat and/or desert pocket mouse that occur within the construction area could cause injury or death if proper handling and relocation techniques are not used. Artificial lighting could affect nocturnal activities, including foraging. In addition, artificial lighting at night may increase predation risk by allowing predators, such as owls, to hunt more efficiently.

Indirect effects of construction include an increase in human activity, which could result in an increase in opportunistic predators that are attracted to litter, such as coyote and American crow. Construction and mechanical soil disturbance may adversely affect suitable habitat onsite by altering drainage patterns and encouraging the spread of invasive plant species, which could indirectly result in loss of quality habitat and an increase in fire frequency. Measure **NC-1**, **NC-2**, **NC-3**, **NC-6**, **NC-7** and **AS-6** would avoid or minimize environmental effects associated with the build alternatives and not impair small mammal species such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Desert Bighorn Sheep

Project construction-related activities and geotechnical borings have the potential to generate noise and vibration and construction activities may occur at night. Indirect impacts during construction may include noise, vibration, and/or visual disruptions including artificial lighting and human presence, which may disrupt and deter movement patterns in the project area. Direct impacts may include injury or mortality of individuals should they be present within the project work area during construction activities (e.g., vehicle or equipment strikes). Measure **NC-1**, **NC-2**, **NC-6**, **NC-7** and **AS-5** would avoid or minimize environmental effects associated with the build alternatives and not impair desert bighorn sheep such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Desert Tortoise

Although it was determined that there is suitable habitat for Mojave desert tortoise within the Project area, the quality was marginal to low and no desert tortoise or their sign was observed during the focused protocol-level surveys performed for the project. Therefore, no direct impacts on this species are anticipated as a result of the project. However, suitable habitat is present and desert tortoises are known to occur in the area. As such, desert tortoises have the potential to occur at any time. Should any Mojave desert tortoise be present at the time of construction, it is possible that tortoises could be injured or crushed by onsite equipment or vehicles or could experience dehydration if startled by project personnel (resulting in evacuation of their internal water supply).

Temporary indirect impacts on Mojave desert tortoise, should they be present, could occur from construction-related noise and ground vibration because individuals may be deterred from inhabiting or foraging in areas near such activities. Additional indirect impacts could occur from construction-related dust, sedimentation, and erosion along the site edges, which have the potential to alter offsite conditions. Noxious weed seeds could be spread during construction activities to offsite habitats that are occupied by tortoise during travel to and from the site or by wind. If allowed to establish and spread, these weeds could alter the surrounding habitat for this

species. Non-native vegetation often has little to no nutritional value for tortoise. Conversion of native, nutritious vegetation, such as grasses and herbs, to invasive non-native plant species could result in tortoises being unable to find sufficient amounts of food. Establishment of non-native plants can also increase the risk of fires, which could harm tortoises.

Measure **NC-1, NC-2, NC-3, NC-5, NC-7, AS-5, AS-6, TE-1, TE-2, TE-5, TE-6, TE-7, and TE-8** would avoid or minimize environmental effects associated with the build alternatives and not impair desert tortoise such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially.

Northern Mexican Gartersnake

While a habitat assessment was not conducted for northern Mexican gartersnake, it is assumed that the Topock Marsh area provides suitable habitat for this species. Topock Marsh occurs approximately 400-feet from the project work limits; therefore, no direct or indirect impacts on northern Mexican gartersnake are anticipated.

Measure **NC-1, NC-2, NC-3, NC-6, NC-7, AS-5, AS-6, WET-1 and WET-2** would avoid or minimize environmental effects associated with the build alternatives and not impair northern Mexican gartersnake such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially.

Monarch Butterfly

The project area contains suitable habitat for migratory Monarch butterflies as well as suitable habitat for Monarch host plants. Measure **NC-1, NC-2, NC-3, NC-4, NC-5, NC-7, TE-1 and TE-4** would avoid or minimize environmental effects associated with the build alternatives and not impair Monarch butterfly such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially.

Water Quality

The project is located within the Colorado River Basin Region and within the southern portion of the Havasu-Mohave Lakes Watershed. Agricultural uses are the predominant beneficial use of water in the Colorado River Basin Region, followed by use of water for municipal and industrial purposes and recreational use of surface waters. There are no drainage structures currently on the existing bridge. In addition, no drainage structures are proposed to be constructed as part of the project.

Operation of the project would not require the use of water supplies and, therefore, would have no impact on beneficial uses of the receiving waters related to municipal and industrial, agricultural, and recreational uses.

The project could result in short-term, temporary construction impacts on water quality related to grading, establishment and use of construction staging areas, and other soil-disturbing construction activities during project construction. Potential pollutant sources include construction materials and equipment such as vehicle fluids, concrete and asphalt products.

Similarly, operation of the build alternatives also has the potential to affect water quality. Potential pollutant sources associated with operation include motor vehicles, highway maintenance, illegal dumping, and spills. However, with implementation of the minimization measures **WET-1, WET-2, WET-3, WQ-1, WQ-2, and WQ-4** associated with the build alternatives would not impair water quality such that the activities, features, and/or attributes that qualify the refuge for protection under Section 4(f) would be substantially affected.

Measures to Minimize Harm to the Havasu National Wildlife Refuge

Temporary impacts to Havasu National Wildlife Refuge would be addressed through implementation of the measures listed below. Agreement regarding the above conditions related to temporary use of the Havasu National Wildlife Refuge under the build alternatives is documented through the formal Section 4(f) consultation process with USFWS.

- LU-1** **Restoration of Land Used Temporarily During Construction.** All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.
- NOI-1** **Alternatives to Pile Driving.** During construction, to the extent practical, alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:
- Jetting,
 - Pre-drilling,
 - Cast-in-place or auger cast piles,
 - Non-displacement piles,
 - Pile cushioning,
 - Scheduling, and/or
 - Using alternative non-impact drivers.
- VIS-1** All ground disturbance in the surrounding landscape would be returned to its existing condition or visual quality with concurrence of the District Landscape Architect.
- NC-1** All staging, storing, and borrow sites will require the approval of the Caltrans District Biologist. (Caltrans District 8 Measure BIO-General-1: Equipment Staging, Storing, and Borrow Sites).
- NC-2** Project activities, including but not limited to noxious weed control and restoration activities, cannot use pesticides or herbicides without Caltrans Biology approval. (Caltrans District 8 Measure BIO-General-PSM-21: Pesticide/Herbicide Use).
- NC-3** A biological monitor will be present on-site during clearing/grubbing and earthwork within or adjacent to sensitive natural communities or other protected biological resources to ensure that avoidance and minimization measures are in place according to specifications. The biological monitor must monitor project activities weekly to ensure that measures are being properly implemented and documented (Caltrans District 8 Measure BIO-General-8: Biological Monitor).
- NC-4** If the CDFW Sensitive Natural Community (Blue Palo Verde desert woodland) cannot be avoided, then this habitat will be restored on site via

planting and/or seed mix. (Caltrans District 8 Measure BIO-General-PSM-17: Restoration).

NC-5 To address impacts to three-pointed blazing star and CDFW sensitive natural communities, blue palo verde woodland will be delineated as an ESA as shown on the plans and/or described in the specifications. (Caltrans District 8 Measure BIO-General-9: Environmentally Sensitive Area [ESA]).

NC-6 To address impacts to nocturnal and diurnal species, artificial lighting used only for the duration of project-related activities must be directed at the job site to minimize light spillover within the Project limits if Project activities occur at night. (Caltrans District 8 Measure BIO-General-2: Temporary Artificial Lighting Restrictions).

NC-7 A qualified biologist must present a biological resource information program/worker environmental awareness program (WEAP) for sensitive biological resources, including native habitats, rare plants, desert bighorn sheep, northern Mexican gartersnake, desert tortoise, Colorado River cotton rat, desert pocket mouse, roosting bats, bonytail chub, razorback sucker, burrowing owl, marsh birds, and nesting birds prior to project activities to all personnel that will be present within the project work limits for longer than 30 minutes at any given time. (Caltrans District 8 Measure BIO-General-7: Worker Environmental Awareness Program).

NC-8 If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300-feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey).

WET-1 Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities, including, but not limited to, USFWS, RWQCB, CDFW, and/or ADEQ and shall be cleaned up immediately and contaminated soils removed to an approved disposal area.

WET-2 Construction activity and access roads will be minimized to the maximum extent practicable in all drainages, streams, pools, or other features under the jurisdiction of USACE, RWQCB, CDFW, and/or ADEQ.

- WET-3** To address effects on jurisdictional aquatic resources, jurisdictional areas may be mitigated and coordinated with USACE, RWQCB, ADEQ, and CDFW during the permitting process. Compensatory mitigation for permanent impacts is potentially anticipated, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.
- AS-1** Attenuation methods, such as the use of underwater sound pressure attenuation devices, foundations designed to span the wet channel, air bubble curtains, cofferdams, isolation casings, and/or use of smaller piles, must be incorporated into the project, as feasible, during design, project development, and construction phases to avoid or minimize the exposure of fish and other aquatic species to underwater sound pressure generated during pile driving. Appropriate attenuation methods will be dependent upon the final design. (Caltrans District 8 Measure BIO-Fish-PSM-1: Attenuation Methods).
- AS-2** Two burrowing owl preconstruction surveys must be performed: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities. (Caltrans District 8 Measure BIO-Avian-2: Preconstruction Burrowing Owl Survey).
- AS-3** If burrowing owls are found on site, coordination with CDFW will be conducted to determine the appropriate avoidance, minimization, and mitigation measures required for the project (following the avoidance, minimization, and mitigation measures recommended in the 2012 Staff Report on Burrowing Owl Mitigation [or latest version]). Any and/or all of these measures are subject to change based on the results of forthcoming focused surveys and at the request of CDFW. (Caltrans District 8 Measure BIO-Avian-PSM-4: Avoidance, Minimization, and Mitigation Measures for Burrowing Owl).
- AS-4** A BMMP must be developed and implemented in accordance with CDFW guidelines. (Caltrans District 8 Measure BIO-Bat-1: Bat Management and Mitigation Plan) Implementation of a BMMP and replacement of any bat roosting habitat that is a temporary impact as a result of the project (Measure **AS-4***) will serve as alternative roosting habitat for project-related impacts on bats and will ensure no net loss of bat roosting habitat following the demolition and replacement of the existing I-40 Colorado River Bridge.
- AS-5** If during project activities a desert bighorn sheep, northern Mexican gartersnake, or Mojave desert tortoise is discovered within the project site, all construction activities must stop within 125 feet for desert bighorn sheep and Mexican gartersnake and 100 feet for desert tortoise, and the Caltrans District Biologist and Resident Engineer must be notified. Coordination with CDFW, AZGFD, and/or USFWS will be required prior to

restarting activities in the vicinity of the observation. (Caltrans District 8 Measure BIO-General-PSM-18: Species Avoidance).

- AS-6** To prevent inadvertent entrapment of small terrestrial species during project activities, all excavated steep-walled holes or trenches must be covered at the close of each working day by plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day, all such holes or trenches must be inspected to ensure no animals have been trapped during the previous night. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Trapped animals must be released by the qualified biologist.
- TE-1** Any listed species within, near the job site, or as specified in BIO-General-PSM-18 found alive, injured, or dead during the implementation of the Project must be immediately reported to the Resident Engineer and Caltrans Biology. Caltrans biology must then notify the Resource Agencies. Veterinary treatment and/or final deposition must follow Resource Agencies' approval. Monitoring reports must include WEAP Training and submitted to the Resources Agencies on a timeframe to be determined. (Caltrans District 8 Measure BIO-General-PSM-22: Habitat Management & Mitigation Plan [HMMP]).
- TE-2** A Habitat Management and Mitigation Plan (HMMP) will be developed for temporary impacts to federally listed species habitat and a draft approved prior to construction activities. (Caltrans District 8 Measure BIO-General-PSM-19: Agency Notification & Reporting Requirements).
- TE-3** To address effects on federal listed species, and if determined necessary for impacts to the species, it will be addressed, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.
- TE-4** Seed mixes and plantings must contain a diversity of regionally-appropriate native pollinator plant species that are pesticide-free and approved by Caltrans Biology and USFWS. (Caltrans District 8 Measure BIO-General-PSM-20: Plant Seed Mix and Plantings).
- TE-5** To assess the number of desert tortoise that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the BSA or Action Area (300-foot buffer) according to either the current protocol provided by USFWS or a modified protocol agreed upon by the resource agencies. (Caltrans District 8 Measure BIO-Reptile-2: Pre-Project Surveys).
- TE-6** Caltrans must implement measures to reduce the attractiveness of job sites to ravens and other subsidized predators of desert tortoise (such as

coyotes and ravens) by controlling trash and educating workers. (Caltrans District 8 Measure BIO-Reptile-5: Trash/Predation).

- TE-7** Temporary demarcation must be established following the most recent USFWS protocol for construction of fencing as shown on the plans prior to construction to exclude desert tortoise. All temporary demarcation materials must be removed once construction has been completed. (Caltrans District 8 Measure BIO-Reptile-6: Temporary Demarcation).
- TE-8** Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for terrestrial species before operating equipment at any time. (Caltrans District 8 Measure BIO-Reptile-1).
- WQ-1** **401 Certification.** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.
- WQ-2** **404 Permit.** The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.
- WQ-4** **Construction SWPPP.** The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction.

5.2.3 Constructive Use Analysis Conclusion

As described above, the impacts of the build alternatives would not be so severe that they substantially impair the activities, features, and attributes that qualify the property for Section 4(f) protection. Therefore, Build Alternatives 1, 2, and 3 would not result in a constructive use of the Havasu National Wildlife Refuge.

Formal consultation with the USFWS to confirm the findings of this Section 4(f) analysis, including *de minimis* finding for the Havasu National Wildlife Refuge, will occur following public review of this Section 4(f) documentation. Thereafter, correspondence with the official with jurisdiction over Havasu National Wildlife Refuge will have been added to Attachment A of this Section 4(f) appendix.

5.3 Section 4(f) De Minimis Finding

The build alternatives would result in temporary use of the Havasu National Wildlife Refuge. No constructive use of this resource is anticipated under the build alternatives.

With the application of project measures previously mentioned, impacts would be minimized, and otherwise mitigated, and the project would not interfere with the continued primary purpose

and functions of the Havasu National Wildlife Refuge. Given that this temporary use under each build alternative would be short-term and for the duration of construction, and that impacts on the features and attributes that qualify the resource for Section 4(f) protection within the areas affected would be avoided, minimized, or otherwise mitigated through minimization and mitigation measures, the three build alternatives are eligible to be considered as a *de minimis* impact.

Agreement regarding the above conditions related to *de minimis* impact to the Havasu National Wildlife Refuge has been documented through the formal Section 4(f) consultation process with USFWS following public review of this Section 4(f) documentation. The official(s) with jurisdiction over the property must provide written concurrence; only then can FHWA make the final determination on the *de minimis* impact finding.

5.4 Coordination Conducted for Havasu National Wildlife Refuge

Formal consultation with USFWS to confirm the *de minimis* finding occurred following public review of this Section 4(f) documentation. FHWA and Caltrans met with representatives from Havasu National Wildlife Refuge on October 23, 2023. FHWA submitted a request to concurrence on the Section 4(f) determination to Joseph Barnett, Refuge Manager, Havasu National Wildlife Refuge on October 31, 2023 and Mr. Barnett provided concurrence on the Section 4(f) finding that same day correspondence with the official with jurisdiction over the Havasu National Wildlife Refuge lands has been added to Attachment A of this Section 4(f) appendix.

5.5 Least Overall Harm Analysis and Concluding Statement

Section 4(f) requires that when there are no “prudent and feasible avoidance alternatives to the “use” of Section 4(f) properties, and multiple Build Alternatives are being evaluated, the lead federal agency must choose from the remaining Build Alternatives that use the Section 4(f) property(ies) and select the alternative that causes the “least overall harm” in light of the statute’s preservation purpose. The least overall harm is determined by balancing the following seven factors:

3. Ability to mitigate adverse impacts on each Section 4(f) property, including any measures that result in benefits to the property
4. Relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection
5. Relative significance of each Section 4(f) property
6. Views of the official(s) with jurisdiction over each Section 4(f) property
7. Degree to which each alternative meets the purpose and need for the Project
8. The magnitude of any adverse impacts on resources not protected by Section 4(f) (after
9. reasonable mitigation)
10. Substantial differences in cost among the project alternatives

As discussed in S-1.2, the No-Build was considered as an alternative and would have “no use” of a Section 4(f) property; however, it is not expected to meet the purpose and need of the project. Therefore, it was found to not be prudent and feasible as deficiencies in the structure could compromise its integrity and safety.

Multiple Build Alternatives were evaluated for consideration. Alternative 1 was found to have “no use” of any archaeological or historical Section 4(f) properties and a *de minimis* use of Havasu National Wildlife Refuge and would meet the purpose and need of the project. Alternative 2 and

3 would also meet the purpose and need of the project but would result in a “permanent use” finding due to the permanent incorporation of land associated with the Topock Traditional Cultural Property and *de minimis* use of Havasu National Wildlife Refuge.

All Build Alternatives would implement measures that would lessen construction, direct and indirect impacts resulting from project implementation. All alternatives would have the same estimated construction duration of an estimated 600 working days. When considering project costs, Alternative 1’s estimated project costs are approximately \$10-15 million less than Alternative 2 and 3.

Section 3.3.3.2 of the FHWA Section 4(f) Policy Paper states that the least harm alternative analysis is required when multiple alternatives that use a Section 4(f) property remain under consideration. For the proposed project, only the Alternative 1 will have the least damaging and least overall harm of the Topock Traditional Cultural Property and would therefore be considered the most prudent and feasible alternative.

Chapter 6 Section 6(f)

The Land and Water Conservation Fund (LWCF) Act was established by Congress in 1964 to fulfill a bipartisan commitment to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. The LWCF program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. Section 6(f) of this Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior's (DOI) National Park Service (NPS).

The purpose of the LWCF is to assist in preserving, developing, and ensuring accessibility to outdoor recreation resources and to strengthen the health and vitality of the citizens of the United States by providing funds, planning, acquisition, and development of facilities. Recreational facilities awarded such funds are subject to the provisions of the act. The LWCF's most important tool for ensuring long-term stewardship is its "conversion protection" requirement. Section 6(f)(3) strongly discourages conversions of state and local park and recreation facilities to other uses.

Section 6(f)(3) of the LWCF Act requires that no property acquired or developed with LWCF assistance will be converted to other than public outdoor recreation uses without the approval of the Secretary of the DOI (NPS is a service of the DOI), and only if the secretary finds it to be in accord with the Statewide Comprehensive Outdoor Recreation Plan, and only upon such conditions as the secretary deems necessary to ensure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location (36 CFR Part 59).

Prerequisites for conversion approval as provided in 36 CFR Part 59.3 are as follows:

- All practical alternatives to the proposed conversion have been evaluated.
- The fair market value of the property to be converted has been established, and the property proposed for substitution is of at least equal fair market value as established by an approved appraisal.
- The property proposed for replacement is of reasonably equivalent usefulness and location as that being converted.
- The property proposed for substitution meets the eligibility requirements for LWCF-assisted acquisition.
- In the case of assisted sites that are partially rather than wholly converted, the impact of the converted portion on the remainder will be considered. If such a conversion is approved, the unconverted area must remain recreationally viable or must also be replaced.
- All necessary coordination with other federal agencies has been satisfactorily accomplished.

The guidelines for environmental evaluation have been satisfactorily completed and considered by the NPS during its review of the proposed Section 6(f)(3) action. In cases where the proposed conversion arises from another federal action, final review of the proposal will not occur until the NPS regional office is assured that all environmental review requirements related to the other action have been met.

State intergovernmental clearinghouse review procedures have been adhered to if the proposed conversion and substitution constitute significant changes to the original LWCF project.

The proposed conversion and substitution are in accord with the Statewide Comprehensive Outdoor Recreation Plan or equivalent recreation plans.

Section 6(f) conversion requires additional coordination with the agency of jurisdiction and California State Parks, which oversees the LWCF program for the NPS, and the NPS regarding the project effects and conversion area and replacement property.

No Section 6(f) resources have been identified in the study area; therefore, no further discussion is required.

Chapter 7 References

- California Department of Transportation (Caltrans). 2016. *Project Study Report-Project Development Support (PSR-PDS)*. December.
- . 2023. *Natural Environment Study for I-40 Colorado River Bridge Replacement Project*. November.
- . 2022a. *Draft Project Report to Authorize Public Release of the Draft of Environmental Document*. May.
- . 2022b. *Historic Property Survey Report for I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona*. August.
- . 2022c. *Archaeological Survey Report, I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona*. August.
- . 2022d. *Historical Resources Evaluation Report, I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona*. August.
- . 2022e. *Standard Environmental Reference, Chapter 20, Section 4(f)*. Available: <https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-20-section-4f>.
- The Wilderness Society, Mapping the Land and Water Conservation Fund (LWCF). 2022. Available: <https://www.wilderness.org/articles/article/mapping-land-and-water-conservation-fund-lwcf>.
- U.S. Department of Transportation, Federal Highway Administration. Environmental Review Toolkit. 2022. Available: https://www.environment.fhwa.dot.gov/env_topics/other.aspx.

Appendix B Consultation Correspondence

Written concurrence from the official with jurisdiction that the project will not adversely affect the activities, features, and attributes of the Section 4(f) Property is provided in this appendix.



California Division

October 31, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001

In Reply Refer To:
HDA-CA FHWA 2022_0818_001

ELECTRONIC CORRESPONDENCE ONLY

Mr. Joseph Barnett
Refuge Manager
Havasu National Wildlife Refuge
317 Mesquite Ave.
Needles, CA, 92363

SUBJECT: Section 4(f) *de minimis* finding for Havasu National Wildlife Refuge during
Construction of Proposed Colorado River Bridge Replacement Project

Dear Mr. Barnett:

On behalf of the Federal Highway Administration (FHWA), The California Department of Transportation (Caltrans) District 8 and the Arizona Department of Transportation (ADOT) are proposing to replace the existing Interstate 40 bridge over the Colorado River near Topock, Arizona. The proposed project spans the states of California and Arizona and is within San Bernardino and Mohave Counties. On Interstate 40 the project is between post-mile (PM) 153.9 and PM 154.7 in California, and PM 0.0 and PM 0.6 in Arizona. The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permitted vehicle traffic. The proposed project will have temporary use of Havasu National Wildlife Refuge lands. Please see the attached figure.

The proposed project includes the following project components: bridge replacement, standard lane, and shoulder widths, a standard median barrier, and a standard bridge railing system, bridge removal, temporary construction staging and storage for equipment, temporary access roads for construction vehicles and equipment in areas adjacent to I-40, pile driving. To ensure that the proposed project complies with State and Federal environmental regulations, the following agencies are responsible to conform to State and Federal mandates: Caltrans is the lead agency with the California Environmental Quality Act (CEQA) and FHWA is the lead agency with the National Environmental Policy Act (NEPA).

The Havasu National Wildlife Refuge, managed by the United States Fish and Wildlife Service (USFWS), was established in 1941 by Executive Order by then President Franklin D. Roosevelt for the primary purpose of providing migratory bird habitat and includes 37,515 acres along the Colorado River for 30 miles between Needles, California and Lake Havasu City, Arizona with most of the refuge situated in Arizona.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code 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."

In August 2005, Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), made the first substantive revision to Section 4(f) since the 1966 US Department of Transportation Act. Section 6009, which amended existing Section 4(f) legislation at both Title 49 U.S.C. Section 303 and Title 23 U.S.C. Section 138, simplified the process and approval of projects that have only de minimis impacts on lands impacted by Section 4(f). Under the new provisions, if the US DOT determines that a transportation use of Section 4(f) property results in a de minimis impact, analysis of avoidance alternatives are not required, and the Section 4(f) property results in a de minimis impact, analysis of avoidance alternatives are not required, and the Section 4(f) evaluation process is complete.

For publicly owned parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is defined as those that do not adversely affect the activities, features, and attributes of the Section 4(f) resource. Pursuant to the provisions of SAFETEA-LU Section 6009(a), FHWA has determined that impacts to Havasu Wildlife Refuge are *de minimis* for the following reasons:

The build alternatives would result in temporary construction staging and storage areas for construction equipment, and temporary access roads for construction vehicles and equipment in areas adjacent to I-40. Construction activities within the Havasu National Wildlife Refuge lands would be temporary in duration. As the temporary “use” of the property would occur in areas adjacent to I-40, it would not adversely affect the activities, features, and attributes of the Section 4(f) property. The nearest trail to the project site, the Needles Mountain Trail located approximately 4 miles southeast, would remain open and accessible and not be adversely affected by the project. Furthermore, the existing parking areas near the project site, including the Topock Marina Overflow lot, Route 66 Parking lot, and Topock Maze lot would remain accessible and open to the public during construction. The majority of the activities, features, and attributes of Havasu National Wildlife Refuge are located to the north and south of I-40 and not located in areas adjacent to I-40 where the temporary “use” would occur. The temporary construction activities would not prevent access to Havasu National Wildlife Refuge or result in changes to the existing activities or features.

With the application of project measures, impacts would be minimized, and otherwise mitigated, and the project would not interfere with the continued primary purpose and functions of the Havasu National Wildlife Refuge. Given that this temporary use under each build alternative would be short-term and for the duration of construction, and that impacts on the features and attributes that qualify the resource for Section 4(f) protection within the areas affected would be avoided, minimized, or otherwise mitigated through minimization and mitigation measures, the three build alternatives are eligible to be considered as a *de minimis* impact.

Temporary impacts to Havasu National Wildlife Refuge would be addressed through implementation of the measures listed below.

LU-1: Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.

NOI-1: Alternatives to Pile Driving. During construction, to the extent practical, alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:

- Jetting,
- Pre-drilling,
- Cast-in-place or auger cast piles,
- Non-displacement piles,
- Pile cushioning.

- Scheduling, and/or
- Using alternative non-impact drivers.

VIS-1: All ground disturbance in the surrounding landscape would be returned to its existing condition or visual quality with concurrence of the District Landscape Architect.

NC-1: All staging, storing, and borrow sites will require the approval of the Caltrans District Biologist. (Caltrans District 8 Measure BIO-General-1: Equipment Staging, Storing, and Borrow Sites)

NC-2: Project activities, including but not limited to noxious weed control and restoration activities, cannot use pesticides or herbicides without Caltrans Biology approval. (Caltrans District 8 Measure BIO-General-PSM-21: Pesticide/Herbicide Use)

NC-3: A biological monitor will be present on-site during clearing/grubbing and earthwork within or adjacent to sensitive natural communities or other protected biological resources to ensure that avoidance and minimization measures are in place according to specifications. The biological monitor must monitor project activities weekly to ensure that measures are being properly implemented and documented (Caltrans District 8 Measure BIO-General-8: Biological Monitor).

NC-4: If the CDFW Sensitive Natural Community (Blue Palo Verde desert woodland) cannot be avoided, then this habitat will be restored on site via planting and/or seed mix. (Caltrans District 8 Measure BIO-General-PSM-17: Restoration).

NC-5: To address impacts to three-pointed blazing star and CDFW sensitive natural communities, blue palo verde woodland will be delineated as an ESA as shown on the plans and/or described in the specifications. (Caltrans District 8 Measure BIO-General-9: Environmentally Sensitive Area [ESA])

NC-6: To address impacts to nocturnal and diurnal species, artificial lighting used only for the duration of project-related activities must be directed at the job site to minimize light spillover within the Project limits if Project activities occur at night. (Caltrans District 8 Measure BIO-General-2: Temporary Artificial Lighting Restrictions).

NC-7: A qualified biologist must present a biological resource information program/worker environmental awareness program (WEAP) for sensitive biological resources, including native habitats, rare plants, desert bighorn sheep, northern Mexican gartersnake, desert tortoise, Colorado River cotton rat, desert pocket mouse, roosting bats, bonytail chub, razorback sucker, burrowing owl, marsh birds, and nesting birds prior to project activities to all personnel that will be present within the project work limits for longer than 30 minutes at any given time. (Caltrans District 8 Measure BIO-General-7: Worker Environmental Awareness Program)

NC-8: If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300-feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey)

WET-1: Equipment storage, fueling, and staging areas shall be located on upland sites with

minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities, including, but not limited to, USFWS, RWQCB, CDFW, and/or ADEQ and shall be cleaned up immediately and contaminated soils removed to an approved disposal area.

WET-2: Construction activity and access roads will be minimized to the maximum extent practicable in all drainages, streams, pools, or other features under the jurisdiction of USACE, RWQCB, CDFW, and/or ADEQ.

WET-3: To address effects on jurisdictional aquatic resources, jurisdictional areas may be mitigated and coordinated with USACE, RWQCB, ADEQ, and CDFW during the permitting process. Compensatory mitigation for permanent impacts is potentially anticipated, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.

AS-1: Attenuation methods, such as the use of underwater sound pressure attenuation devices, foundations designed to span the wet channel, air bubble curtains, cofferdams, isolation casings, and/or use of smaller piles, must be incorporated into the project, as feasible, during design, project development, and construction phases to avoid or minimize the exposure of fish and other aquatic species to underwater sound pressure generated during pile driving. Appropriate attenuation methods will be dependent upon the final design. (Caltrans District 8 Measure BIO-Fish-PSM-1: Attenuation Methods)

AS-2: Two burrowing owl preconstruction surveys must be performed: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities. (Caltrans District 8 Measure BIO-Avian-2: Preconstruction Burrowing Owl Survey)

AS-3: If burrowing owls are found on site, coordination with CDFW will be conducted to determine the appropriate avoidance, minimization, and mitigation measures required for the project (following the avoidance, minimization, and mitigation measures recommended in the 2012 Staff Report on Burrowing Owl Mitigation [or latest version]). Any and/or all of these measures are subject to change based on the results of forthcoming focused surveys and at the request of CDFW. (Caltrans District 8 Measure BIO-Avian-PSM-4: Avoidance, Minimization, and Mitigation Measures for Burrowing Owl)

AS-4: A BMMP must be developed and implemented in accordance with CDFW guidelines. (Caltrans District 8 Measure BIO-Bat-1: Bat Management and Mitigation Plan) Implementation of a BMMP and replacement of any bat roosting habitat that is a temporary impact as a result of the proposed project (Measure AS-4*) will serve as alternative roosting habitat for project-related impacts on bats and will ensure no net loss of bat roosting habitat following the demolition and replacement of the existing I-40 Colorado River Bridge.

AS-5: If during project activities a desert bighorn sheep, northern Mexican gartersnake, or Mojave desert tortoise is discovered within the project site, all construction activities must stop within 125 feet for desert bighorn sheep and Mexican gartersnake and 100 feet for desert tortoise, and the Caltrans District Biologist and Resident Engineer must be notified. Coordination with CDFW, AZGFD, and/or USFWS will be required prior to restarting activities in the vicinity of the observation. (Caltrans District 8 Measure BIO-General-PSM-18: Species Avoidance)

AS-6: To prevent inadvertent entrapment of small terrestrial species during project activities, all excavated steep-walled holes or trenches must be covered at the close of each working day by plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day, all such holes or trenches must be inspected to ensure no animals have been trapped during the previous night. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Trapped animals must be released by the qualified biologist.

TE-1: Any listed species within, near the job site, or as specified in BIO-General-PSM-18 found alive, injured, or dead during the implementation of the Project must be immediately reported to the Resident Engineer and Caltrans Biology. Caltrans biology must then notify the Resource Agencies. Veterinary treatment and/or final disposition must follow Resource Agencies' approval. Monitoring reports must include WEAP Training and submitted to the Resources Agencies on a timeframe to be determined. (Caltrans District 8 Measure BIO-General-PSM-22: Habitat Management & Mitigation Plan [HMMP])

TE-2: A Habitat Management and Mitigation Plan (HMMP) will be developed for temporary impacts to federally listed species habitat and a draft approved prior to construction activities. (Caltrans District 8 Measure BIO-General-PSM-19: Agency Notification & Reporting Requirements)

TE-3: To address effects on federal listed species, and if determined necessary for impacts to the species, it will be addressed, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.

TE-4: Seed mixes and plantings must contain a diversity of regionally-appropriate native pollinator plant species that are pesticide-free and approved by Caltrans Biology and USFWS. (Caltrans District 8 Measure BIO-General-PSM-20: Plant Seed Mix and Plantings)

TE-5: To assess the number of desert tortoise that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the BSA or Action Area (300-foot buffer) according to either the current protocol provided by USFWS or a modified protocol agreed upon by the resource agencies. (Caltrans District 8 Measure BIO-Reptile-2: Pre-Project Surveys)

TE-6: Caltrans must implement measures to reduce the attractiveness of job sites to ravens and other subsidized predators of desert tortoise (such as coyotes and ravens) by controlling trash and educating workers. (Caltrans District 8 Measure BIO-Reptile-5: Trash/Predation)

TE-7: Temporary demarcation must be established following the most recent USFWS protocol for construction of fencing as shown on the plans prior to construction to exclude desert tortoise. All temporary demarcation materials must be removed once construction has been completed. (Caltrans District 8 Measure BIO-Reptile-6: Temporary Demarcation)

TE-8: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for terrestrial species before operating equipment at any time. (Caltrans District 8 Measure BIO-Reptile-1).

WQ-1: 401 Certification. The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.

WQ-2: 404 Permit. The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.

WQ-4: Construction SWPPP. The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction.

Under Section 4(f) *de minimis* finding and SAFETEA-LU Section 6009(a), the official(s) with jurisdiction over the property (Havasu National Wildlife Refuge/USFWS) is required to provide written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for recreational value to the public. Therefore, we respectfully request written concurrence from the United States Fish and Wildlife Service regarding the use of the property would result in a *de minimis* finding. A signature block is provided at the end of this letter for your convenience to provide your agreement with the temporary occupancy determination resulting in a *de minimis* finding. If you have any questions regarding the proposed project, please contact Julie Scrivner at (909) 260-8265.

Sincerely,

Shawn E. Oliver

Shawn E. Oliver
Environmental
Specialist
Federal Highway Administration

Attachment: *Figure 1 - Section 4(f) Properties – Wildlife Refuge*

To:

Joseph Barnett, USFWS
joseph_barnett@fws.gov

CC (via email):

Gabrielle Duff, Caltrans
Julie Scrivner, Caltrans

Gabrielle.duff@dot.ca.gov
Julie.scrivner@dot.ca.gov

The signature below represents written agreement by the Havasu National Wildlife Refuge/USFWS the Section 4(f) temporary occupancy exception resulting in a *de minimis* finding applies to the construction of the Colorado River Bridge Replacement project.

**JOSEPH
BARNETT**

Digitally signed by JOSEPH
BARNETT
Date: 2023.10.31 20:50:55
-07'00'

Joseph Barnett
Refuge Manager
Havasu National Wildlife Refuge
USFWS

Date

Appendix C Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

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



September 2022

NON-DISCRIMINATION POLICY STATEMENT

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

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

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

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in black ink, appearing to read 'Tony Tavares'.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Appendix D Avoidance, Minimization and/or Mitigation Summary

Permit Type	Agency	Date Received	Expiration	Notes
1600	California Department of Fish & Wildlife			
2081	California Department of Fish & Wildlife			Incidental Take Permit
401	Arizona Department of Environmental Quality			
401	Regional Water Quality Control Board			
404	US Army of Corps of Engineers			Non-Reporting (Geotech)
404	US Army of Corps of Engineers			Nationwide Permit

Date of ECR:
 Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Project Phase:
 PA/ED (DED/FED)
 PS&E Submittal _____ %
 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
Cultural Resources									

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:
 PA/ED (DED/FED)
 PS&E Submittal _____ %
 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
CR-1: Stop work if buried cultural resources are encountered during construction until a qualified archaeologist can evaluate the nature and significance of the find. In the event that human remains, including isolated, disarticulated bones or fragments, are discovered during construction-related activity, cease in the vicinity of the human remains.	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction	SS:14-2.03A				X
CR-2: In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 50 feet of the	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction	SS:14-2.03A				X

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:
 PA/ED (DED/FED)
 PS&E Submittal _____ %
 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
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 Descendent (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.									

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:

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

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
CR-3: Environmentally Sensitive Areas (ESAs) exist and shall protect resources in place for the duration of the Project. The ESAs will be marked on Plans and delineated in the field by an Archaeologist from Caltrans.	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction	SSP			X	
CR-4: An Archaeological Monitor will be assigned to monitor construction related activities within the Archaeological Monitoring Area (AMA). No work shall occur within the AMA unless the Archaeological Monitor is present. If archaeological resources are discovered within the AMA,	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction				X	

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:
 PA/ED (DED/FED)
 PS&E Submittal _____ %
 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/ Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
compliance is required with Standard Plans Section 14-2.02.									
CR-5: Repair of the pavement on CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway/Route 66 (NOTH/66) CA and AZ Segments 4 and 5 will be conducted according to the Secretary of the Interior's Standards (SOIS): Any pavement repair will conform to the existing profile, width, etc. Similar or identical paving techniques as the existing will be utilized such as materials type and aggregate size. Paving plans and specifications	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction				X	

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:
 PA/ED (DED/FED)
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 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
shall be reviewed and approved by the Caltrans PQS Principal Architectural Historian for compliance.									
CR-6: The historic period 1950s guardrails impacted by the project will be salvaged and re-used as practical. If guardrail cannot be reused, stained or painted Midwest Guardrail System type will be used. If guardrail cannot be salvaged, an alternative rail will be chosen in consultation with the Caltrans PQS Principal Architectural Historian to ensure that it is compatible with the	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction				X	

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
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Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/ Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
massing, size, scale, and architectural features of the 1950s guardrail to protect the historic integrity of the property and its environment.									
CR-7: The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and Specifications shall be reviewed by Caltrans PQS Principal Architectural Historian for	11	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Design, Construction				X	

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compliance.									
CR-8: The California State Lands Commission has stated that they have jurisdiction over submerged archaeological, historical, and paleontological resources within the State of California. If submerged cultural or paleontological resources are encountered during construction Caltrans will consult with applicable stakeholders that have jurisdiction, including but not limited to the State Lands Commission. CR-8: The California State Lands Commission has stated that they have	Section 2.1.12, pg 88	Final EIR/EA	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Construction-					X

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jurisdiction over submerged archaeological, historical, and paleontological resources within the State of California. If submerged cultural or paleontological resources are encountered during construction Caltrans will consult with applicable stakeholders that have jurisdiction, including but not limited to the State Lands Commission.									
CR-9: The California State Lands Commission has requested that the final disposition of archaeological, historical, and paleontological resources recovered on	Section 2.1.12, pg 88	Final EIR/EA	District Cultural Studies/ District Design/ Resident Engineer/	Construction-					X

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							Date / Initials	YES	NO
State land under the jurisdiction of the California State Lands Commission must be approved by the Commission and this statement is to be included in the project's Mitigation Monitoring Program. CR-9: The California State Lands Commission has requested that the final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the			Contractor						

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							Date / Initials	YES	NO
Commission and this statement is to be included in the project's Mitigation Monitoring Program.									
CR-10: The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be used by the Fort Mojave		MOA	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction				X	

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							Date / Initials	YES	NO
Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places. CR-10: The MOA establishes a number of deliverables for the undertaking which must be completed at various times prior to the completion of construction including preparing a Post Review Discovery and Monitoring Plan in consultation with the Fort Mojave Indian Tribe, and the preparation of Traditional Cultural Property research package which can be									

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							Date / Initials	YES	NO
used by the Fort Mojave Indian Tribe should the Tribe choose to pursue official nomination for the Topock Maze Traditional Cultural Property to the National Register of Historic Places.									
CR-11: Tribal monitors will work alongside the archaeological monitors during construction related activities within the archaeological monitoring area (AMA). CR-11: Tribal monitors will work alongside the archaeological monitors during construction related activities within the archaeological monitoring area (AMA).	10	HPSR Addendum August, 2023	District Cultural Studies/ District Design/ Resident Engineer/ Contractor	Final Design, Construction				X	

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							Date / Initials	YES	NO
Natural Communities									
NC-1: All staging, storing, and borrow sites will require the approval of the Caltrans District Biologist. (Caltrans District 8 Measure BIO-General-1: Equipment Staging, Storing, and Borrow Sites)			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X
NC-2: Project activities, including but not limited to noxious weed control and restoration activities, cannot use pesticides or herbicides without Caltrans Biology approval. (Caltrans			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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							Date / Initials	YES	NO
District 8 Measure BIO-General-PSM-21: Pesticide/Herbicide Use).									
NC-3: A biological monitor will be present on-site during clearing/grubbing and earthwork within or adjacent to sensitive natural communities or other protected biological resources to ensure that avoidance and minimization measures are in place according to specifications. The biological monitor must monitor project activities weekly to ensure that measures are being			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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properly implemented and documented (Caltrans District 8 Measure BIO-General-8: Biological Monitor).									
NC-4: If the CDFW Sensitive Natural Communities cannot be avoided, then this habitat will be restored on site via planting and/or seed mix. (Caltrans District 8 Measure BIO-General-PSM-17: Restoration).			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction				X	
NC-5: To address impacts to three-pointed blazing star and CDFW Sensitive Natural Communities, delineate			District Design / District Biological Studies / Resident						X

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this area as an ESA as shown on the plans and/or described in the specifications. (Caltrans District 8 Measure BIO-General-9: Environmentally Sensitive Area [ESA])			Engineer / Contractor						
NC-6: To address impacts to nocturnal and diurnal species, artificial lighting used only for the duration of project-related activities must be directed at the job site to minimize light spillover within the Project limits if Project activities occur at night. (Caltrans District 8 Measure BIO-General-2:			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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Temporary Artificial Lighting Restrictions).									
NC-7: A qualified biologist must present a biological resource information program/worker environmental awareness program (WEAP) for sensitive biological resources, including native habitats, rare plants, desert bighorn sheep, northern Mexican gartersnake, desert tortoise, Colorado River cotton rat, desert pocket mouse, roosting bats, bonytail chub, razorback sucker, burrowing owl, marsh birds, and nesting			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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birds prior to project activities to all personnel that will be present within the project work limits for longer than 30 minutes at any given time. (Caltrans District 8 Measure BIO-General-7: Worker Environmental Awareness Program).									
NC-8: If project activities cannot avoid the nesting season, generally regarded as February 1 – September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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avoid nesting birds. If an active avian nest is located, a no-construction buffer (100-feet for non-passerine, 300-feet for passerine, and 500-feet for raptors) may be established and monitored by the qualified biologist and may be demarcated by flagging, staking, or fencing. (Caltrans District 8 Measure BIO-Avian-1 Preconstruction Nesting Bird Survey).									
Wetlands									
WET-1: Equipment storage, fueling, and			District Design / District	Final Design, Construction					X

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staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities, including, but not limited to, USFWS,			Biological Studies / Resident Engineer / Contractor						

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							Date / Initials	YES	NO
RWQCB, CDFW, and/or ADEQ and shall be cleaned up immediately and contaminated soils removed to an approved disposal area.									
WET-2: Construction activity and access roads will be minimized to the maximum extent practicable in all drainages, streams, pools, or other features under the jurisdiction of USACE, RWQCB, CDFW, and/or ADEQ.			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X
WET-3: To address effects on jurisdictional aquatic resources,			District Design / District Biological	Final Design, Construction				X	

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jurisdictional areas may be mitigated and coordinated with USACE, RWQCB, ADEQ, and CDFW during the permitting process. Compensatory mitigation for permanent impacts is potentially anticipated, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies			Studies / Resident Engineer / Contractor						

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involved.									
Plant Species									
PS-1: Within the Spring season prior to construction, a preconstruction survey must be conducted by a qualified biologist for special-status plant species within the project limits. Special-status plant species must be flagged for visual identification to construction personnel for work avoidance. Special-status plant species detected that feature multiple plants in a single location must be fenced			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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with ESA fencing (see NC-1). (Caltrans District 8 Measure BIO-Plant-1: Rare Plant Surveys, Flagging, and Fencing). The qualified project biologist will monitor construction activities near the location for the duration of the project at a frequency necessary to ensure that practicable measures are being employed. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of avoidance and minimization measures.									

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<p>PS-2: If a special-status plant species is found within the job site and cannot be fenced but can survive transplantation, the qualified biologist must contact the Caltrans District Biologist to determine the time and suitable translocation area for the plant species to be moved. Additional requirements and actions must be determined at the time if such a situation occurs. (Caltrans District 8 Measure BIO-Plant-2: Rare Plant Translocation).</p>			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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Animal Species									
AS-1: Attenuation methods, such as the use of underwater sound pressure attenuation devices, foundations designed to span the wet channel, air bubble curtains, cofferdams, isolation casings, and/or use of smaller piles, must be incorporated into the project, as feasible, during design, project development, and construction phases to avoid or minimize the exposure of fish and other aquatic species to underwater sound			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					

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pressure generated during pile driving. Appropriate attenuation methods will be dependent upon the final design. (Caltrans District 8 Measure BIO-Fish-PSM-1: Attenuation Methods).									
AS-2: Two burrowing owl preconstruction surveys must be performed: one survey 14-30 days prior to project activities, and one survey 24 hours prior to project activities. (Caltrans District 8 Measure BIO-Avian-2: Preconstruction			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					X

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Burrowing Owl Survey).									
AS-3: If burrowing owls are found on site, coordination with CDFW will be conducted to determine the appropriate avoidance, minimization, and mitigation measures required for the project (following the avoidance, minimization, and mitigation measures recommended in the 2012 Staff Report on Burrowing Owl Mitigation [or latest version]). Any and/or all of these measures are subject to change based on the results of forthcoming			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction				X	

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focused surveys and at the request of CDFW. (Caltrans District 8 Measure BIO-Avian-PSM-4: Avoidance, Minimization, and Mitigation Measures for Burrowing Owl).									
AS-4: A BMMP must be developed and implemented in accordance with CDFW guidelines. (Caltrans District 8 Measure BIO-Bat-1: Bat Management and Mitigation Plan).			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					
AS-5: If during project activities a desert bighorn sheep, northern Mexican			District Design / District Biological	Final Design, Construction					

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gartersnake, or Mojave desert tortoise, or listed avian species is discovered within the project site, all construction activities must stop within 125 feet for desert bighorn sheep and Mexican gartersnake and 100 feet for desert tortoise and up to 300 feet for listed avian species, and the Caltrans District Biologist and Resident Engineer must be notified. Coordination with CDFW, AZGFD, and/or USFWS will be required prior to restarting activities in the vicinity of the observation. (Caltrans			Studies / Resident Engineer / Contractor						

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							Date / Initials	YES	NO
District 8 Measure BIO-General-PSM-18: Species Avoidance).									
AS-6: To prevent inadvertent entrapment of small terrestrial species during project activities, all excavated steep-walled holes or trenches must be covered at the close of each working day by plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day, all such holes or trenches must be inspected to			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					

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ensure no animals have been trapped during the previous night. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Trapped animals must be reported to the Resident Engineer and Caltrans Biologist prior to the species being released by the qualified biologist. (Caltrans District 8 Measure BIO-General-12: Animal Entrapment).									
Threatened and Endangered Species									
TE-1: Any listed species within, near the job site,			District Design / District	Final Design, Construction					

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							Date / Initials	YES	NO
or as specified in BIO-General-PSM-18 found alive, injured, or dead during the implementation of the Project must be immediately reported to the Resident Engineer and Caltrans Biology. Caltrans biology must then notify the Resource Agencies. Veterinary treatment and/or final deposition must follow Resource Agencies' approval. Monitoring reports must include WEAP Training and submitted to the Resources Agencies on a timeframe to be determined. (Caltrans			Biological Studies / Resident Engineer / Contractor						

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							Date / Initials	YES	NO
District 8 Measure BIO-General-PSM-22: Habitat Management & Mitigation Plan [HMMP]).									
TE-2: A Habitat Management and Mitigation Plan (HMMP) will be developed for temporary impacts to federally listed species habitat and a draft approved prior to construction activities. (Caltrans District 8 Measure BIO-General-PSM-19: Agency Notification & Reporting Requirements).			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					

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TE-3: To address effects on federal and state listed species, and if determined necessary for impacts to the species, it will be addressed, with resource agency approval, through on-site restoration activities, permittee-responsible mitigation, suitable mitigation/conservation bank credits, suitable in-lieu fee program credits, and/or other mitigation acceptable to the resource agencies involved.			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction				X	
TE-4: Seed mixes and plantings must contain a			District Design / District	Final Design, Construction					

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diversity of regionally-appropriate native pollinator plant species that are pesticide-free and approved by Caltrans Biology and USFWS. (Caltrans District 8 Measure BIO-General-PSM-20: Plant Seed Mix and Plantings)			Biological Studies / Resident Engineer / Contractor						
TE-5: To assess the number of desert tortoise that may be potentially impacted, pre-project surveys for desert tortoise must be conducted within the BSA or Action Area (300-foot buffer) according to either the current protocol provided			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					

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by USFWS or a modified protocol agreed upon by the resource agencies. (Caltrans District 8 Measure BIO-Reptile-2: Pre-Project Surveys).									
TE-6 : Caltrans must implement measures to reduce the attractiveness of job sites to ravens and other subsidized predators of desert tortoise (such as coyotes and ravens) by controlling trash and educating workers. (Caltrans District 8 Measure BIO-Reptile-5: Trash/Predation)			District Design / District Biological Studies / Resident Engineer / Contractor	Final Design, Construction					
TE-7: Temporary			District Design /	Final Design,					

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demarcation must be established following the most recent USFWS protocol for construction of fencing as shown on the plans prior to construction to exclude desert tortoise. All temporary demarcation materials must be removed once construction has been completed. (Caltrans District 8 Measure BIO-Reptile-6: Temporary Demarcation)			District Biological Studies / Resident Engineer / Contractor	Construction					
TE-8 (Bio-Reptile-1): Equipment Flagging:									

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Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for terrestrial species before operating equipment at any time. TE-8 (Bio-Reptile-1): Equipment Flagging: Project personnel must attach surveyor flagging tape to a conspicuous place on each piece of equipment to remind the operator to check under the equipment for terrestrial species before operating									

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							Date / Initials	YES	NO
equipment at any time.									
Traffic									
TR-1: Prior to construction, a Traffic Management Plan (TMP) will be developed that will include the following elements: construction staging plans, public awareness campaigns, and alternate route strategies. In addition, the TMP will address access, circulation, public transportation, and bicycle facilities. Prior to construction, Caltrans will coordinate with local agencies, emergency			District Design / District Traffic Management / District Environmental Planning / Resident Engineer / Contractor	Final Design, Construction					X

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services, and law enforcement to minimize disruptions to access and circulation. Caltrans will provide appropriate signage, as needed, throughout construction. The construction contractor will maintain appropriate signage to direct bicyclists and vehicular traffic of the construction.									
Visual									
VIS-1: All ground disturbance in the surrounding landscape would be returned to its existing condition or			District Design / District Landscape Architecture /District	Final Design, Construction				X	

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visual quality with concurrence of the District Landscape Architect.			Environmental Planning / Resident Engineer / Contractor						
Water Quality									
WQ-1: 401 Certification. The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.			District Design / District Storm Water / Resident Engineer / Contractor	Final Design, Construction	SSP or NSSP				
WQ-2: 404 Permit. The project proponent will obtain a Clean Water Act			District Design / District Storm Water /	Final Design, Construction					

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Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.			Resident Engineer / Contractor						
WQ-3: Post Construction BMPs. Post-construction best management practices will be implemented to the maximum extent practicable, consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and applicable waste discharge requirements in place at the time of			District Design / District Storm Water / Resident Engineer / Contractor	Final Design, Construction					

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project approval.									
WQ-4: Construction SWPPP. The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time of construction, including development and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are			District Design / District Storm Water / Resident Engineer / Contractor	Final Design, Construction					X

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implemented to minimize sediment and erosion during construction.									
Noise									
NOI-1: Alternatives to Pile Driving. During construction, to the extent, practical alternatives to driven piles will be used in lieu of impact pile driving. The list of alternatives is not all-inclusive, and some suggested methods may not be feasible because of specific site conditions. Alternatives to pile driving could include but are not limited to:			District Design / District Environmental Engineering / Resident Engineer / Contractor		SSP or NSSP			X	

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Jetting, Pre-drilling, Cast-in-place or auger cast piles, Non-displacement piles, Pile cushioning, Scheduling, and/or Using alternative non-impact drivers.									
NOI-2: Caltrans will take the following steps to avoid and minimize impacts on adjacent structures: • Prior to the start of			District Design / District Environmental Engineering / Resident Engineer / Contractor					X	

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construction, conduct a preconstruction survey to document the existing condition of nearby structures. The preconstruction survey may consist of but is not limited to documentation of nearby structures using high-definition video, photographs of the existing structures, or any other method to document existing damage or defects. • Notify surrounding vibration-sensitive land uses of the expected schedule for pile driving									

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activities. • During pile driving operations, monitor and record vibration from the activity. Monitor and record PPVs near sensitive receptors identified while the highest vibration-producing activities are taking place. • Schedule pile driving activities during times of maximum human activity and avoid pile driving during times of extreme quiet (nighttime) to the greatest extent practical. • When especially									

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<p>egregious activities are expected to be conducted at night, arrange motel rooms for residents living adjacent to the activity when protracted vibrations approaching 0.20 in/s are expected at their residences.</p> <ul style="list-style-type: none"> • Respond to and investigate complaints from nearby vibration-sensitive receptors. • Subsequent to construction, conduct a postconstruction survey to confirm that construction-related damage did not occur at 									

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nearby structures.									
Hazardous Waste									
HAZ-1: Groundwater Sampling Program. Topock Compressor Station Site. If construction work requires infrastructure that will enter groundwater or generate wastewater or saturated soils as a result of construction activities, further assessment (via sampling) should be conducted at the locations where such work would occur. If construction dewatering is			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction	SSP: 13-3_A10-21-22			X	

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required, an evaluation of plume migration and treatment and disposal shall be conducted.									
HAZ-2: Asbestos Containing Material (ACM). If ACM is found in construction material, handling and disposal of the excavated material shall be determined based on the findings in the survey report and the preparation and implementation of an Asbestos Compliance Plan would address the presence of ACM in construction material within the survey area,			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction	SSP: 14-11.16			x	

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how to handle them, proper disposal and the health and safety of construction workers.									
HAZ-3: Asbestos Containing Material (ACM). Asbestos NESHAP notification required for Asbestos Containing Materials (ACM) according to SSP 14-9.02.			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction	SSP 14-9.02				x
HAZ-4: Aerially Deposited Lead (ADL). For all earth material containing lead, a lead compliance plan (LCP) is required that would address the presence of			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction	SSP 7-1.02K(6)(j)(iii)				x

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ADL in soils within the project area, how to handle them, proper disposal and the health and safety of construction workers according to SSP 7-1.02K(6)(j)(iii).									
HAZ-5: Lead Based Paint. Lead paint found on bridge support beams or encountered during structure demolition may pose a hazard to workers during removal, scraping, cutting or torching leaded paint components. The contractor is responsible for implementing a monitoring program and protective measures to			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction	NSSP 14-11.17			x	

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protect workers and the public from exposure to leaded materials. The handling and disposal would be addressed in the Lead Compliance Plan, to be prepared and implemented for the project according to NSSP 14-11.17.									
HAZ-6: Treated Wood Waste. If project work includes the removal and/or upgrade of guardrail system or removal of signposts use SSP 14-11.14 for the proper removal and disposal of treated wood					SSP 14-11.14			x	

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waste.									
HAZ-7: Local Material. If local material such as rock, gravel, earth, structure backfill, pervious backfill, imported borrow, and culvert bedding, is obtained from a (1) noncommercial source, or (2) source not regulated under California jurisdiction, submit a local material plan for each material at least 60 days before placing the material per SSP 6-1.03B.					SSP 6-1.03B				x
HAZ-8 General Hazardous Waste: Due		Final EIR/EA							

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to historical operation of PG&E Topock Compressor Station prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. To protect workers during construction, discolored soil and potential waste debris encountered during construction should be tested for metals, dioxin, PCB, and asbestos containing material within California limits from the end of the bridge deck to the Park		Section 2.2.4. and Section 3.2.9.							

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Moabi Road exit. HAZ-8 General Hazardous Waste: Due to historical operation of PG&E Topock Compressor Station prior to construction of the interstate highway, it is possible that soil contamination exists beneath the I-40 highway. To protect workers during construction, discolored soil and potential waste debris encountered during construction should be tested for metals, dioxin, PCB, and asbestos containing									

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material within California limits from the end of the bridge deck to the Park Moabi Road exit.									
Geology									
GEO-1: Geotechnical Design Report. Geotechnical Design Report. During the Plans, Specifications, and Estimates (PS&E) phase, the implementing agency will ensure that a licensed geologist and engineer prepares a design-level geotechnical investigation prior to construction. The investigation will include subsurface soil sampling,		DED section 2.2.3.4	Engineer/Design	Phase 1					x

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laboratory analysis of samples collected to determine soil characteristics and properties and an evaluation of the laboratory testing. Recommendations based on the results will be used in the design specifications for the project. The report will include recommendations to avoid potential risks associated with seismic hazards (including ground shaking and fault rupture, seismically induced landslides, and liquefaction, and the other seismic effects described									

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							Date / Initials	YES	NO
in this section), in accordance with the requirements of the Seismic Hazards Mapping Act. The geotechnical study will provide detailed project-specific recommendations for design and construction, and implementation of those recommendations will be required during construction. The project-specific findings and recommendations of the geotechnical investigation will be submitted to the California Department of Transportation (Caltrans) for review and approval									

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

Date of ECR:
Date: (MONTH DAY YEAR of approved ED and type Note: this will not be populated in PA/ED phase)

Project Phase:
 PA/ED (DED/FED)
 PS&E Submittal _____ %
 Construction

Avoidance, Minimization, and/or Mitigation Measures	Page	Environmental Analysis Source	Responsible for Development and/or Implementation of Measure	Timing/ Phase	SSP or NSSP:	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Complete	Mitigation for significant impacts under CEQA?	
							Date / Initials	YES	NO
and will be incorporated into the final design of the identified preferred alternative.									
GEO-2 Foundation Report. During the PS&E phase, a detailed Foundation Report specific to the project will be prepared. The project-specific findings and recommendations will be submitted to Caltrans for review and approval. Those findings and recommendations will be incorporated into the final design of the identified		DED section 2.2.3.4	Engineer/Design	Phase 1					x

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

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							Date / Initials	YES	NO
preferred alternative.									
GEO-3 Corrosive Soil Testing. During PS&E, representative soil samples will be tested for pH, sulfate content, chloride, content, and minimum electrical resistivity as part of the final Foundation Report investigation for the project area pursuant to Caltrans Corrosion Guidelines. If corrosive soils are found, appropriate material recommendations will be incorporated into the final design of the identified preferred alternative or		DED section 2.2.3.4	Engineer/Design	Phase 1					x

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

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							Date / Initials	YES	NO
design variation.									
GEO-4 Seismically Induced Settlements. During PS&E, seismically induced settlement will be evaluated based on new embankment fill thickness and geometry. If there is potential for seismically induced settlement, these findings will be incorporated into the final design of the identified preferred alternative.		DED section 2.2.3.4	Engineer/Design	Phase 1					x
Air Quality									
AQ-1: Fugitive Dust: Contractor must abide by			District Design / District	Final Design,	SSP or				x

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

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							Date / Initials	YES	NO
Caltrans' provisions in Section 14-9, Air Quality of the 2022 Standard Specifications and Special Provisions.			Environmental Engineering / Resident Engineer / Contractor	Construction	NSSP				
AQ-2: Implement and follow Erosion Control and Air Quality Best Management Practices (BMPs)			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction					x
AQ-3: Comply with AQMD rule 403 for Fugitive Dust and Caltrans Standard Specification Section 14-9.			District Design / District Environmental Engineering / Resident Engineer /	Final Design, Construction					x

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							Date / Initials	YES	NO
			Contractor						
Land Use									
LU-1: Restoration of Land Used Temporarily During Construction. All construction access, mobilization, material laydown, and staging areas shall be returned to the property owner in a condition equal to the pre-construction staging condition.			District Design / District Environmental Engineering / Resident Engineer / Contractor	Final Design, Construction					x
Community Impacts									
CI-1: A bicycle traffic management plan will be developed to inform the bicycling public of project-related closures on U.S.			District Design / District Environmental Planning / Resident	Final Design, Construction					x

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							Date / Initials	YES	NO
Bicycle Route 66 including the Colorado River Bridge on I-40; closures of Oatman Hwy; and closure of National Trails Highway, which include but are not limited to a public awareness campaign, signage, and notification of The Adventure Cycling Association of closures and alternate route proposal through Needles. In addition, U.S. Bicycle Route 66 medallions and/or signage will be installed on the bridge warning vehicular traffic of bicyclists using the			Engineer / Contractor						

ENVIRONMENTAL COMMITMENTS RECORD (Colorado River Bridge Replacement Project)

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							Date / Initials	YES	NO
bridge.									
CI-2: Navigable Waters. In coordination with the U.S. Coast Guard, a navigable channel will remain open under the Colorado River Bridge for the duration of construction. Warning signs will be placed on the Colorado River up and downstream of the Project area and at nearby boat launches prior to construction to ensure public safety. Warning signs will be placed on the Colorado River up and			District Design / District Environmental Planning/ Resident Engineer / Contractor	Final Design, Construction					x

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							Date / Initials	YES	NO
downstream of the Project area and at nearby boat launches prior to construction to ensure public safety.									
Utilities									
UT-1: During final design, utility relocation plans will be prepared in consultation with affected utility providers for utilities that will need to be relocated, removed, or protected in place. All utility relocation work will be coordinated to ensure minimum disruption to			District Design / District Environmental Planning/ Resident Engineer / Contractor	Final Design					x

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							Date / Initials	YES	NO
customers in the service areas during construction. All public utility lines, pipes, and cables that are disturbed or removed to accommodate the project will be replaced or relocated within the project limits to continue to meet the needs of residents and business in the community. Utility relocations are anticipated to be completed by the various utility owners prior to or during construction.									
Greenhouse Gas									
GHG-1: The contractor		EIR/EA							x

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							Date / Initials	YES	NO
must comply with MDAQMD's rules, ordinances, and regulations regarding air quality restrictions.		Climate Change							
GHG-2: The project will incorporate the use of energy efficient lighting.		EIR/EA Climate Change							X
GHG-3: Bids will be solicited that include use of energy and fuel-efficient fleets in accordance with current practices.		EIR/EA Climate Change							X
GHG-4: The project will maintain equipment in proper tune and working condition.		EIR/EA Climate Change							X

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							Date / Initials	YES	NO
GHG-5: A traffic management plan (TMP) will be implemented to minimize traffic disruptions from project construction.		EIR/EA Climate Change							x
Climate Change									
CC-1: Drainage facilities will be modified to accommodate additional runoff from the interchange and the projected increase in the 100-year storm precipitation depth and rainfall in the project area.		EIR/EA Climate Change							x
CC-2: Use pavement binder and mix design specifications to better		EIR/EA Climate							x

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							Date / Initials	YES	NO
match expected future environmental conditions. Move to stiffer asphalt grades and use slower aging binders as needed to address increased temperatures and projected temperature change.		Change							
CC-3: Design pavement structure to account for temperature and climatic changes. Incorporate design elements, like shorter joint spacing and others, to reduce damage from high temperatures. For concrete pavements, robust designs that limit moisture damage and		EIR/EA Climate Change							

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							Date / Initials	YES	NO
shrinkage are a good alternative. Stabilized subbases and base materials may be a good alternative to unbound bases especially in areas where the ground water table may rise or precipitation is increasing.									

Appendix E Notice of Preparation

Notice of Preparation

Notice of Preparation

To: Responsible and Trustee Agencies

From: California Department of Transportation, District 8 Division of Environmental Planning

(Address)

464 W. 4th Street
San Bernardino, CA 92401

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

Caltrans District 8 _____ will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (is is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Julie Scrivner, Associate Environmental Planner, MS 829 at the address shown above. We will need the name for a contact person in your agency.

Project Title: I40/Colorado River Bridge Replacement Project

Project Applicant, if any: _____

Date 11/3/2020

Signature Gabrielle Duff

Title Senior Environmental Planner

Telephone (909) 383-6933

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

PROJECT DESCRIPTION

The California Department of Transportation (Caltrans) District 8, in cooperation with the Arizona Department of Transportation (ADOT), proposes to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 near Topock, AZ. The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic. The safety of the traveling public will be enhanced because of the following proposed improvements: standard lane and shoulder widths, a standard median barrier, and a standard bridge railing system. Deck deterioration on the existing facility is characterized by spalls and delaminations along the outside shoulders, and transverse cracks are present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the structure. Also, the bridge has a permit vehicle rating of PPPGO (purple permit rating up to 9-axle vehicles and a reduced permit rating for 11 and 13 axle vehicles).

Caltrans will be the lead agency for the proposed project under the California Environmental Quality Act (CEQA) and the Federal Highway Administration (FHWA) will be the lead agency for the project under the National Environmental Policy Act (NEPA).

The document for environmental analysis of this project under CEQA and NEPA was originally scoped as an Initial Study/Complex Environmental Assessment (IS/EA) anticipated to result in a Mitigated Negative Declaration/Finding of No Significant Impact (MND/FONSI). However, Caltrans, as the CEQA lead agency, has determined that an Environmental Impact Report (EIR) would be the most appropriate level of environmental document under CEQA due to changes in the regulatory environment and to address potentially significant impacts. Therefore, a joint EIR/EA is anticipated to be prepared in accordance with CEQA and NEPA.

LOCATION OF STUDY AREA

The project is located in San Bernardino County, California and in Mohave County, Arizona on Interstate 40 between Park Moabi Road and Topock Road. The total length of the project on I-40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.64 in California, and PM 0.0 to 0.6 in Arizona. The attached figure shows the project location and project vicinity.

ALTERNATIVES

Alternative 1

Build Alternative 1 proposes to replace the bridge on the existing alignment. This alternative will require staging the construction operation in two major stages Stage 1 will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing bridge. Stage-2 Shift traffic to the newly constructed portion of the deck

then remove the rest of existing bridge and build the second half of new bridge. This traffic reduction will remain through the length of the construction zone and then transition to the original roadbed.

Alternative 2

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will realign to the north of existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 3

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will realign to the south of existing I-40 centerline and this will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 4 (No Build Alternative)

The No-Build Alternative assumes that no improvements will be made to the Colorado River bridge. Without the planned improvements proposed as part of the project (e.g., rehabilitating and strengthening the existing bridge, or replacing the bridge) the existing bridge will continue to deteriorate, ultimately compromising the integrity and safety of the structure. Also, the load rating of the bridge will not accommodate all permit vehicle traffic to move goods and people between two states. As a result, Alternative 4 would not meet the purpose and need of the project. This alternative would not satisfy the proposed project's purpose and need.

POTENTIAL ENVIRONMENTAL EFFECTS

Various environmental and community resources are known to exist within the limits of the study area and the potential effects to these resources will be studied in the Environmental Impact Report/Environmental Assessment (EIR/EA). Environmental effects anticipated for the study include, but are not limited to: Land Use, Farmlands, Growth, Community Impacts, Utilities and Emergency Services, Traffic and Transportation/Pedestrian and Bicycle Facilities, Visual/Aesthetics, Cultural Resources, Water Quality and Stormwater Runoff, Hydrology and Floodplains, Geology/Soils/Seismicity/Topography, Paleontology, Hazardous Waste/Materials, Air Quality/Greenhouse Gas Emissions/Climate Change, Noise, Mineral Resources, wildfire, Energy, Biological Resources, and Cumulative Impacts. Of these environmental resources, further study may determine potentially significant impacts to Biological Resources. It is anticipated that the project will have a less than significant impact on all other environmental resources.

PUBLIC SCOPING MEETING

Caltrans will hold a public scoping meeting to provide an overview of the project, present a summary of the environmental process and issues addressed, and receive input regarding environmental issues and the suggested scope and content of the EIR/EA. The scoping meeting will be held virtually on 11/18/2020 from 5:00 PM – 6:30 PM as a webinar at <https://tinyurl.com/i40Webinar>.

I-40/Colorado River Bridge Replacement Project



Legend
Project Location

0 0.25 0.5 1 Miles



I-40/Colorado River Bridge Replacement Project
Project Location/Vicinity Map
08-SBD-40 PM 153.9/154.64 (CA); PM 0.0/0.6 (AZ)
EA No. 0R380
Project No. 081200067

I-40/Colorado River Bridge Replacement Project



Project Vicinity Map

Appendix F List of Technical Studies

The following technical studies were prepared in support of this document and project.

- Air Quality Conformity Findings Checklist, Caltrans, June 23rd, 2022
- Archaeological Survey Report, Statistical Research Inc., and Caltrans, August 2022
- Biological Assessment, Caltrans, June 2022
- Community Impact Assessment Checklist, Caltrans, January 30th, 2023
- Community Impact Assessment Memorandum, Caltrans, January 30th, 2023
- Finding of Effect. Caltrans, August 2022.
- Finding of Effect (Revised). Caltrans, July 2023
- Historic Property Survey Report. Caltrans, August 2022.
- Historic Property Survey Report (Addendum). Caltrans, July 2023
- Historical Resource Evaluation Report. Statistic Research Inc., and Caltrans, August 2022
- Initial Site Assessment Checklist, Caltrans, January 11th, 2023
- Initial Site Assessment Report, Stantec Consulting Services Inc., November 19th, 2021
- Location Hydraulic Study and Summary Floodplain Encroachment Report, Caltrans, January 10th, 2023.
- Memorandum of Agreement, Federal Highway Administration, November 11th, 2023
- Natural Environmental Study, Caltrans, Revised, November 2023
- Noise Study Report, Caltrans, April 9th, 2022
- Noise Abatement Decision Report, Caltrans, May 26th, 2022
- Paleontological Memorandum, Caltrans, May 5th, 2020
- Scoping Questionnaire for Water Quality Issues, Caltrans, May 2022
- Site Investigation Report, Stantec Consulting Services Inc., January 11th, 2023
- Traffic Data Request Memorandum, Caltrans, May 12th, 2021
- Visual Impact Assessment, Caltrans, July 12th, 2022

Appendix G Agency Correspondence



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer to:
2022-0066851-S7-001

July 25, 2022
Sent Electronically

Shawn Oliver
Environmental Specialist
Federal Highways Administration
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Subject: Request to Initiate Formal Consultation for the I-40 Colorado River Bridge Replacement Project, San Bernardino County, California and Mohave County, Arizona

Dear Mr. Oliver:

We received your letter (reference HAD-CA) dated July 1, 2022, requesting initiation of formal consultation in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). Your agency has requested formal consultation to address potential impacts of the I-40 Colorado River Bridge Replacement Project (Caltrans EA 08 0R380/PRN 0812000067, ADOT #F0080) on the federally endangered bonytail chub (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), and Yuma Ridgway's rail (*Rallus obsoletus yumanensis*). You have also requested informal consultation for the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and its designated critical habitat, as well as the federally threatened Mojave desert tortoise (*Gopherus agassizii*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

We have not received all of the information necessary to initiate formal consultation on the I-40 Colorado Bridge Replacement project as outlined in the regulations governing interagency consultations (50 CFR 402.14(c)). To complete the initiation package, we will require the following information, as discussed with the California Department of Transportation (Caltrans) during a virtual meeting on July 13, 2022:

1. A single proposed action.

The initiation request includes three proposed build alternatives for the project but does not specify which alternative the Federal Highways Administration wants the Service to consult on. The alternatives are similar in scope and scale; however, there are sufficient differences among the alternatives (e.g., associated activities and action areas) that could result in different effects on the environment and listed species. Therefore, the Service requests that the Federal Highways Administration provide a single alternative for consultation and our associated analysis.

2. More detailed information on the specific components of the action and how they will be carried out.

The biological assessment identifies various activities associated with each of the proposed project build alternatives. However, in a number of cases the descriptions of these activities lack sufficient detail (e.g., information on the timing, duration, scope, and intensity of activities) for the Service to analyze the effects of the action on listed species or designated critical habitat. One such example is pile-driving as an activity for construction of trestles and the bridge.

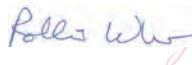
3. A more thorough description of cumulative effects.

The biological assessment includes a section on cumulative effects but currently provides little information. We understand that Caltrans has additional information on this topic.

The formal consultation process for the project will not begin until we receive all of the information requested, or a statement explaining why that information cannot be made available. We will notify you when we receive this additional information; our notification letter will outline the dates within which formal consultation should be complete and the biological opinion delivered on the proposed action.

If you should have any comments or questions about this letter, please contact [Richard Tung](#)¹ of this office.

Sincerely,

 Digitally signed by
ROLLAND WHITE
Date: 2022.07.25
08:08:56 -07'00'

Rollie White
Assistant Field Supervisor

¹ richard_tung@fws.gov

From: [Wentworth, Craig S@DOT](mailto:Wentworth.Craig.S@DOT)
To: Shawn.Oliver; [Chisholm, John P@DOT](mailto:Chisholm.John.P@DOT)
Cc: [Frost, Nancy@DOT](mailto:Frost.Nancy@DOT); [Curtis, Alisha@DOT](mailto:Curtis.Alisha@DOT); [Duff, Gabrielle@DOT](mailto:Duff.Gabrielle@DOT); [Habbak, Ashraf A@DOT](mailto:Habbak.Ashraf.A@DOT)
Subject: RE: EA 0R380 I-40 CO River Bridge Project Formal Section 7 Consultation and use of the Delayed BO Process
Date: Tuesday, September 6, 2022 1:07:11 PM

Thank you Shawn. Caltrans District 8 will move forward with the delayed BO process and coordinate with you as the project gets closer to a FED.

Craig

From: Oliver, Shawn (FHWA) <Shawn.Oliver@dot.gov>
Sent: Tuesday, September 6, 2022 12:33 PM
To: Chisholm, John P@DOT <john.chisholm@dot.ca.gov>; WENTWORTH, Craig S@DOT <Craig.Wentworth@dot.ca.gov>
Cc: Frost, Nancy@DOT <Nancy.Frost@dot.ca.gov>; Curtis, Alisha@DOT <Alisha.Curtis@dot.ca.gov>; Duff, Gabrielle@DOT <gabrielle.duff@dot.ca.gov>; Habbak, Ashraf A@DOT <Ashraf.Habbak@dot.ca.gov>
Subject: RE: EA 0R380 I-40 CO River Bridge Project Formal Section 7 Consultation and use of the Delayed BO Process

EXTERNAL EMAIL. Links/attachments may not be safe.

I don't have any issues with delaying Section 7 consultation.

If we need to send another letter, please send me a draft for review. If we can accomplish the same thing with a simple email to the USFWS, that works as well.

Environmental Specialist
650 Capitol Mall, Ste. 4-100
Sacramento, CA 95814-4708
Office: 916-498-5048
Main Desk: 916-498-5857

From: Chisholm, John P@DOT <john.chisholm@dot.ca.gov>
Sent: Thursday, September 1, 2022 10:08 PM
To: WENTWORTH, Craig S@DOT <Craig.Wentworth@dot.ca.gov>
Cc: Oliver, Shawn (FHWA) <Shawn.Oliver@dot.gov>; Frost, Nancy@DOT <Nancy.Frost@dot.ca.gov>; Curtis, Alisha@DOT <Alisha.Curtis@dot.ca.gov>; Duff, Gabrielle@DOT <gabrielle.duff@dot.ca.gov>; Habbak, Ashraf A@DOT <Ashraf.Habbak@dot.ca.gov>
Subject: Re: EA 0R380 I-40 CO River Bridge Project Formal Section 7 Consultation and use of the Delayed BO Process

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Thanks for copying me. Shawn, this project is the perfect example of one where delaying the BO makes good sense, since it is the engineering/ bridge structure details which are needed for FWS, and much of this info would only be available in the design phase. As a major bridge structure in the river, these details would be important in assessing impacts to species. It is not just : “we don’t want to delay the PAED schedule”.

Sent from my iPhone

On Sep 1, 2022, at 9:18 PM, WENTWORTH, Craig S@DOT
<Craig.Wentworth@dot.ca.gov> wrote:

Hello Shawn

I am the Office Chief for Biology at Caltrans District 8. As you may already know, formal Section 7 consultation was requested by FHWA for the I-40 Bridge Project (EA OR380) over the CO River. The USFWS responded that consultation cannot start until there is one project alternative (response letter attached). Since the project won’t identify a preferred alternative until end of DED circulation, the time needed to consult and obtain a BO may jeopardize the current PA&ED schedule. Due to the USFWS response, the District 8 project team would like to propose the option of using the Flexibility in the Timing of the BO process (guidance attached). The Caltrans NEPA Process Improvement Team (NPIT) developed the process to allow flexibility in the timing of obtaining a BO under certain conditions. For this project the PDT is proposing that FHWA request formal Section 7 consultation to obtain the BO in the PS&E phase after the FED. The team has consulted with District 8 Environmental Coordinator John Chisholm regarding using the delayed BO process. The District 8 I-40 CO River Bridge Project team would like to request that FHWA review the NPIT BO guidance. After your review, please let the project team (copied) know if you concur with the delayed BO approach for this project. The District 8 project team will be available to discuss any questions you may have. If you would like me to set up a meeting to go over this process please let me know and I will be glad to do so. Thank you very much.

Craig

Craig Wentworth
Supervising Environmental Planner/Biologist
Caltrans District 8
464 West 4th St.
San Bernardino CA, 92401
909-501-5107

<20220722_Caltrans formal consultation request_Service response.pdf>
<NPIT BO Timing memo with attachments 6-2-21.pdf>



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer to:
2022-0066851-S7-SB-002

June 14, 2023
Sent Electronically

Vincent Mammano
Division Administrator
Federal Highway Administration
650 Capitol Mall
Suite 4-100
Sacramento, California 95814

Subject: Replacement of the Colorado River Bridge (California BR No. 54-0415, Arizona Bridge no. 957) Geotechnical Investigations

Dear Vincent Mammano:

On April 21, 2023, we received the Federal Highway Administration's letter requesting our concurrence that the proposed geotechnical investigations phase of the Colorado River Bridge (California BR No. 54-0415, Arizona Bridge no. 957) project (Project) is not likely to adversely affect the federally endangered bonytail chub (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Yuma Ridgway's (=clapper) rail [*Rallus obsoletus* (=longirostris) *yumanensis*], and the federally threatened yellow-billed cuckoo [western distinct population segment (*Coccyzus americanus*); cuckoo], and northern Mexican garter snake (*Thamnophis eques megalops*), in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Project will be carried out by the California Department of Transportation (Caltrans) District 8, in cooperation with Arizona Department of Transportation. The Project action area consists of a span of California/Arizona state line on Interstate 40 near Topock, Arizona and overlaps with part of Havasu National Wildlife Refuge.

PROJECT DESCRIPTION

The proposed project is to conduct geotechnical investigations in advance of the main phase of the replacement of the Colorado River Bridge. The project boundary is an approximate 172.91 acres created by a 600-foot buffer zone extending out from approximately 1.02 acres of combined direct disturbance areas. Activities include up to 13 rotary core borings each measuring 4.5 inches in diameter and seismic refraction tests conducted by surface-level plate strikes. Equipment involved may include truck or barge mounted drill rigs, geophones, plates, seismographs, and hand tools. Project duration is expected to last a total of 1–2 months intermittently and is estimated to start as early as summer 2023.

Conservation Measures

Caltrans will implement the following conservation measures (CMs) to avoid and minimize adverse effects to listed species during project implementation. We consider these measures to be part of the proposed action, and our analysis assumes they will be implemented.

- CM 1. **Equipment Staging, Storing, and Borrow Sites:** Locations of all staging, storing, and borrow sites require the approval of a Caltrans qualified biologist.
- CM 2. **Temporary Artificial Lighting Restrictions:** To address impacts to nocturnal and diurnal species, artificial lighting must be directed at the job site to minimize light spillover within the Project limits, if Project activities occur at night.
- CM 3. **Worker Environmental Awareness Program:** Prior to beginning Project activities, all personnel that will be present within the Project limits for longer than 30 minutes at any given time will receive an environmental awareness briefing by a qualified biologist. This will include biological resource information for the Yuma Ridgway's rail, yellow-billed cuckoo, southwestern willow flycatcher, northern Mexican gartersnake, bonytail chub, and razorback sucker.
- CM 4. **Biological Monitor:** The qualified biologist must monitor Project activities weekly to ensure that conservation measures are being implemented and documented.
- CM 5. **Species Avoidance:** If during Project activities, a northern Mexican gartersnake is discovered within the Project site, all construction activities must stop within 125 feet and the Caltrans biologist and Resident Engineer must be notified. Coordination with California Department of Fish and Wildlife, Arizona Game and Fish Department, and/or the U.S. Fish and Wildlife Service (Service) will be required prior to restarting activities in the vicinity of the observation
- CM 6. **Animal Entrapment:** To prevent inadvertent entrapment of small terrestrial animal species during Project activities, all excavated steep-walled holes or trenches must be covered at the close of each working day by plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks. At the beginning of each working day, all such holes or trenches must be inspected to ensure no animals have been trapped during the previous night. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Trapped animals must be reported to the Resident Engineer and Caltrans Biologist prior to the species being released by the qualified biologist.
- CM 7. **Preconstruction Nesting Bird Survey:** If Project activities in riparian habitat cannot avoid the nesting season, generally regarded as February 1 to September 30, then preconstruction nesting bird surveys must be conducted 3 days prior to construction by a qualified biologist to locate and avoid nesting birds. If an active nest is located, a no-construction buffer (100 feet for non-passerine, 300 feet for

passerine, and 500 feet for raptors) will be established (demarcated by flagging, staking, or fencing) and monitored by the qualified biologist.

- CM 8. **Agency Notification and Reporting Requirements:** Any listed species within, or near the job site, or as specified in CM 5 found alive, injured, or dead during the implementation of the Project must be immediately reported to the Resident Engineer and Caltrans Biology. Caltrans Biology must then notify the Service. Veterinary treatment and/or final deposition must follow Service approval. Monitoring reports must include a summary of worker environmental awareness training and be submitted to the Service on a timeframe to be determined.

Baseline Conditions

The project is located near the existing Interstate (I) 40 bridge and the action area extends into both California and Arizona state boundaries, as well as Havasu National Wildlife Refuge boundaries. Some habitat within the action area qualifies as suitable for nesting or foraging for southwestern willow flycatcher, western yellow-billed cuckoo, and Yuma Ridgway's rail. Yuma Ridgway's rail has been detected in the area. Bonytail chub and razorback sucker occurrences within 2 miles of the action area have been documented, but habitat within the action area is considered to be low quality. A dead razorback sucker was identified on a field survey in 2021 near the I-40 bridge; cause of death was unknown. Northern Mexican gartersnake suitable habitat is found within the project boundaries but there have not been documented occurrences within the action area. The entirety of the estimated 172.9-acre action area is subject to ongoing high levels of noise disturbance from highway and railway traffic.

Analysis of Potential Effects

Southwestern willow flycatcher, western yellow-billed cuckoo, and Yuma Ridgway's rail have the potential to be adversely affected by noise from project activities. Project activities will aim to start outside of the nesting season to minimize and avoid impacts to nesting birds. If the nesting season cannot be avoided, CM 7 will be implemented to minimize risk. With the implementation of these measures we anticipate potential impacts to listed birds to be insignificant and discountable.

Bonytail chub and razorback sucker have the potential to be disturbed by rotary core drilling. Rotary core drilling may also cause increased turbidity in a localized area which can affect fish respiration. We anticipate fish will move out of the area unharmed if equipment such as a barge-attached drill rig moves into the area. In addition to fish moving away from disturbance, potential turbidity increases will likely be localized and quickly dissipate. The locations for rotary core drilling are also considered low-suitability habitat. Potential impacts are expected to be insignificant and discountable. No permanent impacts to habitat or habitat loss will occur as a result of project activities.

Northern Mexican gartersnake has the potential to be crushed by vehicles entering and exiting the geotechnical investigation areas. Due to the limited area of ground disturbance associated with the geotechnical investigations and limited habitat suitability in the area of direct disturbance,

we consider northern Mexican gartersnake occurrences within those areas to be unlikely. CMs 1, 3, 5, and 6 will be implemented to increase worker awareness of gartersnake and further minimize and avoid risk. For these reasons, we anticipate potential impacts to northern Mexican gartersnake to be insignificant and discountable.

CONCLUSION

Based on the information provided and the conservation measures that have been incorporated into the proposed project description, we concur with your determination that the proposed project is not likely to adversely affect bonytail chub, razorback sucker, southwestern willow flycatcher, western yellow-billed cuckoo, and the Yuma Ridgway's rail. Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Although our concurrence ends informal consultation, obligations under section 7 of the Act will be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered or this action is subsequently modified in a manner that was not considered in this assessment.

If you have any questions regarding this letter, please contact [Richard Tung](#)¹ of this office.

Sincerely,

**BRIAN
CROFT**

Rollie White
Assistant Field Supervisor

Digitally signed by
BRIAN CROFT
Date: 2023.06.14
15:11:49 -07'00'

¹ richard_tung@fws.gov.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To:

November 07, 2023

Project Code: 2022-0019100

Project Name: 0R380/0812000067 SBD-40-153.9/154.7 & AZ-40-0.0/0.6 CO River Bridge

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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 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 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 at the Fish and Wildlife Service's Endangered Species Consultation website at:

<https://www.fws.gov/service/esa-section-7-consultation>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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 Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

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

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

Arizona Ecological Services Field Office

9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

PROJECT SUMMARY

Project Code: 2022-0019100
Project Name: 0R380/0812000067 SBD-40-153.9/154.7 & AZ-40-0.0/0.6 CO River Bridge

Project Type: Bridge - Replacement

Project Description: PROJECT DESCRIPTION

The California Department of Transportation (Caltrans) District 8, in cooperation with the Arizona Department of Transportation (ADOT), proposes to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 near Topock, AZ. The purpose of the project is to improve the safety and integrity of the bridge by addressing deck deterioration and strengthening the girders to increase the load rating to accommodate all permit vehicle traffic. The safety of the traveling public will be enhanced because of the following proposed improvements: standard lane and shoulder widths, a standard median barrier, and a standard bridge railing system. Deck deterioration on the existing facility is characterized by spalls and delaminations along the outside shoulders, and transverse cracks are present throughout the transverse top mat rebar. The top mat transverse rebar is exposed with an inadequate concrete cover. If no rehabilitation is done, the existing deterioration will worsen and ultimately compromise the integrity and safety of the structure. Also, the bridge has a permit vehicle rating of PPPGO (purple permit rating up to 9-axle vehicles and a reduced permit rating for 11 and 13 axle vehicles).

Caltrans will be the lead agency for the proposed project under the California Environmental Quality Act (CEQA) and the Federal Highway Administration (FHWA) will be the lead agency for the project under the National Environmental Policy Act (NEPA). A joint EIR/EA is anticipated to be prepared in accordance with CEQA and NEPA.

LOCATION OF STUDY AREA

The project is located in San Bernardino County, California and in Mohave County, Arizona on Interstate 40 between Park Moabi Road and Topock Road. The total length of the project on I- 40 is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.64 in California, and PM 0.0 to 0.6 in Arizona.

ALTERNATIVES

Alternative 1

Build Alternative 1 proposes to replace the bridge on the existing alignment. This alternative will require staging the construction operation in two major stages Stage 1 will remove half of the existing bridge then construct one half of the new bridge, running traffic on the remaining half of the existing bridge. Stage-2 Shift traffic to the newly constructed portion of the deck then remove the rest of existing bridge and build the

second half of new bridge. This traffic reduction will remain through the length of the construction zone and then transition to the original roadbed.

Alternative 2

Build Alternative 2 proposes to replace the bridge with an alignment to the north of the existing bridge. This alternative will realign to the north of existing I-40 centerline allowing the construction of the new bridge to take place while the existing bridge remains fully operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 3

Build Alternative 3 proposes to replace the bridge with an alignment to the south of the existing bridge. This alternative will realign to the south of existing I-40 centerline and this will allow the construction of the new bridge to take place while the existing bridge is still operational. Staging will be only necessary for transitioning the new realigned bridge to the existing I-40 centerline alignment on both end of the bridge.

Alternative 4 (No Build Alternative)

The No-Build Alternative assumes that no improvements will be made to the Colorado River bridge.

Schedule:

DED 8/28/22

PAED 3/3/23

RTL 3/3/26

CCA 9/5/29

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.71737632417331,-114.4886396107187,14z>



Counties: Arizona and California

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

BIRDS

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Ridgway's Rail <i>Rallus obsoletus yumanensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

REPTILES

NAME	STATUS
Northern Mexican Gartersnake <i>Thamnophis eques megalops</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7655	Threatened

FISHES

NAME	STATUS
Bonytail <i>Gila elegans</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1377	Endangered
Razorback Sucker <i>Xyrauchen texanus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/530	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

NAME	STATUS
Bonytail <i>Gila elegans</i> https://ecos.fws.gov/ecp/species/1377#crithab	Final

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
HAVASU NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?keywords=%5C%22HAVASU+NATIONAL+WILDLIFE+REFUGE%5C%22	37,042.13

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

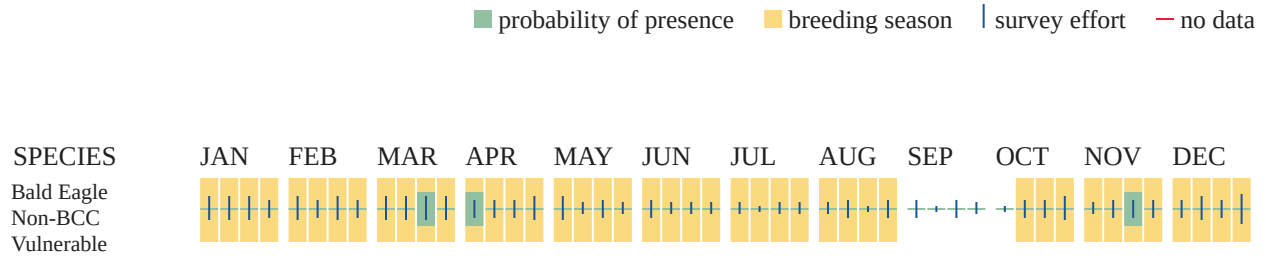
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1626</p>	Breeds Oct 15 to Aug 31
<p>Clark's Grebe <i>Aechmophorus clarkii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/10575</p>	Breeds Jun 1 to Aug 31
<p>Costa's Hummingbird <i>Calypte costae</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p>https://ecos.fws.gov/ecp/species/9470</p>	Breeds Jan 15 to Jun 10
<p>Gila Woodpecker <i>Melanerpes uropygialis</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p>https://ecos.fws.gov/ecp/species/5960</p>	Breeds Apr 1 to Aug 31
<p>Lawrence's Goldfinch <i>Carduelis lawrencei</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9464</p>	Breeds Mar 20 to Sep 20
<p>Marbled Godwit <i>Limosa fedoa</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9481</p>	Breeds elsewhere
<p>Western Grebe <i>aechmophorus occidentalis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/6743</p>	Breeds Jun 1 to Aug 31
<p>Willet <i>Tringa semipalmata</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/10669</p>	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

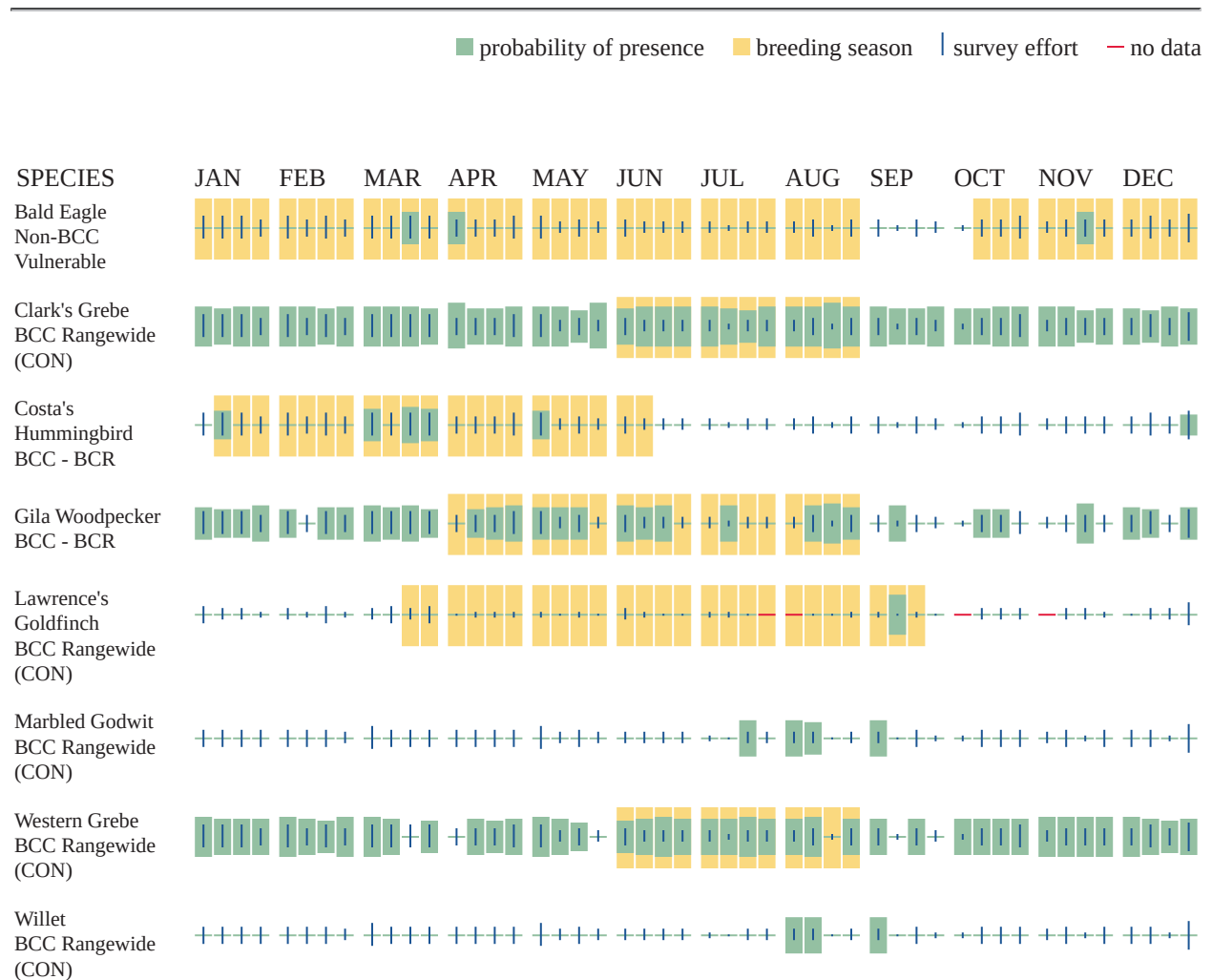
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBJ
- R3UBH

FRESHWATER EMERGENT WETLAND

- PEM1E
- PEM1B

FRESHWATER FORESTED/SHRUB WETLAND

- PSS2J
-

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 8
Name: alisha curtis
Address: 464 W 4th st, 6th floor, MS 822
City: San Bernardino
State: CA
Zip: 92401
Email: alisha.curtis@dot.ca.gov
Phone: 9094725993

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENVIRONMENTAL PLANNING

464 WEST FOURTH STREET, MS 1222

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*Making Conservation
a California Way of Life.*

October 26, 2020

Mary-Ellen Walsh, M.A., RPA
Attn: David Jacobs
Cultural Resources Compliance Manager
Arizona State Historic Preservation Office
1100 W. Washington Street
Phoenix, AZ 85007

Dear Mr. Jacobs:

As a potential consulting party for the Caltrans Colorado River Bridge project (0R380), Caltrans is providing information on the progress of National Historic Preservation Act (NHPA) Section 106 and CEQA cultural studies for the project.

The Federal Highway Administration (FHWA) in cooperation with the California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT) proposes to rehabilitate or replace the Colorado River Bridge along I-40 from post mile 153.9 to post mile 154.70 in San Bernardino County, California and post mile 0 to 0.6 in Mohave County, Arizona. The project, to replace or rehabilitate the Colorado River Bridge, consists of replacing or rehabilitating the bridge in its current general location; no additional lanes will be added. Caltrans is currently studying four different alternatives for the project: Alternative 1 would replace the existing bridge in the current alignment; Alternative 3, would realign the bridge less than 100 feet to the north; Alternative 5, would realign the bridge less than 100 feet to the south; and Alternative 6 would rehabilitate the bridge deck and strengthen the structure in place. Alternatives 2, 4, and 7 were rejected prior to beginning the environmental process.

Caltrans engineering has provided a maximum footprint, shown in red on the enclosed map, that encompasses all anticipated disturbances. Based off this maximum footprint, Caltrans has developed a cultural resources study area that expands beyond the engineering limit to capture both direct and indirect effects. This study area will be further developed in the Area of Potential Effect (APE) for the undertaking. Please see the enclosed proposed study area map.

The project is in the beginning phase of NHPA Section 106 and CEQA compliance. Cultural Studies has an anticipated completion of a draft environmental document for public circulation in March 2022. We anticipate completing the cultural resources studies prior to the circulation of the DED.

Mr. Jacobs
October 26, 2020
Page 2

In addition, Caltrans has received an archaeological records search from the South-Central Coastal Information Center (SCCIC) for the portion of the project in California and will be obtaining a record search from Arizona and the Arizona State Museum (Fall 2020). We will provide you details of both records searches in our next regular update.

If you have any questions, comments, or concerns regarding the project, or if you have any information regarding cultural resources within the project area that would be beneficial to this project, please do not hesitate to get in touch with one of the archaeologists listed below.

Please note the following points of contact should you have any questions or need additional information.

For Section 106 related general project questions please contact Steven Holm by email at steven.holm@dot.ca.gov, or by phone at 909-383-4045. For Section 106 Native American consultation please address questions and comments to Gary Jones, Caltrans District 8 Native American Coordinator by email at gary.jones@dot.ca.gov or by phone at 909-383-7505.

Sincerely,



Steven Holm
Associate Environmental Planner/Archaeology
Environmental Support Cultural Studies



Enclosure

0R380 Colorado River Bridge Replacement Project Study Area Map



0 570 1,140 1,710 2,280 Feet

1:5,000

-  Study Area
-  Engineering Max. Footprint





U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

June 28, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
HDA-CA

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona FHWA_2022_0818_001

Attention: Shannon Pries

The Federal Highway Administration (FHWA) initiated consultation regarding the proposed Colorado River Bridge Replacement Project (Project) with your office via letter on August 16, 2022, requesting concurrence on determinations of eligibility and finding of effect. On January 23, 2023, FHWA provided a revised consultation letter again requesting concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, your office provided concurrence on the Area of Potential Effects (APE) delineation, the adequacy of identification efforts, and the determinations of eligibility, but requested more information about the tangible and intangible effects on certain cultural resources mentioned by the Fort Mojave Indian Tribe during consultation before your office could concur on the project finding of No Adverse Effect. Your office acknowledged the efforts of Caltrans on behalf of FHWA to conduct good faith consultation with the Fort Mojave Indian Tribe but requested that Caltrans attempt to arrange for a meeting with the Tribe again before you could concur with the project finding.

The Caltrans District Native American Coordinator arranged for and attended a meeting with the Fort Mojave Indian Tribe at the Tribe's Pipa Aha Macav Cultural Center in Mohave Valley Arizona on May 2, 2023. The outcomes of that four-hour meeting are described in the attached Addendum to the Finding of Effect document prepared by Caltrans on behalf of FHWA. At the present time, Caltrans, on behalf of FHWA, is providing the Addendum as supplemental information regarding the FHWA/Caltrans consultation efforts on the Undertaking that have occurred since your request for additional consultation efforts in March 2023.

Please be aware that the same Addendum was provided to the Tribe via email on June 13, 2023, for their review. Caltrans requested that the Tribe review the Addendum within a two week time frame, prior to submittal to SHPO, as the project is facing extreme scheduling issues including possible loss of funding.

Caltrans cultural staff are available to answer any questions you may have regarding the consultation efforts with the Fort Mojave Indian Tribe for this project.

Thank you for your assistance with this undertaking.

Shawn E. Oliver

Shawn E. Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Finding of No Adverse Effect I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation June 2023*



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 16, 2022

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Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

Colorado River Bridge Replacement
County of San Bernardino, CA
County of Mohave, AZ
08-0R380
EFIS 0812000067

In Reply, Refer To:

RE: SECTION 106 DETERMINATION OF ELIGIBILITY FOR THE COLORADRO RIVER BRIDGE REPLACEMENT PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA AND MOJAVE COUNTY, ARIZONA

Attention: Mary-Ellen Walsh and David Jacobs

The Federal Highway Administration (FHWA) is initiating consultation with the Arizona SHPO regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California and Mohave County, Arizona. Consultation will occur under NHPA implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

In coordination with California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes a Project to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, AZ (Project). The Project is located in rural San Bernardino County, California and in Mohave County, Arizona on I-40 between Park Moabi Road and Topock Road. The total length of the project is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.64 in California, and PM 0.0 to 0.6 in Arizona (E-FIS 0812000067, EA 0R380). There are currently four (4) alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment, the second is replace the bridge slightly to the north of the current alignment, the third is the replace the bridge slightly to the south, and the fourth is the no build alternative.

Enclosed please find an Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historical Resource Evaluation Report (HRER), and a Finding of Effect (FOE) Report prepared for the project by Caltrans to document identification and evaluation and finding of effect

efforts undertaken for the Undertaking. FHWA has determined that there are a total of nine (9) cultural resources within the APE that required treatment:

There are four properties that have been previously determined to be eligible for the National Register of Historical Places (NRHP):

- **CA-SBR-000219** – Topock Maze or Mystic Maze is part of a larger maze complex. The maze is a large intaglio or geoglyph consisting of parallel windrows of dark desert-pavement gravels piled up from the surrounding desert-pavement surface. The creation of the windrows has exposed the lighter-colored soils underlying the desert pavement between windrows, which creates a pattern of alternating dark rock piles separated by light-colored areas devoid of gravels. The age of the site is unknown; so, interpretations of the site have varied. The maze has religious or ceremonial significance to several Native American groups in the area, but other researchers have suggested that the maze is historical period in age. This site is listed on the NRHP under Criterion A.
- **CA-SBD-6693H/ AZ I:14:334** (ASM) Burlington Northern Santa Fe (BNSF) / Atchison Topeka and Santa Fe (ATSF) Railroad. The BNSF/ATSF railroad, originally built in the 1880s by the Atlantic and Pacific Railroad, was purchased by Atchison, Topeka & Santa Fe in the 1890s and is generally known by that name. This resource was determined eligible for listing in the NRHP (Criterion A) with California SHPO in 1994.
- **NOTH/66: National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ]. CA-SBR-2910 and AZ I:15:156** (ASM). This historic route runs through the Project area toward Needles, California, to the northwest and Topock and Oatman, Arizona, to the north. NOTH/66 was previously evaluated and found to be eligible for the NRHP under Criteria A and C.
- **Old Trails Arch Bridge (P-36-027678)**. This resource is 832 foot steel-trussed, single-span, center-hinged, through-type arch bridge. The bridge was constructed in 1916 and functioned as an automobile bridge along the NOTH (designated Route 66 in 1926) until 1947, when the bridge was decommissioned, and traffic was redirected to the newly repurposed Red Rock Bridge. At the time of its construction, the Old Trails Arch Bridge was largest three-hinged arch bridge in the country and one of only two bridges crossing the Colorado River in the area. Additionally, the bridge was wide enough for two cars to pass one another. In 1948, the roadway was re-moved, and the bridge was incorporated into the design of the El Paso Natural Gas (EPNG) interstate pipeline. The resource evaluated and was listed in the NRHP in 1988 under Criterion A and C.

There are two (2) properties that are being considered eligible for the NRHP because they can be protected in their entirety through the establishment of an ESA:

- **CA-SBR-11910/H**. The prehistoric portion of this archaeological site consists of a small, discrete lithic scatter containing a tested cobble, six pieces of debitage, and a hammer-stone, all composed of quartzite. The scatter is contained within a 2-by-1-m area of desert pavement on a southwest–northeast-oriented ridgeline. The site does not appear to have been evaluated for the NRHP, the prehistoric portion will be treated as eligible, and protected in its entirety through the establishment of an ESA.
- **AZ L:7:81** (ASM). This site consists of a very discrete, prehistoric isolate lithic scatter located upon a highly disturbed tract of land sandwiched between the extended northern

shoulder and pull-out area of AZ-95 Oatman to Topock Highway, and the BNSF railroad at the extreme southern end of the Mohave Valley. Cultural constituents include: one quartzite hammerstone, one chert flake and one quartzite flake. The site area is very highly disturbed, both from highway, freeway and railroad construction and ongoing use and maintenance, with abundant quantities of imported lithic materials in the vicinity, and thus the origins and provenance of these artifacts is difficult to determine. This site has not been evaluated for the NRHP but will be treated as eligible and protected in its entirety through the establishment of an ESA.

There are four (4) properties that were evaluated in the HRER and found to be **Not Eligible** for the NRHP:

- **CA-SBR-11910/H.** The historic portion of this site consists of three possible foxholes (possibly dating to the Desert Strike era), a historic rock cairn, two concentrations of insulator glass fragments, and numerous pieces of historical-period refuse including: utility line tension support wires, milled lumber, sanitary cans, military shell casings, and Coca-Cola bottle fragments; at least two of the cans were military in origin. The historic portion of this site is currently recommended as not eligible for the NRHP.
- **CA-SBR-13791H.** This resource consists of a 164-foot-by-65-foot-7-inch scatter of railroad-related debris including: discarded locomotive-firebox bricks but also railroad timber, spikes, bolts, tie plates, fragments of asbestos, and historical-period kitchen refuse. The site is located along the slope of a terrace overlooking the western shoreline of the Colorado River and is actively eroding downslope and is highly scattered. This site is currently recommended as not eligible for the NRHP.
- **CA-SBR-12642H.** This resource consists of a 10-foot-long-by-1-foot-11½-inch-wide formed-and-poured concrete footing located on a terrace overlooking the western shoreline of the Colorado River. Also recorded with the resource is original roadbed and a modern cistern. This footing constitutes the last remaining component of the Red Rock Bridge, a railroad bridge constructed across the Colorado River in 1890 that was ultimately converted into a highway bridge as part of the Route 66 system in 1947. In its heyday, the Red Rock Bridge was one of only two bridges crossing the Colorado River at this location; the second was the Old Trails Arch Bridge (P-36-027678; see below) located approximately 1/4 mile (0.4 km) southeast of the Red Rock Bridge. The Red Rock Bridge was abandoned in 1966, after construction of the new I-40 bridge, and was dismantled in the 1970s. This site is currently recommended as not eligible for the NRHP.
- **SRI 2.** This resource consists of an approximately a 30-foot-diameter, 80-foot-tall steel water tank located on the Arizona side of the APE, immediately adjacent to the BNSF railroad tracks. Historical aerial imagery indicates that the water tank was constructed by 1947 (NETR 2021) and probably was part of a greater complex of buildings, possibly associated with the former location of Topock. In association with the water tank was a second, smaller tank and a small building, both behind a locked gate on a small parcel owned by Southwest Water, Inc. This site is recommended not eligible for the NRHP.

The FOE proposes that a Finding of No Adverse Effect is appropriate for the Undertaking. In sum, the Undertaking will result in No Adverse Effect to the three (3) archaeological sites within the APE: CA-SBR-219, CA-SBR-11910/H, and AZ L:7:81 (ASM) because the prehistoric constituents are able to be protected through the establishment of an Environmentally Sensitive Area (ESA) which will protect the sites from any direct effects anticipated from the Undertaking. Similarly, the

Undertaking will result in No Adverse Effect to the three (3) built environment properties: Route NOTH/66, ATSF/BNSF Railroad, and Old Trails Arch Bridge (P-36-027678). Both ATSF/BNSF Railroad and Old Trails Arch Bridge (P-36-027678) are located outside of the ADI and there is no work proposed at either of those two locations.

NOTH/66 is located within the ADI and there are potentially varying direct effects to this resource dependent on which alternative is chosen. If alternatives two (2) or three (3) are chosen there is the potential to effect one of the character defining features of the property: 1950's era guardrail. Even through there is potential for an effect to one of the character defining features under alternatives 2 and 3, these effects do not rise to the level of being adverse.

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the Area of Potential Effects (APE) for the undertaking (36 CFR §800.4(a)).
- Identification of potential historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of No Adverse Effect for the Undertaking (36 CFR §800.5)

Caltrans, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a de minimis impact finding for purposes of Section 4(f) as described in our May 29, 2014 letter agreement.

We look forward to receiving your response within 30 days of your receipt of this transmittal. If you have any questions, please contact Shawn Oliver FHWA Transportation Engineer (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration, California Division

Enclosure: Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historic Resources Evaluation Report (HRER) and Finding of Effect (FOE) for the project for the Colorado River Bridge Replacement Project, Mojave County



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 16, 2022

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Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

Colorado River Bridge Replacement
County of San Bernardino, CA
County of Mohave, AZ
08-0R380
EFIS 0812000067

In Reply, Refer To:

RE: SECTION 106 DETERMINATION OF ELIGIBILITY FOR THE COLORADRO RIVER BRIDGE REPLACEMENT PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA AND MOJAVE COUNTY, ARIZONA

Attention: Lucinda Woodward

The Federal Highway Administration (FHWA) is initiating consultation with the California State Historic Preservation Office (SHPO) regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California and Mohave County, Arizona. Consultation will occur under the National Historic Preservation Act (NHPA) implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

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Enclosed please find an Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historical Resource Evaluation Report (HRER), and a Finding of Effect (FOE) Report prepared for the project by Caltrans to document identification and evaluation and finding of effect

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At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of potential historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
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Caltrans, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a de minimis impact finding for purposes of Section 4(f) as described in our May 29, 2014 letter agreement.

We look forward to receiving your response within 30 days of your receipt of this transmittal. If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration, California Division

Enclosure: Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historic Resources Evaluation Report (HRER) and Finding of Effect (FOE) for the project for the Colorado River Bridge Replacement Project, San Bernardino County



U.S. Department
of Transportation
**Federal Highway
Administration**

SHPO-2020-0838 (165366)

Rec: 08-18-22

California Division

August 16, 2022

650 Capitol Mall, Suite 4-100
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(916) 498-5008 (FAX)

Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

Colorado River Bridge Replacement
County of San Bernardino, CA
County of Mohave, AZ
08-0R380
EFIS 0812000067

In Reply, Refer To:

RE: SECTION 106 DETERMINATION OF ELIGIBILITY FOR THE COLORADRO RIVER BRIDGE REPLACEMENT PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA AND MOJAVE COUNTY, ARIZONA

Attention: Mary-Ellen Walsh and David Jacobs

The Federal Highway Administration (FHWA) is initiating consultation with the Arizona SHPO regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California and Mohave County, Arizona. Consultation will occur under NHPA implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

In coordination with California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes a Project to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, AZ (Project). The Project is located in rural San Bernardino County, California and in Mohave County, Arizona on I-40 between Park Moabi Road and Topock Road. The total length of the project is 1.34 miles, between Post Mile (PM) 153.9 and PM 154.64 in California, and PM 0.0 to 0.6 in Arizona (E-FIS 0812000067, EA 0R380). There are currently four (4) alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment, the second is replace the bridge slightly to the north of the current alignment, the third is the replace the bridge slightly to the south, and the fourth is the no build alternative.

Enclosed please find an Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historical Resource Evaluation Report (HRER), and a Finding of Effect (FOE) Report prepared for the project by Caltrans to document identification and evaluation and finding of effect

efforts undertaken for the Undertaking. FHWA has determined that there are a total of nine (9) cultural resources within the APE that required treatment:

There are four properties that have been previously determined to be eligible for the National Register of Historical Places (NRHP):

- **CA-SBR-000219** – Topock Maze or Mystic Maze is part of a larger maze complex. The maze is a large intaglio or geoglyph consisting of parallel windrows of dark desert-pavement gravels piled up from the surrounding desert-pavement surface. The creation of the windrows has exposed the lighter-colored soils underlying the desert pavement between windrows, which creates a pattern of alternating dark rock piles separated by light-colored areas devoid of gravels. The age of the site is unknown; so, interpretations of the site have varied. The maze has religious or ceremonial significance to several Native American groups in the area, but other researchers have suggested that the maze is historical period in age. This site is listed on the NRHP under Criterion A.
- **CA-SBD-6693H/ AZ I:14:334** (ASM) Burlington Northern Santa Fe (BNSF) / Atchison Topeka and Santa Fe (ATSF) Railroad. The BNSF/ATSF railroad, originally built in the 1880s by the Atlantic and Pacific Railroad, was purchased by Atchison, Topeka & Santa Fe in the 1890s and is generally known by that name. This resource was determined eligible for listing in the NRHP (Criterion A) with California SHPO in 1994.
- **NOTH/66: National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ]. CA-SBR-2910 and AZ I:15:156** (ASM). This historic route runs through the Project area toward Needles, California, to the northwest and Topock and Oatman, Arizona, to the north. NOTH/66 was previously evaluated and found to be eligible for the NRHP under Criteria A and C.
- **Old Trails Arch Bridge (P-36-027678)**. This resource is 832 foot steel-trussed, single-span, center-hinged, through-type arch bridge. The bridge was constructed in 1916 and functioned as an automobile bridge along the NOTH (designated Route 66 in 1926) until 1947, when the bridge was decommissioned, and traffic was redirected to the newly repurposed Red Rock Bridge. At the time of its construction, the Old Trails Arch Bridge was largest three-hinged arch bridge in the country and one of only two bridges crossing the Colorado River in the area. Additionally, the bridge was wide enough for two cars to pass one another. In 1948, the roadway was re-moved, and the bridge was incorporated into the design of the El Paso Natural Gas (EPNG) interstate pipeline. The resource evaluated and was listed in the NRHP in 1988 under Criterion A and C.

There are two (2) properties that are being considered eligible for the NRHP because they can be protected in their entirety through the establishment of an ESA:

- **CA-SBR-11910/H**. The prehistoric portion of this archaeological site consists of a small, discrete lithic scatter containing a tested cobble, six pieces of debitage, and a hammer-stone, all composed of quartzite. The scatter is contained within a 2-by-1-m area of desert pavement on a southwest–northeast-oriented ridgeline. The site does not appear to have been evaluated for the NRHP, the prehistoric portion will be treated as eligible, and protected in its entirety through the establishment of an ESA.
- **AZ L:7:81 (ASM)**. This site consists of a very discrete, prehistoric isolate lithic scatter located upon a highly disturbed tract of land sandwiched between the extended northern

shoulder and pull-out area of AZ-95 Oatman to Topock Highway, and the BNSF railroad at the extreme southern end of the Mohave Valley. Cultural constituents include: one quartzite hammerstone, one chert flake and one quartzite flake. The site area is very highly disturbed, both from highway, freeway and railroad construction and ongoing use and maintenance, with abundant quantities of imported lithic materials in the vicinity, and thus the origins and provenance of these artifacts is difficult to determine. This site has not been evaluated for the NRHP but will be treated as eligible and protected in its entirety through the establishment of an ESA.

There are four (4) properties that were evaluated in the HRER and found to be **Not Eligible** for the NRHP:

- **CA-SBR-11910/H.** The historic portion of this site consists of three possible foxholes (possibly dating to the Desert Strike era), a historic rock cairn, two concentrations of insulator glass fragments, and numerous pieces of historical-period refuse including: utility line tension support wires, milled lumber, sanitary cans, military shell casings, and Coca-Cola bottle fragments; at least two of the cans were military in origin. The historic portion of this site is currently recommended as not eligible for the NRHP.
- **CA-SBR-13791H.** This resource consists of a 164-foot-by-65-foot-7-inch scatter of railroad-related debris including: discarded locomotive-firebox bricks but also railroad timber, spikes, bolts, tie plates, fragments of asbestos, and historical-period kitchen refuse. The site is located along the slope of a terrace overlooking the western shoreline of the Colorado River and is actively eroding downslope and is highly scattered. This site is currently recommended as not eligible for the NRHP.
- **CA-SBR-12642H.** This resource consists of a 10-foot-long-by-1-foot-11½-inch-wide formed-and-poured concrete footing located on a terrace overlooking the western shoreline of the Colorado River. Also recorded with the resource is original roadbed and a modern cistern. This footing constitutes the last remaining component of the Red Rock Bridge, a railroad bridge constructed across the Colorado River in 1890 that was ultimately converted into a highway bridge as part of the Route 66 system in 1947. In its heyday, the Red Rock Bridge was one of only two bridges crossing the Colorado River at this location; the second was the Old Trails Arch Bridge (P-36-027678; see below) located approximately 1/4 mile (0.4 km) southeast of the Red Rock Bridge. The Red Rock Bridge was abandoned in 1966, after construction of the new I-40 bridge, and was dismantled in the 1970s. This site is currently recommended as not eligible for the NRHP.
- **SRI 2.** This resource consists of an approximately a 30-foot-diameter, 80-foot-tall steel water tank located on the Arizona side of the APE, immediately adjacent to the BNSF railroad tracks. Historical aerial imagery indicates that the water tank was constructed by 1947 (NETR 2021) and probably was part of a greater complex of buildings, possibly associated with the former location of Topock. In association with the water tank was a second, smaller tank and a small building, both behind a locked gate on a small parcel owned by Southwest Water, Inc. This site is recommended not eligible for the NRHP.

The FOE proposes that a Finding of No Adverse Effect is appropriate for the Undertaking. In sum, the Undertaking will result in No Adverse Effect to the three (3) archaeological sites within the APE: CA-SBR-219, CA-SBR-11910/H, and AZ L:7:81 (ASM) because the prehistoric constituents are able to be protected through the establishment of an Environmentally Sensitive Area (ESA) which will protect the sites from any direct effects anticipated from the Undertaking. Similarly, the

Undertaking will result in No Adverse Effect to the three (3) built environment properties: Route NOTH/66, ATSF/BNSF Railroad, and Old Trails Arch Bridge (P-36-027678). Both ATSF/BNSF Railroad and Old Trails Arch Bridge (P-36-027678) are located outside of the ADI and there is no work proposed at either of those two locations.

NOTH/66 is located within the ADI and there are potentially varying direct effects to this resource dependent on which alternative is chosen. If alternatives two (2) or three (3) are chosen there is the potential to effect one of the character defining features of the property: 1950's era guardrail. Even through there is potential for an effect to one of the character defining features under alternatives 2 and 3, these effects do not rise to the level of being adverse.

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the Area of Potential Effects (APE) for the undertaking (36 CFR §800.4(a)).
- Identification of potential historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of No Adverse Effect for the Undertaking (36 CFR §800.5)

Caltrans, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a de minimis impact finding for purposes of Section 4(f) as described in our May 29, 2014 letter agreement.

We look forward to receiving your response within 30 days of your receipt of this transmittal. If you have any questions, please contact Shawn Oliver FHWA Transportation Engineer (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration, California Division

CONCUR
NO ADVERSE EFFECTS
Wang Miller 14 SEP 2022
ARIZONA STATE HISTORIC
PRESERVATION OFFICE

Enclosure: Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), Historic Resources Evaluation Report (HRER) and Finding of Effect (FOE) for the project for the Colorado River Bridge Replacement Project, Mojave County



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

January 23, 2023

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Sacramento, CA 95814
(916) 498-5001
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ELECTRONIC CORRESPONDENCE ONLY

Ms. Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

Colorado River Bridge Replacement
County of San Bernardino, CA
County of Mohave, AZ
08-OR380
EFIS 0812000067

In Reply, Refer To: HDA-CA

SUBJECT: RE: SECTION 106 DETERMINATION OF ELIGIBILITY FOR THE COLORADRO RIVER BRIDGE REPLACEMENT PROJECT, SAN BERNARDINO COUNTY, CALIFORNIA AND MOJAVE COUNTY, ARIZONA

Attention: Lucinda Woodward

The Federal Highway Administration (FHWA) is initiating consultation with the California State Historic Preservation Office (SHPO) regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California and Mohave County, Arizona. Consultation will occur under the National Historic Preservation Act (NHPA) implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

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The FOE proposes that a Finding of No Adverse Effect is appropriate for the Undertaking. In sum, the Undertaking will result in No Adverse Effect to the three (3) archaeological sites within the

APE: CA-SBR-219, CA-SBR-11910/H, and AZ L:7:81 (ASM) because the prehistoric constituents can be protected through the establishment of an Environmentally Sensitive Area (ESA) which will protect the sites from any direct effects anticipated from the Undertaking. The following conditions will be implemented to avoid adverse effects to archaeological sites:

CR-1: If buried cultural resources are encountered during Project Activities, it is Caltrans policy that work stop within 60 feet of the area until a qualified archaeologist can evaluate the nature and significance of the find.

CR-2: If 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 Descendent (MLD). The person who discovered the remains will contact the district 8 Division of Environmental Planning; Andrew Walters, DEBC: (909) 260-5178 and Gary Jones, DNAC: (909) 261- 8 1 5 7 . Further provisions of PRC 5097.98 are to be followed as applicable.

CR-3: There are multiple designated Environmentally Sensitive Areas (ESA), where all project related activities or inadvertent disturbances shall be prohibited.

CR-4: An archaeological monitor is assigned to monitor construction related activities within the archaeological monitoring area (AMA). Do not work within the AMA unless the archaeological monitor is present. If archaeological resources are discovered within an AMA, comply with Standard Plans Section 14-2.02.

Similarly, the Undertaking will result in No Adverse Effect to the three (3) built environment properties: Route NOTH/66, ATSF/BNSF Railroad, and Old Trails Arch Bridge (P-36-027678). Both ATSF/BNSF Railroad and Old Trails Arch Bridge (P-36-027678) are located outside of the ADI and there is no work proposed at either of those two locations.

NOTH/66 is located within the ADI and there are potentially varying direct effects to this resource dependent on which alternative is chosen. If alternatives two (2) or three (3) are chosen there is the potential to effect one of the character defining features of the property: 1950's era guardrail. Even through there is potential for an effect to one of the character defining features under alternatives 2 and 3, these effects do not rise to the level of being adverse with the following measures being implemented:

CR-5: Repair of the pavement on CA-SBR-2910 and AZ I: 15:156 (ASM) National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ] Segments 4 and 5 will be conducted according to the SOIS:

- Any pavement repair will conform to the existing profile, width, etc.
- Similar or identical paving techniques as the existing will be utilized such as material type and aggregate size.
- Paving plans and specifications shall be reviewed and approved by Caltrans PQS Principal Architectural Historian for compliance.

CR-6: The historic period 1950s guardrails impacted by the project will be salvaged and re-used as practical:

- If guardrail cannot be reused, stained, or painted guardrail of Midwest Guardrail System type will be used
- If guardrail cannot be salvaged an alternative rail will be chosen in consultation with the Caltrans PQS principal architectural historian to ensure that it is compatible with the massing, size, scale, and architectural features of the 1950's guardrail to protect the historic integrity of the property and its environment.

CR-7: The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and specifications shall be reviewed by Caltrans PQS Principal Architectural Historian for compliance.

Currently, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of potential historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of No Adverse Effect for the Undertaking (36 CFR §800.5)

Caltrans, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a de minimis impact finding for purposes of Section 4(f) as described in our May 29, 2014, letter agreement.

We look forward to receiving your response within 30 days of your receipt of this transmittal. If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Sincerely,

Antonio Johnson
Director, Planning, Environment, & Right of Way
Federal Highway Administration

TO:

Lucinda Woodward, State Parks
Lucinda.Woodward@parks.ca.gov

CC: (via email)

Julianne Polanco, State Parks
Jenan Saunders, State Parks
Alicia Perez, State Parks
Natalie Lindquist, State Parks
K. Leonard, Arizona State Parks
M. Walsh, Arizona State Parks
K. Miller, Arizona State Parks
I. Matt, ACHP
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**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
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calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

March 3, 2023

VIA EMAIL

In reply refer to: FHWA_2022_0818_001

Mr. Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration, California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Subject: Determination of Eligibility and Finding of No Adverse Effect for the Colorado River Bridge Replacement Project, San Bernardino County, California and Mojave County, Arizona.

Dear Mr. Oliver:

The Office of Historic Preservation (OHP) received a consultation letter dated August 16, 2022, and a revised consultation letter dated January 23, 2023 from the Federal Highway Administration (FHWA), California Division for the above referenced undertaking. FHWA is consulting with the State Historic Preservation Officer (SHPO) in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended), and its implementing regulation at 36 CFR Part 800. FHWA is seeking SHPO comment on the agency's determinations of eligibility relevant to the National Register of Historic Places (NRHP) Criteria and finding of no adverse effect with conditions for this undertaking. The following documents were submitted along with FHWA's August 16th letter:

1. August 2022 Historic Properties Survey Report (HPSR)
2. August 2022 Archaeological Survey Report (ASR)
3. August 2022 Historical Resources Evaluation Report (HRER)
4. August 2022 Finding of No Adverse Effect (FNAE)

As described in FHWA's August 16th letter, in coordination with the California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, AZ. The undertaking is located in rural San Bernardino County, California and in Mohave County, Arizona on I-40 between Park Moabi Road and Topock Road. There are currently four alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment, the second is replace the bridge slightly to the north of the current

alignment, the third is the replace the bridge slightly to the south, and the fourth is the no build alternative.

FHWA has delineated the area of potential effects (APE) to include all areas where potential direct or indirect effects to historic properties could occur because of construction, operation, and/or maintenance from the undertaking. The overall size of the APE is approximately 116.4 acres, with 78.8 acres located in California. The horizontal APE is 1.2 miles long and generally corresponds with the Caltrans and ADOT right-of-way. The APE encompasses archaeological and built-environment resources located either within or adjacent to the APE's area of direct impact (ADI) to account for any potential indirect effects to these resources. The ADI includes all cut and fill limits and all work and staging, plus additional areas to account for potential indirect effects such as noise, vibration, or setting effects. The ADI includes approximately 37 acres within the greater 116.4-acre APE, with 23.7 acres of the total ADI located in California. The vertical extent of the ADI is generally four feet below ground level for the roadbed, with a maximum depth of 110 feet below ground level for the piles and bents within the Colorado River for the new bridge. The maximum vertical extent of the APE is 45 feet above the original bridge deck to account for lighting, barriers, and signs on the new bridge deck.

Efforts to identify historic properties that may be affected by the undertaking included a record searches, pedestrian survey of the APE, a buried-site-sensitivity analysis, and consultation with Indian tribes and other consulting parties. Efforts identified the following cultural resources within the APE:

- CA-SBR-000219: Topock Maze or Mystic Maze, listed in the National Register of Historic Places (NRHP) under Criterion D in 1978.
- CA-SBD-6693H/ AZ I:14:334 (ASM) Burlington Northern Santa Fe (BNSF) / Atchison Topeka and Santa Fe (ATSF) Railroad. Previously determined eligible under NRHP Criterion A with California SHPO consensus in 1994.
- NOTH/66: National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ]. CA-SBR-2910 and AZ I:15:156 (ASM). Previously determined eligible under NRHP Criteria A and C with SHPO consensus.
- Old Trails Arch Bridge (P-36-027678), listed in the NRHP under Criterion A and C in 1988.
- CA-SBR-11910/H: a multi-component site consisting of a small, discrete lithic scatter and three possible historic-era foxholes (possibly dating to the Desert Strike era), a historic rock cairn, and refuse scatter.
- CA-SBR-13791H: a 164-foot-by-65-foot-7-inch scatter of railroad-related debris.
- CA-SBR-12642H: a 10-foot-long-by-1-foot-11½-inch-wide formed-and-poured concrete footing located on a terrace overlooking the western shoreline of the Colorado River.

Two additional cultural resources were identified within the APE, but these are solely located within Arizona and therefore are not addressed in this consultation.

FHWA has evaluated and determined that CA-SBR-12642H, CA-SBR-13791H and the historic component of CA-SBR-11910/H are ineligible relevant to the NRHP Criteria. FHWA is seeking

SHPO concurrence with these determinations. I concur with these determinations. For the purposes of this undertaking only, FHWA proposes to consider the prehistoric component of CA-SBR-11910/H eligible under NRHP Criterion D for the purposes of this undertaking only because this portion of the property can be protected in its entirety from effects through the establishment of an Environmentally Sensitive Area (ESA). Based on the documentation submitted to date, the SHPO agrees with this approach.

On February 14, 2023, FHWA, Caltrans District 8, Caltrans Cultural Studies Office and SHPO met to discuss comments submitted by the Ahamakav Cultural Society, Fort Mojave Indian Tribe via letter dated September 15, 2022 regarding FHWA's efforts to identify historic properties of religious and cultural significance to the Tribe and to assess effects (direct, indirect and cumulative) from the undertaking to said properties within the APE. While the Tribe originally copied the SHPO to their September 15th letter to FHWA, during the February 14th meeting the SHPO requested that FHWA formally submit a consultation letter to the SHPO indicating how the agency has responded and considered the Tribe's comments. Caltrans responded to the SHPO's request with a letter dated February 21, 2022. Included with their letter was the Tribe's September 15th letter, Caltrans District 8's December 19, 2022 letter responding to the Tribe's September 15th letter, and a FHWA/Caltrans Native American Consultation Comment Matrix.

Following a review of the information provided in Caltrans' February 21st letter and enclosures, in addition to reviewing the FNAE enclosed with FHWA's August 16th letter, the SHPO is unable to comment on FHWA's finding of no adverse effect at this time. As presented in the FNAE, FHWA has applied the criteria of adverse effect and has determined that the undertaking will not adversely affect CA-SBR-000219 because the property will be avoided in its entirety through the implementation of ESAs and archaeological monitoring areas (AMAs). FHWA has developed the June 2022 *Environmentally Sensitive Area/Archaeological Monitoring Area Action Plan* to enforce and guide the implementation of the ESAs and AMAs through the life of the undertaking. The plan is an attachment to the FNAE. However, based on the information provided by the Tribe in their September 15th letter regarding the traditional and cultural importance of the property, and referred to by the Tribe as *Too poc*, in addition to the overall sensitivity of the APE to the Tribe, it appears that further efforts to identify the tangible and intangible tribal values in consultation with the Tribe is necessary to adequately assess effects from the undertaking as described in the Tribe's letter. Thus, the SHPO is currently unable to comment on whether the conditions proposed by FHWA will avoid adverse effects without an understanding of the tangible and intangible tribal values that may exist within the APE and how said values may contribute to the significance of the property.

Given the passage of time since the property was listed on the NRHP under Criterion D and the recent information provided by the Tribe, the SHPO recommends that FHWA reevaluate CA-SBR-000219 under all NRHP Criteria. The SHPO acknowledges that FHWA and Caltrans have made several recent attempts to reengage with the Tribe following Caltrans's December 19th letter in response to the Tribe's September 15th letter. The SHPO therefore recommends that FHWA make another attempt to contact the Tribe to conduct further identification efforts of the APE.

Mr. Oliver
March 3, 2023
Page 4 of 4

FHWA_2022_0818_001

The SHPO will continue consultation on FHWA's finding of effect following receipt of the additional identification efforts requested above and an alternative has been selected.

If you have any questions, please contact Associate State Archaeologist Alicia Perez at alicia.perez@parks.ca.gov.

Sincerely,

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

June 28, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
HDA-CA

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona FHWA_2022_0818_001

Attention: Shannon Pries

The Federal Highway Administration (FHWA) initiated consultation regarding the proposed Colorado River Bridge Replacement Project (Project) with your office via letter on August 16, 2022, requesting concurrence on determinations of eligibility and finding of effect. On January 23, 2023, FHWA provided a revised consultation letter again requesting concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, your office provided concurrence on the Area of Potential Effects (APE) delineation, the adequacy of identification efforts, and the determinations of eligibility, but requested more information about the tangible and intangible effects on certain cultural resources mentioned by the Fort Mojave Indian Tribe during consultation before your office could concur on the project finding of No Adverse Effect. Your office acknowledged the efforts of Caltrans on behalf of FHWA to conduct good faith consultation with the Fort Mojave Indian Tribe but requested that Caltrans attempt to arrange for a meeting with the Tribe again before you could concur with the project finding.

The Caltrans District Native American Coordinator arranged for and attended a meeting with the Fort Mojave Indian Tribe at the Tribe's Pipa Aha Macav Cultural Center in Mohave Valley Arizona on May 2, 2023. The outcomes of that four-hour meeting are described in the attached Addendum to the Finding of Effect document prepared by Caltrans on behalf of FHWA. At the present time, Caltrans, on behalf of FHWA, is providing the Addendum as supplemental information regarding the FHWA/Caltrans consultation efforts on the Undertaking that have occurred since your request for additional consultation efforts in March 2023.

Please be aware that the same Addendum was provided to the Tribe via email on June 13, 2023, for their review. Caltrans requested that the Tribe review the Addendum within a two week time frame, prior to submittal to SHPO, as the project is facing extreme scheduling issues including possible loss of funding.

Caltrans cultural staff are available to answer any questions you may have regarding the consultation efforts with the Fort Mojave Indian Tribe for this project.

Thank you for your assistance with this undertaking.

Shawn E. Oliver

Shawn E. Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Finding of No Adverse Effect I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation June 2023*

From: [Oliver, Shawn \(FHWA\)](#)
To: [Mandy Ranslow](#); jloichimger@achp.gov
Cc: [Holm, Steven@DOT](mailto:Holm.Steven@DOT); [Jones, Gary A@DOT](mailto:Jones.Gary.A@DOT)
Subject: OR380 Transmittal letters
Date: Tuesday, August 1, 2023 5:42:03 PM
Attachments: [e106 form OR380.pdf](#)

EXTERNAL EMAIL. Links/attachments may not be safe.

Good evening,

The Federal Highway Administration is notifying the Advisory Council on Historic Preservation (ACHP) of an adverse effect finding and inviting participation in the resolution of adverse effects for the Colorado River Bridge Replacement Project in San Bernardino County, California (EA OR380). This consultation is in accordance with CFR 800.6.

The ACHP accepted FHWA's invitation to become a participating agency for this environmental review in 2020. Please find the attached e106 submittal form, summarizing the undertaking and FHWA's efforts to comply with Section 106 of the National Historic Preservation Act. A link to access the Section 106 documentation that details FHWA's efforts in the identification, evaluation, and assessment of effects on historic properties will be provided in a follow-up email.

The Section 106 documentation includes summaries and detailed logs of FHWA's consultation and correspondence with all interested parties. To date, FHWA is unaware of any unresolved concerns or additional issues that the ACHP should be aware of in its decision to participate further in this consultation. FHWA will enter into a Memorandum of Agreement with the California State Historic Preservation Officer, Arizona State Historic Preservation Officer and the ACHP, if desired, to resolve any adverse effects that result from this undertaking.

Please do not hesitate to contact me with any questions.

Thank you,

Shawn

Environmental Specialist
650 Capitol Mall, Ste. 4-100
Sacramento, CA 95814-4708
Office: 916-498-5048
Main Desk: 916-498-5857

From: [Oliver, Shawn \(FHWA\)](#)
To: [Mandy Ranslow](#); jloichimger@achp.gov
Cc: [Holm, Steven@DOT](mailto:Holm.Steven@DOT); [Jones, Gary A@DOT](mailto:Jones.Gary.A@DOT)
Subject: OR380 Transmittal letters
Date: Tuesday, August 1, 2023 5:42:03 PM
Attachments: [e106 form OR380.pdf](#)

EXTERNAL EMAIL. Links/attachments may not be safe.

Good evening,

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The Section 106 documentation includes summaries and detailed logs of FHWA's consultation and correspondence with all interested parties. To date, FHWA is unaware of any unresolved concerns or additional issues that the ACHP should be aware of in its decision to participate further in this consultation. FHWA will enter into a Memorandum of Agreement with the California State Historic Preservation Officer, Arizona State Historic Preservation Officer and the ACHP, if desired, to resolve any adverse effects that result from this undertaking.

Please do not hesitate to contact me with any questions.

Thank you,

Shawn

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U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 1, 2023

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Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
SHPO-2020-0838 (165366)

Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

**RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project
San Bernardino County, California and Mojave County, Arizona SHPO-2020-0838 (165366)**

Attention: Mary-Ellen Walsh and David Jacobs

The Federal Highway Administration (FHWA) initiated consultation regarding the proposed Colorado River Bridge Replacement Project (Project) with your office via letter on August 16, 2022, requesting concurrence on adequacy of identification efforts, APE Delineation, and FHWA's Finding of No Adverse Effect for the Undertaking. On September 14, 2022, your office replied with concurrence with FHWA's efforts for the Undertaking. At the present time, FHWA is continuing consultation with your office due to change in our proposed finding of effect for the Undertaking.

On September 15, 2022, FHWA/Caltrans received a letter from the Fort Mojave Indian Tribe (FMIT) disagreeing with the findings for the Undertaking. On January 23, 2023, after responding to the FMIT comments via letter, FHWA provided a revised consultation letter to the California SHPO (CA SHPO) again requesting concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, the CA SHPO provided concurrence on the determinations of eligibility, but requested additional consultation, identification, and evaluation efforts before concurring on FHWA's proposed finding of effect. In response to the CA SHPO's requests, FHWA submitted an Addendum FOE for CA SHPO review June 28, 2023. Following a meeting with CA SHPO, the Fort Mojave Tribe, FHWA and Caltrans on July 19, 2023, the CA SHPO responded with a consultation letter July 21, 2023, recommending that FHWA address the tangible and intangible elements associated with CA-SBR-000219 (Topock Maze) that may make the property significant under NRHP Criterion A as a Traditional Cultural Property (TCP) as part of FHWA's efforts to identify historic properties within the APE. Absent this information, the SHPO is unable to agree with FHWA's finding of effect as the results of these further efforts are necessary for FHWA to adequately assess effects resulting from the undertaking.

FHWA has taken information provided by the Tribe at our July 19, 2023, meeting and comments from CA SHPO office into consideration. In so doing, FHWA with the assistance of Caltrans has reexamined the inventory, evaluation, and effect finding efforts for the Undertaking. The results of these efforts are detailed in the enclosed Addendum Historic Property Survey Report and Finding of Effect (July 2023) and consist of the following:

- The APE has been expanded to encompass the elements of the Topock TCP in proximity to the ADI (36 CFR §800.4(a)).
- Based on information provided by the Fort Mojave Tribe, Caltrans proposes that the Topock Traditional Cultural Property, as defined by the Tribe and of which Topock Maze is an integral part, is eligible for the NRHP under Criteria A and D (36 CFR §800.4(c)).
- FHWA in cooperation with Caltrans and Arizona Department of Transportation (ADOT) has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the Undertaking will result in a **finding of Adverse Effect** on CA-SBR-219 / Topock Maze and Topock Traditional Cultural Property under Alternatives 1, 2, and 3. The Undertaking will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (no build) (36 CFR §800.5).

The enclosed 2023 Addendum and above-referenced findings pertain to cultural resources located in California. However, the proposed finding is for the Undertaking as a whole.

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of Adverse Effect for the Undertaking (36 CFR §800.5)

FHWA will continue consultation with your office, the CA SHPO, FMIT, and any other interested consulting parties regarding resolution of adverse effects pursuant to 36 CFR 800.6 through preparation of an MOA.

Due to project funding deadlines and to the close and extensive on-going consultation among the Fort Mojave Indian Tribe, FHWA, Caltrans, and the CA SHPO since 2020, FHWA is requesting an accelerated review of 15 days on these revised determinations and findings for the Undertaking documented in the enclosed July 2023 Addendum. FHWA is concurrently submitting the July 2023 Addendum to the CA SHPO, as well as FMIT with the same request as well as providing notification to consulting parties and the ACHP regarding the change in project finding.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Historic Property Survey Report and Finding of Adverse Effect Nyo-Haive-Kee-Matche-Eve (CA-SBR-219 Topock Maze) for I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation*
July 2023



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 4, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
SHPO-2020-0838 (165366)

Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona SHPO-2020-0838 (165366)

Attention: Mary-Ellen Walsh and David Jacobs

This correspondence supersedes our letter dated August 1, 2023

The Federal Highway Administration (FHWA) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding the proposed Colorado River Bridge Replacement Project in San Bernardino County, California and Mojave County, Arizona (Undertaking).

FHWA initiated consultation regarding the proposed Undertaking with your office via letter on August 16, 2022, requesting concurrence on adequacy of identification efforts, APE Delineation, and FHWA's Finding of No Adverse Effect for the Undertaking. On September 14, 2022, your office replied with concurrence with FHWA's efforts for the Undertaking.

On September 15, 2022, FHWA/Caltrans received a letter from the Fort Mojave Indian Tribe (FMIT) disagreeing with the findings for the Undertaking.

On January 23, 2023, FHWA provided a revised consultation letter requesting CA SHPO concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, the CA SHPO's office provided concurrence on the determinations of eligibility, but requested additional consultation, identification, and evaluation efforts before concurring on FHWA's proposed finding of effect. In response to the SHPOs requests, FHWA submitted an Addendum FOE for CA SHPO review June 28, 2023. Follow a meeting with CA SHPO office, the Fort Mojave Tribe (FMIT), FHWA and Caltrans on July 19, 2023, your office responded with a consultation letter July 21, 2023, recommending that FHWA address the tangible and intangible elements associated with CA-SBR-219 that may make the property significant under National Register Criterion A as a traditional cultural property (TCP). Absent this information, the CA SHPO is unable to comment on FHWA's finding of effect as the results of these further efforts are necessary for FHWA to adequately assess effects resulting from the undertaking.

FHWA has taken information provided by the Tribe at our July 19, 2023, meeting and comments from CA SHPO office into consideration. In so doing, FHWA with the assistance of Caltrans and ADOT have reexamined the inventory, evaluation, and effect finding efforts for the Undertaking. The results of these efforts are detailed in the enclosed Addendum Historic Property Survey Report and Finding of Effect (July 2023) and consist of the following:

- The Federal Highway Administration has identified one additional historic property in the APE: The Topock Maze Traditional Cultural Property (TCP). The TCP is bounded by the APE of the Undertaking and includes previously recorded archaeological site CA-SBR-219, as well as the entirety of the Area of Direct Impacts. Please refer to Attachment A of the enclosed Addendum FOE for detailed mapping. Based on information provided by the Fort Mojave Indian Tribe, FHWA has determined that the Topock Maze TCP is eligible for the National Register under Criteria A and D (36 CFR §800.4(c)).
- FHWA has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the Undertaking will result in a **finding of Adverse Effect** on the Topock Maze TCP under Alternatives 1, 2, and 3 of the Undertaking. The Undertaking will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (no build).

The enclosed 2023 Addendum and above-referenced findings pertain to cultural resources located in California. However, the proposed finding is for the Undertaking as a whole.

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of Adverse Effect for the Undertaking (36 CFR §800.5)

FHWA will continue consultation with your office, the CA SHPO, FMIT, and any other interested consulting parties regarding resolution of adverse effects pursuant to 36 CFR 800.6 through preparation of an MOA.

Due to project funding deadlines and to the close and extensive on-going consultation among the Fort Mojave Indian Tribe, FHWA, Caltrans, and the CA SHPO since 2020, FHWA is requesting an accelerated review of 15 days on these revised determinations and findings for the Undertaking documented in the enclosed July 2023 Addendum. FHWA is concurrently submitting the July 2023 Addendum to the CA SHPO, as well as FMIT with the same request as well as providing notification to consulting parties and the ACHP regarding the change in project finding.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Historic Property Survey Report and Finding of Adverse Effect Nyo-Haive-Kee-Matche-Eve (CA-SBR-219 Topock Maze) for I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation August 2023*



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 3, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
FHWA_2022_0818_001

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona FHWA_2022_0818_001

Attention: Shannon Pries

This correspondence supersedes our letter dated August 1, 2023

The Federal Highway Administration (FHWA) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding the proposed Colorado River Bridge Replacement Project in San Bernardino County, California and Mojave County, Arizona (Undertaking).

On January 23, 2023, FHWA provided a revised consultation letter requesting SHPO concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, your office provided concurrence on the determinations of eligibility, but requested additional consultation, identification, and evaluation efforts before concurring on FHWA's proposed finding of effect. In response to the SHPO's requests, FHWA submitted an Addendum FOE for your review June 28, 2023. Following a meeting with your office, the Fort Mojave Tribe (FMIT), FHWA and Caltrans on July 19, 2023, your office responded with a consultation letter July 21, 2023, recommending that FHWA address the tangible and intangible elements associated with CA-SBR-000219 that may make the property significant under National Register Criterion A as a traditional cultural property (TCP). Absent this information, the SHPO is unable to comment on FHWA's finding of effect as the results of these further efforts are necessary for FHWA to adequately assess effects resulting from the undertaking.

FHWA has taken information provided by the Tribe at our July 19, 2023, meeting and comments from your office into consideration. In so doing, FHWA with the assistance of Caltrans has reexamined the inventory, evaluation, and effect finding efforts for the Undertaking. The results of these efforts are detailed in the enclosed Addendum Historic Property Survey Report and Finding of Effect (FOE) (August 2023) and consist of the following:

- The Federal Highway Administration has identified one additional historic property in the APE: The Topock Maze Traditional Cultural Property (TCP). The TCP is bounded by the APE of the Undertaking and includes previously recorded archaeological site CA-SBR-219 Locus A, as well as the entirety of the Area of Direct Impacts. Please refer to Attachment A of the enclosed Addendum FOE for detailed mapping. Based on information provided by the Fort Mojave Indian Tribe, FHWA has determined that the Topock Maze TCP is eligible for the National Register under Criteria A and D (36 CFR §800.4(c)).
- FHWA has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the Undertaking will result in a **finding of Adverse Effect** on the Topock Maze TCP under Alternatives 1, 2, and 3 of the Undertaking. The Undertaking will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (no build).

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of historic properties located within the APE (36 CFR §800.4(b)).
- Evaluation of historic properties (36 CFR §800.4(c))
- Proposed finding of Adverse Effect for the Undertaking (36 CFR §800.5)

FHWA will continue consultation with your office, FMIT, and any other interested consulting parties regarding resolution of adverse effects pursuant to 36 CFR 800.6 through preparation of an MOA.

Due to project funding deadlines and to the close and extensive on-going consultation among the Fort Mojave Indian Tribe, FHWA, Caltrans, and your Office since 2020, FHWA is requesting an accelerated review of 15 days on these revised determinations and findings for the Undertaking documented in the enclosed August 2023 Addendum. FHWA is concurrently submitting the August 2023 Addendum to the Arizona SHPO, as well as FMIT with the same request as well as providing notification to consulting parties and the ACHP regarding the change in project finding.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Historic Property Survey Report and Finding of Adverse Effect Nyo-Haive-Kee-Matche-Eve (CA-SBR-219 Topock Maze) for I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation August 2023*



**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

August 15, 2023

VIA EMAIL

In reply refer to: FHWA_2022_0818_001

Mr. Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration, California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Subject: Continuing Consultation on the Finding of No Adverse Effect for the Colorado River Bridge Replacement Project, San Bernardino County, California and Mojave County, Arizona.

Dear Mr. Oliver:

The State Historic Preservation Officer (SHPO) is in receipt of a consultation letter dated August 3, 2023, from the Federal Highway Administration (FHWA), California Division for the above referenced undertaking. FHWA is continuing consultation with the SHPO in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended), and its implementing regulation at 36 CFR Part 800.

Via letter dated July 21, 2023, the SHPO was unable to agree with FHWA's finding of no adverse effect for the undertaking. The SHPO commented that it appeared that the area of potential effects (APE) contains tangible and intangible elements associated with the historic property, CA-SBR-000219, that FHWA had yet to identify in the APE. The SHPO further commented that these yet identified elements may make the property significant under National Register of Historic Places (NRHP) Criterion A, specifically as a traditional cultural property (TCP). Absent this information, the SHPO was unable to agree with FHWA's finding that the undertaking would not result in adverse effects to historic properties.

In response to the SHPO's July 21st letter, FHWA has enclosed the August 2023 Addendum to the Historic Property Survey Report (HPSR) and Finding of Adverse Effect (FAE) for the *Nyo-Haive-Kee-Matche-Eve* (CA-SBR-219 Topock Maze) with their August 3rd letter. Due to project funding deadlines, FHWA is concurrently consulting with the California SHPO, Arizona SHPO, and the Fort Mojave Indian Tribe on the Addendum to the HPSR and FAE. FHWA has requested an expedited review of 15 days and is seeking SHPO comment on the following:

- Delineation of the APE for the undertaking (36 CFR § 800.4(a)).
- Identification of historic properties located within the APE (36 CFR § 800.4(b)).
- Determination of eligibility of CA-SBR-219 Topock Maze/Topock TCP under NRHP Criteria A and Criteria D (36 CFR § 800.4(c))
- Finding of adverse effect for the undertaking (36 CFR § 800.5)

The Addendum to the HPSR and FAE includes FHWA's evaluation of CA-SBR-219, the agency's assessment of adverse effects to historic properties and their overall effect finding for the undertaking. FHWA's efforts have occurred in consultation with the Fort Mojave Indian Tribe, and these efforts are documented in the Addendum to the HPSR and FAE. The SHPO has reviewed the documentation submitted and has the following comments:

SHPO Comments on FHWA's APE Delineation

The SHPO reviewed FHWA's APE delineation in earlier consultation with the agency and found it to be sufficient on March 3, 2022. FHWA's APE delineation remains unchanged since earlier consultation, and the SHPO continues to find the APE to be commensurate with the scope and scale of the undertaking's potential to effect historic properties.

SHPO Comments on FHWA's Efforts to Identify Historic Properties in the APE

Based on consultation with the Fort Mojave Indian Tribe (Tribe), FHWA has identified tangible and intangible elements within the APE that are part of a large traditional cultural property identified by the Tribe as the Topock Maze/Topock TCP and whose boundaries extend well beyond the undertaking's APE. The Addendum to the HPSR and FAE provides a description of the broader TCP as described by the Tribe in consultation with FHWA. FHWA acknowledges the interconnectedness of all the tangible and intangible elements described by the Tribe that make up the entirety of the TCP. However, given the enormity of the TCP relative to the scope and scale of the undertaking, FHWA's efforts focused on the portion of this much broader TCP solely within the APE.

The existing historic property, CA-SBR-219 within the APE is currently listed on the NRHP under Criterion D for its potential to yield important archaeological information. CA-SBR-219 consists of a complex of three loci (Locus A, B and C) containing intaglio or geoglyphs. Only Locus A is within the APE and is located outside and immediately to the southwest of the APE's area of direct impact (ADI). As described in the Addendum to the HPSR and FAE, FHWA has expanded the boundary of CA-SBR-219, Locus A to include the entire boundary of the APE. This boundary revision is to acknowledge the interconnectedness of all the tangible and intangible elements within the TCP and their significance within the cultural and religious worldview of the Mojave People (Tribe). FHWA has evaluated the portion of CA-SBR-219 (Topock Maze/Topock TCP) located

within the APE and has determined it eligible under NRHP Criteria A and Criteria D. I concur with this determination.

SHPO Comments on FHWA's Finding of Adverse Effect

FHWA has applied the criteria of adverse effect and has determined that the additional historic properties within the APE that the SHPO consulted on March 3, 2023 will not be adversely affected by the undertaking. The SHPO agrees that the undertaking will not result in adverse effects to CA-SBR-1191/H, National Old Trails Highway/ Route 66 (NOTH/66), CA-SBD-6693H/AZ I: 14:334 Burlington Northern Santa Fe/Atchison Topeka and Santa Fe Railroad, and P-36-027678 the Old Trails Arch Bridge.

In applying the criteria of adverse effects to Topock Maze/Topock TCP, FHWA finds that direct and indirect effects will occur during construction activities to specific tangible and intangible contributors to the Topock Maze/Topock TCP's eligibility under NRHP Criteria A. Direct physical effects to the Topock Maze geoglyph (Locus A) and the other archaeological components of the Topock Maze/Topock TCP that contribute to the property's eligibility under NRHP Criterion D will be avoided through the establishment of environmentally sensitive areas (ESAs). However, adverse effects to the intangible relationship of the Topock Maze geoglyph and the other archaeological components that contribute to the TCP's eligibility under NRHP Criterion A will result from the undertaking. FHWA has determined the direct and indirect adverse effects to be cumulative as they will contribute to the continual modification of the existing landscape which is an integral part of the Topock Maze/Topock TCP's eligibility under NRHP Criterion A. The Addendum to the HPSR and FAE discusses in detail the effect of the undertaking on the individual tangible and intangible contributors to the TCP's eligibility under Criteria A and D of the NRHP.

FHWA has determined that the undertaking will result in adverse effects to the Topock Maze/Topock TCP. The SHPO agrees with FHWA's finding of adverse effect.

The SHPO acknowledges FHWA's proposal to continue consultation on the development of a memorandum of agreement (MOA) with the SHPO and other consulting parties. FHWA has also listed conditions to avoid adverse effects to CA-SBR-11910/H, Locus A of the Topock Maze/Topock TCP and the NOTH/66 in the Addendum to the HPSR and FAE. The SHPO requests that the conditions listed in the Addendum to the HPSR and FAE be included in the future MOA. It is also requested that the MOA include a process to update the existing site record for CA-SBR-219 to include the Locus A boundary expansion and the property's determination of NRHP eligibility under Criteria A and Criteria D. Once finalized, the updated site record should be submitted to the appropriate Information Center.

Please note that because FHWA is concurrently consulting with all parties, the SHPO provides the above comments without the benefit of knowing the results of FHWA's consultation with the other parties on the agency's findings presented in the Addendum

Mr. Oliver
August 15, 2023
Page 4 of 4

FHWA_2022_0818_001

to the HPSR and FAE. The SHPO therefore requests that FHWA keep the SHPO apprised of all consulting party comments. Contingent on consulting party comments, the SHPO may have additional comments.

If you have any questions, please contact Associate State Archaeologist Alicia Perez at alicia.perez@parks.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Julianne Polanco', with a long horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 4, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
SHPO-2020-0838 (165366)

Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona SHPO-2020-0838 (165366)

Attention: Mary-Ellen Walsh and David Jacobs

This correspondence supersedes our letter dated August 1, 2023

The Federal Highway Administration (FHWA) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding the proposed Colorado River Bridge Replacement Project in San Bernardino County, California and Mojave County, Arizona (Undertaking).

FHWA initiated consultation regarding the proposed Undertaking with your office via letter on August 16, 2022, requesting concurrence on adequacy of identification efforts, APE Delineation, and FHWA's Finding of No Adverse Effect for the Undertaking. On September 14, 2022, your office replied with concurrence with FHWA's efforts for the Undertaking.

On September 15, 2022, FHWA/Caltrans received a letter from the Fort Mojave Indian Tribe (FMIT) disagreeing with the findings for the Undertaking.

On January 23, 2023, FHWA provided a revised consultation letter requesting CA SHPO concurrence on determinations of eligibility and finding of effect for the Undertaking. On March 3, 2023, the CA SHPO's office provided concurrence on the determinations of eligibility, but requested additional consultation, identification, and evaluation efforts before concurring on FHWA's proposed finding of effect. In response to the SHPOs requests, FHWA submitted an Addendum FOE for CA SHPO review June 28, 2023. Follow a meeting with CA SHPO office, the Fort Mojave Tribe (FMIT), FHWA and Caltrans on July 19, 2023, your office responded with a consultation letter July 21, 2023, recommending that FHWA address the tangible and intangible elements associated with CA-SBR-219 that may make the property significant under National Register Criterion A as a traditional cultural property (TCP). Absent this information, the CA SHPO is unable to comment on FHWA's finding of effect as the results of these further efforts are necessary for FHWA to adequately assess effects resulting from the undertaking.

FHWA has taken information provided by the Tribe at our July 19, 2023, meeting and comments from CA SHPO office into consideration. In so doing, FHWA with the assistance of Caltrans and ADOT have reexamined the inventory, evaluation, and effect finding efforts for the Undertaking. The results of these efforts are detailed in the enclosed Addendum Historic Property Survey Report and Finding of Effect (July 2023) and consist of the following:

- The Federal Highway Administration has identified one additional historic property in the APE: The Topock Maze Traditional Cultural Property (TCP). The TCP is bounded by the APE of the Undertaking and includes previously recorded archaeological site CA-SBR-219, as well as the entirety of the Area of Direct Impacts. Please refer to Attachment A of the enclosed Addendum FOE for detailed mapping. Based on information provided by the Fort Mojave Indian Tribe, FHWA has determined that the Topock Maze TCP is eligible for the National Register under Criteria A and D (36 CFR §800.4(c)).
- FHWA has applied the Criteria of Adverse Effect in 36 CFR 800.5(a) and has determined that the Undertaking will result in a **finding of Adverse Effect** on the Topock Maze TCP under Alternatives 1, 2, and 3 of the Undertaking. The Undertaking will result in a finding of No Historic Properties Affected for this historic property under Alternative 4 (no build).

The enclosed 2023 Addendum and above-referenced findings pertain to cultural resources located in California. However, the proposed finding is for the Undertaking as a whole.

At this time, FHWA requests your concurrence regarding the adequacy of the following:

- Delineation of the APE for the undertaking (36 CFR §800.4(a)).
- Identification of historic properties located within the undertaking's APE (36 CFR §800.4(b)).
- Evaluation of resources (36 CFR §800.4(c))
- Proposed finding of Adverse Effect for the Undertaking (36 CFR §800.5)

FHWA will continue consultation with your office, the CA SHPO, FMIT, and any other interested consulting parties regarding resolution of adverse effects pursuant to 36 CFR 800.6 through preparation of an MOA.

Due to project funding deadlines and to the close and extensive on-going consultation among the Fort Mojave Indian Tribe, FHWA, Caltrans, and the CA SHPO since 2020, FHWA is requesting an accelerated review of 15 days on these revised determinations and findings for the Undertaking documented in the enclosed July 2023 Addendum. FHWA is concurrently submitting the July 2023 Addendum to the CA SHPO, as well as FMIT with the same request as well as providing notification to consulting parties and the ACHP regarding the change in project finding.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Steven Holm, Acting Branch Chief, Caltrans District 8
Gary Jones, District Native American Coordinator, Caltrans District 8

Enclosure: *Addendum Historic Property Survey Report and Finding of Adverse Effect Nyo-Haive-Kee-Matche-Eve (CA-SBR-219 Topock Maze) for I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation August 2023*

Arizona SHPO has no concerns regarding the revised APE nor Adverse Effects to historic properties in Arizona.

We defer to California SHPO on the resolution of Adverse Effects to historic properties in California, and look forward to participating in continuing consultation on the Memorandum of Agreement.



**28 August 2023
Arizona State Historic Preservation Office**



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

August 28, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
FHWA_2022_0818_001

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona FHWA_2022_0818_001

Attention: Shannon Pries

The Federal Highway Administration (FHWA) is continuing consultation with the California State Historic Preservation Office (SHPO) regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California and Mohave County, Arizona. Consultation will occur under the National Historic Preservation Act (NHPA) implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

Please find the enclosed draft Memorandum of Agreement (MOA) prepared in support of the Undertaking for your review and comment.

In coordination with California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes a Project to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, AZ (Project). There are currently four (4) alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment, the second is replace the bridge slightly to the north of the current alignment, the third is the replace the bridge slightly to the south, and the fourth is the no build alternative.

In accordance with 36 CFR § 800.6 (c), FHWA proposes to resolve adverse effects by entering into the attached MOA. FHWA proposed a Finding of Adverse Effect to your office on August 8, 2023. The SHPO replied on August 15, 2023, agreeing with this finding.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Andrew Walters, Caltrans Senior Environmental Planner (Phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). We look forward to implementing this MOA and resolving the effects of the Undertaking.

Shawn E. Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

CC: Brian James, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Gary Jones, District Native American Coordinator, Caltrans District 8
Steven Holm, Associate Environmental Planner, Caltrans District 8

enc. *Draft Memorandum Agreement for the I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona. Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation*

Vincent P. Mammano
Division Administration
Federal Highway Administration



October 11, 2023

Shawn Oliver
Federal Highway Administration
California Division
650 Capitol Mall, Ste. 4-100
Sacramento, CA 9584-4708

Ref: *Colorado River Bridge Replacement Project*
San Bernardino County, California and Mohave County, Arizona
California BR. No. 54-0415; Arizona Bridge No. 957
ACHP Project Number: 20043

Dear Ms. Oliver:

On September 13, 2023, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Because the ACHP did not respond within 15 days with a decision regarding our nonparticipation, the ACHP assumes that the Federal Highway Administration has continued the consultation to resolve adverse effects.

However, if we receive a request for participation from the Arizona and the California State Historic Preservation Officer's (SHPO's), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to 36 CFR § 800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Arizona and the California SHPO's and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

If you have any questions or require our further assistance, please contact Ms. Emily Choi at (202) 517-0207 or by e-mail at echoi@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

October 16, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
SHPO-2020-0838 (165366)

Kathryn Leonard
State Historic Preservation Officer
1100 W. Washington Street, Suite 100
Phoenix, AZ 85007

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona SHPO-2020-0838 (165366)

Attention: Kim Ryan and Mary-Ellen Walsh

The Federal Highway Administration (FHWA) is continuing consultation with the Arizona State Historic Preservation Office (SHPO) regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California, and Mohave County, Arizona. Consultation will occur under the National Historic Preservation Act (NHPA) implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

In coordination with California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes a Project to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, Arizona. There are currently four alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment; the second is to replace the bridge slightly to the north of the current alignment; the third is to replace the bridge slightly to the south; and the fourth is the no build alternative.

In accordance with 36 CFR § 800.6 (c), FHWA proposes to resolve adverse effects by entering into the attached MOA. FHWA proposed a Finding of Adverse Effect to your office on August 8, 2023. The SHPO replied on August 28, 2023, with no concerns with this finding. A draft version of the MOA was transmitted August 29, 2023, and comments were received on September 11, 2023. All submitted comments have been addressed. A second draft of the MOA was submitted on September 25, 2023, and comments were received on October 10, 2023. All submitted comments have been addressed.

Tribal concerns have been addressed from both the Fort Mojave Indian Tribe (FMIT) and the Yavapai-Prescott Indian Tribe. Many of the FMIT's comments are related to the effects of the Undertaking on the identified Topock Traditional Cultural Property (TCP). These important cultural values were first discussed and captured in the Finding of Effect document (FOE) for the Undertaking. As part of Stipulation II.A of the MOA, the TCP nomination packet (Attachment C) will expand on the scope, scale, history, and historical effects to the TCP. The FMIT also

provided a number of Whereas clauses which have been added to the MOA which focus on the Tribe's intimate relationship with the TCP. The FMIT has also requested to be included in the consultation process and FHWA is committed to continuing consultation with our partners throughout the life of the Project including addressing any additional concerns that may arise. To acknowledge this special partnership and open communication, FMIT has been included as an Invited Signatory to this MOA.

We are pleased to provide the enclosed Final Draft Memorandum of Agreement (MOA) for signature. All attachments, as well as word documents with the addressed track changes and the response to comment matrix are provided in support of your review and signature.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Tracey D'Aoust Roberts, Office Chief Environmental Planning (Phone: 909-501-5806; email: tracey.daoust.roberts@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn E. Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

CC: Kimberly Wooten, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Gary Jones, District Native American Coordinator, Caltrans District 8
Steven Holm, Associate Environmental Planner, Caltrans District 8

enc. *Final Draft Memorandum Agreement and Attachments for the I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona. Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation*



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

October 16, 2023

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

In Reply, Refer To:
FHWA_2022_0818_001

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

RE: Continuation of Consultation for the I-40 Colorado River Bridge Replacement Project San Bernardino County, California and Mojave County, Arizona FHWA_2022_0818_001

Attention: Shannon Pries

The Federal Highway Administration (FHWA) is continuing consultation with the California State Historic Preservation Office (SHPO) regarding the proposed Colorado River Bridge Replacement Project (Project) in San Bernardino County, California, and Mohave County, Arizona. Consultation will occur under the National Historic Preservation Act (NHPA) implementation regulations 36 CFR § 800 as the project is FHWA retained and crosses state lines between California and Arizona.

In coordination with California Department of Transportation (Caltrans) and the Arizona Department of Transportation (ADOT), FHWA proposes a Project to replace the Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line on Interstate 40 (I-40) near Topock, Arizona. There are currently four alternatives under consideration for the bridge replacement: the first is to replace the bridge on the existing alignment; the second is replace the bridge slightly to the north of the current alignment; the third is the replace the bridge slightly to the south; and the fourth is the no build alternative.

In accordance with 36 CFR § 800.6 (c), FHWA proposes to resolve adverse effects by entering into the attached MOA. FHWA proposed a Finding of Adverse Effect to your office on August 8, 2023. The SHPO replied on August 15, 2023, concurring with this finding. A draft version of the MOA was transmitted August 29, 2023, and comments were received on September 12, 2023. All submitted comments have been addressed. A second draft of the MOA was submitted on September 25, 2023, and comments were received on October 4 and October 5, 2023. All submitted comments have been addressed.

Tribal concerns have been addressed from both the Fort Mojave Indian Tribe (FMIT) and the Yavapai-Prescott Indian Tribe. Many of the FMIT's comments are related to the effects of the Undertaking on the identified Topock Traditional Cultural Property (TCP). These important cultural values were first discussed and captured in the Finding of Effect document (FOE) for the Undertaking. As part of Stipulation II.A of the MOA, the TCP nomination packet

(Attachment C) will expand on the scope, scale, history, and historical effects to the TCP. The FMIT also provided a number of Whereas clauses which have been added to the MOA which focus on the Tribe's intimate relationship with the TCP. The FMIT has also requested to be included in the consultation process and FHWA is committed to continuing consultation with our partners throughout the life of the Project including addressing any additional concerns that may arise. To acknowledge this special partnership and open communication, FMIT has been included as an Invited Signatory to this MOA.

We are pleased to provide the enclosed Final Draft Memorandum of Agreement (MOA) for signature. All attachments, as well as word documents with the addressed track changes and the response to comment matrix are provided in support of your review and signature.

If you have any questions, please contact Shawn Oliver FHWA Senior Environmental Specialist (Phone: 916-498-5048; email: Shawn.Oliver@dot.gov), or Tracey D' Aoust Roberts, Office Chief Environmental Planning (Phone: 909-501-5806; email: tracey.daoust.roberts@dot.ca.gov). Thank you for your assistance with this undertaking.

Shawn E. Oliver

Shawn Oliver
Senior Environmental Specialist
Federal Highway Administration

- c. Kimberly Wooten, Section 106 Coordinator, Division of Environmental Analysis, HQ
Shawn Oliver, Environmental Specialist, FHWA, California Division
Gary Jones, District Native American Coordinator, Caltrans District 8
Steven Holm, Associate Environmental Planner, Caltrans District 8

enc. *Final Draft Memorandum Agreement and Attachments for the I-40 Colorado River Bridge Replacement Project, San Bernardino County, California, and Mohave County, Arizona. Federal Highway Administration, Caltrans District 8, Arizona Department of Transportation*

Appendix H Memorandum of Agreement

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND THE
ARIZONA STATE PRESERVATION OFFICER REGARDING THE COLORADO RIVER
BRIDGE REPLACEMENT PROJECT, IN SAN BERNARDINO COUNTY, CALIFORNIA
AND MOHAVE COUNTY, ARIZONA**

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the California Department of Transportation (Caltrans) District 8 and the Arizona Department of Transportation (ADOT), proposes to replace the I-40 Colorado River Bridge (California BR. No. 54-0415, Arizona Bridge No. 957) spanning the California/Arizona state line near Topock, Arizona (Undertaking). **Attachment B** to this Memorandum of Agreement (MOA) provides a detailed project description; and

WHEREAS, FHWA is providing funding for the Undertaking and is the lead federal agency for the purpose of reviewing the effects on historic properties under Section 106 of the National Historic Preservation Act of 1966 (NHPA) (54 U.S.C. 306108) and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800; and

WHEREAS, the Area of Potential Effects (APE) for the Undertaking, included as **Attachment A**, is located on Interstate 40 between postmiles 153.9 to 154.7 in California and between postmiles 0.0 to 0.6 in Arizona, and the vertical extent of the APE is generally four feet below ground level for the roadbed, and includes maximum existing or proposed rights-of-way for the Undertaking, easements (temporary or permanent), all improved properties subject to temporary or permanent changes in access (ingress and egress), and areas where visual changes could occur outside the required right-of-way; and

WHEREAS, FHWA has determined, and State Historic Preservation Officers of California and Arizona (SHPOs) have concurred, that there are six (6) historic properties within or partially within the APE: CA-SBR-219 (Topock Traditional Cultural Property); CA-SBR-11910/H (multicomponent site); AZ L:7:81 (ASM) (lithic scatter); CA-SBR-2910 and AZ I:15:156 (ASM) (National Old Trails Highway/Route 66); CA-SBR-6693H/AZ I:14:334 (Atchison Topeka & Santa Fe Railroad/Burlington Northern Santa Fe Railroad); and P-36-027678 (Old Trails Arch Bridge); and

WHEREAS, FHWA has determined that the Undertaking will have an adverse effect on the Topock Traditional Cultural Property (CA-SBR-219), a property determined eligible for listing on the National Register of Historic Places (NRHP) under Criteria A and D; and

WHEREAS, FHWA has determined, and the SHPOs of California and Arizona have concurred that the Undertaking will not adversely affect CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway/Route 66, CA-SBR-6693H/AZ I:14:334 (Atchison Topeka & Santa Fe Railroad/Burlington Northern Santa Fe Railroad), and P-36-027678 (Old Trails Arch Bridge); and

WHEREAS, FHWA has determined, and the SHPOs of California and Arizona have concurred that FHWA and Caltrans will avoid adverse effects to CA-SBR-11910/H and AZ L:7:81 (ASM), through the implementation of an Environmentally Sensitive Area Action Plan, included in **Attachment E**; and

WHEREAS, FHWA has consulted with the California and Arizona SHPOs, pursuant to 36 CFR Part 800, and notified the Advisory Council on Historic Preservation (ACHP) on August 1, 2023, of the adverse effects finding (Finding of Effects) pursuant to 36 CFR Part 800.6(a)(1); and has invited them to participate in the development and execution of this MOA, with no response received from the ACHP; and

WHEREAS, the California and Arizona SHPOs are authorized to enter into this MOA in order to fulfill their respective roles in advising and assisting federal agencies in carrying out their responsibilities under Section 106 of the NHPA (36 CFR Parts 800.2[c][1][i] and 800.6[b]), and both SHPOs are Signatories to this MOA; and

WHEREAS, the Arizona SHPO has expressed no concerns regarding potential adverse effects to historic properties in Arizona and has deferred to the California SHPO on appropriate resolution of adverse effects for historic properties in California; and

WHEREAS, the California SHPO concurred with the potential adverse effects to historic properties in California and has deferred to the Arizona SHPO on appropriate resolution of adverse effects for historic properties in Arizona; and

WHEREAS, FHWA, in consultation with the California and Arizona SHPOs, has thoroughly considered alternatives to the Undertaking, has determined that the Undertaking's adverse effects cannot be avoided as the affected property is within the boundaries of all four alternatives, and that implementation of the measures set forth in Stipulation II of this MOA will satisfactorily take into account the Undertaking's adverse effects on the historic properties; and

WHEREAS, FHWA has consulted with the Army Corps of Engineers, the Arizona State Museum, the Arizona Historical Society, the Lake Havasu Bureau of Land Management, the California Historic Route 66 Association, the California Route 66 Preservation Foundation, the California State Lands Commission, the Mohave Museum of History and Arts, the Mojave River Valley Museum, the National Park Service, the National Historic Route 66 Federation, the Needles Regional Museum, Pacific Gas and Electric Company, the Route 66 Historical Association, the San Bernardino Historical Society, the United States Coast Guard, and the U.S. Fish and Wildlife Service regarding the Undertaking and its adverse effect on the subject historic property; and

WHEREAS, FHWA has consulted with the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Hopi Tribe, the Hualapai Tribe, the Moapa Band of Paiute Indians, the Fort Yuma Quechan Tribe, the Twenty-Nine Palms Band of Mission Indians, and the Yavapai-Prescott Indian Tribe (collectively, Tribes) and invited them to participate in this MOA as Concurring Parties; and

WHEREAS, FHWA is consulting with the Fort Mojave Indian Tribe (FMIT) regarding their traditional, spiritual, and cultural relationship with the Topock Traditional Cultural Property, and has invited them to participate in this MOA as an Invited Signatory; and

WHEREAS, the FMIT having accepted the invitation to participate in development of this MOA, are referred to as an Invited Signatory to this agreement; and

WHEREAS, from the FMIT's perspective, physical and cultural landscapes within this region provide a sense of place and identity which contributes to their relationship to their homeland; and

WHEREAS, FMIT history and what they experienced as a people from the time of first contact did not take from them the spirit of who they always have been; and

WHEREAS, the FMIT people's resilience and deep cultural identity prevail because their ancestral homelands, which is the essence of who they are, was given to them by their Creator, *Matavilya*, which cannot be taken away or assimilated; and

WHEREAS, as an invited Signatory, FMIT's responsibilities will continue to be as stewards of this region, and while these homelands are currently in the stewardship of several Federal agencies and private landowners, the *Aha Makav* are also stewards of these lands; and

WHEREAS, in order to protect their traditions, cultural values, and spiritual ways, be it known that, all *Aha Makav* carry knowledge from the past, and it is acknowledged that they will continue to pass on this knowledge to their children ensuring their rights and responsibilities as their ancestors have done from time immemorial and therefore, they remain to this present day, *Aha Makav*, the People of the River; and

WHEREAS, all Signatory and Invited Signatory parties recognize the importance of the cultural landscape, in particular the Topock Traditional Cultural Property (TCP) to the FMIT and have, in partnership, designed stipulations intended to acknowledge these cultural values, as well as the tangible and intangible cumulative impacts from regional development over time, as captured in the Topock TCP nomination research (Stipulation II.A.); and

WHEREAS, Caltrans District 8 and ADOT have participated in the consultation and have responsibilities to fulfill under Stipulations II, III and IV of this MOA and have been invited to participate in this MOA as Invited Signatories; and

WHEREAS, in accordance with the ACHP's *Guidance on Agreement Documents: Executing Agreement Documents*, the refusal of an Invited Signatory or Concurring Party to sign this MOA does not prevent it from being executed. However, this MOA cannot impose a duty or responsibility on any party that has not signed it; and

WHEREAS, no provision of the MOA shall be construed by any of the Signatories, Invited Signatories, or Concurring Parties (collectively, consulting parties) as abridging or debilitating any sovereign powers of individual tribes, affecting the trustee-beneficiary relationship between the Secretary of Interior (SOI) and the Tribes, or interfering with the government-to-government relationship between the Federal government and the Tribes; and

WHEREAS, FHWA retains responsibility for government-to-government consultation with Tribes and Tribes may engage FHWA at any time; and

WHEREAS, Consulting Parties' participation in and/or signature of this MOA does not constitute any individual nor collective approval of the Undertaking itself.

NOW, THEREFORE, FHWA and the California and Arizona SHPOs agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all of its parts until this MOA expires, is amended, or terminated.

STIPULATIONS

FHWA shall ensure that the following measures are implemented:

I. AREA OF POTENTIAL EFFECTS

- A. The APE for the Undertaking is depicted in Attachment A to this MOA. FHWA established the APE to account for all direct and indirect effects to historic properties as a result of the Undertaking. The APE is located on Interstate 40 between postmiles 153.9 to 154.7 in California and between postmiles 0.0 to 0.6 in Arizona. The vertical extent of the APE is generally four feet below ground level for the roadbed. The maximum depth of the APE is 110 feet below ground level for the piles and bents within the Colorado River for the new bridge.

The maximum vertical extent of the APE is 45 feet above the original bridge deck to account for lighting, barriers, and signs on the new bridge deck.

- B. If modifications to the Undertaking subsequent to the execution of this MOA necessitate the revision of the APE, FHWA shall consult with the Signatory and Invited Signatory parties of this MOA to facilitate mutual agreement on the subject revisions for no more than 15 calendar days. If FHWA, the SHPOs, and other signatories and invited signatories cannot reach such agreement, then the signatory and invited signatory parties to this MOA shall resolve the dispute in accordance with Stipulation IV.B below. If FHWA and the signatory and invited signatory parties reach mutual, written agreement on the proposed revisions, then FHWA will submit a final map of the revisions, consistent with the requirements of 36 CFR Part 800.6(c)(7), to the signatory and invited signatory parties no later than 30 days following such agreement. Any additional identification, evaluation, and/or effects assessment necessitated due to APE modification will be performed in accordance with 36 CFR Part 800.4 and 800.5. Minor and agreed-upon APE modification(s) will not necessitate formal MOA amendment; however, signatory and invited signatory parties may request formal MOA amendment in accordance with Stipulation IV.C.

II. TREATMENT OF HISTORIC PROPERTIES

A. TOPOCK TRADITIONAL CULTURAL PROPERTY NOMINATION RESEARCH

1. FHWA and Caltrans, in consultation with the FMIT, shall conduct and document research on the Topock Traditional Cultural Property (CA-SBR-219) which may be used by the FMIT to pursue nomination of the Topock Traditional Cultural Property for NRHP listing. An annotated outline of this research program is provided in **Attachment C**. In order to resolve adverse effects caused by the Undertaking under Criterion A, research will focus on the portions of Topock Traditional Cultural Property that surround the Undertaking's APE and develop an improved precontact/historic context for the vicinity.
2. FHWA and Caltrans shall update the existing CA-SBR-219 site record to incorporate the research documented pursuant to Stipulation II.A.1 and include any expansion of the Locus A boundary. The updated site record will reflect the current eligibility determination under Criteria A and D, as well as any additional NRHP eligibility criteria discovered during proposed research. The updated site record will be filed with the South-Central Coastal Information Center (SCCIC) and, if pursued by the FMIT, included with the nomination for NRHP listing.
3. FHWA will provide quarterly progress reports on the Topock Traditional Cultural Property Nomination Research program for consulting party review and comment.
4. Upon completion, FHWA will transmit the research documentation conducted under Stipulation II.A.1 to the Tribes, ADOT, and SHPOs for concurrent 45 calendar day review periods. FHWA, in cooperation with Caltrans, shall consider all comments received within 30 calendar days of receipt or conduct consultation on any issues stemming from the comments before final approval of the research documentation. Should comments be received within the 45-calendar day review period, FHWA will provide signatory and Invited Signatory parties with a written summary of all comments received for an additional 30 calendar day review period. Should comments received be extensive, signatory and invited signatory parties will be notified that an additional 15-day calendar

day review period will be added for a total of 45 calendar day review period. Any objections would be resolved in accordance with Stipulation IV.B.

5. A lack of any consulting party response within the 45-day review period will not preclude FHWA and Caltrans from authorizing revisions to the draft documentation based on comments received and considering the research documentation final.
6. FHWA, in cooperation with Caltrans, will hold bi-annual meetings with all signatories and invited signatories to provide ongoing updates focusing on the Topock Traditional Cultural Property research gathering process. The frequency of these meetings can be adjusted should parties request in writing an alternative timeframe for meetings. FHWA, in cooperation with Caltrans, will notify the signatories to this MOA of the proposed frequency change for a 30-calendar day comment period, should there be no comments or disagreement on the frequency of the meetings; the new meeting schedule will be enacted. These meetings will be separate from the annual MOA status meeting referenced in Stipulation IV.F.
7. FHWA, in cooperation with Caltrans, will complete the Topock Traditional Cultural Property research and provide final documentation to the signatory and invited signatory parties within five (5) years of MOA execution.
8. FHWA shall ensure any tribally sensitive information, as determined by the FMIT and/or individual consulting Tribes, is withheld or redacted from distribution to other parties and. Distribution is subject to the terms of Stipulation IV.G.

B. POST-REVIEW DISCOVERY AND MONITORING PLAN (PRDMP)

1. Caltrans, on behalf of FHWA, will prepare a Post-Review Discovery and Monitoring Plan (PRDMP) for the Undertaking in consultation with the SHPOs, ADOT, and Tribes to resolve adverse effects under Criterion D. An outline for the PRDMP is included as Attachment D to this MOA.
2. FHWA acknowledges that the PRDMP will be developed following the outline located in Attachment D; once developed it will replace the outline and be included as Attachment D to this MOA.
3. Per CFR 800.12(a), FHWA, in consultation with the SHPOs and invited signatories will develop procedures in the PRDMP for taking historic properties into account during operations which respond to a disaster or emergency declared by the President, a tribal government, or the Governor of California or Arizona, or which respond to other immediate threats to life or property. These procedures will also comply with the Anti Deficiency Act, 31 U.S.C. § 1342.
4. Upon completion, Caltrans on behalf of FHWA will transmit the PRDMP to the SHPOs, ADOT and Consulting Tribes for concurrent 45 calendar day review period. Should comments be received within the 45-calendar day review period, FHWA will provide consulting parties with a written summary of all comments received for an additional 30 calendar day review period. Should comments received be extensive, consulting parties will be notified that an additional 15-day calendar day review period will be added for a total of 45 calendar day review period. Should there be an objection to comments, Stipulation IV.B will be utilized to resolve objects.

5. FHWA, in cooperation with Caltrans shall consider all comments from the Tribes, ADOT, and/or the SHPOs within 30 calendar days of receipt or conduct consultation on any issues stemming from the comments before final approval of the research documentation. Lack of response within the 45-day review period will not preclude FHWA and Caltrans from authorizing revisions to the draft documentation based on comments received and considering the research documentation final.
6. Once a final version of the PRDMP is completed, FHWA, in cooperation with Caltrans, will distribute this final version of the document to all signatories of the MOA for their records that will replace the outline as Attachment D of this MOA.
7. The PRDMP will be completed prior to beginning of construction activities, which is currently planned to occur in November 2026, with annual monitoring reports provided in annual reporting as described in Stipulation IV.F.
8. If FHWA determines after construction of the Undertaking has commenced, that either the Undertaking will affect a previously unidentified property that may be eligible for the National Register or affect a known historic property in an unanticipated manner, Caltrans will address the discovery or unanticipated effect in accordance with the attached ESA Action Plan, Post Review Discovery Plan, and 36 CFR §800.13(b)(3). FHWA at its discretion may hereunder and pursuant to 36 CFR §800.13(c) assume any discovered property to be eligible for inclusion in the National Register.
9. Within 3 months after FHWA and Caltrans have determined that all ground disturbing construction activity has been completed, FHWA and Caltrans will prepare a technical report that documents the results of implementing and completing the PRDMP, including a final ESA monitoring report. The technical report will be transmitted to ADOT, the Arizona State Museum (per the Arizona Antiquities Act), any jurisdictional agency for areas where monitoring occurred, the Consulting Tribes and SHPOs for concurrent 45 calendar day review period. Caltrans shall consider all comments from ADOT, Consulting tribes or SHPOs within 30 calendar days of receipt. Should comments be received within the 45-calendar day review period, FHWA will provide consulting parties with a written summary of all comments received for an additional 30 calendar day review period. Should comments received be extensive, consulting parties will be notified that an additional 15-day calendar day review period will be added for a total of a 45-calendar day review period. Should there be an objection to comments, Stipulation IV.B will be utilized to resolve objections. Lack of response within the 45-day review period will not preclude FHWA and Caltrans from authorizing revisions to the draft documentation based on comments received and considering the research documentation final. Copies of the final technical report documenting the results of the PRDMP implementation will be distributed by Caltrans to the other consulting parties and to the SCCIC.

C. CULTURAL SENSITIVITY TRAINING

Prior to participating in any construction activities, all personnel working within the project footprint will be required to complete Cultural Sensitivity Training which has been developed in consultation the FMIT for the project region by FHWA, and Caltrans. Training will be required for any new personnel as they are added to the construction workforce for the life of the project, which is currently planned to continue until September 5, 2029. Training will be

provided by a representative from FHWA and a tribal representative unless the tribe defers to FHWA to provide the codeveloped training.

D. IMPLEMENTATION OF THE ENVIRONMENTALLY SENSITIVE ACTION PLAN

1. FHWA, in consultation with Caltrans, the SHPOs, and the FMIT, will prepare an Environmentally Sensitive Area Action Plan (ESA Action Plan) (Attachment E). Historic properties CA-SBR-219, AZ L:7:81(ASM), and CA-SBR-11910 will be protected in place by ESAs. The ESA Action Plan will describe the protocols to be followed when construction activities occur near Environmentally Sensitive Areas, beginning November 13, 2026, and continuing until completion of construction activities, which is anticipated to be September 5, 2029. FHWA will prepare a final ESA Action Plan prior to the commencement of construction activities.
2. FHWA will prepare a final monitoring report and distribute to all applicable consulting parties for review and comment once all monitoring activities are complete for the Undertaking.

E. AVOIDANCE OF ADVERSE EFFECTS TO CA-SBR-2910 AND AZ I:15:156 (ASM) NATIONAL OLD TRAILS HIGHWAY / ROUTE 66 (NOTH/66) [CA] AND [AZ] SEGMENTS 4 AND 5

FHWA, in consultation with Caltrans, ADOT, and the SHPOs has imposed the following conditions on the Undertaking to avoid adverse effects to CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ] Segments 4 and 5. No work is currently expected on these historic properties; should repair work be necessary the following conditions will apply.

1. Repair of the pavement on CA-SBR-2910 and AZ I:15:156 (ASM) National Old Trails Highway / Route 66 (NOTH/66) [CA] and [AZ] Segments 4 and 5 will be conducted according to the Secretary of the Interior Standards (SOIS)
 - a. Any pavement repair will conform to the existing profile, width, etc.
 - b. Similar or identical paving techniques as the existing will be utilized such as material type and aggregate size.
 - c. Paving plans and specifications shall be reviewed and approved by a Caltrans PQS Principal Architectural Historian for compliance.
2. Should the historic period 1950s guardrails be impacted by the project, they will be salvaged and re-used as practical.
 - a. If guardrail cannot be reused, stained, or painted, Midwest Guardrail System type will be used.
 - b. If guardrail cannot be salvaged an alternative rail will be chosen in consultation with the Caltrans PQS Principal Architectural Historian to ensure that it is compatible with the massing, size, scale, and architectural features of the 1950's guardrail to protect the historic integrity of the property and its environment.
3. The roadbed shall not be realigned or altered in a way that changes the horizontal and vertical dimensions that together comprise a contiguous roadbed structure including the addition of side slopes, and/or graded shoulders where none previously existed. Plans and specifications shall be reviewed by the Caltrans PQS Principal Architectural Historian for compliance.

4. Annual monitoring reports on the implementation and effectiveness of enforcement actions of these treatments will be provided in the annual reporting as described in Stipulation IV.F.

III. TREATMENT OF HUMAN REMAINS AND UNANTICIPATED EFFECTS

- A. California: As legally mandated, human remains, and related items discovered during the implementation of the terms of this MOA and the Undertaking will be treated in accordance with the requirements of Health and Safety Code Section 7050.5(b). If pursuant to Health and Safety Code Section 7050.5(c) the coroner determines that the human remains are or may be those of a Native American, then the discovery shall be treated in accordance with the provisions of Public Resources Code Sections 5097.98 (a)(d). Caltrans, as the landowner, shall ensure, to the extent possible, that the views of the Most Likely Descendent(s), as determined by the California Native American Heritage Commission, is taken into consideration when decisions are made about the disposition of Native American human remains and associated objects.
- B. Arizona: Prior to conducting archaeological excavation on private, state, or county lands, or in the event that human remains, funerary objects, sacred ceremonial objects, or objects of national or Tribal patrimony are inadvertently encountered during construction on such lands, Caltrans or its designee shall contact ASM in accordance with A.R.S. 41-844 or A.R.S. 41-865 and shall procure and implement an ASM Burial Discovery Agreement.
- C. Federal lands: Should Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony be encountered on federal land during the course of this Undertaking, Caltrans will coordinate with the jurisdictional federal agency which shall retain responsibility for compliance with the Native American Graves Protection and Repatriation Act (NAGPRA; 25 U.S.C. 3001 et seq.) and its implementing regulations at 43 CFR Part 10.

IV. ADMINISTRATIVE PROVISIONS

A. STANDARDS

1. **Definitions.** The definitions provided at 36 CFR Part 800.16 are applicable throughout this MOA.
2. MOA parties (collectively, consulting parties) are defined as follows:
 - a. **Signatories** have the sole authority to execute, amend, or terminate the MOA.
 - b. **Invited Signatories** have the authority to amend or terminate MOA, may assume certain FHWA-delegated responsibilities under this MOA, or have additional responsibilities as a matter of legal jurisdiction.
 - c. **Concurring Parties** signing the MOA do so to acknowledge their agreement with and participation in the MOA but have no legal authority to terminate or amend. Concurring with the terms of the MOA does not constitute their agreement with the Undertaking.
3. **Professional Qualifications.** FHWA, in cooperation with Caltrans and ADOT, will ensure that only individuals meeting the *Secretary of the Interior's Professional Qualifications Standards for Archaeology and Historic Preservation* (48 Federal Register [FR] 44738-44739) (PQS) in the relevant field of study, and the requirements of the Arizona

Antiquities Act as administered by the Arizona State Museum as promulgated through the Arizona Board of Regents, carry out or review appropriateness and quality of the actions and products required by **Stipulation II** in this MOA.

a. This MOA recognizes tribal special expertise concerning properties of traditional religious and/or cultural significance, and that the standards of 36 CFR Part 61 will not apply to tribally designated representatives carrying out identification and evaluation efforts for such properties of Tribal interest.

4. **Documentation Standards.** Written documentation of activities prescribed by **Stipulations I, II, and III** of this MOA shall conform to *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-44740), in addition to applicable standards and guidelines as established by the SHPOs.
5. **Curation.** FHWA shall ensure that all artifacts, samples, and records resulting from PRDMP implementation are curated in accordance with 36 CFR Part 79, except as determined through consultations with Tribes carried out in accordance with federal laws pertaining to the treatment and disposition of Native American Human Remains, Associated/Unassociated Funerary Objects, and Objects of Cultural Patrimony, and state laws pertaining to human remains, funerary objects, sacred ceremonial objects, and objects of national or Tribal patrimony. If artifacts, samples, and/or records resulting from investigations on lands owned, controlled, or operated by the State of Arizona are to be curated at the ASM, ASM's standards and guidelines will be followed. If these items will not be curated at ASM, the repository must be approved by ASM.

B. RESOLVING OBJECTIONS

1. Should any party to this MOA object at any time in writing to the manner in which the terms of this MOA are implemented, to any action carried out or proposed with respect to implementation of the MOA (other than the Undertaking itself), or to any documentation prepared in accordance with and subject to the terms of this MOA, FHWA shall immediately notify the other MOA parties of the objection, request their comments on the objection within 15 days following receipt of FHWA's notification, and proceed to consult with the objecting party for no more than 30 days to resolve the objection.
2. If the objection is resolved during the 30-day consultation period, FHWA may proceed with the disputed action in accordance with the terms of such resolution.
3. If at the end of the 30-day consultation period, FHWA determines that the objection cannot be resolved through such consultation, then FHWA shall forward all documentation relevant to the objection to the ACHP, including FHWA's proposed response to the objection. The ACHP shall provide FHWA with its advice on the resolution of the objection within 30 days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.

4. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them to the ACHP with a copy of such written response.
5. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.
6. FHWA may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.
7. A member of the public may object to the manner in which the terms of this MOA are being implemented by submitting the objection to FHWA in writing. FHWA will notify the other Signatories of the objection in writing and take the objection into consideration. FHWA will consult with the objecting party, and if FHWA determines it appropriate, the other Signatories, for no more than 30 calendar days. Within 15 calendar days after closure of this consultation period, FHWA will provide all consulting parties and the objecting party with its final decision in writing.

C. AMENDMENTS

Any Signatory or Invited Signatory to this MOA may propose that the MOA or its attachments be amended, whereupon the parties shall consult for no more than 30 days, or as mutually agreed upon by the parties to consider such amendment. The amendment will be effective on the date a copy signed by all of the original Signatories and Invited Signatories is filed with the ACHP. If the parties cannot agree to appropriate terms to amend the MOA, any Signatory or Invited Signatory may terminate the agreement in accordance with Stipulation IV.D, below.

D. TERMINATION

1. If this MOA is not amended as provided for in Section IV.C., or if a Signatory or Invited Signatory proposes termination of this MOA for other reasons, the party proposing termination shall, in writing, notify the other MOA parties, explain the reasons for proposing termination, and consult with the other parties for at least 30 days to seek alternatives to termination. Such consultation shall not be required if FHWA proposes termination because the Undertaking no longer meets the definition set forth in 36 CFR §800.16(y).
2. Should such consultation result in an agreement on an alternative to termination, the signatory parties shall proceed in accordance with the terms of that agreement.
3. Should such consultation fail, the signatory party proposing termination may terminate this MOA by promptly notifying the other MOA parties in writing. Termination hereunder shall render this MOA without further force or effect.
4. If this MOA is terminated hereunder, and if FHWA determines that the Undertaking will nonetheless proceed, then FHWA shall comply with the requirements of 36 CFR 800.3-800.6, or request the comments of the ACHP, pursuant to 36 CFR Part 800.

E. DURATION OF THE MOA

The duration of this MOA shall be five (5) years following the date of execution by the FHWA and the SHPOs, or upon completion of the Undertaking, whichever comes first. If the terms are not satisfactorily fulfilled at that time, FHWA shall consult with the Signatories, Invited Signatories, and Concurring Parties to extend it or to reconsider its terms. Consultation on amending the MOA for additional time will occur at least 6 months prior to its expiration date. Reconsideration may include continuation of the MOA as originally executed, amendment of the MOA, or termination.

F. ANNUAL REPORTING

1. On behalf of FHWA, Caltrans shall prepare an Annual Report documenting actions carried out pursuant to this MOA. The reporting period shall commence one year from the date of MOA execution. Caltrans will distribute the Annual Report to all consulting parties.
2. The Annual Report shall address the following: any scheduling changes proposed, status of treatment and mitigation activities, ESA monitoring progress, any uses that are affecting or may affect the ability of FHWA to continue to meet the terms of this MOA, any disputes and/or objections received (and how they were resolved), and any additional parties who have become Signatories, Invited Signatories, or Concurring Parties to this MOA in the past year through a formal MOA Amendment.
3. FHWA shall coordinate a meeting of the MOA parties to be scheduled within 90 business days of distribution of the Annual Report, or another mutually agreed upon date, to discuss activities carried out pursuant to this MOA during the preceding year and activities scheduled for the upcoming year. This meeting, should it be deemed unnecessary, may be cancelled by mutual consent of the Signatories.

G. CONFIDENTIALITY

To the maximum extent allowed by federal and state law, FHWA will maintain confidentiality of sensitive information regarding historic properties or unevaluated properties that could be damaged through looting or disturbance, and/or to help protect a historic property or unevaluated property to which a Tribe attaches religious or cultural significance. Any documents or records FHWA has in its possession are, however, subject to the Freedom of Information Act (FOIA; 5 U.S.C. 552 et seq) and its exemptions, as applicable. FHWA shall evaluate whether a FOIA request for records would involve a sensitive historic property or unevaluated property, or a property to which a Tribe attaches religious or cultural significance, and if such records contain information that FHWA is authorized to withhold from disclosure by other statutes including Section 304 of the NHPA, Section 7.18 of the Archaeological Resources Protection Act, and/or applicable state laws. If this is the case, then FHWA will consult with the Keeper of the NRHP and ACHP regarding withholding the sensitive information. If a tribally sensitive property is involved, FHWA will also consult with the relevant Tribe(s) prior to making a determination in response to a FOIA request.

H. EFFECTIVE DATE

This MOA and any amendments thereto will take effect on the date that such instruments have been fully executed by the Signatories; and the consultation period wherein other consulting parties are invited to sign has closed; and an executed copy is filed with the ACHP.

I. COUNTERPART SIGNATURES

This MOA may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute on and the same instrument. If using counterpart signatures, only one signature per page is permitted.

EXECUTION of this MOA by FHWA, the California SHPO, and the Arizona SHPO, its filing with the ACHP in accordance with 36 CFR § 800.6(b)(1)(iv), and subsequent implementation of its terms, shall evidence, pursuant to 36 CFR Part 800.6(c), that this MOA is an agreement with the ACHP for the purposes of Section 110(l) of the NHPA, and shall further evidence that FHWA has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties, and that FHWA has taken into account the effects of the Undertaking on historic properties.

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND
THE ARIZONA STATE PRESERVATION OFFICER REGARDING THE
COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

SIGNATORY:

Federal Highway Administration, California Division

By ANTONIO DESHAWN JOHNSON Digitally signed by ANTONIO DESHAWN JOHNSON
Date: 2023.11.09 12:01:51 08:00 Date _____

Antonio Johnson

Title: Director, Planning,
Environment, and Right of way
FHWA California Division

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND
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COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA
Federal Aid No. HDA-CA FHWA 2022_0818_001**

SIGNATORY:

Federal Highway Administration, Arizona Division

By REBECCA ANNE YEDLIN Digitally signed by
REBECCA ANNE YEDLIN
Date: 2023.11.01 11:56:03
-0700 Date 11/1/2023

for Karla Petty

Title: Division Administrator

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
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COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

SIGNATORY:

Arizona State Historic Preservation Officer

By 

Date October 18, 2023

Kathryn Leonard

Title: State Historic Preservation Officer

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
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COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

SIGNATORY:

California State Historic Preservation Officer

By  _____ Date 11/09/2023

Julianne Polanco

Title: State Historic Preservation Officer

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**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
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COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

INVITED SIGNATORY:

Arizona Department of Transportation


By  DocuSigned by:
Paul O'Brien
69DCA817969345F... Date 10/19/2023
Paul O'Brien
Title: Environmental Planning Administrator

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
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COLORADO RIVER BRIDGE REPLACEMENT PROJECT, IN SAN
BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

INVITED SIGNATORY:

Caltrans Department of Transportation, District 8

By



Date 11/9/2023


Catalino A. Pining III

Title: District Director

**MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION
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THE ARIZONA STATE PRESERVATION OFFICER REGARDING THE
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BERNARDINO COUNTY, CALIFORNIA AND MOHAVE COUNTY,
ARIZONA**

INVITED SIGNATORY:

Fort Mojave Indian Tribe

By  Date 10-26-23

Tim Williams

Title: Chairman