IS/MND Appendix C

Biological Resources Technical Report

HELIX Environmental Planning

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project

Biological Technical Report

February 2022 | 02632.00001.001

Prepared for:

ECAWP Joint Powers Authority and
Padre Dam Municipal Water District
9300 Fanita Parkway
Santee, CA 92071

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Carollo Engineers, Inc.
5355 Mira Sorrento Place, Suite 270
San Diego, CA 92121

This page intentionally left blank

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

ASMD	Area Specific Management Directive
BCME	Biological Construction Mitigation/Monitoring Exhibit
BMP	Best Management Practice
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
City	City of San Diego
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
District	Padre Dam Municipal Water District
East County AWP	East County Advanced Water Purification
EIR	Environmental Impact Report
EMGFM	East Mission Gorge Force Main Rehabilitation
EMGPS	East Mission Gorge Pump Station
ESL	Environmentally Sensitive Lands
FESA	Federal Endangered Species Act
HELIX	HELIX Environmental Planning, Inc.
I-	Interstate
JPA	Joint Powers Authority
LUAG	Land Use Adjacency Guideline
MBTA	Migratory Bird Treaty Act
MHPA	Multiple Habitat Planning Area
MMC	Mitigation Monitoring Coordination
MSCP	Multiple Species Conservation Plan
MTRP	Mission Trails Regional Park

ACRONYMS AND ABBREVIATIONS (cont.)

PD2FM	Padre Dam Basin 2 Force Main
project	East Mission Gorge Force Main Rehabilitation and Regional Brine Line
RBL	Regional Brine Line
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SMVTS	South Mission Valley Trunk Sewer
SR-	State Route
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VPHCP	Vernal Pool Habitat Conservation Plan
WWFM	wet weather failsafe force main

EXECUTIVE SUMMARY

This report presents the results of a biological resources technical study for the proposed East Mission Gorge Force Main (EMGFM) Rehabilitation and Regional Brine Line (RBL) project (project) conducted by HELIX Environmental Planning, Inc. (HELIX) for the East County Advanced Water Purification (East County AWP) Joint Powers Authority (JPA), in collaboration with the City of San Diego (City) and Padre Dam Municipal Water District (District). The study was conducted to provide the JPA, City, resource agencies, and the public with current biological data for review of the proposed project under the California Environmental Quality Act (CEQA), and to demonstrate compliance with federal, state, and local regulations. The project is located within the City of San Diego and City of Santee, San Diego County, California. This report describes the project site's current biological conditions, vegetation communities, plant and wildlife species observed, and identifies sensitive resources. It also identifies special status species with potential to occur within the project site. In addition, project impacts are assessed, and mitigation measures are proposed to offset the proposed project's unavoidable significant impacts to sensitive biological resources.

The study area for the biological resources technical study encompasses the potential direct impact area of the project and approximately 50 feet beyond the impact area in all directions, equating to approximately 256 acres along approximately 18,375 linear feet (9.1 miles) of pipeline and other components. Portions of the study area occur within and immediately adjacent to the Multi-Habitat Planning Area (MHPA) for the City of San Diego Multiple Species Conservation Program (MSCP), including MHPA associated with the Mission Trails Regional Park and San Diego River. HELIX completed various biological surveys in accordance with the City of San Diego's Biology Guidelines during the spring and summer months of 2021 to inform the environmental baseline. Additional biological data were utilized from recent efforts within the study area, including data from the North City Project Pure Water San Diego Program (City 2018a) and Final Program Environmental Impact Report (EIR) for the Mission Trails Regional Park (MTRP) Master Plan Update (City 2019).

The proposed project has been specifically sited within existing disturbed and developed land, either within existing paved public roadway right-of-way (ROW), paved trails, or other highly disturbed areas. Staging for the project would also occur within existing disturbed or developed lands. As such, the proposed project is anticipated to have no direct impacts on sensitive biological resources, including Environmentally Sensitive Lands (ESL) defined in the City of San Diego's Biology Guidelines. However, project activities would occur immediately adjacent to sensitive biological resources, and therefore, potentially significant temporary indirect impacts could occur if appropriate measures are not in place during construction. The project proposes avoidance and minimization measures during construction to avoid and reduce the potential indirect impacts to less than significant levels.

An alternative alignment was also analyzed for this study in the event that no other viable or feasible alternatives exist in which wetlands and ESL could be avoided. The alternative alignment includes a modified alignment north of State Route 52, which follows an existing utility corridor within the Forester Creek riparian zone. This alignment was determined not to be preferred from an environmental standpoint; nevertheless, it requires analysis in the event that existing utility conflicts require the use of the modified section of the alignment. The alternative alignment was found to have the potential to result in a total of 3.76 acres of direct impacts to ESL and potential habitat for special status species, including designated critical habitat for the federally and State endangered, least Bell's vireo (*Vireo bellii pusillus*). The alternative alignment would also have potential direct impacts on sensitive natural

This page intentionally left blank

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report documents the results of a biological resources technical study completed by HELIX Environmental Planning, Inc. (HELIX) for the East Mission Gorge Force Main (EMGFM) Rehabilitation and Regional Brine Line (RBL) Project (project) located within the City of San Diego and City of Santee, San Diego County, California (Figure 1, *Regional Location*).

The East County Advanced Water Purification (East County AWP) Joint Powers Authority (JPA), in collaboration with the City of San Diego (City) and Padre Dam Municipal Water District (District), proposes the wastewater conveyance project to maintain service of the wastewater collection system and transport highly concentrated discharges to and from facilities in the region.

This report is intended to summarize the existing biological resources within the project site and provide an analysis of the proposed impacts in accordance with the California Environmental Quality Act (CEQA) and applicable federal, state, and local policy. A federal policy conformance and cross-cutter analysis are also included to facilitate Water Infrastructure Finance and Innovation Act review by the Environmental Protection Agency (Appendix A, *Federal Conformance Analysis for Biological Resources Issues*).

The proposed project is a collaboration between the East County AWP JPA, the City of San Diego, and the District, with each agency having a direct financial contribution to the project. The wastewater conveyance project is located in the cities of Santee and San Diego, in San Diego County. The project would ensure continued and effective service of the wastewater collection system, increase the flexibility and responsiveness of the collection system, and provide a regional solution for disposing of residuals from the East County AWP facilities.

1.2 PROJECT LOCATION

The proposed project site includes locations in the City of San Diego and the southwestern portion of the City of Santee (Figure 1). Components of the proposed project are shown in Figure 2, *Project Location,* and Figure 3, *Alignment Overview,* and are described below.

The project proposes three separate pipelines to convey wastewater from the East Mission Gorge Pump Station (EMGPS), south of the Forester Creek, to the vicinity of the Interstate (I-) 15 and I- 8 interchange in the City of San Diego. The north end of the project would be located at the EMGPS property in the City of Santee (Figure 2). The proposed project would also include improvements to the EMGPS, located at 8914 Mission Gorge Road near the State Route (SR-) 52 westbound on-ramp, just west of the SR-125 terminus at Mission Gorge Road.

1.2.1 Surrounding Land Uses

The EMGPS is bordered by the California Department of Transportation (Caltrans) right-of-way at SR-52 to the south, Mission Gorge Road to the east/southeast, and open space to the north and west. Additional land uses in the vicinity of the EMGPS include Caltrans right-of-way at SR-125 to the southeast, a golf course to the north, and commercial further to the east. Land uses along the proposed triple alignment (wet weather failsafe force main [WWFM], RBL, and Padre Dam Basin 2 Force Main

[PD2FM]), which would be within Mission Gorge Road, include the Caltrans right-of-way at SR-52 to the north and commercial and residential uses to the south. Land uses along the proposed dual alignment (WWFM and RBL) include commercial, residential, industrial, Caltrans right-of-way at SR-52 and I-8, and open space and recreational uses within Mission Trails Regional Park (MTRP). Land uses along the RBL extension include commercial and Caltrans right-of-way at I-8.

1.3 PROJECT BACKGROUND

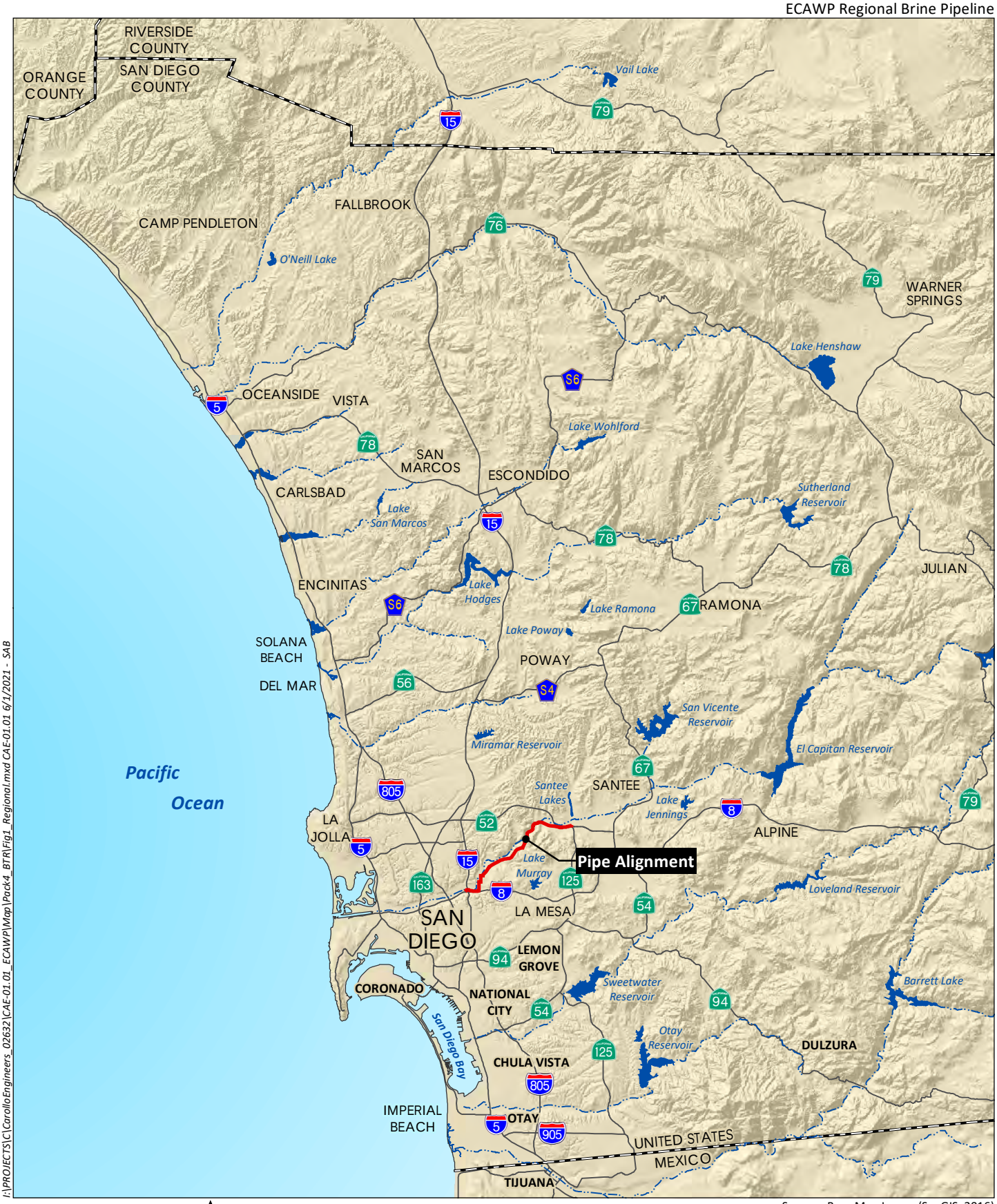
The East County AWP Project will construct new facilities to treat approximately 15 million gallons per day of wastewater to produce 11.5 million gallons per day of purified water. The East County AWP Project is governed by the JPA, which was formed through a partnership between the San Diego County Sanitation District, City of El Cajon, and Padre Dam Municipal Water District (District). Separate from the East County AWP Project, the existing EMGFM requires rehabilitation due to its current condition. The required rehabilitation of the EMGFM creates an opportunity for additional improvements to better manage certain wastewater flows from the East County AWP facilities through the creation of an RBL. The RBL would be constructed at the same time and in the same location as the EMGFM rehabilitation and along the same alignment and would be placed within the existing 48-inch EMGFM pipe via a sliplining construction method. This is made possible because the rehabilitated EMGFM would be downsized due to the reduced capacity needs.

1.4 PROJECT DESCRIPTION

The proposed project is a collaboration between the East County AWP JPA, the City of San Diego, and the District, with each agency having a direct financial contribution to the project. The project would provide three main components: the rehabilitation of the EMGFM, which will serve as the WWFM, the construction of a new RBL, and the installation of new PD2FM piping. The locations and descriptions for each of these components are shown on Figure 3 and are described in the following sections.

The WWFM would accommodate additional flows from the EMGPS that exceed the capacity of the City of San Diego's Mission Gorge Trunk Sewer during wet weather high flow events, as well as emergency failsafe flows from the East County AWP facilities or East County when facilities are offline. The RBL would serve as a conveyance pipeline for brine, centrate, and highly concentrated flows generated at the East County AWP facilities. Separating these flows from the existing collection system would improve the overall quality of the effluent in the system, which would improve the quality of the wastewater used in the City of San Diego's Pure Water San Diego Program. The majority of the new WWFM and RBL would be constructed within the existing 48-inch EMGFM via sliplining operation. The project would also include the installation of the PD2FM that would allow for flow from the Padre Dam basin 2 area to be routed to the EMGPS, and therefore incorporated in the overall East County AWP Project, rather than connecting downstream of the EMGPS as it does in the current condition. To accommodate inspection of the pipeline and sliplining, the existing EMGFM would drain down at various points along the pipeline utilizing existing access holes. Drain down activities within MTRP would occur along Father Junipero Serra Trail within existing disturbed and developed areas.

The WWFM, RBL, and PD2FM would begin at a connection to infrastructure installed and/or upgraded as a part of the East County AWP Project near the EMGPS. From the EMGPS, the three pipelines would be installed within Mission Gorge Road via open trench construction until the intersection with the existing EMGFM near the Meadowbrook community entrance. The PD2FM would terminate at this point. The WWFM and RBL would then continue in a dual alignment within the existing EMGFM along



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig1_Regional.mxd CAE-01.01 6/1/2021 - SAB

0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

ECAWP Regional Brine Pipeline

Package 4 - Preferred Alignment
Package 4 - Northern Alternative
Potential Lift Station Location

52
163
Kearny Mesa
Clairemont Mesa Blvd
Balboa Ave
Santo Rd
Tierrasanta Blvd
Father Junipero Serra Trl
Mission Gorge Rd
Wess Hills Pky
Forester Creek
Mission Gorge Rd
125
52
SANTEE
SAN DIEGO
SANTEE
EL CAJON
San Diego River (Lower)
Navajo Rd
Fletcher Pky
EL CAJON
LA MESA
Jackson Dr
Friars Rd
15
Alvarado Creek
College Ave
SAN DIEGO
LA MESA
Baltimore Dr
Murray Dr
Gossmont Blvd
8
Fenton Pky
805
Camino Del Rio North
Fairmount Ave

I:\PROJECTS\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig2_Aerial.mxd CAE-01.01 11/4/2021 - SAB

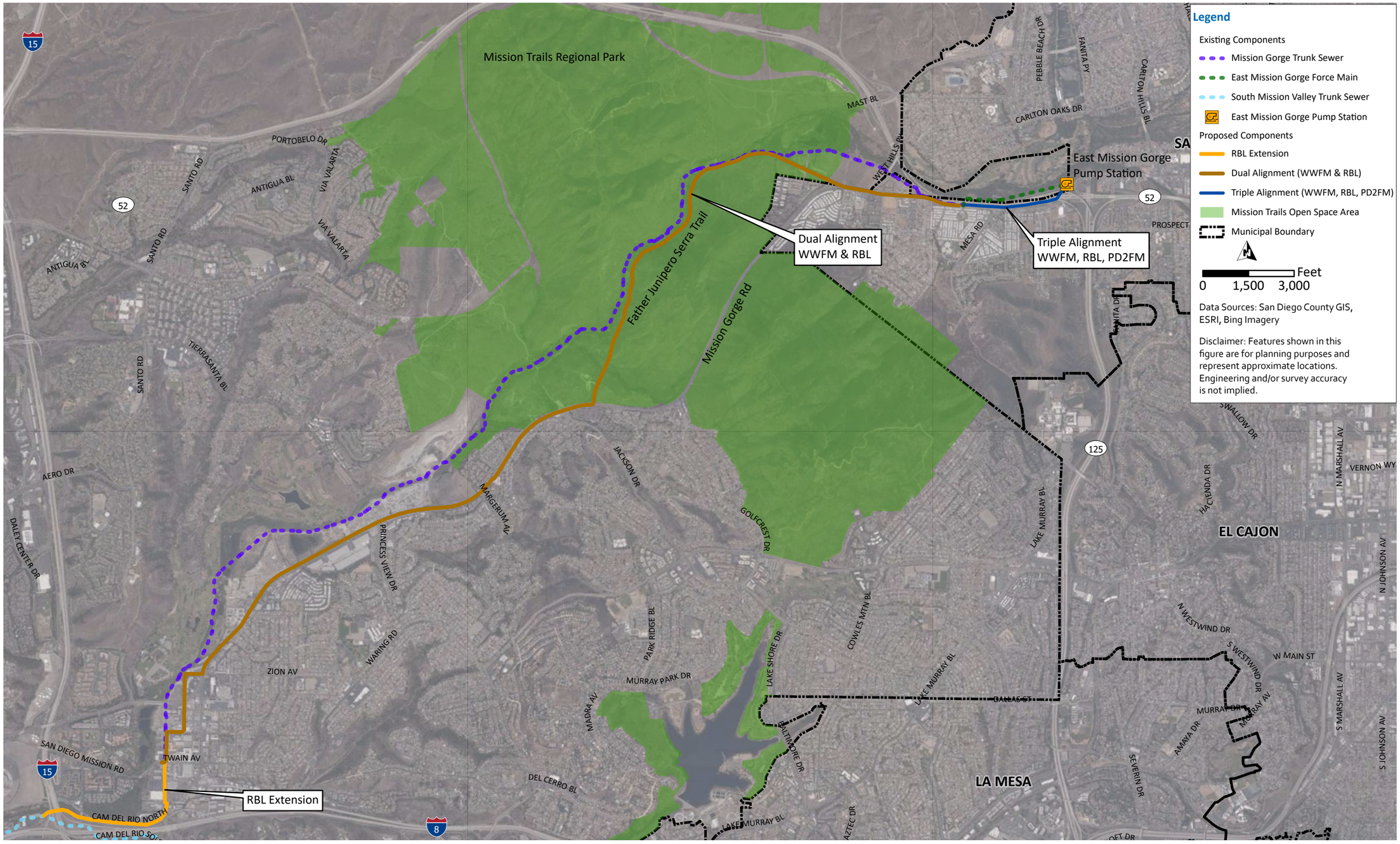
0 3,000 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Project Location

Figure 2



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig3_Alignment.indd 02632.1.1 7/6/2021 - SAB

Source: Carollo (2021)

Mission Gorge Road, through MTRP along Father Junipero Serra Trail, back to and along Mission Gorge Road, and then along Zion Avenue, Riverdale Street, Vandever Avenue, and Fairmont Avenue to the intersection with Twain Avenue. The slipline construction and dual alignment of the WWFM and RBL would end near the Twain Avenue and Fairmount Avenue intersection, where the WWFM would connect into the existing North Mission Valley Interceptor. From the termination point of the WWFM alignment, open trench construction would be used to extend the RBL. The RBL extension would continue south along Fairmount Avenue to the intersection with Mission Gorge Road and would then follow Mission Gorge Road south to the intersection of Mission Gorge Road and Camino Del Rio North, turn west, and continue westerly along Camino Del Rio North toward I-15. The RBL would continue within the Camino Del Rio North undercrossing under I-15 and connect into a new sewer hole constructed within Camino Del Rio North along the City of San Diego's South Mission Valley Trunk Sewer (SMVTS) just west of I-15.

Based on preliminary analysis of the elevations of the RBL extension alignment and the existing SMVTS, a sewer lift station may be necessary along the RBL extension alignment and within the study area in order to maintain positive flow to the new sewer hole at the SMVTS. There are seven potential lift station alternatives, lift station alternatives A through G, proposed as part of the preferred alignment project (Figure 2). From the seven potential alternatives, a single lift station site will be selected. For larger site locations, it is assumed that the lift station would occur on a portion of the site but may not require the entire area. The lift station would pump the flows in the RBL from a low point in the alignment to the higher-elevation SMVTS. The potential lift station would involve typical lift station components such as submersible pumps, underground structures, small electrical equipment, lighting, and emergency power.

Preliminary desktop investigations indicate possible utility congestion of the Mission Gorge Road corridor. For this reason, an alternative alignment option is being analyzed for the initial portion of the triple alignment between the EMGPS and the Meadowbrook community entrance. The alternative alignment, which diverts from the preferred alignment only at the far eastern end of the project, would only be utilized in the event that no other viable or feasible alternatives exist in which wetlands could be avoided. Under this alignment option, one or more of the new pipelines would be installed along the existing EMGFM alignment adjacent to the westbound SR-52 on-ramp from Mission Gorge Road rather than within the Mission Gorge Road alignment. Work along this corridor would be performed using specialized methods, such as sliplining and/or cured-in-place-pipe lining, in order to minimize excavation and disruption to the maximum extent possible. It is anticipated that either the WWFM or both the WWFM and the RBL may be installed along this alignment instead of within Mission Gorge Road, as noted above. Regardless of which WWFM and RBL alignment is selected, the PD2FM would remain within the Mission Gorge Road alignment.

2.0 SURVEY METHODS

2.1 STUDY AREA

A study area was established for the biological resources technical study that included the potential impact areas for the project components and approximately 50 feet beyond the impact areas in all directions. This study area was used to determine the biological resources that occur or have the potential to occur and analyze the potential direct and indirect impacts of project implementation.

2.2 LITERATURE REVIEW

Prior to conducting the general biological survey, HELIX performed an updated search of the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2021a-c), U.S. Fish and Wildlife Service (USFWS) Carlsbad Fish and Wildlife Offices Species Status Lists (USFWS 2021a), USFWS Critical Habitat Portal (USFWS 2021b), USFWS National Wetlands Inventory (USFWS 2021c), USFWS Information for Planning and Conservation (USFWS 2021d), and SanBIOS database applications, to obtain information regarding sensitive biological resources known to occur within the vicinity of the study area.

In coordination with the City, the project utilized previous City survey data from the North City Pure Water Project (City 2018a) and MTRP Master Plan Update (City 2019).

2.3 GENERAL BIOLOGICAL SURVEY

Initial general biological surveys of portions of the study area were completed by HELIX in 2021 as part of the preliminary design of the project. HELIX biologists Katie Bellon and Mandy Mathews conducted project-specific general biological surveys on March 15, 2021 and May 18, 2021. HELIX surveys and data obtained from the City were used to determine potential and known resources along the entire alignment. Ms. Bellon and Ms. Mathews conducted verification surveys on June 4 and June 9, 2021, within the areas that the City provided data in order to obtain 100 percent visual coverage and verify existing conditions on and in the immediate vicinity (within 100 feet) of each project component. The survey focused on inventorying and verifying existing vegetation communities; qualifying habitat suitability and potential for the occurrence of sensitive species, including federally-listed species protected under the Endangered Species Act; preliminarily identifying potential wetlands and other potential jurisdictional waters, including waters of the U.S. protected under Section 404 of the Clean Water Act (CWA), waters of the State protected under Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat protected under the California Fish and Game Code Sections 1600 et. seq; and identifying other sensitive biological resources, such as potential nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). The entire study area was surveyed with the aid of binoculars; observed or detected plant and animal species were recorded in field notes (Appendix C, *Plant Species Observed* and Appendix D, *Animal Species Observed or Detected*). Animal identifications were made in the field by visual observation or detection of calls, burrows, tracks, scat, and other animal sign. Plant identifications were made in the field. Representative photos were taken and are included as Appendix B, *Representative Site Photos*.

Table 1, *Biological Surveys*, provides a summary of the biological surveys conducted for the project.

Table 1
BIOLOGICAL SURVEYS

Survey Type	Date	HELIX Personnel
General biological survey, vegetation mapping, habitat assessment, preliminary jurisdictional delineation	March 15, 2021	Katie Bellon
	May 18, 2021	Mandy Mathews
	June 4, 2021	Katie Bellon
	June 9, 2021	Mandy Mathews
	April 12, 2021	Katie Bellon
	April 21, 2021	Mandy Mathews
Coastal California gnatcatcher	April 29, 2021	Katie Bellon
	May 7, 2021	Katie Bellon
	May 14, 2021	Katie Bellon
	May 27, 2021	Katie Bellon
	April 16, 2021	Mandy Mathews
	April 27, 2021	Mandy Mathews
	May 7, 2021	Katie Bellon
Least Bell's vireo	May 18, 2021	Katie Bellon
	May 28, 2021	Mandy Mathews
	June 7, 2021	Katie Bellon
	June 17, 2021	Mandy Mathews
	June 28, 2021	Mandy Mathews
Rare Plant Survey	June 8, 2021	Ryan Fitch

2.4 FOCUSED SPECIES SURVEYS

In addition to the general biological survey, HELIX conducted focused special status species surveys. Rare plant surveys were conducted through MTRP and along the northern alternative alignment. In addition, protocol-level surveys for coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) were conducted in 2021 within the northern and southern alignment study areas, areas outside of the provided City data. Refer to Appendices F and G for specific survey routes. Existing data on other special status species known to the local area was also referenced during HELIX's surveys and coupled with incidental observations of the species during other surveys.

2.4.1 Special Status Plant Species Surveys

The City conducted surveys for special status plant species within portions of the project study area in 2016 for the North City project (City 2018a) and the MTRP Master Plan Update (City 2019). Subsequently, HELIX conducted surveys for special status plant species within the project alignment along Father Junipero Serra Trail within MTRP and along the northern alternative alignment within Forester Creek on June 8, 2021. In addition, HELIX conducted a preliminary review of the CNDDB, California Native Plant Society (CNPS), and Calflora databases and compiled a list of special status plant species that have the potential to occur within the study area. Special status plant species include species that are listed as threatened or endangered by the USFWS; listed as threatened, endangered, or rare by the CDFW; included in the CNPS' Inventory of Rare and Endangered Plants; and/or afforded Narrow Endemic or Covered Species designation in the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. HELIX also looked for special status plant species opportunistically during other surveys in March, April, and May 2021, and recorded their numbers and locations when encountered. Individual plants were mapped using a handheld Global Positioning System unit.

2.4.2 Coastal California Gnatcatcher

A focused breeding season survey for the coastal California gnatcatcher survey was performed by HELIX biologists Ms. Bellon and Mandy Mathews (TE778195-14) within the northern and southern alignment study areas, areas outside of the provided City data in accordance with the current protocol (USFWS 1997). Six surveys were conducted, at least one week apart, between April 12 and May 27, 2021 (Table 1). The surveys were conducted by walking within and along the perimeter of suitable coastal California gnatcatcher habitat within the project area and a 500-foot buffer. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by coastal California gnatcatcher. Surveys were conducted with binoculars to aid in bird detection. Recorded coastal California gnatcatcher vocalizations were played sparingly and only if other means of detection had failed. If a coastal California gnatcatcher was detected before playing recorded vocalizations, the recordings were not played. Once coastal California gnatcatchers were initially detected in an area, the use of playback was discontinued. The California Gnatcatcher 2021 Survey Report is included as Appendix G, *California Gnatcatcher 2021 Survey Report* of this report.

2.4.3 Least Bell's Vireo

A focused breeding season survey for the least Bell's vireo survey was performed by HELIX biologists Ms. Bellon and Ms. Mathews within the northern and southern alignment study areas, areas outside of the provided City data in accordance with the current protocol (USFWS 2001). Eight surveys were conducted, at least 10 days apart, between April 16 and June 28, 2021 (Table 1). The surveys were conducted by walking within and along the perimeter of suitable least Bell's vireo habitat within the project area and a 500-foot buffer. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by least Bell's vireo. Surveys were conducted with binoculars to aid in bird detection. The Least Bell's Vireo 2021 Survey Report is included as Appendix H, *Least Bell's Vireo 2021 Survey Report* of this report.

2.5 PRELIMINARY JURISDICTIONAL ASSESSMENT

HELIX completed a preliminary jurisdictional delineation of the study area that was mostly concurrent with the general biological surveys. The preliminary delineation focused on assessing ordinary high-water mark and other hydrology indicators, riparian and wetland vegetation, surface soils, topography, and other data, but did not include excavation of soil pits and establishment of wetland sampling points, with the intent to establish conservative limits of potential jurisdiction.

Prior to beginning fieldwork, aerial photographs (1"= 100' scale), topographic maps and data (1"= 100' scale), and National Wetlands Inventory maps were reviewed to assist in determining the location of potential jurisdictional areas in the project site (USFWS 2021c). The field delineations were conducted to identify and map potential water and wetland resources that could be subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the CWA (33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401 or State Porter-Cologne Water Quality Control Act, and CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code). Where appropriate, the delineation also identified potential City of San Diego ESL wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation, were evaluated.

2.6 SURVEY LIMITATIONS

The lists of species identified are not necessarily comprehensive accounts of all species that occur on the site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. The 2021 surveys were performed during a limited timeframe and within a year with low rainfall, which can influence the expression of certain biological resources during different times of the year.

2.7 NOMENCLATURE

Nomenclature for this report follows Baldwin et al. (2012) for Latin names of plants and Holland (1986) and Oberbauer (2008) for vegetation communities. Animal nomenclature follows North American Butterfly Association (2016) for butterflies, Center for North American Herpetology (Taggart 2020) for reptiles and amphibians, American Ornithological Society (2021) for birds, and Bradley et al. (2017) for mammals. Sensitive plant and animal status are from the CDFW's CNDDB (2021a-c).

3.0 REGIONAL AND REGULATORY FRAMEWORK

Based on the findings of this report, activities affecting the biological resources determined to exist or have the potential to exist within the project study area could be subject to the federal, state, and local regulations discussed below.

3.1 FEDERAL GOVERNMENT

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) (7 United States Code [USC] 136; 16 USC 460 et seq. [1973]) extends legal protection to plants and animals, listed as endangered or threatened by the USFWS and gives authorization to the USFWS to review proposed federal actions to assess potential impacts to species listed as endangered or threatened. The FESA generally prohibits the "taking" of a federally listed species and adverse modification of designated critical habitat.

"Taking" of a threatened or endangered species is deemed to occur when an intentional or negligent act or omission results in any of the following actions: "to harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect, or attempt to engage in any such conduct." Such acts may include significant habitat modification or degradation if it results in death or injury. Likewise, import, export, interstate, and foreign commerce of listed species are all prohibited. Sections 7 and 10 of the FESA permit "incidental take" of a listed species via a federal or private action, respectively, through formal consultation with the USFWS. In lieu of a separate Section10a Permit, an action may be covered in a local or regional Habitat Conservation Plan, such as the City of San Diego MSCP.

3.1.2 Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA as amended under the Migratory Bird Treaty Reform Act of 2004 (Federal Record Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, USFWS places restrictions on disturbances allowed near active

raptor nests. As a regulatory requirement, the project must comply with the regulations and guidelines of the MBTA.

3.1.3 Section 404 of the Clean Water Act

The USACE regulates impacts to waters of the U.S. under Section 404 of the CWA (33 USC 401 et seq.; 33 USC 1344; USC 1413; and Department of Defense, Department of the Army, Corps of Engineers 33 Code of Federal Regulations Part 323). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. A federal CWA Section 404 Permit would be required for a project to place fill in waters of the U.S. Projects impacting waters of the U.S. can be permitted on an individual basis or be covered under one of several approved nationwide permits. Individual permits are assessed individually based on the type of action, amount of fill, etc. Individual permits typically require substantial time (often longer than one year) to review and approve, while nationwide permits are typically processed in a shorter time period but can still take several months to receive formal verification. Utility line activities may be authorized under CWA Section 404 Nationwide Permit 58, which does not place a limit on impacts to linear feet of waters of the U.S.

3.2 STATE OF CALIFORNIA

3.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in the CEQA and its implementing guidelines (State CEQA Guidelines) require that projects with potential adverse effects or impacts on the environment undergo environmental review. Adverse impacts to the environment are typically mitigated as a result of the environmental review process in accordance with laws and regulations.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in ESA and the section of the CFG Code dealing with rare or endangered plants and animals. CEQA Guideline Section 15380(d) allows a public agency to undertake a review to determine whether a significant effect would occur on species that have not yet been listed by either the USFWS or CDFW (i.e., species of concern). Thus, if warranted under special circumstances, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as formally protected.

Pursuant to the requirements of CEQA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA) established that it is State policy to conserve, protect, restore, and enhance State endangered species and their habitats. Under State law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife

species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For State-only listed species, Section 2081 of the CFG Code authorizes the CDFW to issue an Incidental Take Permit for State listed threatened and endangered species if specific criteria are met. The City was issued a take permit for their adopted MSCP Subarea Plan (1997) pursuant to Section 2081.

3.2.3 California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as regulates natural resources such as lakes and streams. Sections 1600 et seq. of CFG Code includes definitions and provisions for the protection of lake and streambed resources. The CDFW requires notification for any activity that could result in an alteration of lake or streambed resources. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. In common practice, CDFW places timing restrictions on the clearing of potential nesting habitat (e.g., vegetation), as well as restrictions on disturbances allowed near active raptor nests. As a regulatory requirement, the project must comply with the regulations and guidelines of the CFG Code.

3.2.4 Porter Cologne Water Quality Control Act and Section 401 of the Clean Water Act

Wetland and water resources regulated by the RWQCB are referred to as waters of the State, and these resources may or may not include waters of the U.S. The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA for waters of the State that are also waters of the U.S., and pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne) for waters of the State that are not waters of the U.S. For projects impacting waters of the U.S., a CWA Section 401 Water Quality Certification, or waiver thereof, is required from the RWQCB before a CWA Section 404 permit becomes valid.

As stated above, waters of the State that are not federal waters are regulated by the RWQCB under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in the discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements or a waiver. The Waste Discharge Requirements are the Porter-Cologne version of a CWA Section 401 Water Quality Certification.

3.3 CITY OF SAN DIEGO

3.3.1 Land Development Manual Biology Guidelines

The City's Biology Guidelines have been formulated by the Development Services Department to aid in the implementation and interpretation of the City's ESL Regulations, San Diego Land Development Code, Chapter 14, Division 1, Section 143.0101 et seq, and the Open Space Residential Zone, Chapter 13, Division 2, Section 131.0201 et seq. Section III of the Guidelines (Biological Impact Analysis and Mitigation Procedures) also serve as standards for the determination of impact and mitigation under the CEQA and the Coastal Act (City 2018b).

3.3.2 Environmentally Sensitive Lands

Impacts to biological resources in the City must comply with the City's ESL Regulations. The purpose of the regulations is to "protect, preserve, and, where damaged restore, the ESL of San Diego and the viability of the species supported by those lands." ESL are defined to include sensitive biological resources, steep hillsides, coastal beaches, sensitive coastal bluffs, and 100-year floodplains.

The ESL Regulations require that impacts to wetlands be avoided unless the activities meet specific exemption criteria established in the ordinance. Development of a site with City-defined wetlands typically requires a Neighborhood Development Permit or Site Development Permit. Further, impacts to City-defined wetlands require approval of deviation findings as required by the ESL Regulations. Impacts to wetlands must be mitigated in accordance with Section III(B)(1)(a) of the Land Development Manual Biology Guidelines (City 2018b). The ESL Regulations also require that buffers be maintained around all wetlands (as appropriate) to protect their functions and values. Buffer widths may either be increased or decreased as determined on a case-by-case basis, taking into consideration the size and type of project proposed, sensitivity of the wetland resource to detrimental edge effects, topography, specific functions and values of the wetland, as well as the need for transitional upland habitat.

The ESL Regulations also restrict development within the MHPA, including impact avoidance areas around raptor nesting locations (specifically, Cooper's hawk, northern harrier [*Circus cyaneus*], golden eagle [*Aquila chrysaetos*], and burrowing owl [*Athene cunicularia*]) and known locations of southern pond turtle (*Clemmys marmorata pallida*), and also requires seasonal restrictions on grading where development may impact the following bird species: western snowy plover (*Charadrius alexandrinus nivosus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least tern (*Sternula antillarum browni*), San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), least Bell's vireo, tricolored blackbird (*Agelaius tricolor*), and coastal California gnatcatcher.

3.3.3 Multiple Species Conservation Program

In July 1997, the USFWS, CDFW, and City adopted the Implementing Agreement for the MSCP. This program allows the incidental take of threatened and endangered species as well as regionally-sensitive species that are conserved by it (covered species). The MSCP designates regional preserves that are intended to be mostly void of development activities, while allowing the development of other areas subject to the requirements of the program. Impacts to biological resources are regulated by the City's ESL Regulations.

The City's MSCP Subarea Plan (1997) has been prepared to meet the requirements of the California Natural Communities Conservation Planning Act of 1992. This Subarea Plan describes how the City's portion of the MSCP Preserve, the MHPA, will be implemented.

4.0 RESULTS

4.1 PHYSICAL CHARACTERISTICS/SETTING

The proposed alignment is located in the City of San Diego and the City of Santee, San Diego County (Figure 4, *Regional Context*). Most of the alignment occurs in developed lands; however, the center of the alignment passes through the City of San Diego MHPA and adjacent to conserved lands. Portions of

the project are also located adjacent to the San Diego River and Forester Creek. The alternative alignment is located within Forester Creek, where the existing utility occurs.

Important biological resources in the region include large tracts of undeveloped lands in the center of the alignment primarily within MTRP; the San Diego River, which parallels portions of the alignment; and Forester Creek at the northern end of the alignment. These areas provide habitat for wide-ranging species, and the water features provide important water sources for multiple species as well as nesting and foraging habitat. The region also hosts designated critical habitat for San Diego ambrosia (*Ambrosia pumila*), Hermes copper butterfly (*Lycaena hermes*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), spreading navarretia (*Navarretia fossalis*), coastal California gnatcatcher, and least Bell's vireo (Figure 5, *USFWS Critical Habitat*).

4.2 DISTURBANCE

The preferred alignment is located within established roadways and urbanized areas. The alternative alignment at the north end of the project would be located within Forester Creek. In the undeveloped areas, including Forester Creek, the close proximity to development has resulted in disturbance to native vegetation communities, habitat fragmentation, and the introduction of non-native species. MTRP is used heavily for recreation, which presents regular disturbances to the areas. The San Diego River and Forester Creek are highly disturbed in portions due to activity by persons experiencing homelessness.

4.3 TOPOGRAPHY AND SOILS

Elevations within the study area range from approximately 60 feet above mean sea level to 375 feet above mean sea level. Twenty-five soil types, as mapped by the U.S. Department of Agriculture (2019), occur within the study area (Figure 6*, Soils*). The following soils occur along the alignment: Diablo clay, 2 to 9 percent slopes (DaC); Diablo clay, 15 to 30 percent slopes (DaE); Diablo-Urban land complex, 5 to 15 percent slopes (DcD); Fallbrook sandy loam, 5 to 9 percent slopes (FaC); Fallbrook rocky sandy loam, 5 to 9 percent slopes (FeC); Fallbrook rocky sandy loam, 9 to 30 percent slopes (FeE); Friant rocky fine sandy loam, 30 to 70 percent slopes (FxG); Gravel pits (GP); Huerhuero loam, 2 to 9 percent slopes, (HrC); Huerhuero loam, 9 to 15 percent slopes, eroded (HrD2); Huerhuero loam, 15 to 30 percent slopes, eroded (HrE2); Huerhuero-Urban land complex; 2 to 9 percent slopes (HuC); Huerhuero-Urban land complex; 9 to 30 percent slopes (HuE); Made land (Md); Metamorphic rock land (MrG); Ramona sandy loam, 5 to 9 percent slopes (RaC); Redding sandy loam, 5 to 9 percent slopes (RaC); Redding cobbly loam, 9 to 30 percent slopes (ReE); Redding-Urban land complex, 2 to 9 percent slopes (RhC); Reiff fine sandy loam, 5 to 9 percent slopes (RkC); Riverwash (Rm); Salinas clay loam, 0 to 2 percent slopes (SbA); Salinas clay loam, 2 to 9 percent slopes (SbC); Soboba stoney loamy sand, 9 to 30 percent slopes (SsE); Stony land (SvE); and Tujunga sand, 0 to 5 percent slopes (TuB). The remainder of the alignment is Water (W). Much of the pipeline alignment has been previously developed.

4.4 VEGETATION COMMUNITIES/HABITAT TYPES

A total of 17 vegetation communities occur within the study area: Arundo-dominated riparian, coast live oak woodland, Diegan coastal sage scrub (including broom baccharis scrub and disturbed), eucalyptus woodland, freshwater marsh (including disturbed), non-native grassland, –non-native riparian, non-native vegetation, non-vegetated channel or floodway (concrete-lined), open water, riparian scrub, southern cottonwood-willow riparian forest (including disturbed), southern maritime chaparral, southern riparian woodland and forest (including disturbed), southern willow scrub (including

disturbed), disturbed land, and developed land (as shown on Figures 7, *Map Key for Vegetation/Potential Jurisdictional Waters and Wetlands*; 7a through 7p, *Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands;* and Figures 8a through 8p, *Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Project Disturbance*). Table 2, *Vegetation Communities within the Study Area*, lists the land cover types within the study area along with their MSCP Tier designation and corresponding Holland (1986) code, as modified by Oberbauer (2008), and acreages.

Table 2
VEGETATION COMMUNITIES WITHIN THE STUDY AREA

Vegetation Community/Land Uses[1]	MSCP Tier	Existing (Acres)[2]		
		Inside MHPA	Outside MHPA	Total
Wetland/Riparian Communities				
Arundo-Dominated Riparian (65100)	Wetland	--	0.10	0.10
Freshwater Marsh (including disturbed, 52410)	Wetland	0.08	--	0.08
Non-Native Riparian (65000)	Wetland	--	0.24	0.24
Non-Vegetated Channel or Floodway (concrete-lined)	Wetland	--	0.20	0.20
Open Water (64100)	Wetland	--	<0.01	<0.01
Riparian Scrub (63000)	Wetland	--	0.09	0.09
Southern Cottonwood-Willow Riparian Forest (including disturbed; 61330)	Wetland	--	0.13	0.13
Southern Riparian Woodland and Forest (including disturbed; 61300)	Wetland	20.06	1.45	21.51
Southern Willow Scrub (including disturbed; 63320)	Wetland	1.32	0.27	1.59
	Wetlands Subtotal	**21.46**	**2.48**	**23.94**
Upland Communities				
Coast Live Oak Woodland (71160)	Tier I	2.4	0.1	2.5
Diegan Coastal Sage Scrub (32500; including broom baccharis scrub [32530] and disturbed [32510])	Tier II	18.4	11.1	29.5
Non-Native Grassland (42200)	Tier IIIB	1.4	0.4	1.8
Southern Maritime Chaparral (37030)	Tier I	0.1	--	0.1
Eucalyptus Woodland (11100)	Tier IV	--	1.6	1.6
Non-Native Vegetation (11000)	Tier IV	1.2	9.5	10.7
Disturbed Land (11300)	Tier IV	1.3	7.3	8.6
Developed Land (12000)	Tier V	12.9	164.4	177.3
	Uplands Subtotal	**37.7**	**194.4**	**232.1**
	TOTAL	***59.16***	***195.88***	***256.04***

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008). The communities are also organized according to City of San Diego Wetland and MSCP Tier classifications. In some cases, vegetation names were modified by HELIX.
[2] Rounded to the nearest tenth for upland communities and to the nearest hundredth for wetland/riparian communities.

Arundo-Dominated Riparian

This vegetation community occurs as dense monocultures of giant reed (*Arundo donax*). Approximately 0.10 acre of Arundo-dominated riparian occurs within the study area.

ECAWP Regional Brine Pipeline

Package 4 - Preferred Alignment
Package 4 - Northern Alternative
Potential Lift Station Location
City of San Diego MHPA
Conserved Lands

52
Clairemont Mesa Blvd
Balboa Ave
Tierrasanta Blvd
San Diego River (Lower)
15
805
Friars Rd
Fenton Pky
Fairmount Ave
8
Alvarado Creek
College Ave
Mast Blvd
San Diego River (Upper)
Father Junipero Serra Trl
Mission Gorge Rd
Forester Creek
125
52
SANTEE
SAN DIEGO
SANTEE
EL CAJON
Cuyamaca St
Navajo Rd
SAN DIEGO
EL CAJON
Fletcher Pky
Jackson Dr
EL CAJON
LA MESA
LA MESA
SAN DIEGO
Baltimore Dr
Fletcher Pky
Murray Dr
8
Gossmont Blvd

0 3,000 Feet

Source: Aerial (NearMap, 2019)

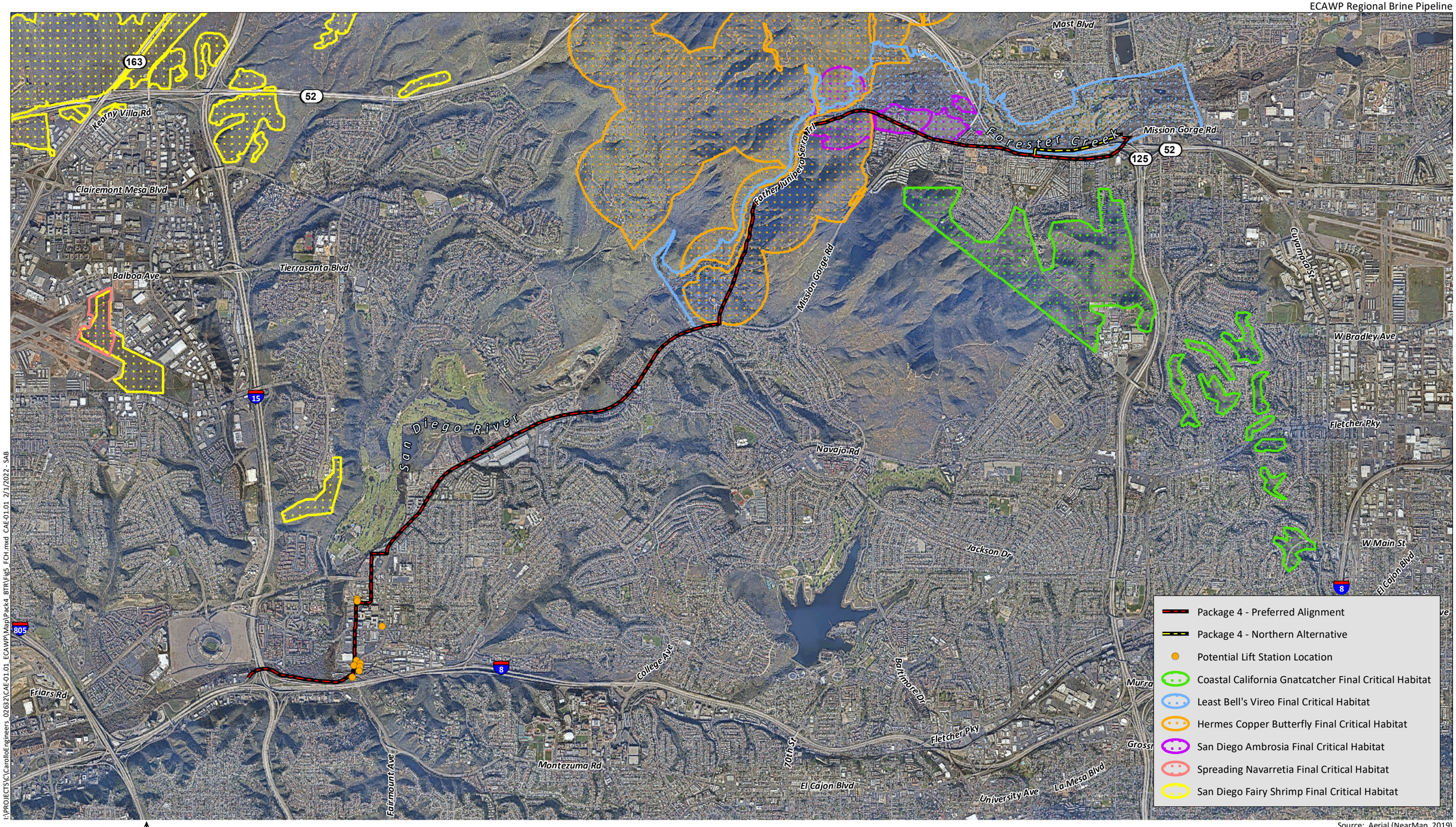
I:\PROJECTS\C\Carollo\Engineers_02632\CAE-01.01_ECAWP\Mxd\Pack4_BTR\Fig4_RegionalContext.mxd 02632.1.1 11/4/2021 - SAB

HELIX Environmental Planning

Regional Context

Figure 4

ECAWP Regional Brine Pipeline



Source: Aerial (NearMap, 2019)

I:\PROJECTS\C\CarolloEngineers_02623\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig5_FCH.mxd CAE-01.01 2/1/2022 - SAB

HELIX Environmental Planning

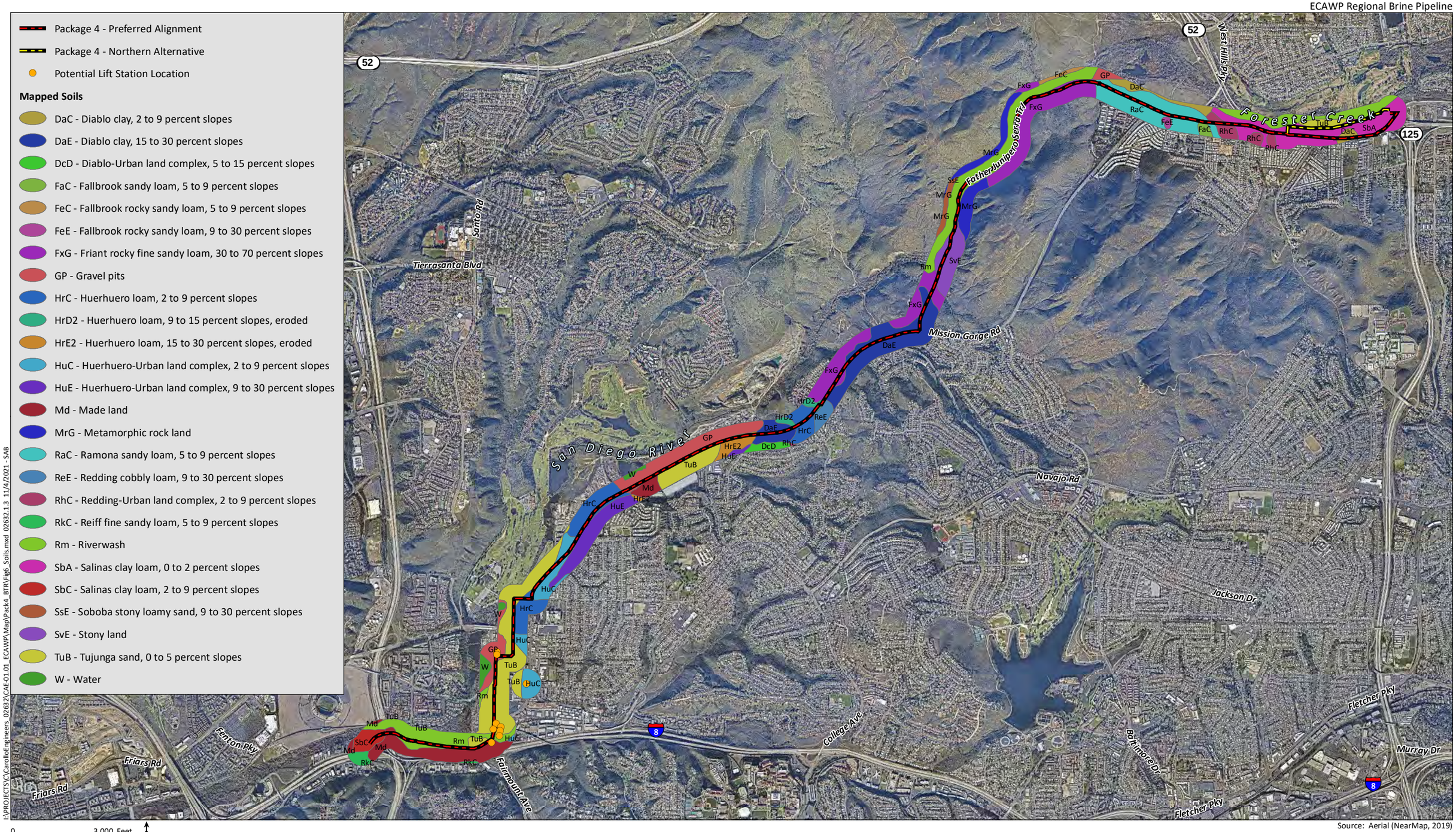
USFWS Critical Habitat

Figure 5

- Package 4 - Preferred Alignment
- Package 4 - Northern Alternative
- Potential Lift Station Location

Mapped Soils

- DaC - Diablo clay, 2 to 9 percent slopes
- DaE - Diablo clay, 15 to 30 percent slopes
- DcD - Diablo-Urban land complex, 5 to 15 percent slopes
- FaC - Fallbrook sandy loam, 5 to 9 percent slopes
- FeC - Fallbrook rocky sandy loam, 5 to 9 percent slopes
- FeE - Fallbrook rocky sandy loam, 9 to 30 percent slopes
- FxG - Friant rocky fine sandy loam, 30 to 70 percent slopes
- GP - Gravel pits
- HrC - Huerhuero loam, 2 to 9 percent slopes
- HrD2 - Huerhuero loam, 9 to 15 percent slopes, eroded
- HrE2 - Huerhuero loam, 15 to 30 percent slopes, eroded
- HuC - Huerhuero-Urban land complex, 2 to 9 percent slopes
- HuE - Huerhuero-Urban land complex, 9 to 30 percent slopes
- Md - Made land
- MrG - Metamorphic rock land
- RaC - Ramona sandy loam, 5 to 9 percent slopes
- ReE - Redding cobbly loam, 9 to 30 percent slopes
- RhC - Redding-Urban land complex, 2 to 9 percent slopes
- RkC - Reiff fine sandy loam, 5 to 9 percent slopes
- Rm - Riverwash
- SbA - Salinas clay loam, 0 to 2 percent slopes
- SbC - Salinas clay loam, 2 to 9 percent slopes
- SsE - Soboba stony loamy sand, 9 to 30 percent slopes
- SvE - Stony land
- TuB - Tujunga sand, 0 to 5 percent slopes
- W - Water



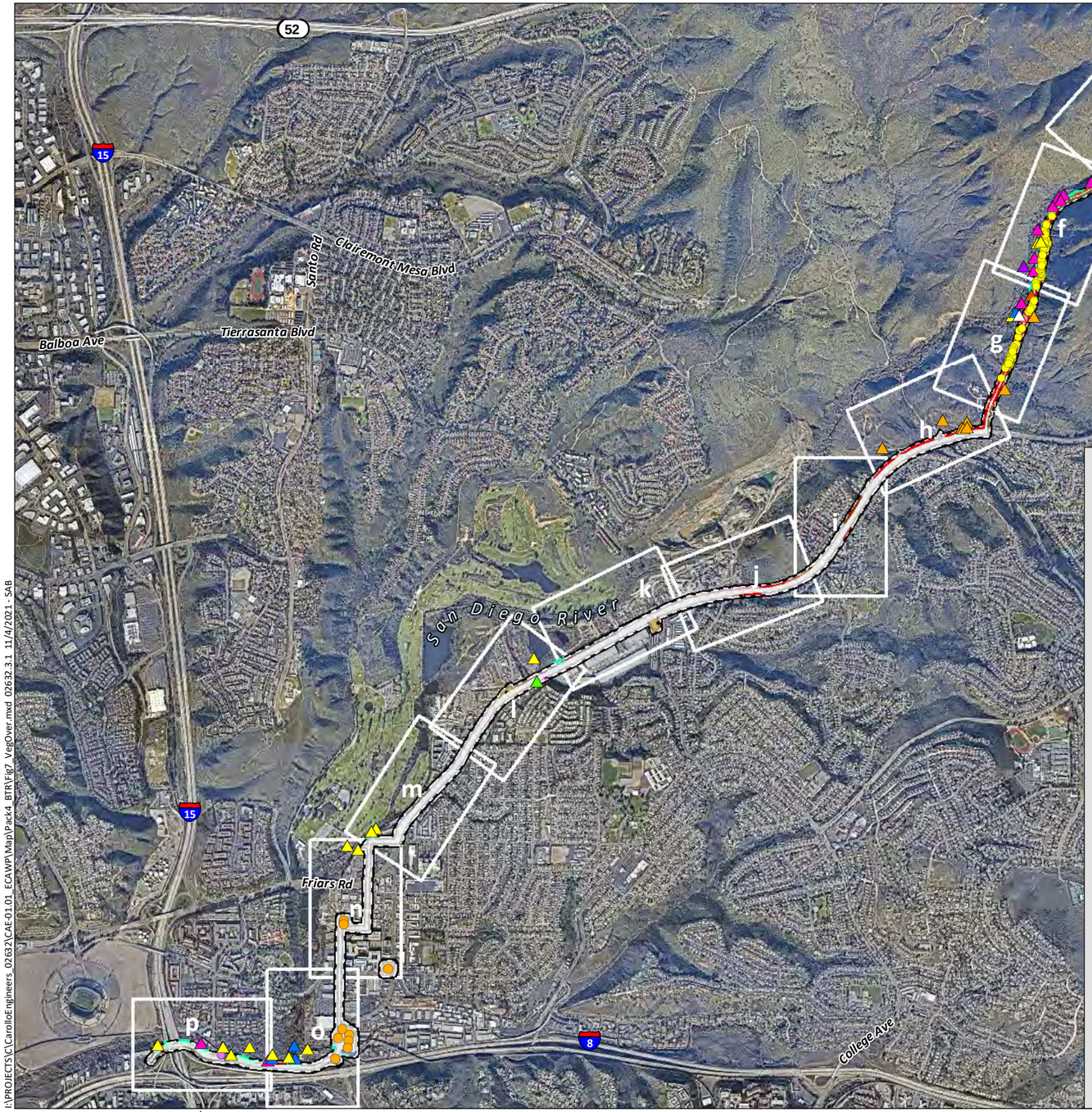
0 3,000 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Soils

Figure 6



0 2,700 Feet

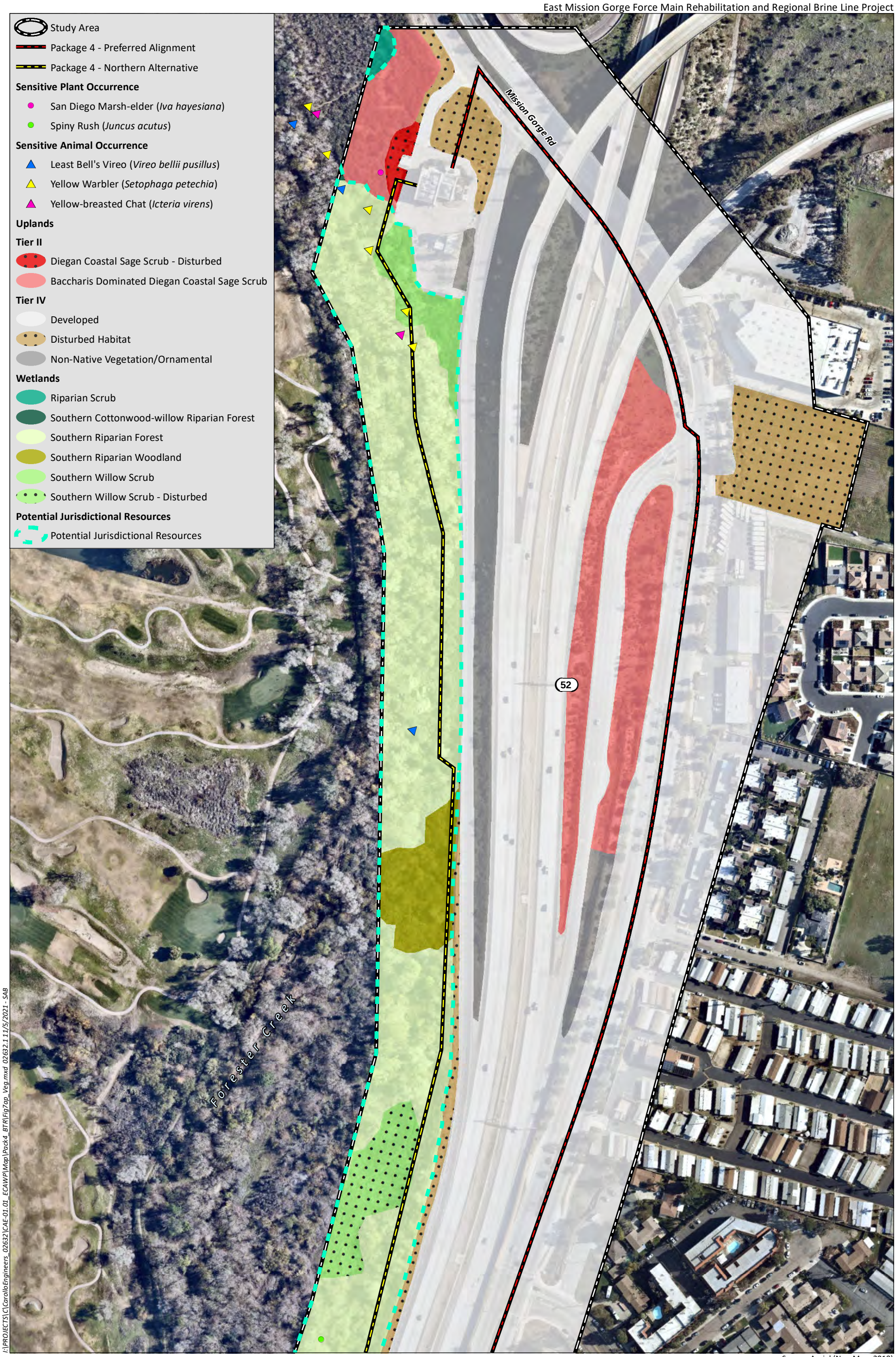
N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Map Key for Vegetation/Potential Jurisdictional Waters and Wetlands

Figure 7



i:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7a

Study Area
Package 4 - Preferred Alignment
Package 4 - Northern Alternative

Sensitive Plant Occurrence
San Diego Marsh-elder (*Iva hayesiana*)
Spiny Rush (*Juncus acutus*)

Sensitive Animal Occurrence
Western Bluebird (*Sialia mexicana*)

Uplands

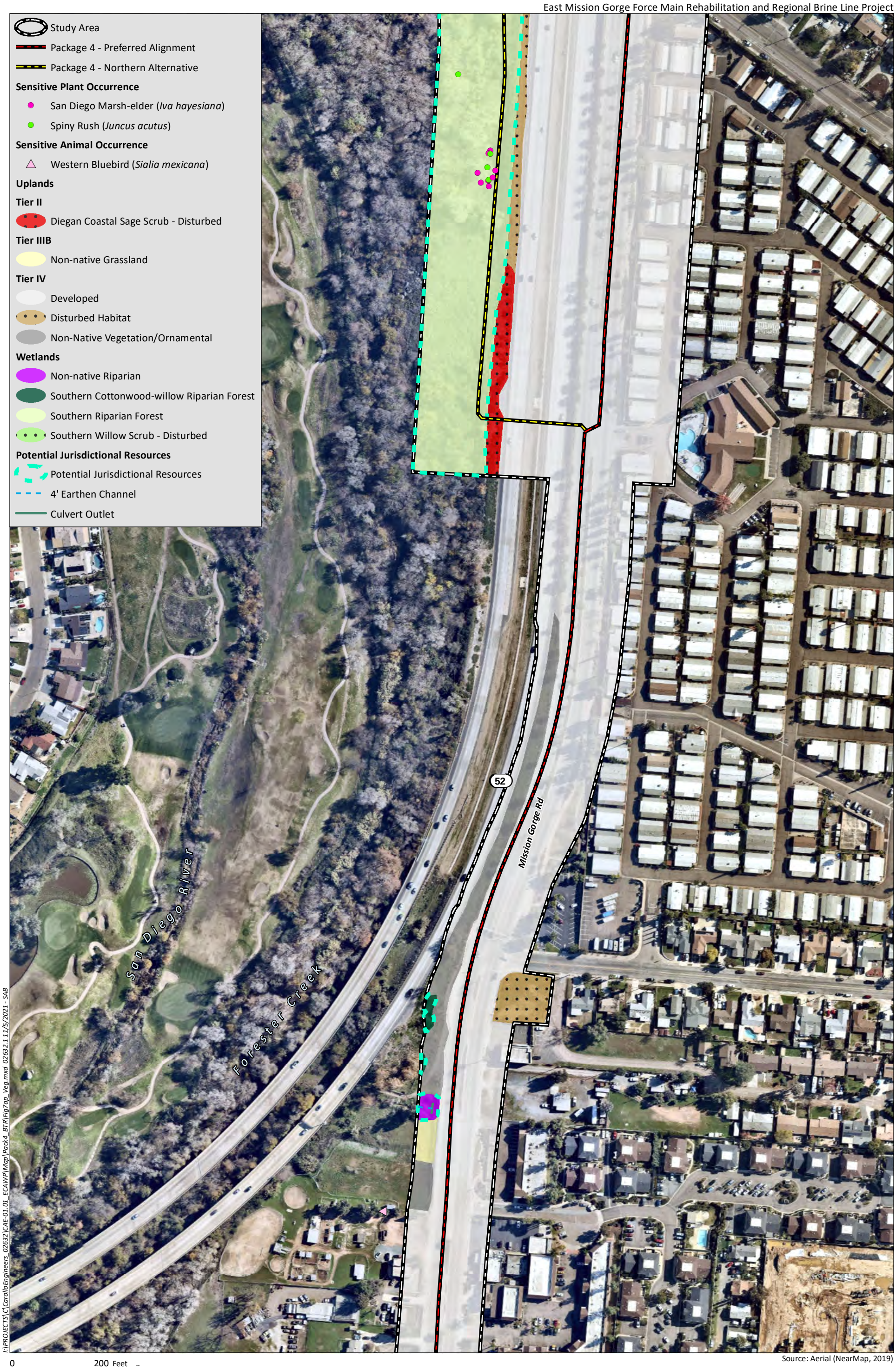
Tier II
Diegan Coastal Sage Scrub - Disturbed

Tier IIIB
Non-native Grassland

Tier IV
Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands
Non-native Riparian
Southern Cottonwood-willow Riparian Forest
Southern Riparian Forest
Southern Willow Scrub - Disturbed

Potential Jurisdictional Resources
Potential Jurisdictional Resources
4' Earthen Channel
Culvert Outlet



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7b

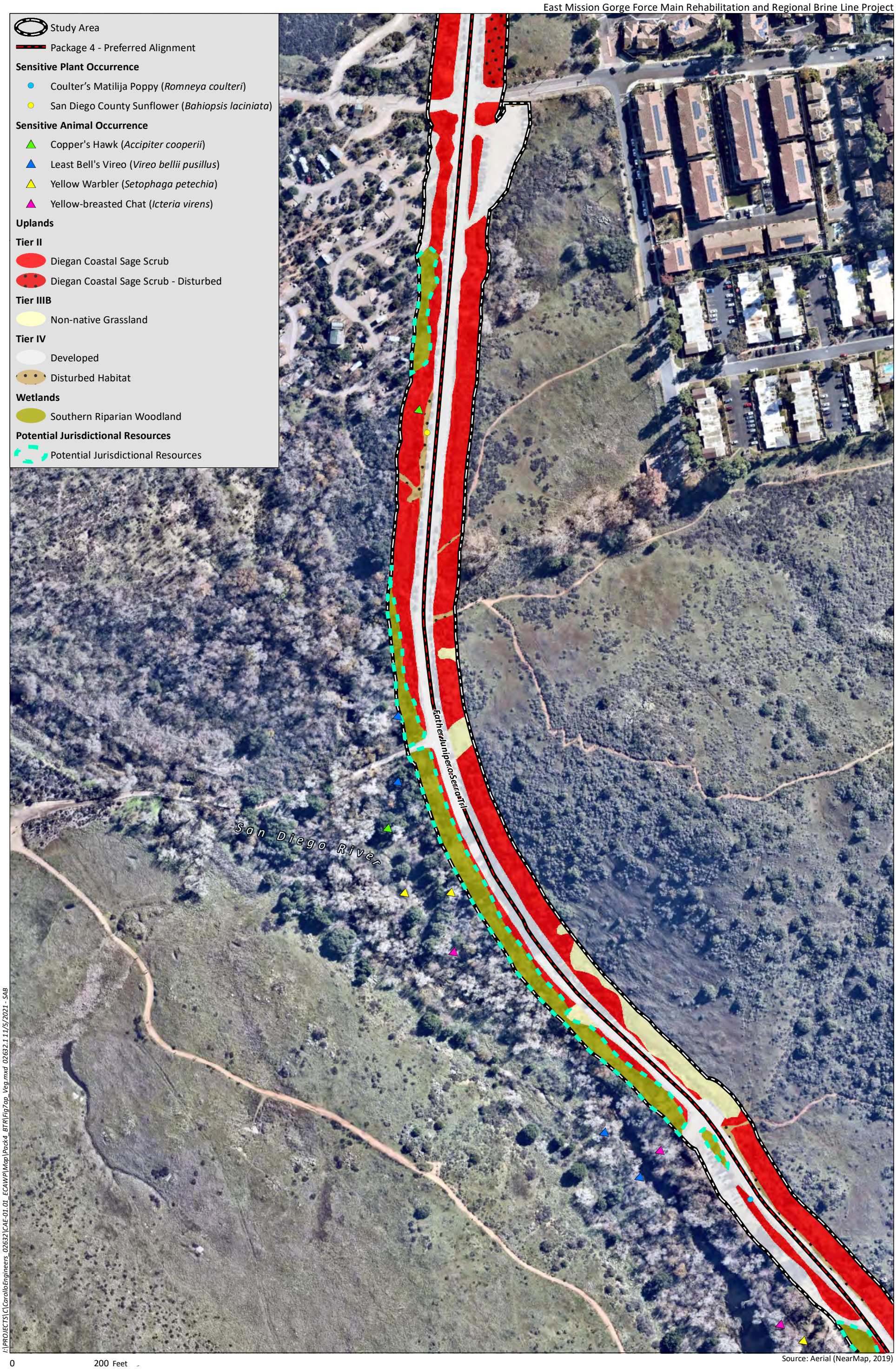
0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7c



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7d

Study Area

Package 4 - Preferred Alignment

Sensitive Plant Occurrence

- Coulter's Matilija Poppy (*Romneya coulteri*)
- Decumbent Goldenbush (*Isocoma menziesii var. decumbens*)
- San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

- Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Costa's Hummingbird (*Calypte costae*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

- Coast Live Oak Woodland
- Southern Maritime Chaparral

Tier II

- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed

Tier IV

- Developed
- Disturbed Habitat

Wetlands

- Southern Riparian Woodland

Potential Jurisdictional Resources

- Potential Jurisdictional Resources

San Diego River

Father Junipero Serra Trl

i:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7e

Study Area

Package 4 - Preferred Alignment

Sensitive Plant Occurrence

San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Least Bell's Vireo (*Vireo bellii pusillus*)

Peregrine Falcon (*Falco peregrinus*)

Yellow Warbler (*Setophaga petechia*)

Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

Coast Live Oak Woodland

Tier II

Diegan Coastal Sage Scrub

Tier IV

Developed

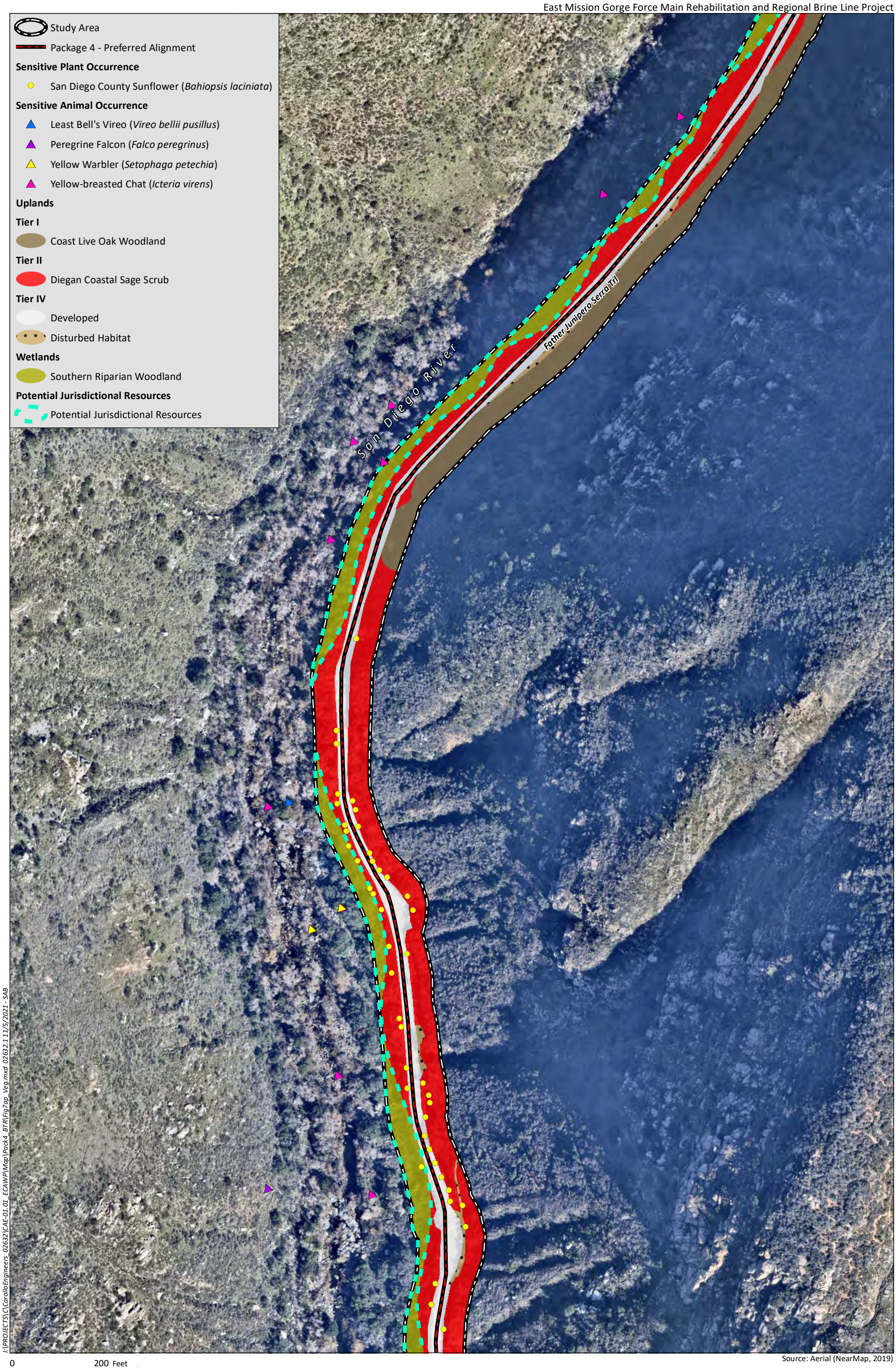
Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7f

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project

Study Area

Package 4 - Preferred Alignment

Sensitive Plant Occurrence

Decumbent Goldenbush (*Isocoma menziesii var. decumbens*)

San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Coastal California Gnatcatcher (*Polioptila californica californica*)

Costa's Hummingbird (*Calypte costae*)

Least Bell's Vireo (*Vireo bellii pusillus*)

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

Yellow Warbler (*Setophaga petechia*)

Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

Coast Live Oak Woodland

Tier II

Diegan Coastal Sage Scrub

Tier IV

Developed

Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources

San Diego River

Father Junipero Serra Trl

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7g

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7h

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

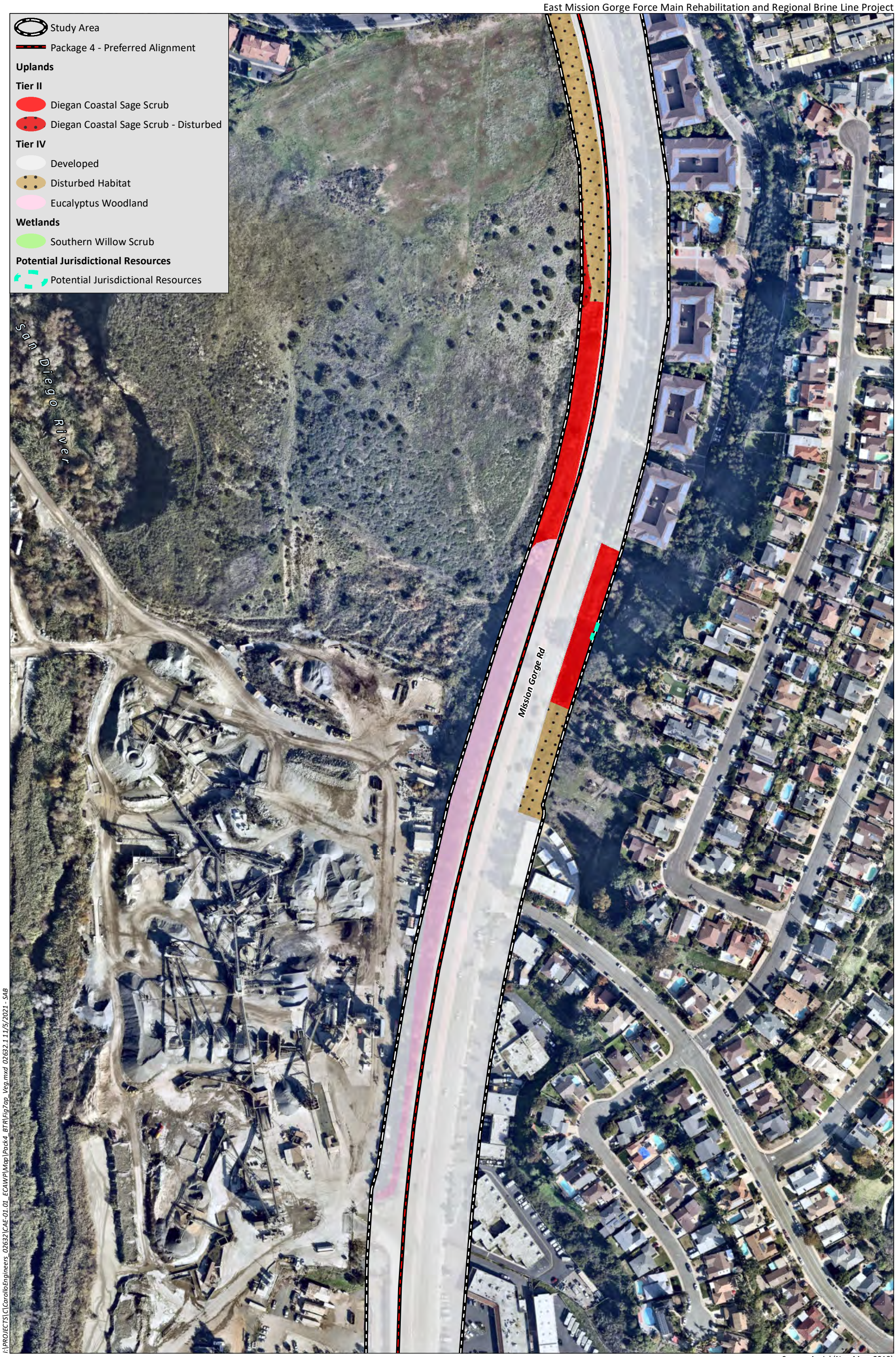
Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7i

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7j

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7k

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7l

Study Area
Package 4 - Preferred Alignment

Sensitive Animal Occurrence

Yellow Warbler (*Setophaga petechia*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Open Water
Southern Cottonwood-willow Riparian Forest

Potential Jurisdictional Resources

Potential Jurisdictional Resources
3' Earthen Channel

San Diego River

Mission Gorge Rd

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAW\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

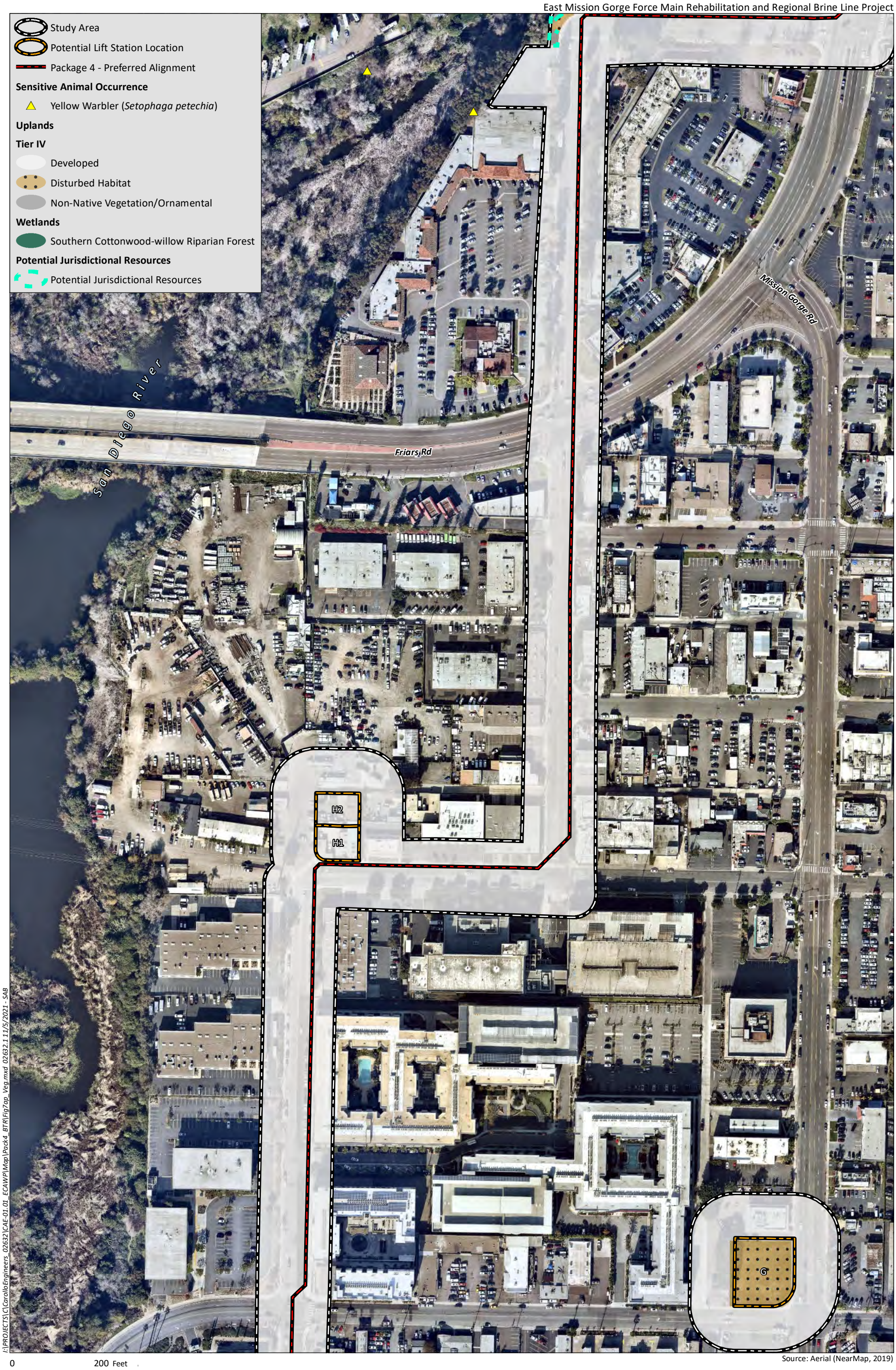
0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7m



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7n

Study Area
Potential Lift Station Location
Package 4 - Preferred Alignment

Sensitive Animal Occurrence

Least Bell's Vireo (*Vireo bellii pusillus*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

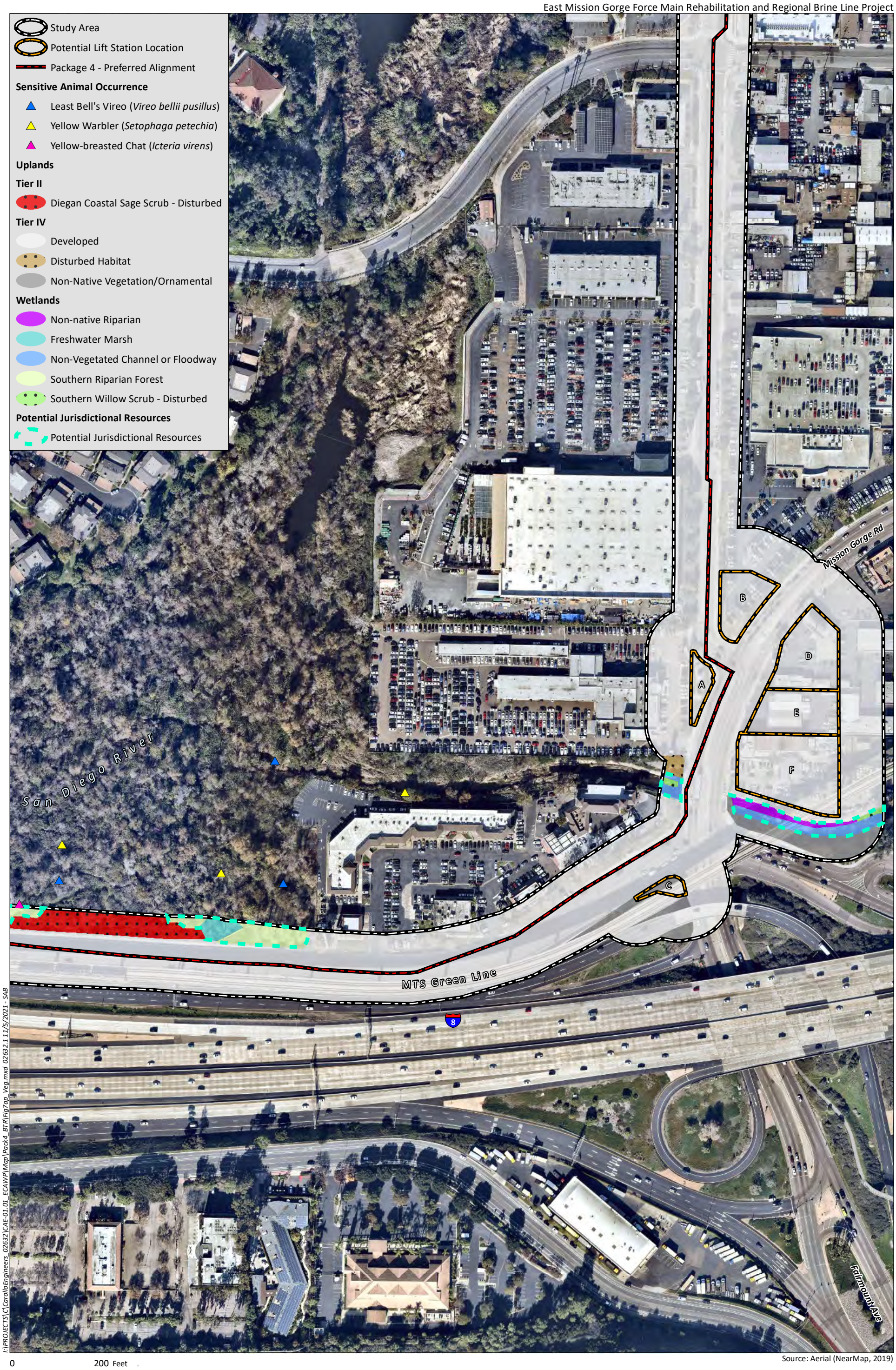
Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Non-native Riparian
Freshwater Marsh
Non-Vegetated Channel or Floodway
Southern Riparian Forest
Southern Willow Scrub - Disturbed

Potential Jurisdictional Resources

Potential Jurisdictional Resources



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7op_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

Figure 7o

Study Area

Package 4 - Preferred Alignment

Sensitive Plant Occurrence

San Diego Sagewort (*Artemisia palmeri*)

Sensitive Animal Occurrence

Yellow Warbler (*Setophaga petechia*)

Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed

Non-Native Vegetation/Ornamental

Wetlands

Southern Riparian Forest

Potential Jurisdictional Resources

Potential Jurisdictional Resources

MTS Green Line

San Diego River

15

8

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig7ap_Veg.mxd 02632.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands

HELIX Environmental Planning

Figure 7p

Study Area
Preferred Alignment Impacts
Northern Alternative Impacts
Potential Staging Area

Sensitive Plant Occurrence

San Diego Marsh-elder (*Iva hayesiana*)
Spiny Rush (*Juncus acutus*)

Sensitive Animal Occurrence

Least Bell's Vireo (*Vireo bellii pusillus*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed
Baccharis Dominated Diegan Coastal Sage Scrub

Tier IV

Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Riparian Scrub
Southern Cottonwood-willow Riparian Forest
Southern Riparian Forest
Southern Riparian Woodland
Southern Willow Scrub
Southern Willow Scrub - Disturbed

Potential Jurisdictional Resources

Potential Jurisdictional Resources

Mission Gorge Rd
52
Arminda Cir
Marrokal Ln
Cherub Ct
Mesa Rd
Graham Ter
Forester Creek

i:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_Veglmps.mxd 02632.3.1 11/5/2021 - SAB

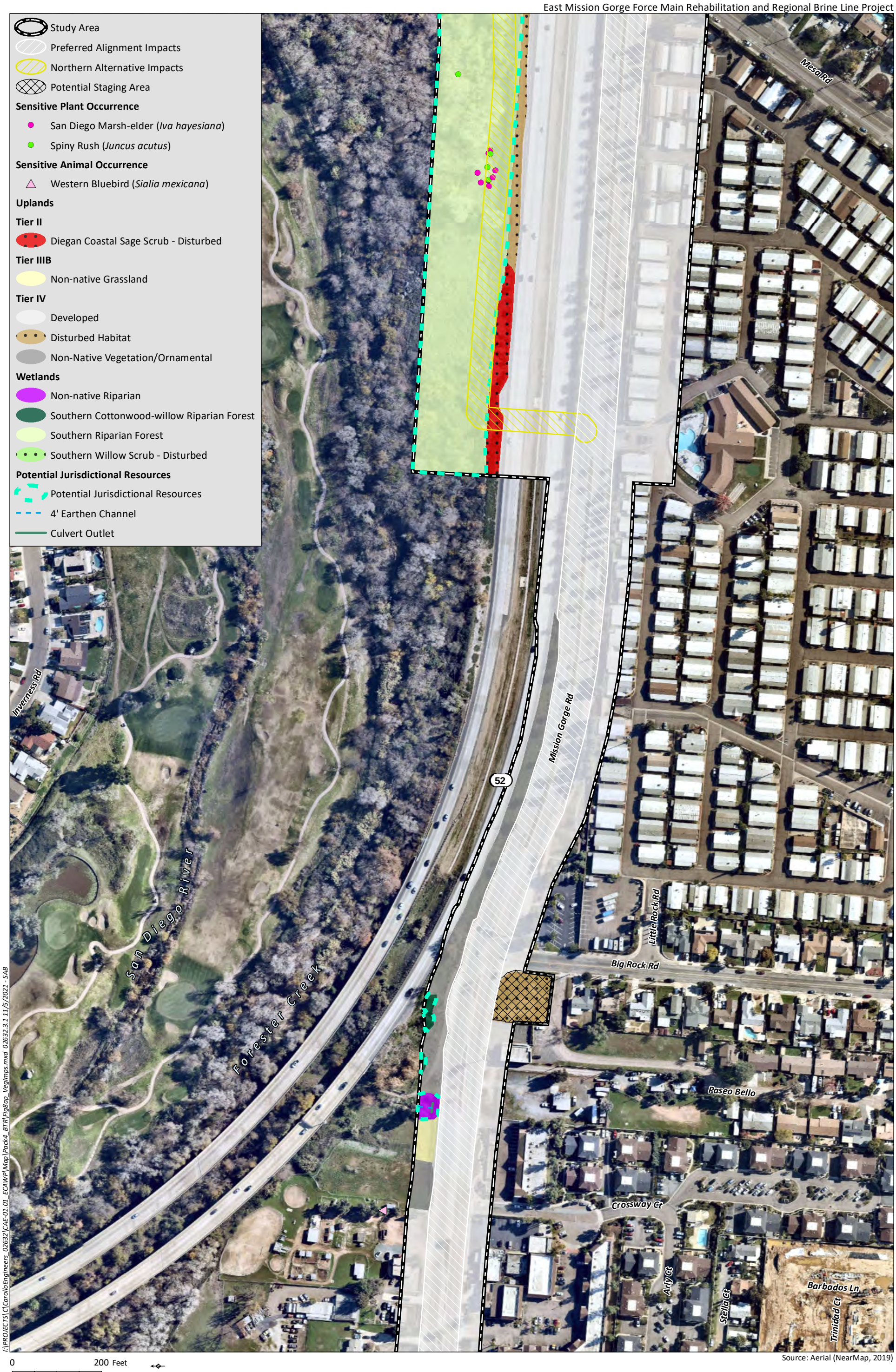
0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8a



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8b

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Animal Occurrence

Copper's Hawk (*Accipiter cooperii*)

Uplands

Tier II

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed

Tier IIIB

Non-native Grassland

Tier IV

Developed
Disturbed Habitat
Non-native Woodland

Via Sovana
Via Cortona
Via Montisi
West Hills Pky
Carribean Way
Arly Ct
Stella Ct
Wistful Vista
Rancho Fanita Dr
Starpine Dr
Hiser Ln
Aubrey Glen
Rosemond Ln
Bassett Ln
Bellmont Pass
Mirabelle Ln
Mirabelle Ct
Clare Ln
Wren St
Dove St
Rolling Oaks Rd
Olivehill Rd
Coral Ridge Rd
Fernridge Rd
Crescent Ridge Rd
Ridgecrest Rd
Father Junipero Serra Trl
Simeon Dr
Mission Gorge Rd
Bushy Hill Dr

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8c

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Plant Occurrence

Coulter's Matilija Poppy (*Romneya coulteri*)
San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Copper's Hawk (*Accipiter cooperii*)
Least Bell's Vireo (*Vireo bellii pusillus*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed

Tier IIIB

Non-native Grassland

Tier IV

Developed
Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources

Bushy Hill Dr
Bushy Hill Dr
Bushy Hill Dr
Eagle Dr
Mission Villas Ct
Canyon Dr
Boulder Ln
Simeon Dr
Wahl St
San Diego River
Father Junipero Serra Trl

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8dp_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8d

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Plant Occurrence

Coulter's Matilija Poppy (*Romneya coulteri*)
Decumbent Goldenbush (*Isocoma menziesii var. decumbens*)
San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)
Coastal California Gnatcatcher (*Polioptila californica californica*)
Costa's Hummingbird (*Calypte costae*)
Least Bell's Vireo (*Vireo bellii pusillus*)
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

Coast Live Oak Woodland
Southern Maritime Chaparral

Tier II

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed
Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources

San Diego River
Father Junipero Serra Trl
Father Junipero Serra Trl

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8e

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Plant Occurrence

San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Least Bell's Vireo (*Vireo bellii pusillus*)
Peregrine Falcon (*Falco peregrinus*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

Coast Live Oak Woodland

Tier II

Diegan Coastal Sage Scrub

Tier IV

Developed
Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources

San Diego River
Father Junipero Serra Trl
Father Junipero Serra Trl
Father Junipero Serra Trl

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8f

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Plant Occurrence

Decumbent Goldenbush (*Isocoma menziesii var. decumbens*)
San Diego County Sunflower (*Bahiopsis laciniata*)

Sensitive Animal Occurrence

Coastal California Gnatcatcher (*Polioptila californica californica*)
Costa's Hummingbird (*Calypte costae*)
Least Bell's Vireo (*Vireo bellii pusillus*)
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier I

Coast Live Oak Woodland

Tier II

Diegan Coastal Sage Scrub

Tier IV

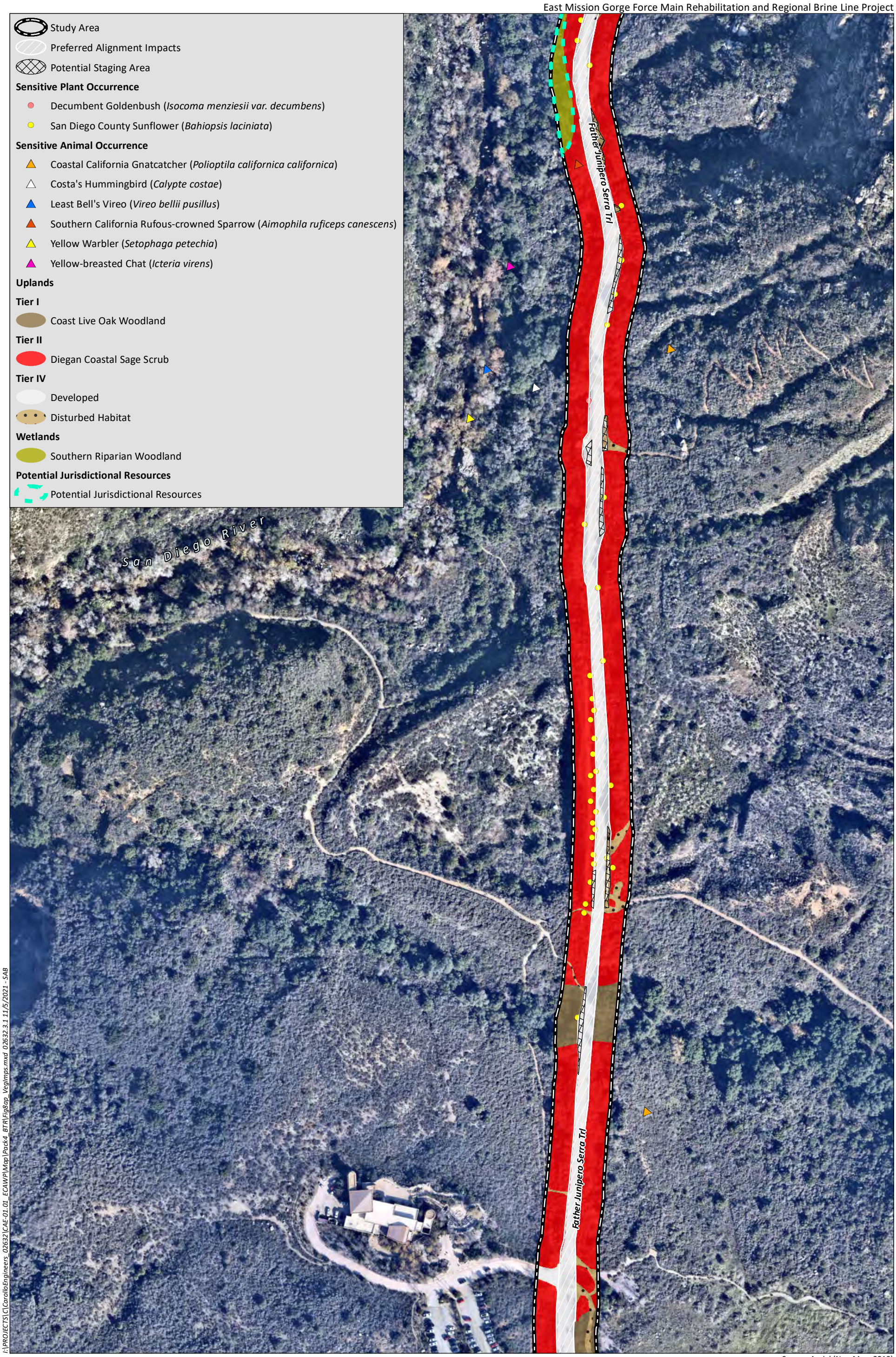
Developed
Disturbed Habitat

Wetlands

Southern Riparian Woodland

Potential Jurisdictional Resources

Potential Jurisdictional Resources



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAW\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8g

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Animal Occurrence

Coastal California Gnatcatcher (*Polioptila californica californica*)

Uplands

Tier I

Coast Live Oak Woodland

Tier II

Diegan Coastal Sage Scrub

Tier IV

Developed
Disturbed Habitat

Wetlands

Southern Willow Scrub

Potential Jurisdictional Resources

Potential Jurisdictional Resources

Father Junipero Serra Trl
Father Junipero Serra Trl
Mission Gorge Rd
Echo Dell Rd
Bell Bluff Ave
Jackson Dr
Hillandale Dr
Doe Pt
Thistle Ct
Deerfield St
Deerfield Cir

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8h

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8i

Study Area
Preferred Alignment Impacts

Uplands

Tier II

Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed
Disturbed Habitat
Eucalyptus Woodland

Wetlands

Southern Willow Scrub

Potential Jurisdictional Resources

Potential Jurisdictional Resources

Mission Vista Dr
San Diego River
Mission Gorge Rd
Lone Star Dr
Lone Star St
Conestoga Way
Laramie Way
Chaparajos Ct
Red River Dr

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8qp_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8j

0 200 Feet

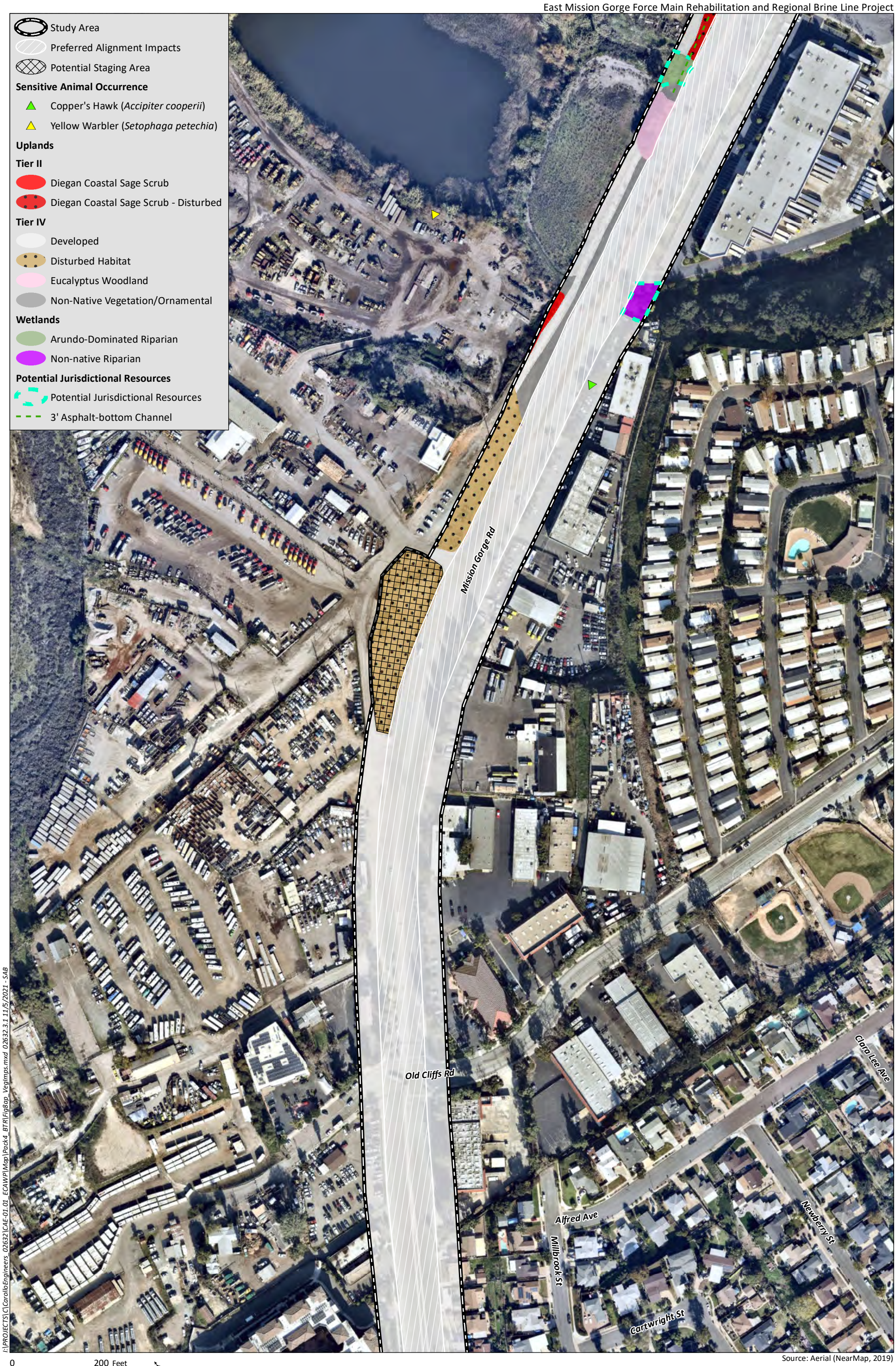
Source: Aerial (NearMap, 2019)

i:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_Veglmps.mxd 02632.3.1 11/5/2021 - SAB

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8k



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8qp_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8l

Study Area
Preferred Alignment Impacts
Potential Staging Area

Sensitive Animal Occurrence

Yellow Warbler (*Setophaga petechia*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Open Water
Southern Cottonwood-willow Riparian Forest

Potential Jurisdictional Resources

Potential Jurisdictional Resources
3' Earthen Channel

Cartwright St
Millbrook St
Greenbrier Ave
Allied Rd
Burgundy St
Crawford St
Archwood Ave
Zion Ave
Mission Gorge Rd
San Diego River
Riverdale St

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAW\Map\Pack4_BTR\Fig8ap_Veglmps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8m

Study Area
Potential Lift Station Location
Preferred Alignment Impacts
Potential Staging Area

Sensitive Animal Occurrence

Yellow Warbler (*Setophaga petechia*)

Uplands

Tier IV

Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Southern Cottonwood-willow Riparian Forest

Potential Jurisdictional Resources

Potential Jurisdictional Resources

0 200 Feet

Source: Aerial (NearMap, 2019)

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_Veglmps.mxd 02632.3.1 11/5/2021 - SAB

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8n

Study Area
Potential Lift Station Location
Preferred Alignment Impacts

Sensitive Animal Occurrence

Least Bell's Vireo (*Vireo bellii pusillus*)
Yellow Warbler (*Setophaga petechia*)
Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed
Disturbed Habitat
Non-Native Vegetation/Ornamental

Wetlands

Non-native Riparian
Freshwater Marsh
Non-Vegetated Channel or Floodway
Southern Riparian Forest
Southern Willow Scrub - Disturbed

Potential Jurisdictional Resources

Potential Jurisdictional Resources

San Diego Mission Rd
Twain Ave
Fairmount Ave
Caminito Yucatan
Mission Gorge Rd
A
B
C
D
E
F
San Diego River
Camino Del Rio North
MTS Green Line
8
Alvarado Canyon Rd
Camino Del Rio South
Fairmount Ave

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8op_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8o

Study Area

Preferred Alignment Impacts

Sensitive Plant Occurrence

San Diego Sagewort (*Artemisia palmeri*)

Sensitive Animal Occurrence

Yellow Warbler (*Setophaga petechia*)

Yellow-breasted Chat (*Icteria virens*)

Uplands

Tier II

Diegan Coastal Sage Scrub - Disturbed

Tier IV

Developed

Non-Native Vegetation/Ornamental

Wetlands

Southern Riparian Forest

Potential Jurisdictional Resources

Potential Jurisdictional Resources

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_BTR\Fig8ap_VegImps.mxd 02632.3.1 11/5/2021 - SAB

0 200 Feet

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Potential Jurisdictional Waters and Wetlands/Impacts

Figure 8p

Coast Live Oak Woodland

Coast live oak woodland is an open to dense evergreen woodland or forest community dominated by coast live oak (*Quercus agrifolia*) that may reach heights of 35 to 80 feet. The shrub layer consists of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), and poison oak (*Toxicodendron diversilobum*). This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986). Coast live oak woodland can be further described as either open or dense. The differences between the coast live oak woodland and coast live oak forest are physiognomic rather than compositional. The habitat type is considered a sensitive natural community. Approximately 2.5 acres of coast live oak woodland occur within the study area.

Diegan Coastal Sage Scrub (including broom baccharis scrub and disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Coastal sage scrub is dominated by subshrubs with leaves that abscise during drought and are replaced by a lesser number of smaller leaves. This adaptation of drought evasion allows these species to better withstand the prolonged drought period in the summer and fall in areas of low precipitation. Coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. The habitat type is considered a sensitive natural community.

Dominant species in this vegetation community within the study area include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and laurel sumac (*Malosma laurina*). Approximately 23.1 acres of coastal sage scrub occur within the study area.

Broom baccharis scrub contains some of the same shrub species as Diegan coastal sage scrub but is dominated by mule fat (*Baccharis salicifolia*) and coyote brush (*Baccharis pilularis*). Approximately 3.9 acres of broom baccharis scrub occur within the study area.

Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed coastal sage scrub but is sparser and has a higher proportion of non-native annual species. Approximately 2.5 acres of disturbed coastal sage scrub occur within the study area.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced species that has often been planted purposely for wind-blocking, ornamental, and hardwood production purposes. Most groves are monotypic, with the most common species being either the blue gum (*Eucalyptus gunnii*) or red gum (*E. camaldulensis* ssp. *obtusa*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter. If sufficient moisture is available, this species becomes naturalized and is able to reproduce and expand its range. The sparse understory offers only limited wildlife habitat; however, as a wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. Eucalyptus trees with active raptor nests are considered sensitive. Approximately 1.6 acres of eucalyptus woodland occur within the study area.

Freshwater Marsh

Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater, or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). Dominant species include cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge (*Eleocharis* sp.). This wetland habitat is relatively scarce, and the remaining acreage provides important habitat for migrant birds as well as performs many other functions, such as floodwater conveyance and water quality enhancement. Freshwater marsh is considered a sensitive natural community. Species in this vegetation community within the study area are primarily cattails, but also include rushes and sedges. Approximately 0.08 acre of freshwater marsh occurs within the study area.

Non-Native Grassland

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Most of the annual introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. This community is made up of mustards (*Brassica* sp., *Hirschfeldia* sp.), bromes (*Bromus* spp.), and oats (*Avena* spp.). Approximately 1.8 acres of non-native grassland occur within the study area.

Non-Native Riparian

This vegetation community occurs along a drainage and/or riparian corridor and is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Species in this vegetation community within the study area include giant reed, eucalyptus, Brazilian pepper tree (*Schinus terebinthifolius*), and arroyo willow (*Salix lasiolepis*). Approximately 0.24 acre of non-native riparian occurs within the study area.

Non-Native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs, many of which are also used in landscaping. These areas include land containing a preponderance of non-native, ornamental plant species. The roadways and business lots are mainly bordered by non-native and ornamental vegetation, including non-native shrub and tree species.

In the study area, non-native vegetation consisted of ornamental plantings (*Jacaranda* sp., *Magnolia* sp., *Poplar* sp., and *Schinus* spp.), ornamental palms (Arecaceae Family), and eucalyptus trees, and weedy species such as mustards, Russian thistle (*Salsola tragus*), and curly dock (*Rumex crispus*). Approximately 10.7 acres of non-native vegetation occur within the study area.

Non-Vegetated Channel or Floodway (concrete-lined)

Alvarado Creek Channel north of Alvarado Canyon Road and I-8 (Figure 7o) is a concrete-lined channel/streambed. Approximately 0.20 acre of concrete-lined channel/streambed occurs within the study area.

Open Water

Open water habitat consists of any open water body including, but not limited to, lakes, bays, reservoirs, ponds, tidal channels, and canals. Less than 0.01 acre of open water occurs within the study area.

Riparian Scrub

This vegetation community occurs as a shrub-dominated community along a drainage and/or riparian corridor. In the study area, this vegetation community occurs near the San Diego River corridor, north of Mission Gorge road. Species in this vegetation community within the study area include broom baccharis (*Baccharis sarothroides*), mule fat, and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*). Approximately 0.09 acre of riparian scrub occurs within the study area.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species (e.g., *Populus fremontii* and *Populus trichocarpa*), with willow species comprising the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater number of cottonwoods and western sycamores (*Platanus racemosa*; Holland 1986). The habitat type is considered a sensitive natural community. Species in this vegetation community within the study area included cottonwood, willows, and western sycamores. Approximately 0.13 acre of southern cottonwood-willow riparian forest occurs within the study area.

Southern Maritime Chaparral

This low, fairly open, chaparral is dominated by wart-stemmed ceanothus (*Ceanothus verrucosus*) and thick-leaved Eastwood's manzanita (*Arctostaphylos glandulosa* ssp.) Additional species include mission manzanita (*Xylococcus bicolor*), chamise (Eastwood's manzanita), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), scrub oak (*Quercus dumosa*), and summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*). Similar to other chaparral communities, fire is necessary for the reproduction of many of the constituent species, which generally resprout from underground root crowns. The distribution of this community coincides with some of the most developed areas in San Diego County. Approximately 0.1 acre of southern maritime chaparral occurs within the study area.

Southern Riparian Woodland and Forest

Southern riparian woodlands and forests are composed of winter-deciduous trees that require water near the soil surface where the canopies of individual tree species overlap so that canopy cover exceeding 100 percent may occur in the upper tree stratum. Willow, cottonwood, and western sycamore form a dense, medium-height woodland or forest in moist canyons and drainage bottoms. The differences between woodlands and forests are physiognomic rather than compositional. Woodlands have less canopy cover than forests. In forests, the canopies of individual tree species do overlap so that a canopy cover exceeding 100 percent may occur in the upper tree stratum. In woodlands, there may be large canopy gaps within the upper tree stratum. Associated understory species include mule fat, stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*). The habitat type is considered a sensitive natural community.

Species in this vegetation community within the study area included mature willows, cottonwood, western sycamores, and poison oak. Approximately 6.73 acres of southern riparian woodland and approximately 14.79 acres of southern riparian forest occur within the study area.

Southern Willow Scrub (including disturbed)

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat, and with scattered emergent cottonwood and western sycamores. This vegetation community occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest. The habitat type is considered a sensitive natural community.

Species in this vegetation community within the study area included willows, mule fat, and castor bean (*Ricinus communis*). Approximately 0.65 acre of southern willow scrub occurs within the study area.

Disturbed southern willow scrub contains many of the same species as undisturbed southern willow scrub but is sparser and has a higher proportion of non-native annual species. Approximately 0.94 acre of disturbed southern willow scrub occurs within the study area.

Disturbed Land

Disturbed land includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Disturbed habitat occurred as trails, roads, and unvegetated lots in the study area. Approximately 8.6 acres of disturbed land occur within the study area.

Developed Land

Developed land includes land that has been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident, due to a large number of debris or other materials being placed upon it, may also be considered developed land.

The study area includes compacted bare earth used as roadways as well as paved roads, residential and business lots, and golf courses. The development adjacent to the alignment includes scattered native trees, such as coast live oak and western sycamore; however, these do not constitute native habitat and have been planted as part of landscaping and are currently being maintained. Approximately 177.3 acres of developed land characterized by these elements occur within the study area.

4.5 FLORA

HELIX identified a total of 175 plant species in the study area, of which 73 (42 percent) are non-native species (Appendix C).

4.6 FAUNA

A total of 82 animal species were observed or otherwise detected in the study area during the biological surveys, including eight invertebrates, one amphibian, four reptiles, 65 birds, and four mammal species (Appendix D).

5.0 SENSITIVE BIOLOGICAL RESOURCES

5.1 SPECIAL-STATUS PLANT SPECIES

Special-status plant species are those listed as federally threatened or endangered by the USFWS; State listed as threatened or endangered or considered sensitive by the CDFW; considered sensitive or narrow endemic species by the City (e.g., MSCP covered species); and/or are CNPS California Rare Plant Rank (CRPR) List 1A, 1B, or 2 species, as recognized in the CNPS Inventory of Rare and Endangered Vascular Plants of California and consistent with the CEQA Guidelines.

5.1.1 Special-Status Plant Species Observed

Five special status plant species were observed in the study area, as listed below in alphabetical order by common name. Each is also described below and shown on Figures 7a, 7b, and 7d through 7g.

Coulter's matilija poppy (*Romneya coulteri*)
Listing: --/--; CRPR List 4.2 CA-Endemic
Distribution: Eastern south coastal and peninsular ranges in Los Angeles, Orange, Riverside, and San Diego counties.
Habitat: Dry washes and canyons in chaparral and coastal sage scrub communities, often areas that have been burned. Open or mildly disturbed terrain is sometimes favored, and mature chaparral or sage scrub limits the expansion of this showy member of the poppy family.
Status on site: Approximately 15 individuals located at the north end of the Father Junipero Serra Trail within MTRP.

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)
Listing: --/--; CRPR List 1B.2
Distribution: Orange and San Diego counties; Baja California, Mexico; San Clemente and Santa Catalina islands.
Habitat: Presumed to utilize coastal sage scrub habitat intermixed with grassland and is more partial to clay soils than other closely related varieties.
Status on site: Two individuals located in the middle of the Father Junipero Serra Trail within MTRP.

San Diego County viguiera (*Bahiopsis* [*Viguiera*] *laciniata*)
Listing: --/--; CRPR List 4.2
Distribution: San Diego and Orange County; Baja California, Mexico.
Habitat: Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Occurs on a variety of soil types.
Status on site: Approximately 850 individuals located along the Father Junipero Serra Trail within MTRP.

San Diego marsh-elder (*Iva hayesiana*)
Listing: --/--; CRPR List 2.2
Distribution: San Diego County; Baja California, Mexico.
Habitat: Creeks of intermittent streambeds are the preferred habitat for this low-growing, conspicuous shrub. Typically, the riparian canopy is open, allowing substantial sunlight to reach this marsh-elder. Sandy alluvial embankments with cobbles are frequently utilized.
Status on site: Approximately 42 individuals located along the alterative alignment within Forester Creek.

San Diego sagewort (*Artemisia palmeri*)
Listing: --/--; CRPR List 4.2
Distribution: San Diego County; Baja California, Mexico.
Habitat: Stream courses, often within coastal sage scrub and southern mixed chaparral.
Status on site: Approximately six individuals located along the alterative alignment within the San Diego River.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)
Listing: --/--; CRPR List 4.2
Distribution: Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico.
Habitat: Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes.
Status on site: Approximately 13 individuals located at the west end of the alterative alignment within Forester Creek.

5.1.2 Special-Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have the potential to occur in the study area are listed in Appendix E. There are no other special status plant species with a high potential to occur on-site.

5.2 SPECIAL-STATUS ANIMAL SPECIES

Special-status animal species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and considered sensitive animals by the CDFW, and/or the City (e.g., MSCP covered and narrow endemic species). The following special-status animal species were observed in the study area during the general biological surveys or focused species surveys.

5.2.1 Special-Status Animal Species Observed or Otherwise Detected

Ten special status animal species were observed or detected in the study area, including nine bird and one reptile species. Each species is listed below in alphabetical order by common name, described, and is shown on Figures 7a through 7h and 7l through 7p.

American peregrine falcon (*Falco peregrinus anatum*)
Status: Delisted, BCC/SE and Fully Protected: MSCP Covered
Distribution: Rare in San Diego County year-round but more abundant near the coast and in winter.
Habitat: Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.
Status on site: Observed calling and flying within MTRP to the west of Father Junipero Serra Trail. A single individual was observed outside of the project disturbance limits.

Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*)
Status: --/SSC, MSCP Covered
Distribution: Southern Orange County and southern San Bernardino County, south through Baja California.
Habitat: Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).
Status on site: Observed within MTRP at the edge of Father Junipero Serra Trail alignment adjacent to suitable habitat. At least two individuals were observed.

Coastal California gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC, MSCP Covered
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat: Coastal sage scrub.
Status on site: No gnatcatchers were observed during the 2021 protocol surveys; however, several individuals were either detected during previous surveys or incidentally during the 2021 survey effort. All coastal California gnatcatcher observations/detections were made at off-site locations outside of the project disturbance limits.

Costa's hummingbird (*Calypte costae*)
Status: --/BCC
Distribution: Occurs year-round in deserts and xeric habitats of southern California.
Habitat: Breeds along the coast in sage scrub and chaparral habitats from Santa Barbara County south to San Diego County, and east to desert regions of Inyo County, and south to Imperial County. Breeding habitat includes desert scrub, coastal sage scrub, and chaparral.
Status on site: Observed within MTRP to the west of Father Junipero Serra Trail. At least two individuals were detected outside of the project disturbance limits.

Cooper's hawk (*Accipiter cooperii*)
Status: --/WL; MSCP Covered
Distribution: Occurs year-round throughout San Diego County's coastal slope where stands of trees are present.
Habitat: Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.
Status on site: A relatively frequent presence throughout the surveys, often observed perched or flying nearby or within the study area. Observed at the north end of Father Junipero Serra Trail and south of Mission Trails within a heavily developed portion of the alignment. At least two individuals were observed outside of the project disturbance limits.

Least Bell's vireo (*Vireo bellii pusillus*)
Status: FE, BCC/SE, MSCP Covered
Distribution: Observed throughout much of San Diego County in the breeding season but in smaller numbers in foothills and mountains.
Habitat: Mature riparian woodland.
Status on site: Two individuals were detected north of the EMGPS within the southern cottonwood-willow riparian forest, and three individuals were detected north of Camino Del Rio North during the 2021 protocol surveys. Furthermore, least Bell's vireo were detected during previous City surveys or incidentally in 2021 throughout MTRP along Father Junipero Serra Trail. All other vireo observations/detections were made at off-site locations outside of the project disturbance limits.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
Status: --/WL; MSCP Covered
Distribution: Observed throughout coastal lowlands and foothills of San Diego County.
Habitat: Coastal sage scrub and open chaparral as well as shrubby grasslands.
Status on site: Observed within MTRP west of the Father Junipero Serra Trail. At least two individuals were detected outside of the project disturbance limits.

Yellow-breasted chat (*Icteria virens*)
Status: --/SSC
Distribution: Occurs throughout San Diego County's coastal lowlands in the breeding season.
Habitat: Mature riparian woodland.
Status on site: Detected north of the EMGPS within the southern cottonwood-willow riparian forest and throughout the southern riparian forest west of the Father Junipero Serra Trail. Many individuals were detected during project surveys. All other chat observations/detections were made at off-site locations outside of the project disturbance limits.

Yellow warbler (*Dendroica petechia brewsteri*)
Status: --/SSC
Distribution: Observed throughout much of San Diego County during the breeding season with rare sightings in winter.
Habitat: Riparian woodland.
Status on site: Detected north of the EMGPS within the riparian habitat of Forester Creek, MTRP, and west of the alignment in the San Diego River near Admiral Baker Golf Course. Many individuals were detected during project surveys. All other warbler observations/detections were made at off-site locations outside of the project disturbance limits.

Western bluebird (*Sialia mexicana*)
Status: --/--; MSCP Covered
Distribution: Common year-round resident throughout California but absent from the higher mountains and eastern deserts.
Habitat: Breeds in open woodlands, riparian habitats, grasslands, and farmlands. Nests and roosts in cavities of trees and snags, often in holes previously created by woodpeckers, and nest boxes. Winters in a wider variety of habitats.
Status on site: At least one individual was observed within the study area near the northern end of the alignment outside of the project disturbance limits.

5.2.2 Special-Status Animal Species with Potential to Occur

Special status animal species that were not observed but may have the potential to occur in the study area are listed in Appendix F. The 13 additional special status animal species that were not observed but still are considered to have a high potential to occur in the study area (characterized by suitable habitat and a historical record in the immediate vicinity of the study area) are California glossy snake (*Arizona elegans occidentalis*), Coronado skink (*Plestiodon skiltonianus interparietalis*), red diamond rattlesnake (*Crotalus ruber*), two-striped garter snake (*Thamnophis hammondii*), western whiptail (*Aspidoscelis tigris stejnegeri*), Bell's sage sparrow (*Artemisiospiza belli belli*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), mountain lion (*Felis concolor*), mule deer (*Odocoileus hemionus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*) and western red bat (*Lasiurus blossevillii*).

Quino checkerspot butterfly (*Euphydryas editha quino*) are known to occur within MTRP (City 2019); however, surveys were not conducted because all project impacts would be restricted to existing disturbed and developed lands. The study area does support potential Quino habitat as defined by the USFWS guidelines. However, California dwarf plantain (*Plantago erecta*), the preferred host plant species of the Quino checkerspot butterfly, and other host plant species were not detected during project surveys. In addition, the alternative alignment does not support suitable habitat for the Quino checkerspot butterfly due to its location within excluded habitat (i.e., dense closed-canopy riparian woodland and scrub); therefore, Quino checkerspot butterfly are not anticipated to occur within the project alignments.

The nearest known arroyo toad occurrence is approximately 18 miles upstream of the project within the San Diego River. In addition, this species is not known to occur downstream of the El Capitan Dam, which is located approximately 12 miles upstream of the project. The preferred and alternative project alignments are presumed to be unoccupied by arroyo toad due to the lack of historic occurrences and physical barriers, (i.e., El Capitan Dam), preventing territory expansion.

5.3 JURISDICTIONAL WATERS AND WETLANDS

Potential waters of the U.S. under the jurisdiction of the USACE in the study area include wetlands and other waters associated with the San Diego River, Forester Creek, and tributaries to these features. The waters of the U.S. preliminarily identified within the study area would also represent waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. There are no isolated waters of the State subject to RWQCB jurisdiction exclusively, pursuant to the Porter-Cologne Water Quality Control Act. Streambed and riparian habitat under the jurisdiction of the CDFW within the study area consist of Arundo-dominated riparian, riparian scrub, non-native riparian, freshwater marsh (including disturbed), riparian woodland-disturbed, non-vegetated channel or floodway (concrete-lined), open water, southern cottonwood-willow riparian forest (including disturbed), southern riparian forest (including disturbed), and southern willow scrub (including disturbed), as presented in Table 3, *Potential Jurisdictional Waters and Wetlands*, and shown on Figures 7a through 7p. These areas would also be considered City wetlands pursuant to the City of San Diego's Biology Guidelines.

Table 3
POTENTIAL JURISDICTIONAL WATERS AND WETLANDS

Potential Jurisdictional Resources[1]	Area (acres)[2]	
	Inside MHPA	Outside MHPA
Arundo-Dominated Riparian	--	0.10
Freshwater Marsh	0.08	--
Non-Native Riparian	--	0.24
Non-Vegetated Channel or Floodway (concrete-lined)	--	0.20
Open Water	--	<0.01
Riparian Scrub	--	0.09
Southern Cottonwood-Willow Riparian Forest	--	0.13
Southern Riparian Woodland and Forest	20.06	1.45
Southern Willow Scrub (including disturbed)	1.32	0.27
TOTAL	**21.46**	**2.48**

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008). In some cases, vegetation names were modified by HELIX. All potential jurisdictional resources identified also represent potential City wetlands pursuant to the City of San Diego Biology Guidelines.
[2] Totals reflect rounding.

5.4 HABITAT CONNECTIVITY AND WILDLIFE CORRIDORS

Wildlife corridors connect isolated habitats and allow for the movement or dispersal of plant materials and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of the wildlife's daily routine and life history. For example, animals can use these corridors to travel between their riparian breeding habitats and their upland burrowing habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species; it may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The San Diego River and Forester Creek, as well as MTRP, likely function to facilitate amphibian, bird, and large mammal movement through the region. These areas provide habitat for both common and sensitive species, including least Bell's vireo and yellow warbler. These areas also function as important habitats to provide shelter and resources for breeding and rearing young, a year-round water source and prey items, and a linear corridor for dispersal and migration.

6.0 MULTIPLE SPECIES CONSERVATION PROGRAM CONSISTENCY ANALYSIS

The following sections detail the project's consistency with the City's MSCP Subarea Plan's applicable guidelines, management directives, and policies.

6.1 LAND USE ADJACENCY GUIDELINES – SECTION 1.4.3 OF THE MSCP

The City's MSCP Subarea Plan addresses indirect impacts to preserve areas from adjacent development in Section 1.4.3, Land Use Adjacency Guidelines (LUAGs). The LUAGs provide requirements for land uses adjacent to the habitat preserve in order to minimize indirect impacts from drainage, toxics, lighting, noise, barriers, invasive species, brush management, and grading to the sensitive resources contained therein. Projects that are within or adjacent to the MHPA must demonstrate compliance with the LUAGs.

The project would not introduce land use within an area adjacent to the MHPA that would result in adverse edge effects. No lighting is proposed that would adversely affect adjacent habitat, and no landscaping related to the project is proposed. Project components would be primarily underground and inaccessible to the public once construction is completed. Aboveground components could include the replacement and possible expansion of small appurtenances and blowoff valves and/or a small lift station, which would be small, unmanned, enclosed structures; therefore, aboveground components would not introduce additional land uses within an area adjacent to the MHPA. None of the potential lift station locations are located within or adjacent to the MHPA and are therefore not subject to MHPA LUAGs. Implementation of mitigation measure **Bio-10** would help ensure that no direct or indirect impacts occur to nesting birds and raptors.

The coastal California gnatcatcher and least Bell's vireo have the potential to nest off-site within 500 feet of project construction as well as within the MHPA. Avoidance is required, as explained below. Potential noise-related indirect impacts during construction would be considered significant if sensitive species become displaced from their nests and fail to breed. If construction would take place during the breeding season for sensitive species, including the coastal California gnatcatcher (March 1 to August 15) and least Bell's vireo (March 15 to September 15), then the standard City noise mitigation would be required. Implementation of mitigation measures **Bio-7, Bio-8**, and **Bio-9** would help ensure that no indirect impacts occur to coastal California gnatcatcher or least Bell's vireo during project construction.

The central portion of the preferred alignment and the majority of the alternative alignment is a location within the MHPA. The project's compliance with the City's LUAGs is summarized below:

Drainage

All new and proposed parking lots and development areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA.

The proposed project will be located primarily below ground. If new aboveground components are required within or adjacent to the MHPA, the components would be extremely small, less than 0.1 acre cumulatively, and would be located within existing disturbed or developed habitats; therefore, the project will not increase impervious substrate or have effects on drainage.

Toxins

Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or harmful to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA.

The proposed project does not involve agriculture or the creation of recreational areas such as playing fields or any other uses that would introduce toxins; therefore, there would not be an impact due to toxins.

Lighting

Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.

No construction or operational lighting is expected. In the unlikely event that nighttime construction is required and construction lighting be necessary, lighting would be directed away from the MHPA and, if necessary, adequately shielded to protect the MHPA and sensitive species from night lighting.

Noise

Uses in or adjacent to the MHPA must be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.

The MHPA, as well as suitable Diegan coastal sage scrub habitat and riparian habitats, are located within 500 feet of the project. Construction noise from the proposed project has the potential to create a significant impact to coastal California gnatcatcher, least Bell's vireo, and/or other sensitive species known to occur in the area. In addition, raptors have the potential to nest within 500 feet of the proposed project and could be impacted by construction noise. Implementation of mitigation measures **Bio-7, Bio-8a**, and **Bio-10** would reduce this potential impact to a less than significant level.

Barriers to Incursion

New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.

The project proposes no barriers to incursion and will be primarily underground. If new aboveground components are required within or adjacent to the MHPA, the components would be extremely small, less than 0.1 acre cumulatively, and would be located within existing disturbed or developed habitats.

Invasive Species

No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.

No landscaping is proposed. Best Management Practice (BMPs) during construction would include measures to avoid the introduction of invasive plants into the construction site by equipment.

Brush Management

New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA.

This is not applicable as the project does not include any new residential development or brush management.

Grading/Land Development

Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.

This is not applicable as the project does not propose the construction of manufactured slopes.

6.2 GENERAL MANAGEMENT DIRECTIVES – SECTION 1.5.2 OF THE MSCP

Project impacts to sensitive vegetation communities will be mitigated in accordance with the ratios provided in Table 3 of the City's ESL Regulations and Biology Guidelines (City 2018b) through off-site preservation of existing habitat.

6.3 GENERAL PLANNING POLICIES AND DESIGN GUIDELINES – SECTION 1.4.2 OF THE MSCP

The MSCP establishes specific guidelines that limit activities that occur within the MHPA. In general, activities occurring within the MHPA must conform to these guidelines and, wherever feasible, should be located in the least sensitive areas. Utility lines (e.g., sewer, water, etc.), limited water facilities, and other essential public facilities in compliance with policies found in Section 1.4.2 of the City's MSCP Subarea Plan are considered conditionally compatible with the biological objectives of the MSCP and are thus allowed within the City's MHPA.

To the maximum extent possible the project, was designed to avoid and limit impacts to ESL, including the MHPA, and sensitive biological resources. The entire proposed project alignment is located within existing disturbed or developed lands; however, the alternative project alignment would result in impacts to sensitive biological resources (Figure 8). As previously stated, the alternative alignment would only be utilized in the event that no other viable or feasible alternatives exist in which wetlands could be avoided.

6.4 MISSION TRAILS REGIONAL PARK AREA SPECIFIC MANAGEMENT DIRECTIVES FOR COVERED SPECIES

The MTRP Natural Resources Management Plan (NRMP) establishes specific Area Specific Management Directives (ASMDs) that limit the types of activities authorized to occur within MTRP. In general, activities occurring within the MTRP must conform to these ASMDs. A total of seven MSCP-covered species with ASMDs (one reptile and six birds) were observed within the project area, and an additional two mammal MSCP-covered species with ASMDs were determined to have a high potential to occur. The MSCP includes conditions for coverage for these species. Each of these species is listed below, along with a summary of the MSCP conditions of coverage and the project's consistency with these conditions.

Belding's Orange-Throated Whiptail

ASMDs must address potential edge effects. The avoidance of new trail construction within or near guild boundaries, proposed and weed control actions will serve to protect this species against detrimental edge effects.

Existing development, including roads and trails within the project vicinity, already resulted in numerous areas of interface between development and adjacent habitats in the project area that contribute to potential edge effects. Implementation of the project would not substantially add to edge effects already present in the existing condition in the project area, and the project does not propose the construction of new trails. Nonetheless, the project would adhere to the City LUAGs, as detailed above in Section 6.1, and implement standard construction BMPs, as needed, to minimize indirect impacts to this species and the introduction of invasive species during work activities.

Coastal California Gnatcatcher

ASMDs must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. Additionally, no clearing of occupied habitat within the City MHPA or County's Biological Core Resource Areas between March 1 and August 15.Trail closure and minimization via rerouting within guild boundaries will reduce edge effects and disturbance in California gnatcatcher habitat. In addition, the control of artichoke thistle, an aggressive weed within coastal sage scrub, will expand available habitat for the species.

Existing development, including roads and trails within the project vicinity, already resulted in numerous areas of interface between development and adjacent habitats in the project area that contribute to potential edge effects. The project does not propose the construction of new trails or the permanent closure of existing trails and would be constructed within existing disturbed and developed lands; therefore, implementation of the project would not substantially add to edge effects already present in the existing condition in the project area. The project will incorporate appropriate measures during construction to minimize disturbance during the nesting period for coastal California gnatcatcher. Specifically, vegetation clearing activities under the project will occur outside of the coastal California gnatcatcher breeding season (March 1 through August 15), and the project would adhere to the City's LUAGs to reduce potential indirect noise impacts to occupied gnatcatcher habitat in the MHPA and the introduction of invasive species.

Cooper's Hawk

ASMDs must include 300-foot impact avoidance areas around the active nests, and minimization of disturbance in oak woodlands and oak riparian forests. The avoidance of new trail construction and the control of invasive species within guild boundaries minimize disturbance within oak woodlands and, thereby, satisfy this condition.

The project would incorporate mitigation measures requiring pre-construction nesting surveys and 300-foot construction setbacks from active Cooper's hawk nests. Proposed activities associated with the project have been designed to be the minimum necessary to achieve the project goals. Impacts to oak woodlands and oak riparian forests have been avoided, and the project does not propose the construction of new trails. Nonetheless, the project would adhere to the City LUAGs, as detailed above in Section 6.1, and implement standard construction BMPs, as needed, to minimize indirect impacts to this species and the introduction of invasive species during work activities.

Least Bell's Vireo

ASMDs must include measures to provide appropriate successional habitat, upland buffers for all known populations, cowbird control, and specific measures to protect against detrimental edge effects to this species. Additionally, clearing of occupied habitat must occur between September 15 and March 15 (i.e., outside of the nesting period).

Breeding populations of least Bell's vireo have grown from 1978 to 2010. A total of 16 breeding pairs of least Bell's vireo were observed during surveys in 2010. The avoidance of new trail construction within or near (within 300 feet) guild boundaries, proposed continuance of cowbird control, and weed control actions will serve to protect this species against detrimental edge effects.

Existing development, including roads and trails within the project vicinity, already resulted in numerous areas of interface between development and adjacent habitats in the project area that contribute to potential edge effects. The project does not propose the construction of new trails and would be constructed within existing disturbed and developed lands; therefore, implementation of the project would not substantially add to edge effects already present in the existing condition in the project area. The project would not result in conditions attractive to brown-headed cowbird (*Molothrus ater*), a nest parasite of the least Bell's vireo, such as the creation of pastures with horses or cattle. The project will incorporate appropriate measures during construction to minimize disturbance during the nesting period for the least Bell's vireo. Specifically, vegetation clearing activities under the project will occur outside of the least Bell's vireo breeding season (March 15 through September 15), and the project would adhere to the City's LUAGs to reduce potential indirect noise impacts to occupied vireo habitat and reduce the introduction of invasive species.

Peregrine Falcon

There are no ASMDs or conditions for coverage for this species; therefore, the project is consistent with the MTRP NRMP and MSCP.

Southern California Rufous-crowned Sparrow

ASMDs must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

Impacts and/or maintenance of coastal sage scrub habitats are not proposed; therefore, the project is consistent with MTRP NRMP and MSCP.

Western Bluebird

There are no ASMDs or conditions for coverage for this species; therefore, the project is consistent with the MTRP NRMP and MSCP.

Mule Deer

There are no ASMDs or conditions for coverage for this species; therefore, the project is consistent with the MTRP NRMP and MSCP.

Mountain Lion

There are no ASMDs or conditions for coverage for this species; therefore, the project is consistent with the MTRP NRMP and MSCP.

6.5 VERNAL POOL HABITAT CONSERVATION PLAN CONSISTENCY

In October 2009, the USFWS and City entered into a Planning Agreement for the development of the City's Vernal Pool Habitat Conservation Plan (VPHCP) covering vernal pool habitats and associated species in the City (City 2019). This plan allows for the incidental take of the following seven threatened and endangered species (VPHCP covered species) that do not have federal coverage under the City's MSCP Subarea Plan:

- San Diego fairy shrimp
- San Diego button-celery
- San Diego Mesa mint
- Spreading navarretia
- California Orcutt grass (*Orcuttia californica*)
- Otay Mesa mint (*Pogogyne nudiuscula*)
- Riverside fairy shrimp (*Streptocephalus woottoni*)

The VPHCP is compatible with the MSCP and expands upon the City's existing MHPA with the conservation of additional lands that support vernal pools and vernal pool covered species. The City's Vernal Pool Management and Monitoring Plan outlines the VPHCP management and monitoring strategy and how it will be implemented by the City (City 2020). It provides a framework plan that outlines site-specific management and monitoring actions for the vernal pool complexes that will be managed as part of the MHPA to achieve the VPHCP objectives.

The proposed project is located outside of the VPHCP Preserve. Furthermore, no vernal pools or VPHCP covered species occur within the project's study area. The entire proposed project alignment is located

within existing paved roads, and the alternative alignment is located with the riparian corridor of Forester Creek. The proposed project would not result in any impacts to vernal pools, VPHCP covered species, or VPHCP preserve areas.

VPHCP Avoidance and Minimization Measures

The City's VPHCP (City 2017) includes measures to avoid or minimize impacts to conserved vernal pools adjacent to development in Section 5.2.1, Avoidance and Minimization Measures. These measures provide requirements for land uses adjacent to the habitat preserve (VPHCP Hardline and MHPA) in order to minimize indirect impacts to the VPHCP covered species contained therein. The proposed project does occur within or adjacent to VPHCP preserve areas or vernal pool resources; therefore, these measures are not applicable to the project.

7.0 ANALYSIS OF PROJECT IMPACTS

This section provides a project-level biological resources impact analysis for the proposed project in support of environmental review. The issues addressed in this section are derived from Appendix G of the State CEQA Guidelines. Mitigation, monitoring, and reporting requirements to eliminate or reduce project impacts to a less than significant level are also provided in this section.

The potential direct impact area for the alignment is based on a conservative disturbance footprint or direct impact area. In some cases, the potential impact area is conservatively identified as up to 100 feet wide, including areas that could be needed for project construction activities, including access, staging, storage, pipeline installation, and placement of other project components. It is expected that the actual construction disturbance footprint determined during the final design of the project will be significantly narrower and smaller. The large majority of the disturbance footprint will be restricted to existing developed land, and disturbed roads and staging locations characterized by bare earth. The preferred alignment has been specifically designed to avoid impact on potential jurisdictional waters and wetlands, thereby minimizing the impact on those habitats and special-status species determined to be present or to have the potential to occur. The project would comply with all local policies, ordinances, and approved local, regional, and state habitat conservation plans.

The alternative pipeline alignment would occur within potential jurisdictional waters and wetlands of Forester Creek; however, this alignment would only be utilized in the event that no other viable or feasible alternatives exist in which wetlands could be avoided. The project proposes a sliplining construction method within the existing EMGFM to minimize impacts on potential jurisdictional waters and wetlands and special-status species determined to be present or to have the potential to occur.

7.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

Appendix G of the State CEQA Guidelines was used to determine the potential significance of impacts on biological resources. A project would result in a significant or potentially significant biological resources impact if it would result in:

- 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 Game or U.S. Fish and Wildlife Service. 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 Game or U.S. Fish and Wildlife Service.

- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Substantial interference with the movement of any native resident or migratory fish or wildlife species, or with an established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

7.2 IMPACTS TO VEGETATION COMMUNITIES

7.2.1 Preferred Alignment

The project has been planned to site components outside of sensitive natural communities and other sensitive biological resources to the extent feasible. The preferred alignment is located within disturbed and developed lands (Figures 8a through 8p). Implementation of the project would require the replacement and potential expansion of existing appurtenances and blowoffs. Some of these existing components are located within and/or adjacent to sensitive natural communities, primarily Diegan coastal sage scrub. Replacement and/or expansion of these existing components could result in temporary impacts to sensitive vegetation communities. These impacts are anticipated to be less than 0.1 acre cumulatively; and therefore, would not be significant pursuant to the City Biology Guidelines, which state that total upland impacts less than 0.1 acre to Tier I through IIIB habitats are not considered significant and do not require mitigation. Temporarily impacted sensitive vegetation communities would be revegetated in place, in coordination with the MTRP staff, and in compliance with the MTRP NRMP and Updated Master Plan.

Similarly, the locations for the potential lift station are within developed lands or previously disturbed areas consisting of either non-native vegetation or bare ground. The potential lift station would not result in impacts to sensitive biological resources. Construction staging and storage and access areas within the preferred alignment would be within the road rights-of-way, developed lands, or previously disturbed areas and would not result in direct impacts to sensitive biological resources; however, the majority of the alignment is located adjacent to at least one sensitive natural community, resulting in the potential for indirect impacts to occur during project construction. The various project components and construction methods are shown on Figure 3 of this report.

As a standard construction practice and regulatory requirement, the JPA will implement BMPs during construction to minimize indirect impacts to adjacent sensitive natural communities, which may include:

- Maintaining the project area free of trash and debris;

- Employing appropriate standard spill prevention practices and clean-up materials;
- Installing and maintaining sediment and erosion control measures;
- Maintaining effective control of fugitive dust; and
- Properly storing, handling, and disposing of all toxins and pollutants, including waste materials.

7.2.2 Alternative Alignment

The alternative alignment would result in potentially significant direct impacts to sensitive natural communities largely due to the inability to implement trenchless construction methods for this section. This alignment would only be utilized in the event that no other viable or feasible alternatives exist. Figures 8a and 8b depict the potential disturbance limits in relation to sensitive natural (vegetation) communities.

The alternative alignment near the EMGPS would result in impacts to Diegan coastal sage scrub (including broom baccharis scrub; Tier II), southern riparian forest (wetland), southern riparian woodland (wetland), and southern willow scrub (including disturbed; wetland) within and adjacent to Forester Creek. Impacts would be temporary in nature and impacted sensitive communities would be restored following construction in accordance with the City's Biological Guidelines (City 2018b). The project consists of linear pipelines and would be considered an essential public project. An essential public project wetland deviation may only be requested where no feasible alternative exists that would avoid wetland impacts (City 2018b). The alternative alignment within Forester Creek would only be utilized if the preferred alignment is not feasible due to the overcrowding of existing utilities within Mission Gorge Road; therefore, impacts to wetland habitat located within the City would qualify for a deviation from the ESL Regulations. Implementation of mitigation measure **Bio-11a** would ensure that the analysis required for a wetland deviation for essential public projects will be completed should the alternative alignment be required due to the lack of another viable alternative.

Construction within this area would be completed using a sliplining operation that would require interspersed excavations at launching and receiving pits at specific locations. Impacts to sensitive natural communities related to the launching and receiving pits would be temporary in nature and restored in place (Figure 8a and 8b). Associated staging and storage areas would be located outside of sensitive natural communities. This activity would result in potentially significant impacts to sensitive natural communities because it would result in the temporary loss of Diegan coastal sage scrub (including broom baccharis scrub), southern riparian forest, southern riparian woodland, and southern willow scrub (including disturbed) within the proposed alternative alignment (Figures 8a and 8b). Therefore, impacts on sensitive natural communities would be considered potentially significant.

Implementation of mitigation measure **Bio-2** would ensure that impacts for the vegetation communities identified in Table 4, *Potential Alternative Alignment Impacts on Sensitive Natural Communities*, are compensated in accordance with regional standards for mitigation ratios and provides specific requirements for how these mitigation ratios would be achieved.

Table 4
POTENTIAL ALTERNATIVE ALIGNMENT IMPACTS ON SENSITIVE NATURAL COMMUNITIES

Sensitive Natural Community[1]	MSCP Tier	Impacts (Acres)[2]					
		Inside MHPA		Outside MHPA		Total	
		Area (Acres)[2]	Length (Feet)	Area (Acres)[2]	Length (Feet)	Area (Acres)[2]	Length (Feet)
Sensitive Wetland/Riparian							
Southern Riparian Woodland		0.27	332	--	--	0.27	332
Southern Riparian Forest	Wetland	2.76	2,436	0.41	368	3.17	2,804
Southern Willow Scrub (including disturbed)		0.31	290	0.01	--	0.32	290
Wetland/Riparian Subtotal		**3.34**	**3,058**	**0.42**	**368**	**3.76**	**3,426**
Sensitive Uplands							
Diegan Coastal Sage Scrub (including broom baccharis scrub)	Tier II	--	--	0.1	--	0.1	--

[1] Vegetation categories are from Holland (1986) and Oberbauer (2008). The communities are also organized according to City of San Diego Wetland and MSCP Tier classifications.

[2] Acres are rounded to the nearest 0.1 acre; thus, totals reflect rounding. All impacts are considered temporary as all components are located underground and vegetated areas would be revegetated.

Construction within the alternative alignment would result in impacts to sensitive natural communities. If not properly contained and restricted to authorized work areas, inadvertent impacts to sensitive natural communities could occur. These impacts would be considered potentially significant. Implementation of mitigation measures **Bio-1**, **Bio-3**, **Bio-4**, and **Bio-5** would reduce potential inadvertent construction impacts to a less-than-significant level.

As a standard construction practice and regulatory requirement, the JPA will implement BMPs during construction to minimize indirect impacts to adjacent sensitive natural communities, which may include:

- Maintaining the project area free of trash and debris;
- Employing appropriate standard spill prevention practices and clean-up materials;
- Installing and maintaining sediment and erosion control measures;
- Maintaining effective control of fugitive dust; and
- Properly storing, handling, and disposing of all toxins and pollutants, including waste materials.

7.3 IMPACTS TO SPECIAL STATUS SPECIES

Project construction could result in potential significant impacts on special-status plant and animal species; however, the impacts would be reduced to less than significant levels with the implementation of proposed mitigation, as described in further detail below.

7.3.1 Special Status Plant Species

7.3.1.1 Preferred Alignment

Rare plant surveys completed by the City in 2016, and by HELIX in 2021, determined the presence of four special-status plant species within the potential disturbance limits of the project: Coulter's matilija poppy, decumbent goldenbush, San Diego County viguiera, and San Diego sagewort (Figures 8d through 8g). Coulter's matilija poppy, decumbent goldenbush, and San Diego County viguiera occur as natural populations in the habitat along Father Junipero Serra Trail within MTRP; however, construction activities and disturbances would not occur within the path of these species, and therefore, no impacts would occur. San Diego sagewort occurs immediately south of the San Diego River along Camino del Rio North, but outside of proposed impacts. Construction activities and disturbances have the potential to occur within the path of these species, which could result in potentially significant impacts.

Potential impacts on Coulter's matilija poppy and San Diego County viguiera along the Father Junipero Serra Trail and San Diego sagewort along Camino del Rio North would be less than significant. These species are CRPR 4 plants that are relatively widespread in the local and regional areas. The majority of the individuals observed in the study area and immediate vicinity (i.e., local populations) would be avoided by the project. Project impacts would not jeopardize the long-term survival of either species, and impacts would be less than significant.

In addition, two decumbent goldenbush individuals occur along the Father Junipero Serra Trail in MTRP; however, this species is not located within the potential limits of disturbance for the project (Figures 8e and 8g). This species is a CRPR 1B plant, which is a higher rank of sensitivity relative to other CRPR plants. This occurrence is not located near known populations of the same species, and isolated strands of sensitive species represent genetic gene pool diversity that is valued. Impacts to decumbent goldenbush would be considered significant. Implementation of mitigation measure **Bio-5** will ensure that the areas supporting decumbent goldenbush along the Father Junipero Serra Trail are shown on project plans, delineated prior to construction, and avoided during project construction, to the extent feasible. Any inadvertent and unavoidable impacts shall be mitigated in accordance with mitigation measure **Bio-5**. Therefore, impacts would be less than significant with mitigation.

Portions of the disturbance footprint for the pipeline installation and construction activities at the north end of MTRP will occur within the designated critical habitat overlay for San Diego ambrosia. A rare plant survey was conducted along Father Junipero Serra Trail in June 2021. Western ragweed (*Ambrosia psilostachya*) was detected along the alignment; however, no San Diego ambrosia was detected within any portion of the study area. San Diego ambrosia is a perennial species that would have been detected if present, as the survey was conducted during the blooming period for this species. Furthermore, the known locations of San Diego ambrosia within MTRP are located within grassy areas north and south of the preferred alignment. The impacts associated with these activities will be temporary, and new above-ground structures would be limited to air vents, if required. The activities would not result in adverse modification of critical habitat, and the project does not propose impacts to San Diego ambrosia. In addition, impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**. Designated critical habitat for spreading navarretia occurs approximately 2.5 miles to the northwest of the project alignment; therefore, the activities would not result in adverse modification of critical habitat, and impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**.

7.3.1.2 Alternative Alignment

Rare plant surveys completed by HELIX in 2021, determined the presence of two special-status plant species within the potential disturbance limits of the project: San Diego marsh-elder and southwestern spiny rush (Figures 8a and 8b). San Diego marsh-elder and southwestern spiny rush occur as natural populations in the habitat along the alternative alignment within Forester Creek. As previously stated, the alternative alignment within Forester Creek would only be utilized if the preferred alignment is not feasible due to the overcrowding of existing utilities within Mission Gorge Road.

Potential impacts on the southwestern spiny rush along the alternative alignment would be less than significant. These species are CRPR 4 plants that are relatively widespread in the local and regional areas. The majority of the individuals observed in the study area and immediate vicinity (i.e., local populations) would be avoided by the project. Project impacts would not jeopardize the long-term survival of either species, and impacts would be less than significant.

As currently planned, 42 San Diego marsh-elder individuals occur along the alternative alignment and within the potential disturbance limits for the project (Figures 8a and 8b). These plants are CRPR 2B plants, and are considered rare, threatened, or endangered in California, but more common elsewhere. This occurrence is not located near known populations of the same species, and isolated strands of sensitive species represent genetic gene pool diversity that is valued; therefore, impacts to these CRPR 2B plants would be considered significant. Implementation of mitigation measure **Bio-6** will ensure that the areas supporting San Diego marsh-elder along the alternative alignment are shown on project plans, delineated prior to construction, and avoided during project construction to the extent feasible. Any inadvertent and unavoidable impacts shall be mitigated in accordance with mitigation measure **Bio-6**. Therefore, impacts would be less than significant with mitigation.

7.3.2 Special Status Animal Species

7.3.2.1 Preferred Alignment

Coastal California Gnatcatcher

Focused coastal California gnatcatcher surveys were conducted along the middle portion of the alignment in 2016 as part of the City's North City Pure Water project (City 2018a). Additional focused surveys were conducted by HELIX in 2021, within suitable habitat on the northern and southern sections of the alignment (HELIX 2021a). In addition, incidental detections during other 2021 surveys and observations from the Mission Trails Regional Plan Update (City 2019) were also recorded and utilized.

The coastal California gnatcatcher was incidentally detected in 2021 at one location along Father Junipero Serra Trail within the study area adjacent to the potential direct disturbance limits for the project (Figures 8e). Coastal California gnatcatcher was also confirmed during 2016 protocol surveys and incidentally detected during 2021 surveys outside of the study area but within 500 feet of proposed impacts (Figures 8e, 8g, and 8h). Construction activities within 500 feet of these gnatcatcher locations include sliplining construction with interspersed excavations and trenchless construction for pipeline installation. If construction activities at these locations must occur during the gnatcatcher breeding season (March 1 to August 15), noise in excess of 60 dBA generated from construction work areas could adversely affect breeding gnatcatchers where existing ambient noise levels are not already in exceedance of 60 dBA. These potential indirect impacts would be considered significant.

Implementation of mitigation measure **Bio-7a** would ensure that pre-construction surveys for gnatcatcher are conducted by a USFWS-permitted biologist prior to initiating activities within MTRP along Father Junipero Serra Trail and within 500 feet of activities along Mission Gorge Road between Father Junipero Serra Trail and Mission Vista Drive (Figures 8d through 8h) to confirm presence or absence of the species. If the species is confirmed to be present within the habitat immediately adjacent to the construction activities location, implementation of mitigation measures **Bio-1, Bio-3**, **Bio-5**, and **Bio-7a,** shall be required, which include measures for restricting activities to periods outside of the gnatcatcher breeding season, installation of temporary construction fencing, biological monitoring, and noise monitoring. If activities within the City of San Diego cannot be restricted to periods outside of the gnatcatcher breeding season and construction-generated noise is confirmed to be in excess of 60 dBA at the edge of occupied habitat, then the JPA shall implement mitigation measures **Bio-7a**. If activities within the City of Santee cannot be restricted to periods outside of the gnatcatcher breeding season and construction-generated noise is confirmed to be in excess of 60 dBA at the edge of occupied habitat, then the JPA shall consult with the USFWS and implement additional avoidance, minimization, and conservation measures in accordance with mitigation measure **Bio-9**.

Least Bell's Vireo

The least Bell's vireo was detected at two locations within the study area adjacent to the potential direct disturbance limits for the project (Figures 8a, 8d, and 8e). Construction activities within 500 feet of these vireo locations include open-cut trenching, sliplining construction with interspersed excavations, and trenchless construction for pipeline installation. Additional habitat suitable for vireo supporting historical records for the species occurs within the San Diego River and Forester Creek. If construction activities at these locations begin during the vireo breeding season (March 15 to September 15), noise in excess of 60 dBA generated from construction work areas could adversely affect breeding vireos where existing ambient noise levels are not already in exceedance of 60 dBA. These potential indirect impacts would be considered significant.

In addition, vireo was also confirmed outside of the study area, but within 500 feet (Figures 8a, 8d through 8g, and 8o). None of these locations occur on or immediately adjacent to the potential direct disturbance limits for the project. Construction activities within 500 feet of these vireo locations include open-cut trenching, sliplining construction with interspersed excavations, and trenchless construction for pipeline installation. If construction activities at these locations must occur during the vireo breeding season (March 15 to September 15), noise in excess of 60 dBA generated from construction work areas could adversely affect breeding vireo where existing ambient noise levels are not already in exceedance of 60 dBA. These potential indirect impacts would be considered significant.

Implementation of mitigation measure **Bio-8a** would ensure that pre-construction surveys for vireo are conducted by a USFWS-approved biologist prior to initiating activities within MTRP along Father Junipero Serra Trail, and within 500 feet of the San Diego River and Forester Creek (Figures 8a, 8d through 8g, 8o, and 8p), to confirm presence or absence of the species. If the species is confirmed to be present within the habitat immediately adjacent to the construction activities location, implementation of mitigation measures **Bio-1**, **Bio-3**, **Bio-5**, and **Bio-8a** shall be required, which include measures for restricting activities to periods outside of the vireo breeding season, installation of temporary construction fencing, biological monitoring, and noise monitoring. If activities within the City of San Diego cannot be restricted to periods outside of the gnatcatcher breeding season and construction-generated noise is confirmed to be in excess of 60 dBA at the edge of occupied habitat, then the JPA shall implement mitigation measures **Bio-8a**. If activities within the City of Santee cannot be restricted

to periods outside of the vireo breeding season and construction-generated noise is confirmed to be in excess of 60 dBA at the edge of occupied habitat, then the JPA shall consult with the USFWS and implement additional avoidance, minimization, and conservation measures in accordance with mitigation measure **Bio-9**.

Portions of the disturbance footprint for pipeline installation and construction activities within Father Junipero Serra Trail and the northern portion of Mission Gorge Road will occur within the designated critical habitat overlay for vireo. The impacts associated with these activities will be temporary, and no new above-ground structures are proposed. The activities would not result in adverse modification of critical habitat, and impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**.

Other Special-Status Animals

Several other non-listed, special-status animal species have the potential to occur on and in the immediate vicinity of the project site. Some of these species were observed within the study area or flying over during project surveys. The species include American peregrine falcon, Belding's orange-throated whiptail, Costa's hummingbird, southern California rufous-crowned sparrow, Cooper's hawk, yellow-breasted chat, yellow warbler, and western bluebird. Potential impacts on these species would be limited to the temporary displacement of individuals during project construction; in addition, based on the quality and size of the habitat that could be impacted, the areas are not expected to support locally or regionally significant populations of these non-listed sensitive species. Therefore, impacts to the species would be considered less than significant. Implementation of mitigation measure **Bio-10** would minimize potential direct and indirect impacts on non-listed, special-status animal species. Loss of habitat would be mitigated in accordance with mitigation measure **Bio-2** (see Issue 2).

MTRP occurs within the Quino checkerspot butterfly survey area and Quino checkerspot butterfly are known to occur within MTRP (City 2019); however, surveys were not conducted because all project impacts would be restricted to existing disturbed and developed lands. The study area does support potential Quino habitat as defined by the USFWS guidelines. However, California dwarf plantain, the preferred host plant species of the Quino checkerspot butterfly, and other host plant species were not detected during project surveys. No direct or indirect impacts to the federally endangered Quino checkerspot butterfly are anticipated to occur as a result of the preferred alignment.

The nearest known arroyo toad occurrence is approximately 18 miles upstream of the project within the San Diego River. In addition, this species is not known to occur downstream of El Capitan Dam (i.e., within or adjacent to the project alignment), but designated critical habitat for this species occurs upstream of the project within the San Diego River. The preferred project alignment is presumed to be unoccupied by arroyo toad due to the lack of historic occurrences and a physical barrier (i.e., El Capitan Dam), preventing territory expansion.

The project would conduct open-cut trenching, sliplining construction with interspersed excavations, and trenchless construction for pipeline installation. Open trenches and pits during open-cut trenching and sliplining construction activities have the potential to entrap wildlife. Open trenches and pits would be covered when not in use to prevent wildlife entrapment. During trenchless activities, the use of a clay lubricant, specifically bentonite slurry, can potentially impact amphibians, aquatic reptiles, fish, and other aquatic species and their habitats when hydrofractures (commonly referred to as "frac-outs") occur. Bentonite is often considered non-toxic; however, benthic invertebrates, aquatic plants, fish, and

their eggs can be smothered by fine particles of bentonite if it is discharged into waterways. Through the implementation of the Frac-Out Contingency Plan, as described under *Project Description and Location* above, the potential for hydrofractures and adverse effects from the hydrofractures would be minimized, and impacts would be less than significant.

In addition, portions of the disturbance footprint for pipeline installation and construction activities within Father Junipero Serra Trail will occur within the designated critical habitat overlay for the Hermes copper butterfly. The impacts associated with these activities are primarily located within the existing asphalt and dirt turnouts within Father Junipero Serra Trail. Furthermore, impacts will be temporary in nature, and no new above-ground structures are proposed within the designated critical habitat overlay for Hermes copper butterfly. No impacts to redberry (*Rhamnus crocea*), the Hermes copper butterfly host plant; California buckwheat, the preferred nectar source for the Hermes copper butterfly; or any other Hermes nectar sources are proposed. The activities would not result in the adverse modification of physical or biological features essential to the conservation of the Hermes copper butterfly due to the fact that project impacts are restricted to disturbed and developed areas that lack suitable habitat for the species and lack the physical and biological features associated with its designated critical habitat.

Impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**. Designated critical habitat for San Diego fairy shrimp occurs approximately 2,200 feet to the northwest of the project alignment; therefore, the activities would not result in adverse modification of critical habitat, and impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**.

7.3.2.2 Alternative Alignment

Coastal California Gnatcatcher

Focused surveys for the coastal California gnatcatcher were conducted by HELIX in 2021, within suitable habitat along the alternative alignment (HELIX 2021a). No gnatcatchers were detected within 500 feet of the alternative alignment during these surveys or incidentally during other project surveys.

In addition, no portion of the alternative alignment would occur within or adjacent to areas designated as critical habitat for gnatcatcher; therefore, the activities would not result in adverse modification of critical habitat, and impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**.

Least Bell's Vireo

The least Bell's vireo was detected at two locations within the alternative alignment study area adjacent to the potential direct disturbance limits for the project (Figure 8a). Construction activities within 500 feet of these vireo locations include sliplining construction with interspersed excavations for pipeline installation. Additional habitat suitable for vireo supporting historical records for the species occurs within the San Diego River and Forester Creek. If construction activities at these locations begin during the vireo breeding season (March 15 to September 15), noise in excess of 60 dBA generated from construction work areas could adversely affect breeding vireos where existing ambient noise levels are not already in exceedance of 60 dBA. These potential indirect impacts would be considered significant.

In the event the preferred alignment is not viable, the alternative alignment has the potential to impact least Bell's vireo. Implementation of mitigation measure **Bio-8a** would ensure that pre-construction

surveys for vireo are conducted by a USFWS-approved biologist prior to initiating activities within 500 feet of the San Diego River and Forester Creek (Figure 8a) to confirm the presence or absence of the species. If the species is confirmed to be present within the habitat immediately adjacent to the construction activities location, implementation of mitigation measures **Bio-1**, **Bio-3**, **Bio-5**, and **Bio-8a** shall be required, which include measures for restricting activities to periods outside of the vireo breeding season, installation of temporary construction fencing, biological monitoring, and noise monitoring. If activities within the City of San Diego cannot be restricted to periods outside of the gnatcatcher breeding season and construction-generated noise is confirmed to be in excess of 60 dBA at the edge of occupied habitat, then the JPA shall implement mitigation measures **Bio-8a**.

Portions of the disturbance footprint for pipeline installation and construction activities within Forester Creek will occur within the designated critical habitat overlay for vireo. The impacts associated with these activities will be temporary, and no new above-ground structures are proposed. The activities would not result in adverse modification of critical habitat, and impacts to sensitive habitat types will be mitigated in accordance with mitigation measure **Bio-2**.

Other Special-Status Animals

In the event the preferred alignment is not viable, the alternative alignment has the potential to impact other special-status animals. Several other non-listed, special-status animal species have the potential to occur on and in the immediate vicinity of the alternative project site. Some of these species were observed within the study area or flying over during project surveys. The species include yellow warbler, yellow-breasted chat, yellow warbler, and western bluebird. Potential impacts on these species would be limited to the temporary displacement of individuals during project construction; in addition, based on the quality and size of the habitat that could be impacted, the areas are not expected to support locally or regionally significant populations of these non-listed sensitive species. Therefore, impacts to the species would be considered less than significant. Implementation of mitigation measure **Bio-10** would minimize potential direct and indirect impacts on non-listed, special-status animal species. Loss of habitat would be mitigated in accordance with mitigation measure **Bio-2** (see Issue 2).

No portion of the alternative alignment occurs within the Quino checkerspot butterfly survey area. The alternative alignment does not support suitable habitat for the Quino checkerspot butterfly due to its location within excluded habitat (i.e., dense closed-canopy riparian woodland and scrub); therefore, no direct or indirect impacts to the federally endangered Quino checkerspot butterfly are anticipated to occur as a result of the alternative alignment.

The nearest known arroyo toad occurrence is approximately 18 miles upstream of the project within the San Diego River. In addition, this species is not known to occur downstream of El Capitan dam (i.e., within or adjacent to the project alignment), but designated critical habitat for this species occurs upstream of the project within the San Diego River. The alternative project alignment is presumed to be unoccupied by arroyo toad due to the lack of historic occurrences and a physical barrier (i.e., El Capitan dam), preventing territory expansion.

The project would conduct sliplining construction with interspersed excavations for pipeline installation. Pits during sliplining construction activities have the potential to entrap wildlife; however, pits would be covered when not in use to prevent wildlife entrapment.

7.4 IMPACTS TO JURISDICTIONAL RESOURCES

7.4.1 Preferred Alignment

The preferred alignment project and components have been specifically planned to avoid federally-protected wetlands and other potential jurisdictional features. No impacts to federally-protected wetlands or other potential jurisdictional features are proposed.

7.4.2 Alternative Alignment

In the event the preferred alignment is not viable, the alternative alignment would result in direct impacts on jurisdictional resources. The alternative alignment near the EMGPS would result in impacts to potential federally-protected wetlands in the form of 3.16 acres of southern riparian forest, 0.27 acre of southern riparian woodland, and 0.32 acre of southern willow scrub (including disturbed) as a result of the installation and construction of alternative pipeline alignment within Forester Creek. These impacts would be temporary in nature but still considered potentially significant.

As a City requirement, the JPA would be required to complete an essential public project wetland deviation. Implementation of mitigation measure **Bio-11a** would ensure the wetland deviation would be completed per City requirements.

As a regulatory requirement, the JPA would notify and obtain necessary permits from responsible agencies of the project, including the USACE, RWQCB, and CDFW. Implementation of mitigation measures **Bio-11b** and **Bio-12** would ensure that the appropriate permits are obtained and that the impact is compensated in accordance with USACE, RWQCB, and CDFW requirements.

7.5 IMPACTS TO WILDLIFE MOVEMENT AND NURSERY SITES

7.5.1 Preferred Alignment

MTRP, San Diego River, and Forester Creek are all considered MSCP Core Linkage Areas which functions as a wildlife corridor. The preferred alignment and project components do not propose construction within the San Diego River or Forester Creek; therefore, wildlife movement within these corridors would not be restricted. Construction within MTRP would be restricted to existing developed land. Furthermore, the slipline construction method is proposed within the MTRP to minimize impacts to wildlife.

Construction has the potential to indirectly deter the movement of wildlife, but this impact would be temporary, and the installed project alignment would be located underground once complete. The project may include several aboveground components; however, these components would be relatively small and would not present an impediment to wildlife movement. The preferred project alignment would not impede the movement of any native, resident, or migratory fish or wildlife species; interfere with an established native, resident, or migratory wildlife corridors, including linkages identified in the City's MSCP Subarea Plan; and would not impede the use of native wildlife nursery sites. Impacts to wildlife movement and nursery sites would be less than significant, and no mitigation is required.

7.5.2 Alternative Alignment

If the preferred alignment is not a feasible and viable option due to utility constraints within Mission Gorge Road, construction of the alternative alignment would be conducted using a slipline construction method to minimize impacts to wildlife. Similar to the proposed project, the impacts would be temporary in nature and experienced during construction only. Furthermore, wildlife would still have ample access around the temporary construction areas to move unobstructed in the local and regional areas. Therefore, the potential impact to wildlife movement and nursery sites related to the alternative alignment would also be less than significant.

7.6 IMPACTS TO LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLANS

7.6.1 Preferred Alignment

The preferred alignment and project components have been specifically designed to minimize impacts to biological resources addressed in the City's MSCP Subarea Plan (1997) and Land Development Manual Biology Guidelines (2018). Implementation of avoidance and minimization measures described in Section 8 and mitigation measures described in Section 9 would ensure project consistency with the MSCP, and that impacts to species and ESL are avoided in accordance with Biology Guidelines requirements, as detailed in Section 6.0 above. As such, the preferred alignment would not conflict with local, regional, or state conservation plans.

7.6.2 Alternative Alignment

As previously stated, the alternative alignment within Forester Creek would only be utilized if the preferred alignment is not feasible due to the overcrowding of existing utilities within Mission Gorge Road. The alternative alignment has been designed to minimize impacts to biological resources; however, construction would result in impacts to sensitive biological resources, including sensitive vegetation communities, special-status plant and animal species, and jurisdictional resources. Impacts to biological resources would be temporary in nature and impacts would be restored in accordance with the City's Biological Guidelines (City 2018b). Because the project would be considered an essential public project, a wetland deviation from the ESL Regulations may be requested where no feasible alternative exists that would avoid wetland impacts as specified in mitigation measure **Bio-11a** (City 2018b). The alternative alignment within Forester Creek would only be utilized if the preferred alignment is not feasible due to the overcrowding of existing utilities within Mission Gorge Road.

Implementation of avoidance and minimization measures described in Section 8 and mitigation measures described in Section 9 would ensure project consistency with the MSCP, and that impacts to special-status species as well as upland and wetland ESL habitats are avoided, minimized and/or mitigated in accordance with Biology Guidelines requirements, as detailed in Section 6.0 above. For these reasons, the alternative alignment would not conflict with local, regional, or state conservation plans.

7.7 IMPACTS TO ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES

7.7.1 Preferred Alignment

As discussed above, the preferred alignment and project components have been specifically designed to avoid impact on sensitive natural communities and potential jurisdictional waters and wetlands, thereby minimizing the impact on special-status species determined to be present or have the potential to occur, and to their suitable habitats. In addition, the preferred alignment would comply with the City's MSCP LUAGs to minimize indirect impacts to preserve areas from adjacent development. Implementation of the preferred alignment would be consistent with local policies and ordinances protecting biological resources.

7.7.2 Alternative Alignment

Should the preferred alignment not be a feasible or viable option due to utility crowding in Mission Gorge Road, the alternative alignment would result in temporary impacts to less than 3.76 acres of southern riparian woodland, southern riparian forest, and southern willow scrub habitats (Table 4). Temporary impacts to wetlands would be restored and revegetated following completion of construction. These unavoidable impacts associated with the alternative alignment would be the result of slip lining activities described in Section 7.2.2 above (Figures 8a and 8b). Temporary impacts to wetlands would require approval of wetland deviation findings for essential public projects, and impacts would be mitigated in a manner consistent with the City's MSCP Subarea Plan, Biology Guidelines (City 2018b), and ESL Regulations, as described in Section 8 and Section 9 below. As such, implementation of the alternative alignment would be consistent with local policies and ordinances protecting biological resources.

7.8 CUMULATIVE IMPACTS

Adverse cumulative impacts are not expected from the implementation of the proposed project. Projects which adhere to the City's MSCP Subarea Plan (City 1997) are not expected to have significant cumulative impacts to resources regulated and covered by these plans. The project would comply with the City's MSCP Subarea Plan, Biology Guidelines (City 2018b), and ESL Regulations. Therefore, the project would not result in significant cumulative impacts.

8.0 AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measures shall be implemented and included as conditions of project approval to ensure compliance with the City's Biology Guidelines (City 2018b) and MSCP Subarea Plan (City 1997), and to prevent inadvertent impacts to sensitive biological resources adjacent to the project footprint.

8.1 BIOLOGICAL RESOURCES PROTECTION DURING CONSTRUCTION

Bio-1 Biological Construction Monitoring. Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the following project requirements are shown on the construction plans:

I. Prior to Construction

A. Biologist Verification – The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist), as defined in the City Biology Guidelines (2018b), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

B. Pre-construction Meeting – The Qualified Biologist shall attend the pre-construction meeting, discuss the project's biological monitoring program, and arrange to perform any follow-up mitigation measures and reporting, including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.

C. Biological Documents – The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports, including but not limited to, maps, plans, surveys, survey timelines, or buffers, are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program, ESL Regulations, project permit conditions; CEQA; endangered species acts (ESAs); and/or other local, state, or federal requirements.

D. Biological Construction Mitigation/Monitoring Exhibit (BCME) – The Qualified Biologist shall present a BCME, which includes the biological documents in C above. In addition, the BCME shall include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City Assistant Deputy Director/MMC. The BCME shall include a site plan, a written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

E. Avian Protection Requirements – To avoid direct impacts to nesting birds protected under the MBTA or CFG Code, no clearing, grubbing, or grading shall occur during the general avian breeding season (January 15 to September 15) or raptor breeding season (January 15 to August 31) without a pre-construction nesting bird survey. If grubbing, clearing, or grading would occur during the general avian or raptor breeding seasons, a Qualified Biologist shall survey the project area no more than seven days prior to the commencement of the activities to determine if active bird nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code are present in the affected areas. If the Qualified Biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed. If the Qualified Biologist determines that an active migratory bird or raptor nest is present, appropriate setbacks shall be implemented as specified by the City of San Diego's Biology

Guidelines, or determined by the Qualified Biologist, if no defined setback is provided in the Biology Guidelines. No impacts shall occur until the young have fledged the nest, and the nest is confirmed to no longer be active, as determined by the Qualified Biologist. The results of the pre-construction nesting bird survey shall be reported to the City and the JPA in a brief memorandum.

F. Resource Delineation – Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent, along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize the attraction of nest predators to the project site.

G. Education – Prior to the commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site area educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

II. During Construction

A. Monitoring – All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed, as shown on "Exhibit A", and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record. The Consultant Site Visit Record shall be e-mailed to MMC on the first day of monitoring, the first week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

B. Subsequent Resource Identification – The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna on-site (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state, or federal regulations have been determined and applied by the Qualified Biologist.

III. Post Construction Measures

A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL Regulations, MSCP, VPHCP, CEQA, and other applicable local, state, and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City Assistant Deputy Director/MMC within 30 days of construction completion.

9.0 MITIGATION MEASURES

The following mitigation measures shall be implemented to reduce potentially significant impacts resulting from project implementation to below a level of significance.

9.1 MITIGATION FOR IMPACTS TO SENSITIVE UPLAND HABITATS

Bio-2 Compensatory Mitigation for Impacts to Sensitive Natural Communities. The JPA shall compensate the loss of habitat according to the standard ratios provided in the table below, which could be adjusted in coordination with the project biologist depending on where the compensatory mitigation would be located and whether the impacted habitat supports special-status species or other sensitive resources. Mitigation for Diegan coastal sage scrub, southern willow scrub, and open water shall not be adjusted below a 1:1 mitigation ratio consistent with the no-net-loss standard, unless otherwise conditioned in permits and/or discretionary approvals issued by the USFWS, USACE, RWQCB, CDFW, and/or City, as applicable.

A. Impacts to 3.43 acres of southern riparian forest and southern riparian woodland habitats shall be mitigated at a 3:1 ratio in accordance with ratios provided in Table 2A of the City's Biology Guidelines, for an anticipated mitigation obligation of 10.29 acres.

B. Impacts to 0.32 acre of southern willow scrub habitat shall be mitigated at a 2:1 ratio in accordance with ratios provided in Table 2A of the City's Biology Guidelines, for an anticipated mitigation obligation of 0.63 acre.

C. Impacts to a combined total of 0.1 acre of Diegan coastal sage scrub and broom baccharis scrub (Tier II) habitats shall be mitigated in accordance with ratios provided in Table 3 of the City's Biology Guidelines, for an anticipated combined mitigation obligation of 0.1 acre.

Table 5
MITIGATION FOR SIGNIFICANT IMPACTS TO SENSITIVE HABITATS (acres)[1]

Habitat	Tier	Impacts			Mitigation Required	
		Inside MHPA	Outside MHPA	TOTAL	Ratio[2]	Mitigation
Sensitive Wetland/Riparian						
Southern Riparian Woodland and Forest	Wetland	3.03	0.41	*3.44*	3:1	10.32
Southern Willow Scrub (including disturbed)		0.31	0.01	*0.32*	2:1	0.64
Sensitive Wetland/Riparian Subtotal		***3.34***	***0.42***	***3.76***	--	***10.96***
Sensitive Uplands						
Diegan coastal sage scrub-including broom baccharis scrub	II	--	0.1	*0.1*	1:1	0.1
Sensitive Upland Subtotal		***--***	***0.1***	***0.1***	***--***	***0.1***
TOTAL		**3.34**	**0.52**	**3.86**	**--**	**11.06**

1 All data is in acres rounded to the nearest tenth (0.1) for uplands and thousandth (0.01) for wetlands. "--" equals no impact under the impact column, or not applicable where under the mitigation ratio column.

2 Mitigation ratios per Table 2a of the City Biology Guidelines and all mitigation is inside the MHPA. Should mitigation occur outside of the MHPA the mitigation ratio for Diegan coastal sage scrub (including broom baccharis scrub) would increase to 1.5:1 (0.2 acre) for a total of 11.11 acres of required mitigation.

The JPA shall implement compensatory mitigation for impacts in accordance with the ratios from Table 5, *Mitigation for Significant Impacts to Sensitive Habitats*, and through one or a combination of the following measures:

- Purchase of off-site conservation credits from a conservation bank in the region;
- Implementation of on- and/or off-site habitat preservation, creation, restoration, and/or enhancement, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan. The mitigation areas shall be of equivalent or superior function as determined in consultation with a Qualified Biologist.

The JPA shall restore or revegetate temporary impact areas at a 1:1 ratio through the preparation and implementation of a restoration plan, which shall include the following, as prepared by a Qualified Biologist or restoration specialist, at a minimum:

- Location of the restoration site;
- Plant species to be used, container sizes, and seeding rates;
- Schematic depicting the restoration area;
- Planting schedule;
- Description of the irrigation methodology;
- Measures to control exotic vegetation on-site;
- Specific success criteria;
- Monitoring program;
- Contingency measures should the success criteria not be met; and
- Identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

Bio-3 **Orange Construction Fencing.** The JPA shall install a temporary orange construction fencing, which clearly delineates the edge of the approved limits of grading and clearing, and the edges of environmentally sensitive areas that occur beyond the approved limits. This fencing shall be installed prior to construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. As specified in **Bio-1**, once fencing is installed, the JPA and Qualified Biologist shall determine the need for additional inspections and monitoring activities throughout the duration of construction. If determined necessary by the JPA and Qualified Biologist, monitoring shall include inspection of construction work areas, including staging and storage areas, to confirm that the activities are kept within the approved limits and that BMPs are in place to prevent incidental animal entrapment and burrow and nest establishment within equipment and staged materials. If work occurs beyond the fenced or demarcated limits of impact, or if a trapped animal or burrow or nest is found, work in

the affected areas shall cease until the problem has been remedied and mitigation identified by the JPA and Qualified Biologist. Temporary orange fencing shall be removed upon completion of construction of the project. Implementation of this measure shall be verified by the JPA prior to and concurrent with construction

Bio-4 **Construction Staging Areas.** The JPA shall design final project construction staging areas such that no staging areas shall be located within sensitive habitat areas. The construction contractor shall receive approval by the JPA prior to mobilization and staging of equipment outside of the project boundaries.

Bio-5 **Contractor Training.** The JPA shall retain a Qualified Biologist to provide environmental awareness training by attending pre-construction meetings to inform construction crews of the sensitive resources and associated avoidance and/or minimization requirements. This will also include training for new crew members who join the project crew after construction begins. The training shall educate crews on the 13 special status species with a high potential to occur in the project area. The crews will be informed to not interfere with these species if seen, and to contact the Qualified Biologist immediately for additional avoidance and minimization measures.

9.2 MITIGATION FOR IMPACTS TO SPECIAL STATUS SPECIES

9.2.1 Mitigation for Impacts to Special Status Plant Species

Bio-6 **Avoidance of Rare Plants.** Prior to initiating construction activities, the JPA shall require that the San Diego marsh-elder and/or decumbent goldenbush locations depicted on Figures 8a, 8b, 8e, and 8g in this report are clearly shown on final construction plans. The JPA shall further require that the locations are demarcated in the field by a Qualified Biologist and protected-in-place through the installation of temporary construction fencing or alternative means that are approved by the Qualified Biologist. The Qualified Biologist shall monitor construction activities, as appropriate, to help ensure avoidance of the areas. A final compliance report shall be prepared by the Qualified Biologist and submitted to the JPA for record verifying that no impacts occurred to the species.

Mitigation for any inadvertent and unavoidable impacts shall include one or a combination of the following, and occur at a 1:1 to 3:1 ratio, as approved by the City and depending on the sensitivity of the species and population size, as determined by the JPA-retained Qualified Biologist:

(A) Purchase of preservation credits of occupied habitat from a conservation bank approved by the USFWS and CDFW;

(B) Acquisition and preservation of off-site mitigation land containing occupied habitat; and/or

(C) Preparation and implementation of a rare plant salvage and relocation plan, to include the following requirements, at a minimum:

(1) Evaluation of options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within existing or proposed preserved lands;

(2) Seed collection and/or transplantation to a suitable receptor site based on the most reliable methods of successful relocation;

(3) Recommendation for the method of salvage and relocation/application based on feasibility of implementation and likelihood of success; and

(4) Implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures.

9.2.2 Mitigation for Impacts to Special Status Animal species

Bio-7 Avoidance of Coastal California Gnatcatcher. Prior to the issuance of any grading, the City Manager (or appointed designee) shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

No clearing, grubbing, grading, or other construction activities shall occur between March 1 and August 15, the breeding season on the coastal California gnatcatcher, until the following requirements have been met to the satisfaction of the City Manager:

(A) If construction activities are planned to occur during the coastal California gnatcatcher breeding season (March 1 to August 15), then prior to initiating construction activities within 500 feet of off-site coastal California gnatcatcher locations, a Qualified Biologist (possessing a valid endangered species act section 10(a)(1)(A) Recovery Permit), shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of coastal California gnatcatcher. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If gnatcatchers are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If gnatcatchers are present, then the following conditions must be met:

(1) Between March 1 and August 15, no clearing, grubbing, or grading of occupied gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and

(2) Between March 1 and August 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied gnatcatcher habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a qualified acoustician (possessing current noise engineer license of registration with monitoring noise level experience with listed animal species) and approved by the City Manager at least two weeks prior to the commencement of construction activities. Prior to the

commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

(3) At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) hourly average at the edge of habitat occupied by the coastal California gnatcatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

*Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

(B) If coastal California gnatcatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager and applicable resource agencies which demonstrates whether or not mitigation measures, such as noise walls, are necessary between March 1 and August 15 as follows:

(1) If this evidence indicated the potential is high for coastal California gnatcatcher to be present based on historical records or site conditions, then condition A.III shall be adhered to as specified above.

(2) If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Bio-8 Avoidance of Least Bell's Vireo. Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify the following project requirements regarding the least Bell's vireo are shown on the construction plans:

No clearing, grubbing, grading, or other construction activities shall occur between March 15 and September 15, the breeding season on the least Bell's vireo, until the following requirements have been met to the satisfaction of the City Manager:

(A) If construction activities are planned to occur during the least Bell's vireo breeding season (March 15 to September 15), then prior to initiating construction activities in any project construction areas within 500 feet of least Bell's vireo critical habitat or suitable habitat, a Qualified Biologist (possessing a valid endangered species act section 10(a)(1)(A) Recovery

Permit), shall survey those suitable habitat areas that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of least Bell's vireo. The surveys shall begin a maximum of seven days prior to project construction, and one survey shall be conducted the day immediately prior to the initiation of work. If vireos are confirmed to be absent within 500 feet of planned construction areas, then no additional measures shall be required. If vireo are confirmed to be present, then the following conditions must be met:

(1) Between March 15 and September 15, no clearing, grubbing, or grading of occupied least Bell's vireo habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and

(2) Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied least Bell's vireo habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a qualified acoustician (possessing current noise engineer license of registration with monitoring noise level experience with listed animal species) and approved by the City Manager at least two weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

(3) At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16).

*Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

(B) If least Bell's vireo are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager and applicable resource agencies which

demonstrates whether or not mitigation measures, such as noise walls, are necessary between March 15 and September 15 as follows:

(1) If this evidence indicated the potential is high for least Bell's vireo to be present based on historical records or site conditions, then condition A.III shall be adhered to as specified above.

(2) If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Bio-9 **USFWS and CDFW Consultation and Conservation Measures.** Prior to the commencement of activities located within the City of Santee that have the potential to directly and adversely affect the coastal California gnatcatcher and/or least Bell's vireo, the JPA shall consult with the USFWS and CDFW to obtain concurrence on the implementation of avoidance measures prescribed in **Bio-7** and **Bio-8** for activities within the City of Santee boundaries. At a minimum, the following conservation measures shall be included in the concurrence and implemented by the JPA, unless otherwise prescribed by the USFWS and CDFW:

- Prepare and implement a USFWS and CDFW-approved plan to avoid disturbing nesting gnatcatchers and/or vireos, including construction and implementation of noise attenuation (e.g., sound walls, berms, blankets, etc.), monitoring noise levels to ensure that they are less than 60 dBA, and nest monitoring;

- Retain USFWS and CDFW-approved biological monitor to conduct contractor training, monitor construction activities, and oversee installation and inspection of temporary fencing and erosion control measures; halt work, if necessary, and confer with the USFWS and CDFW to ensure the proper implementation of species and habitat protection measures; and submit monthly reports (including photographs of impact areas) via regular mail or email to the USFWS and CDFW during monitoring.

Bio-10 **Avoidance of Nesting Birds and Raptors.** No clearing, grubbing, or grading shall occur during the general avian breeding season (January 15 to September 15) or raptor breeding season (January 15 to August 31) without a pre-construction nesting bird survey. If grubbing, clearing, or grading would occur during the general avian or raptor breeding seasons, a Qualified Biologist shall survey the project area no more than seven days prior to the commencement of the activities to determine if active bird nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code are present in the affected areas. If the Qualified Biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed. If the Qualified Biologist determines that an active migratory bird or raptor nest is present, appropriate setbacks shall be implemented as specified by the City's Biology Guidelines, or determined by a Qualified Biologist if no defined setback is provided in the Biology Guidelines. No impacts shall occur within the setback area until the young have fledged the nest, and the nest is confirmed to no longer be active, as determined by the Qualified Biologist. The results of the pre-construction nesting bird survey shall be reported to the City and the JPA in a brief memorandum.

9.3 MITIGATION FOR IMPACTS TO JURISDICTIONAL RESOURCES

Bio-11a Wetland Deviation. In the event the preferred alternative is not feasible or viable, and the alternative alignment must be utilized, temporary impacts to wetlands would occur. Wetland impacts would require an essential public project wetland deviation from the City's ESL wetland regulations. The wetland deviation for the alternative alignment must be prepared in accordance with and include project mitigation consistent with Table 2a of the City's Biology Guidelines (City 2018). The wetland deviation will identify and analyze a no-project alternative, a wetlands avoidance alternative, and a wetlands impact minimization alternative.

Bio-11b Regulatory Permitting. Potentially significant impacts to jurisdictional waters and/or wetlands would occur within Forester Creek should the alternative alignment be utilized. The JPA shall complete the following if the alternative alignment is selected:

- Prepare and submit notification to the USACE for unavoidable impacts to waters of the U.S. pursuant to the Clean Water Act Section 404;
- Prepare and submit a Clean Water Act Section 401 Request for Water Quality Certification or State Porter-Cologne Water Quality Control Act Report of Waste Discharge to the RWQCB for unavoidable impacts to waters of the State; and
- Prepare and submit a CFG Code Section 1602 Notification of Lake or Streambed Alteration to the CDFW for unavoidable impacts to jurisdictional streambed and riparian habitat.
- Prepare and submit a Site Development Permit to the City for unavoidable impacts to City ESL wetland habitats.
- The JPA shall mitigate impacts to jurisdictional waters and wetlands in accordance with mitigation measure **Bio-2**, unless otherwise specified in USACE, RWQCB, CDFW, and/or City regulatory permits.

Bio-12 Compensatory Mitigation for Impacts to Jurisdictional Resources. The JPA shall implement compensatory mitigation at a minimum ratio of 1:1, which could be adjusted during permitting with the USACE, RWQCB, CDFW, and City, for the unavoidable loss of jurisdictional waters and wetlands, which would include one or a combination of the following measures:

- Purchase of preservation, establishment, re-establishment, rehabilitation, and/or enhancement credits from a mitigation bank approved by the USACE and CDFW, such as the San Luis Rey Mitigation Bank or another approved mitigation bank in the region.
- Implement Permittee-responsible preservation, establishment, re-establishment, rehabilitation, and/or enhancement at an on- or off-site location approved by the USACE, RWQCB, and/or CDFW, including preparation and implementation of a conceptual mitigation plan, habitat mitigation monitoring plan, restoration plan, and/or long-term management plan, unless otherwise specified by the USACE, RWQCB, and/or CDFW.
- Plans for restoration or revegetation should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a

schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on-site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for the conservation of the mitigation.

- A conservation easement, restrictive covenant, or other protection shall be recorded over the mitigation area, and the area shall be managed in perpetuity in accordance with the long-term management plan, unless otherwise specified by the USACE, RWQCB, CDFW, and/or the City.

Mitigation for any permanent loss of wetland waters of the U.S./State shall include a minimum 1:1 establishment/re-establishment component to ensure the no-net-loss standards are met.

10.0 LIST OF PREPARERS

The following individuals contributed to the fieldwork and/or preparation of this report.

Katie Bellon*‡	B.S., Biology, California State Polytechnic University, San Luis Obispo, 2009
Sean Bohac	Graduate Certificate, GIS Certificate Program, Mesa College, San Diego, California, 2003 B.S., Biology, The Evergreen State College, Olympia, Washington, 1998
Karl Osmundson‡	B.S., Wildlife, Fish, and Conservation Biology, University of California, Davis, 2003

* Primary report author
‡ Contributing author

11.0 REFERENCES

American Ornithological Society. 2021. AOU Checklist of North and Middle American Birds (online checklist). Retrieved from: http://checklist.americanornithology.org/taxa/.

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. The Jepson manual: vascular plants of California, second edition. Berkeley, CA: University of California Press.

Bradley, R.D., Ammerman, L.K., Baker, R.J., Bradley, L.C., Cook, J.A., Dowler, R.D. Jones, C., Schmidly, D.J., Stangi, F.B., Van De Bussche, R.A., Wursig, B. (2014). Revised checklist of North American mammals north of Mexico. Museum of Texas Tech University Occasional Papers. 327:1-27. Retrieved from: https://www.depts.ttu.edu/nsrl/publications/downloads/OP327.pdf.

California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB). 2021a. RareFind 5.

2021b. California Natural Diversity Database (CNDDB). Special Animal List. April. Retrieved from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline.

2021c. California Natural Diversity Database (CNDDB). State and Federally Listed Endangered, Threatened, and Rare Plants of California. State of California, The Resources Agency, Department of Fish and Game Habitat Conservation Division, Wildlife & Habitat Data Analysis Branch. Retrieved from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390. April.

City of San Diego (City). 2020. Final City of San Diego Vernal Pool Habitat Conservation Plan. October. Retrieved from: https://www.sandiego.gov/sites/default/files/vph-cp.pdf.

2019. Final Program Environmental Impact Report for the MTRP Master Plan Update. February. Retrieved from: https://www.sandiego.gov/sites/default/files/mission_trails_regional_park_final_peir_no._349988reduced.pdf. May.

2018a. North City Project Biological Resources Report. February.

2018b. City of San Diego Municipal Code, Land Development Code, Biology Guidelines. Amended. February 1 by Resolution No. R-311507. Retrieved from: https://www.sandiego.gov/sites/default/files/amendment_to_the_land_development_manual_biology_guidelines_february_2018_-_clean.pdf.

2017. City of San Diego Vernal Pool Habitat Conservation Plan, Vernal Pool Management and Monitoring Plan. October. Retrieved from: https://www.sandiego.gov/sites/default/files/vp-mmp.pdf.

1997. Multiple Species Conservation Program: City of San Diego MSCP Subarea Plan. March. Retrieved from: https://www.sandiego.gov/sites/default/files/legacy/planning/programs/mscp/pdf/subareafullversion.pdf.

Holland R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento. 156 pp.

North American Butterfly Association. 2016. Checklist of North American Butterflies Occurring North of Mexico, Edition 2.3. Retrieved from: https://www.naba.org/pubs/enames2_3.html.

Oberbauer, T. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.

Taggart, T. W. 2020. The Center for North American Herpetology: The Academic Portal to North American Herpetology. Retrieved from: http://www.cnah.org/.

U.S. Department of Agriculture. 2019. Natural Resource Agency. Web Soil Survey. Retrieved from: http://websoilsurvey.sc.egov.usda.gov/app/WebSoilSurvey.aspx. Updated July 31.

U.S. Fish and Wildlife Service (USFWS). 2021a. Critical Habitat Portal. Retrieved from: https://ecos.fws.gov/ecp/report/table/critical-habitat.html. Updated March 12.

2021b. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO). Retrieved from: http://www.fws.gov/carlsbad/gis/cfwogis.html. Updated March 4.

2021c. National Wetlands Inventory. Retrieved from: https://www.fws.gov/wetlands/data/mapper.html. Updated March 8.

2021d. Information for Planning and Conservation List of Endangered Species. Available at: https://ecos.fws.gov/ipac/.

2001. Least Bell's Vireo (*Vireo bellii pusillus*) Survey Guidelines. January 19.

1997. Coastal California gnatcatcher (*Polioptila californica californica*) presence/absence survey protocol. 5pp.

This page intentionally left blank

Appendix A

Federal Conformance Analysis for Biological Resources Issues

Appendix A
Federal Conformance Analysis for Biological Resources Issues

ISSUE 1: FEDERAL ENDANGERED SPECIES ACT, SECTION 7

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on site, in the surrounding area, or in the service area?

May Effect, But Would Not Adversely Affect. The proposed disturbance area contains 30.0 acres of designated critical habitat for Hermes copper butterfly, 44.1 acres of designated critical habitat for least Bell's vireo, and 13.5 acres of designated critical habitat for San Diego ambrosia. Construction for the preferred alignment within these critical habitats is confined to disturbed or developed lands; therefore, no permanent loss or adverse modification of critical habitat would occur.

Portions of the preferred alignment would occur adjacent to undeveloped areas characterized by native habitat that could support animal species listed under the federal ESA. Although no direct effects to federally listed animal species would be expected, potential indirect effects could occur during project construction. Adverse effects would be avoided with the implementation described above. Further discussion is provided below regarding potential effects of the proposed action on federally listed species.

The alternative alignment would result in direct effects on least Bell's vireo critical habitat and occupied southern riparian woodland and forest and southern willow scrub habitats. These effects would be potentially adverse. Construction of the alternative alignment through Forester creek would also result in direct effects on critical habitat for least Bell's vireo; however, all temporarily impacted riparian habitats would be restored as specified in mitigation measures **Bio-8, Bio-11**, and **Bio-12**. No permanent loss or adverse modification of critical habitat would occur.

Federally Listed Plant Species

No adverse effect. No federally listed plant species were found during focused surveys and none have a high potential to occur within the preferred or alternative alignments. The preferred alignment occurs entirely within developed roadways and lacks suitable habitat for listed plant species. The disturbed portions of the alignment are unsuitable due to the level of disturbance, the existing soils, vegetation associations, and hydrology. Therefore, no direct or indirect effects on federally listed plant species are anticipated to occur as a result of preferred alignment.

The alternative alignment primarily occurs within riparian habitats; however, listed plant species were not detected during the focused survey. The alternative alignment is unsuitable to the majority of species known to occur within the area due to the level of disturbance, the existing soils, vegetation associations, and hydrology. There is a low potential for San Diego ambrosia to occur within the alternative alignment impact area; however, this species was not observed during the focused survey. Therefore, no direct or indirect effects on federally listed plant species are anticipated to occur as a result of alternative alignment.

Appendix A (cont.)
Federal Conformance Analysis for Biological Resources Issues

Federally Listed Animal Species

Not Likely to Adversely Affect. As included in the subject study, federally listed endangered (FE) and federally listed threatened (FT) animal species are known to occur in the project vicinity and were analyzed for their potential to occur within the preferred and alternative alignments:

- Coastal California gnatcatcher; FT
- Least Bell's vireo; FE
- Quino checkerspot butterfly; FE

Coastal California gnatcatcher was not detected during the 2021 protocol surveys along the northern and southern portions of the alignment; however, gnatcatcher were detected inside the study area as well as outside of the study area, but within 500 feet during the City's 2016 protocol surveys and incidentally in 2021 within the MTRP along Father Junipero Serra Trail and Mission Gorge Road (Figures 8a, 8d-h, and 8o). Implementation of measure **Bio-2** above would avoid potentially adverse indirect impacts to sensitive species if preferred alignment construction activities occur during the gnatcatcher breeding season (February 15 to August 31).

Similarly, least Bell's vireo was confirmed during 2021 protocol survey within Forester Creek and incidentally detected during general biological surveys at two locations within the San Diego River adjacent to Father Junipero Serra Trail and north of Camino Del Rio North (Figures 8a, 8d-h, and 8o). Additional habitat suitable for vireo supporting historical records for the species occurs within the San Diego River and Forester Creek and within 500 feet of construction activities proposed nearby. Implementation of **Bio-3** would avoid potentially adverse indirect impacts if preferred alignment construction activities at these locations occur during the vireo breeding season (March 15 to September 15).

Implementation of mitigation measures **Bio-1** through **Bio-4**, the preferred alignment would not directly or indirectly adversely affect federally listed species.

Coastal California gnatcatcher are not known to occur nor has this species been detected within 500 feet of the alternative alignment. Therefore, no direct or indirect effects on the federally threatened coastal California gnatcatcher are anticipated to occur as a result of alternative alignment. Least Bell's vireo were confirmed to occur within Forester Creek along the alternative alignment. Implementation of mitigation measures **Bio-3** and **Bio-4** would avoid potentially adverse direct effects if preferred alignment construction activities at these locations occur during the vireo breeding season (March 15 to September 15). The alternative alignment does not support suitable habitat for the Quino checkerspot butterfly; therefore, no direct or indirect effects on the federally endangered Quino checkerspot butterfly are anticipated to occur as a result of the alternative alignment. In summary, implementation of mitigation measures **Bio-1** through **Bio-4**, the alternative alignment would not directly or indirectly adversely affect federally listed species.

Quino checkerspot butterfly are known to occur within MTRP; however, the entire preferred project alignment is located within existing disturbed and developed lands. The study area does support areas

Appendix A (cont.)
Federal Conformance Analysis for Biological Resources Issues

categorized as potential Quino habitat as defined by the USFWS guidelines; however, California plantain (*Plantago erecta*) and other host plant species were not detected during project surveys. The preferred alignment would not directly or indirectly adversely affect the federally endangered Quino checkerspot butterfly. The alternative alignment does not support suitable habitat for the Quino checkerspot butterfly; therefore, the alternative alignment would not directly or indirectly adversely affect the federally endangered Quino checkerspot butterfly.

Arroyo toad are not known to occur downstream of El Capitan dam, (i.e., within or adjacent to the project alignment) but designated critical habitat for this species occurs upstream of the project within the San Diego River. The preferred and alternative project alignments are presumed to be unoccupied by arroyo toad due to the lack of historic occurrences and physical barrier preventing territory expansion.

Hermes copper butterfly designated critical habitat overlaps MTRP and the center of the preferred alignment; however, project impacts are primarily located within the existing asphalt and dirt turnouts within Father Junipero Serra Trail. No impacts to redberry (*Rhamnus crocea*), the Hermes copper butterfly host plant; California buckwheat; or any other Hermes nectar sources are proposed. Due to the fact that project impacts are restricted to disturbed and developed areas that lack suitable habitat for the species and lack the physical and biological features associated with its designated critical habitat, project activities would not result in the adverse modification of physical or biological features essential to the conservation of the Hermes copper butterfly. The alternative alignment does not support suitable habitat, host plants, or nectar sources for the Hermes copper butterfly; therefore, the alternative alignment would not directly or indirectly adversely affect the federally threatened Hermes copper butterfly.

ISSUE 2: MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT, ESSENTIAL FISH HABITAT

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

No adverse effect. The preferred alignment would be constructed entirely within disturbed and/or developed upland areas that lack marine resources and Essential Fish Habitat regulated under the Magnuson-Stevens Fishery Conservation and Management Act. Furthermore, the alternative alignment also lacks marine resources and Essential Fish Habitat. Therefore, the neither the proposed or alternative alignments would adversely affect Essential Fish Habitat and both alignments would be in conformance with the Magnuson-Stevens Fishery Conservation and Management Act.

ISSUE 3: COASTAL ZONE MANAGEMENT ACT

Is any portion of the project site located within the coastal zone?

No adverse effect. No portion of the preferred or alternative alignment is located within the coastal zone. Therefore, the proposed project would have no effect on resources protected under the Coastal Zone Management Act.

Appendix A (cont.)
Federal Conformance Analysis for Biological Resources Issues

ISSUE 4: MIGRATORY BIRD TREATY ACT

Will the project affect protected migratory birds that are known, or have a potential, to occur on site, in the surrounding area, or in the service area?

Not Likely to Adversely Affect. Construction of the proposed alignment may require the removal or trimming of trees and shrubs within ornamental landscaped areas and vegetated habitat during the general bird nesting season (January 15 through September 15) and/or raptor nesting season (January 15 through July 31), which could result in potential adverse effects on nesting birds and raptors in violation of the MBTA. Indirect effects could occur as a result of construction noise in the immediate vicinity of undeveloped areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure.

Construction of the alternative alignment would require the removal or trimming of trees and shrubs within native vegetated habitat during the general bird nesting season (January 15 through September 15) and/or raptor nesting season (January 15 through July 31), which could result in potential adverse effects on nesting birds and raptors in violation of the MBTA. Direct effect could occur as a result of removing or trimming trees or shrubs with active nests causing nest abandonment or failure. Indirect effects could occur as a result of construction noise in the immediate vicinity of undeveloped areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure.

With the implementation of mitigation measures **Bio-2, Bio-3**, and **Bio-7**, the proposed action is not likely to adversely affect nesting birds, and the project would be in conformance with the MBTA.

ISSUE 5: PROTECTION OF WETLANDS

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the USACE?

Not Likely to Adversely Affect. The proposed alignment has been specifically planned to avoid all federally-protected wetlands and would not result in impacts to federally-protected wetlands.

Potential runoff and increase in pollutants associated with construction activities adjacent to undeveloped areas would be controlled and reduced through the implementation of BMPs and other protective measures incorporated into the project as mandatory requirements for regulatory compliance. With the incorporation of the protective measures, the project would not result in any adverse effects on federally protected wetlands and would be in conformance with the CWA.

The alternative alignment would result in approximately 3.76 acres of federally-protected wetlands (i.e., southern riparian forest, southern riparian woodland, and southern willow scrub [including disturbed]) as a result of the installation and construction of alternative pipeline alignment within Forester Creek. These impacts would be considered potentially significant. As a regulatory requirement, the JPA would notify and obtain necessary permits from responsible agencies of the project, including the USACE. Implementation of mitigation measures **Bio-11** and **Bio-12** would ensure that the appropriate permits are obtained and that the impact is compensated in accordance with USACE requirements.

Appendix A (cont.)
Federal Conformance Analysis for Biological Resources Issues

ISSUE 6: WILD AND SCENIC RIVERS ACT

Is any portion of the project located within a wild and scenic river?

No adverse effect. Neither the proposed or alternative alignments are planned on or in the immediate vicinity of areas designated as Wild and Scenic River. Therefore, the project would not adversely affect any areas designated as Wild and Scenic River and would be in conformance with the Wild and Scenic Rivers Act.

Appendix B

Representative Site Photos

Looking south at the developed trail adjacent to Diegan coastal sage scrub habitat at the north end of the Father Junipero Serra Trail within Mission Trails Regional Park. Sliplining construction is proposed for this section of alignment.

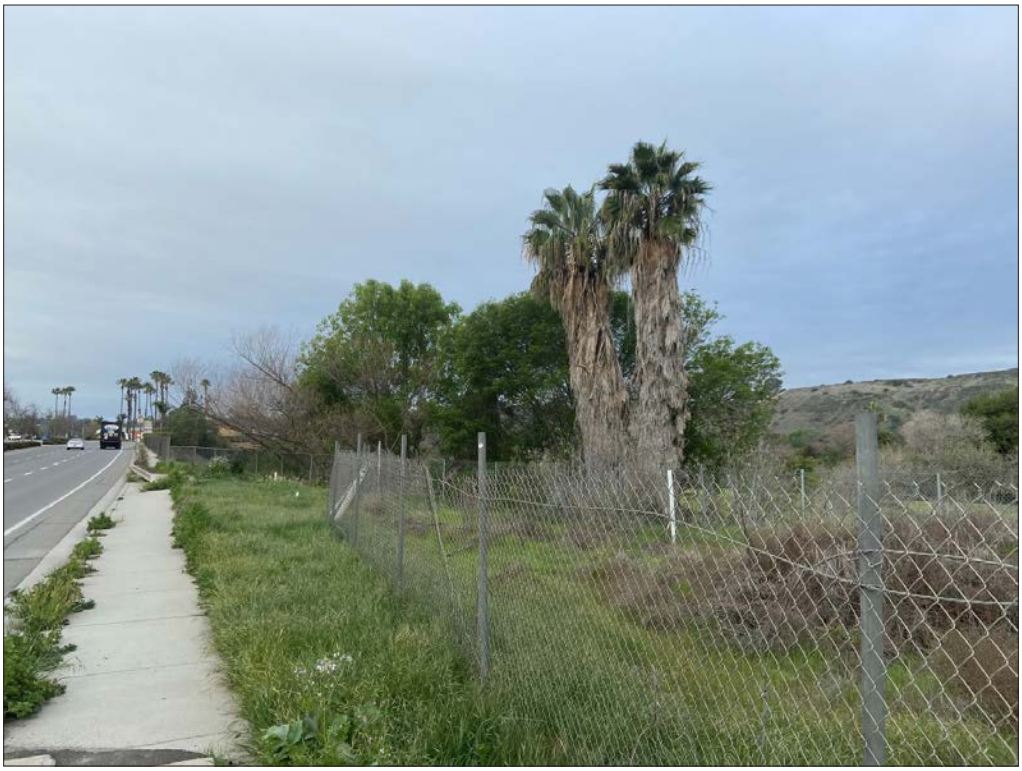
Looking south at the developed trail adjacent to Diegan coastal sage scrub and southern riparian forest habitats along the Father Junipero Serra Trail within Mission Trails Regional Park. Sliplining construction is proposed for this section of alignment.

Looking north at the developed trail adjacent to Diegan coastal sage scrub habitat along the Father Junipero Serra Trail within Mission Trails Regional Park. Sliplining construction is proposed for this section of alignment.

Looking north at the developed trail adjacent to Diegan coastal sage scrub habitat at the south end of the Father Junipero Serra Trail within Mission Trails Regional Park. Sliplining construction is proposed for this section of alignment.

Looking northeast at the non-native vegetation adjacent to developed land along Mission Gorge Road. Sliplining construction is proposed for this section of alignment.

Looking southwest at the narrow strip of Diegan coastal sage scrub habitat within developed land along Mission Gorge Road. Sliplining construction is proposed for this section of alignment.



Looking southwest at the non-native vegetation adjacent to developed land along Mission Gorge Road. Sliplining construction is proposed for this section of alignment.

Looking south at the developed land along Riverdale Street. Sliplining construction is proposed for this section of alignment.

Looking west at the southern riparian forest habitat and non-native vegetation adjacent to developed land along Camino Del Rio North for the Regional Brine Line Extension. Open trench construction is proposed for this section of alignment.

Looking east at the southern riparian forest habitat and non-native vegetation adjacent to developed land along Camino Del Rio North for the Regional Brine Line Extension. Open trench construction is proposed for this section of alignment.

Looking north at the southern riparian forest habitat of Forester Creek within the alternative alignment. Sliplining construction is proposed for the alternative alignment.

This page intentionally left blank

Appendix C

Plant Species Observed

Appendix C
Plant Species Observed

Family	Scientific Name	Common Name
Conifers		
Cupressaceae	*Juniperus* sp.*	ornamental juniper
Eudicots		
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry
	Sambucus nigra ssp. *canadensis*	black elderberry
Aizoaceae	*Carpobrotus edulis**	freeway ice plant
Amaranthaceae	*Amaranthus albus**	white tumbleweed
Anacardiaceae	*Malosma laurina*	laurel sumac
	Rhus integrifolia	lemonadeberry
	*Schinus molle**	Peruvian pepper tree
	*Schinus terebinthifolius**	Brazilian pepper tree
	Toxicodendron diversilobum	poison oak
Apiaceae	*Anthriscus caucalis**	bur chevril
	*Conium maculatum**	poison hemlock
	Daucus pusillus	rattlesnake weed
	*Foeniculum vulgare**	fennel
Apocynaceae	*Nerium oleander**	Oleander
	*Vinca major**	big-leaf periwinkle
Asteraceae	*Ambrosia acanthicarpa*	annual bur-sage
	Ambrosia psilostachya	western ragweed
	Artemisia californica	California sagebrush
	Artemisia douglasiana	California mugwort
	Artemisia palmeri†	San Diego sagewort
	Baccharis pilularis	coyote brush
	Baccharis salicifolia	mule fat
	Baccharis sarothroides	broom baccharis
	Bahiopsis (*Viguiera*) *laciniata*†	San Diego County sunflower
	Brickellia californica	California Brickell bush
	*Carduus pycnocephalus**	Italian thistle
	*Centaurea melitensis**	tocalote
	Corethrogyne filaginifolia var. *filaginifolia*	sand aster
	*Cynara cardunculus**	artichoke thistle
	Deinandra fasciculata	clustered tarweed
	*Dittrichia graveolens**	stinkwort
	Encelia californica	California encelia
	Erigeron canadensis	horseweed
	Eriophyllum confertiflorum	golden-yarrow
	*Gazania linearis**	treasure flower
	*Glebionis coronaria**	garland daisy
	Gutierrezia sp.	matchweed
	Hazardia squarrosa var. *grindelioides*	saw-toothed goldenbush
	*Hedypnois cretica**	Crete weed
	*Helminthotheca echioides**	bristly ox-tongue
	Heterotheca grandiflora	telegraph weed
	*Hypochaeris glabra**	smooth cat's ear
	Isocoma menziesii var. menziesii	Menzies' goldenbush

Appendix C (cont.)
Plant Species Observed

Family	Scientific Name	Common Name
Eudicots (cont.)		
Asteraceae (cont.)	*Isocoma menziesii var. decumbens*†	Decumbent goldenbush
	Iva hayesiana†	San Diego marsh-elder
	*Lactuca serriola**	wild lettuce
	Pseudognaphalium californicum	California everlasting
	Pseudognaphalium sp.	cudweed
	*Senecio vulgaris**	common groundsel
	*Silybum marianum**	milk thistle
	*Sonchus asper**	prickly sow thistle
	*Sonchus oleraceus**	common sow thistle
	Stephanomeria sp.	wreath plant
Boraginaceae	*Amsinckia sp.*	fiddleneck
	Heliotropium curassavicum var. *oculatum*	salt heliotrope
	Phacelia distans	wild heliotrope
Brassicaceae	*Brassica nigra**	black mustard
	*Hirschfeldia incana**	short-pod mustard
	Nasturtium officinale	water cress
	*Raphanus sativus**	wild radish
	Sisymbrium sp.*	mustard
Cactaceae	*Cylindropuntia prolifera*	coastal cholla
	*Opuntia ficus-indica**	Indian-fig
	Opuntia littoralis	coast pricky pear
Chenopodiaceae	*Salsola tragus**	Russian thistle
Cistaceae	*Cistus* sp.*	ornamental rock rose
	*Helianthemum oelandicum**	hoary rock rose
Cleomaceae	*Peritoma arborea*	bladderpod
Convolvulaceae	*Calystegia macrostegia*	morning-glory
	Cuscuta californica	California dodder
Crassulaceae	*Dudleya edulis*	fingertips
	Dudleya pulverulenta	chalk dudleya
Cucurbitaceae	*Marah macrocarpa*	wild cucumber
Dipsacaceae	*Dipsacus sativus**	Fuller teasel
Euphorbiaceae	*Euphorbia maculata**	spotted spurge
	Croton setigerus	dove weed
	*Euphorbia peplus**	petty spurge
	*Ricinus communis**	castor bean
Fabaceae	*Acacia* sp.*	acacia
	Acmispon americanus	Spanish-clover
	Acmispon glaber	deerweed
	Amorpha fruticosa	false indigo
	*Medicago polymorpha**	burclover
	*Melilotus indicus**	Indian sweet clover
	*Parkinsonia aculeata**	Mexican palo verde
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak
Geraniaceae	*Erodium* spp.*	filaree

Appendix C (cont.)
Plant Species Observed

Family	Scientific Name	Common Name
Eudicots (cont.)		
Grossulariaceae	*Ribes indecorum*	white flowering currant
	Ribes malvaceum	chaparral currant
	Ribes speciosum	fuchsia-flowered currant
Lamiaceae	*Marrubium vulgare**	horehound
	Salvia apiana	white sage
	Salvia mellifera	black sage
Malvaceae	*Malacothamnus fasciculatus*	chaparral mallow
	*Malva parviflora**	cheeseweed
	Sidalcea sparsifolia	checker bloom
Moraceae	*Ficus carica**	edible fig
Myoporaceae	*Myoporum parvifolium**	slender myoporum
Myrsinaceae	*Anagallis arvensis**	scarlet pimpernel
Myrtaceae	*Eucalyptus* sp.*	eucalyptus
Nyctaginaceae	*Bougainvillea* sp.*	bougainvillea
	Mirabilis laevis var. *crassifolia*	coastal wishbone plant
Oleaceae	*Fraxinus uhdei**	shamel ash
	*Olea europaea**	olive tree
Onagraceae	*Epilobium canum*	California fushia
	Oenothera elata	great marsh evening-primrose
Orobanchaceae	*Castilleja foliolosa*	Texas paintbrush
	Cordylanthus rigidus	rigid bird's beak
Oxalidaceae	*Oxalis pes-caprae**	Bermuda buttercup
Papaveraceae	*Eschscholzia californica*	California poppy
	Romneya coulteri†	Coulter's matilija poppy
Phrymaceae	*Diplacus puniceus*	sticky monkeyflower
Pinaceae	*Pinus* sp.*	Pine
Plantaginaceae	*Antirrhinum nuttallianum*	Nuttall’s snapdragon
	Keckiella cordifolia	heartleaf keckiella
Platanaceae	*Platanus racemosa*	western sycamore
Polygonaceae	*Eriogonum fasciculatum*	buckwheat
	*Rumex crispus**	curly dock
Ranunculaceae	*Clematis ligusticifolia*	western virgin's bower
	Clematis pauciflora	ropevine virgin's bower
Rhamnaceae	*Rhamnus crocea*	redberry
Rosaceae	*Adenostoma fasciculatum*	chamise
	Cercocarpus minutiflorus	San Diego mountain mahogany
	Heteromeles arbutifolia	toyon
	Prunus ilicifolia	holly leaf cherry
	Rosa californica	California rose
	Rubus sp.	blackberry
Rubiaceae	*Galium aparine**	goosegrass
	Galium angustifolium	narrow leaved bedstraw

Appendix C (cont.)
Plant Species Observed

Family	Scientific Name	Common Name
Eudicots (cont.)		
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood
	Salix exigua	narrow-leaved willow
	Salix gooddingii	Goodding's black willow
	Salix laevigata	red willow
	Salix lasiolepis	arroyo willow
Saururaceae	*Anemopsis californica*	yerba mansa
Scrophulariaceae	*Scrophularia californica*	California figwort
Simaroubaceae	*Ailanthus altissima**	tree of heaven
Solanaceae	*Datura wrightii*	jimson weed
	*Nicotiana glauca**	tree tobacco
	Solanum americanum	white nightshade
Tamaricaceae	*Tamarix ramosissima**	saltcedar
Urticaceae	*Urtica dioica* ssp. *holosericea*	stinging nettle
Vitaceae	*Vitis girdiana*	desert wild grape
Lycophytes		
Selaginellaceae	*Selaginella bigelovii*	Bigelow's spike-moss
Monocots		
Agavaceae	*Hesperoyucca whipplei*	chaparral yucca
Arecaceae	*Phoenix canariensis**	Canary Island date palm
	*Washingtonia robusta**	Mexican fan palm
Cyperaceae	*Carex spissa*	San Diego sedge
	*Cyperus involucratus**	umbrella plant
	Cyperus eragrostis	tall flatsedge
	Eleocharis sp.	spike-rush
	Scirpus sp.	bulrush
Juncaceae	*Juncus acutus* spp. *leopoldii*†	southwestern spiny rush
	Juncus sp.	rush
Liliaceae	*Calochortus weedii*	Weed's mariposa lily
Poaceae	*Arundo donax**	giant reed
	Avena spp.*	oats
	Bothriochloa barbinodis	beard grass
	*Bromus diandrus**	common ripgut grass
	*Bromus hordeaceus**	soft brome
	*Bromus madritensis**	foxtail chess
	Cortaderia sp.*	pampas grass
	*Cynodon dactylon**	Bermuda grass
	Distichlis spicata	salt grass
	Elymus condensatus	giant wild rye
	*Festuca myuros**	fescue
	Hordeum sp.*	barley
	*Lamarckia aurea**	toothbrush grass
	*Melinis repens**	Natal grass
	*Pennisetum setaceum**	purple fountain grass
	*Stipa miliacea**	smilo grass
	Stipa pulchra	purple needlegrass

Appendix C (cont.)
Plant Species Observed

Family	Scientific Name	Common Name
Monocots (cont.)		
Typhaceae	*Typha domingensis*	southern cattail
	Typha latifolia	broad-leaved cattail

* Non-native species
† Sensitive Species

Appendix D

Animal Species Observed or Detected

Appendix D
Animal Species Observed or Detected

Taxon		Scientific Name	Common Name
Order	**Family**		
INVERTEBRATES			
Insects			
Diptera	unidentified	unidentified	flies
Hymenoptera	Apidae	*Apis mellifera*	honeybee
	Pompilidae	unidentified	tarantula hawk
	Nymphalidae	*Danaus plexippus*	monarch
		Vanessa sp.	unidentified lady
		Pieris rapae	cabbage white
Odonata	unidentified	unidentified	dragonfly
Orthoptera	unidentified	unidentified	grasshopper
VERTEBRATES			
Reptiles			
Anura	Ranidae	*Lithobates catesbeianus*	American bullfrog
Squamata	Colubridae	*Pituophis catenifer*	gophersnake
	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
		Uta stansburiana	common side-blotched lizard
	Teiidae	*Aspidoscelis hyperythra*	Belding's orange-throated whiptail
Birds			
Accipitriformes	Accipitridae	*Accipiter cooperii*†	Cooper's hawk
		Buteo jamaicensis	red-tailed hawk
		Buteo lineatus	red shouldered hawk
	Anatidae	*Anas platyrhynchos*	mallard
		Anas platyrhynchos domesticus	domestic duck
Apodiformes	Apodidae	*Aeronautes saxatalis*	white-throated swift
	Trochilidae	*Archilochus alexandri*	black-chinned hummingbird
		Calypte anna	Anna's hummingbird
		Calypte costae†	Costa's hummingbird
		Selasphorus sasin	Allen's hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferus*	killdeer
	Laridae	*Larus occidentalis*	western gull
Columbiformes	Columbidae	*Columba livia*	rock pigeon
		Streptopelia decaocto	Eurasian collared-dove
		Zenaida macroura	mourning dove
Cuculiformes	Cuculidae	*Geococcyx californianus*	greater roadrunner
Falconiformes	Falconidae	*Falco peregrinus*	peregrine falcon
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Cardinalidae	*Pheucticus melanocephalus*	black-headed grosbeak
		Piranga ludoviciana	western tanager
	Corvidae	*Aphelocoma californica*	California scrub-jay
		Corvus brachyrhynchos	American Crow
		Corvus corax	common raven

Appendix D (cont.)
Animal Species Observed or Detected

Taxon		Scientific Name	Common Name
Order	**Family**		
Birds (cont.			
Passeriformes (cont.)	Estrildidae	*Lonchura punctulata*	scaly-breasted munia
	Fringillidae	*Haemorhous mexicanus*	house finch
		Spinus psaltria	lesser goldfinch
	Hirundinidae	*Petrochelidon pyrrhonota*	cliff swallow
		Stelgidopteryx serripennis	Northern rough-wing swallow
		Tachycineta bicolor	tree swallow
	Icteriidae	*Icteria virens†*	yellow-breasted chat
	Icteridae	*Agelaius phoeniceus*	red-winged blackbird
		Icterus bullockii	Bullock's oriole
		Icterus cucullatus	hooded oriole
		Molothrus ater	brown-headed cowbird
	Mimidae	*Mimus polyglottos*	Northern mockingbird
		Toxostoma redivivum	California thrasher
	Parulidae	*Cardellina pusilla*	Wilson's warbler
		Geothlypis trichas	common yellowthroat
		Oreothlypis celata	orange-crowned warbler
		Setophaga petechia†	yellow warbler
	Passerellidae	*Aimophila ruficeps†*	rufous-crowned sparrow
		Melospiza melodia	song sparrow
		Melozone crissalis	California towhee
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Passeridae	*Passer domesticus*	house sparrow
	Polioptilidae	*Polioptila californica californica†*	California gnatcatcher
	Ptiliogonatidae	*Phainopepla nitens*	Phainopepla
	Sittidae	*Sitta carolinensis*	white-breasted nuthatch
	Sturnidae	*Sturnus vulgaris*	European starling
	Sylviidae	*Chamaea fasciata*	wrentit
	Troglodytidae	*Catherpes mexicanus*	canyon wren
		Thryomanes bewickii	Bewick's wren
		Troglodytes aedon	house wren
	Turdidae	*Sialia mexicana†*	western bluebird
	Vireonidae	*Vireo gilvus*	warbling vireo
	Tyrannidae	*Empidonax difficilis*	Pacific slope flycatcher
		Myiarchus cinerascens	ash-throated flycatcher
		Sayornis nigricans	black phoebe
		Tyrannus vociferans	Cassin's kingbird
	Vireonidae	*Vireo bellii pusillus†*	least Bell's vireo
Pelecaniformes	Ardeidae	*Ardea alba*	great egret
		Ardea herodias	great blue heron
		Egretta thula	snowy egret
Piciformes	Picidae	*Picoides nuttallii*	Nuttall's woodpecker
		Picoides pubescens	downy woodpecker

Appendix D (cont.)
Animal Species Observed or Detected

Taxon		Scientific Name	Common Name
Order	**Family**		
Mammals			
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Carnivora	Canidae	*Canis latrans*	coyote
	Mephitidae	*Mephitis mephitis*	striped skunk

Appendix E

Special Status Plant Species with Potential to Occur

Appendix E
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
Aphanisma	*Aphanisma blitoides*	--/-- CRPR 2B.1 MSCP Covered NE	Annual herb. Found coastally on bluffs and saline sand within sage scrub communities. Flowering period: June – September. Elevation: below 656 feet (200 meters).	**Not Likely to Occur.** Although there are historic records in the immediate vicinity, the project site lacks suitable coastal bluffs or saline sand to support this species.
California adolphia	*Adolphia californica*	--/-- CRPR 2B.1	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Flowering period: December–April. Elevation: below 1,312 feet (400 meters).	**Low Potential to Occur.** Historic records in the immediate vicinity and the project site adjacent to suitable coastal sage scrub habitat to support this species. However, this conspicuous perennial shrub would have been apparent during biological surveys.
chaparral ragwort	*Senecio aphanactis*	--/-- CRPR 2B.2	Annual herb. Occurs on alkali flats and dry, open, rocky areas within foothill woodland, northern coastal scrub, and coastal sage scrub communities. Flowering period: February – May. Elevation: 33 – 1,804 feet (10 – 550 meters).	**Not Likely to Occur.** Although there are historic records in the immediate vicinity, the project site lacks suitable alkali flats and dry, open, rocky areas to support this species.
Coulter's matilija poppy	*Romneya coulteri*	--/-- CNPS List 4.2 CA-Endemic	Perennial herb. Dry washes and canyons in chaparral and coastal sage scrub communities, often areas that have been burned. Open or mildly disturbed terrain is sometimes favored, and mature chaparral or sage scrub limits the expansion of this showy member of the poppy family. Flowering period: March – July. Elevation: 50-3,050 feet (15-920 meters).	**Species Present.** Approximately 15 individual located at the north end of the Father Junipero Serra Trail within MTRP

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
Coulter's saltbush	*Atriplex coulteri*	--/-- CRPR 1B.2	Perennial herb. Typically found on alkaline or clay soils on open sites such as dunes within coastal strand and coastal sage scrub communities. Less often found in valley grasslands. Flowering period: March – October. Elevation: below 1,640 feet (500 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat within clay soils to support this species. However, all activities would be limited to existing roads outside suitable habitat.
decumbent goldenbush	*Isocoma menziesii* var. *decumbens*	--/-- CRPR 1B.2	Shrub. Occurs in sandy soil and disturbed areas on the landward side of dunes, hillsides, and arroyos within coastal sage scrub and chaparral communities. Flowering period: July – November. Elevation: below 656 feet (200 meters).	**Species Present.** Two individuals located at the north end of the Father Junipero Serra Trail within MTRP.
Del Mar manzanita	*Arctostaphylos glandulosa* ssp. *crassifolia*	--/-- CRPR 1B.1 MSCP Covered	Shrub. Occurs in coastal San Diego County in maritime chaparral on sandy soils. Flowering period: December – June. Elevation: 115 – 820 feet (35 – 250 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable maritime chaparral habitat. Furthermore, this conspicuous shrub would have been apparent during the biological surveys.
delicate clarkia	*Clarkia delicata*	--/-- CRPR 1B.2	Annual herb. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral. Flowering period: April - May. Elevation: below 3,281 feet (1,000 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable oak woodland or cismontane chaparral habitat to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
heart-leaved pitcher sage	*Lepechinia cardiophylla*	--/-- CRPR 1B.2 MSCP Covered	Shrub. Closed-cone coniferous forest, chaparral, cismontane woodland, and metavolcanic soils near Mt. Woodson. Flowering period: April – July. Elevation: 1,540 – 2,430 feet (470 – 740 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable coniferous forest, chaparral, or cismontane woodland habitat to support this species.
Little mousetail	*Myosurus minimus* ssp. *apus*	--/-- CRPR 3.1	Annual herb. Occurs in alkaline vernal pools in native grassland. Flowering period: March – June.	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.
long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	--/-- CRPR 1B.2	Annual herb. Occurs in chaparral, coastal scrub, and native grassland, often in sandy soils. Flowering period: April – June. Elevation: 98–4,921 feet (30 – 1,500 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity, but the project site only partially consists of marginally suitable coastal scrub habitat to support this species.
Munz's sage	*Salvia munzii*	--/-- CRPR 2B.2	Shrub. Occurs in coastal sage scrub and chaparral habitats. Flowering period: February – April. Elevation 425 – 1,575 feet (130 – 480 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species. However, this conspicuous species would have been apparent at the time of the biological surveys.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
Nuttall's scrub oak	*Quercus dumosa*	--/-- CRPR 1B.1	Shrub. Generally found on sandy or clay loam soils in open coastal chaparral or monotypic communities on north-facing slopes. Flowering period: March - May. Elevation: below 656 feet (200 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable open coastal chaparral habitat to support this species. Furthermore, this conspicuous species would have been apparent at the time of the biological surveys.
oil neststraw	*Stylocline citroleum*	--/-- CRPR 1B.1	Annual herb. Occurs in coastal scrub areas and chenopod scrub in clay soils in the vicinity of oilfields. Flowering period: March – April.	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat within clay soils to support this species. However, all activities would be limited to existing roads outside suitable habitat.
Orcutt's brodiaea	*Brodiaea orcuttii*	--/-- CRPR 1B.1 MSCP Covered	Perennial herb. Occurs only on clay soils in vernally moist environments, usually near vernal pools but occasionally near streams. Flowering period: May – July. Elevation: 330 – 5,610 feet (100 – 1,710 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable clay soils or vernal pool habitat to support this species.
Otay Mesa mint	*Pogogyne nudiuscula*	FE/SE CRPR 1B.1 MSCP Covered	Annual herb. Grows in coastal mesa vernal pools within chaparral, coastal sage scrub, and wetland communities. Flowering period: March – June. Elevation: 328 – 820 feet (100 – 250 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
Palmer's goldenbush	*Ericameria palmeri* var. *palmeri*	--/-- CRPR 1B.1 MSCP Covered	Shrub. Occurs in coastal sage scrub communities. Flowering period: September – November. Elevation: below 1,968 feet (600 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species. However, this conspicuous species would have been apparent at the time of the biological surveys.
Palmer's grapplinghook	*Harpagonella palmeri*	--/-- CRPR 4.2	Annual herb. Occurs on clay soils in grasslands and coastal sage scrub. Flowering period: Mar – May. Elevation: below 3,281 feet (1,000 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat within clay soils to support this species. However, all activities would be limited to existing roads outside suitable habitat.
purple stemodia	*Stemodia durantifolia*	--/-- CRPR 2B.1	Perennial herb. Grows on wet sand or rocks and drying streambeds within riparian habitats. Flowering period: year-round. Elevation: 1,312 feet (400 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity, but the project site only partially consists of marginally suitable riparian habitat to support this species.
Robinson's pepper-grass	*Lepidium virginicum* var. *robinsonii*	--/-- CRPR 4.3	Annual herb. Grows in openings in chaparral and sage scrub at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Flowering period: March –June. Elevation: below 9,186 feet (2,800 meters).	**Low Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable dry, exposed locales to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
San Diego ambrosia	*Ambrosia pumila*	FE/-- CRPR 1B.1 MSCP Covered NE	Small perennial herb. Occurs on loam or clay soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also can occur on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April – July. Elevation: 164–1,969 feet (50 – 600 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity, but the project site only partially consists of marginally suitable stream floodplain terrace habitat to support this species. Species was not detected during focused surveys.
San Diego barrel cactus	*Ferocactus viridescens*	--/-- CRPR 2B.1 MSCP Covered	Stem succulent shrub. Grows in sandy to rocky areas within chaparral, valley grassland and coastal sage scrub communities. Flowering period: May – June. Elevation: 33 – 492 (10 – 150 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity, however, this conspicuous species would have been apparent at the time of the biological surveys.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE/SE CRPR 1B.1 MSCP Covered	Annual or perennial herb. Grows in vernal pools within valley grassland, coastal sage scrub, and wetland communities. Flowering period: May – June. Elevation: below 2,313 feet (705 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.
San Diego County viguiera	*Bahiopsis (Viguiera) laciniata*	--/-- CNPS List 4.2	Shrub. Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Occurs on a variety of soil types. Flowering period: February - August. Elevation: 50-2,690 feet (15-820 meters).	**Species Present.** Approximately 850 individuals located along the Father Junipero Serra Trail within MTRP.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
San Diego goldenstar	*Bloomeria clevelandii*	--/-- CRPR 1B.1	Perennial bulbiferous herb. Occurs in valley grasslands and coastal scrub, particularly near mima mound topography or in the vicinity of vernal pools, on clay soils. Flowering period: April – May. Elevation: below 328 feet (100 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat within clay soils to support this species. However, all activities would be limited to existing roads outside suitable habitat.
San Diego marsh-elder	*Iva hayesiana*	--/-- CRPR 2B.2	Perennial herb. Found in alkali flats, depressions, and streambanks within wetland communities. Flowering period: March – September. Elevation: below 984 (2,953) feet (300 [900] meters).	**Species Present.** Approximately 42 individuals located at the west end of the alterative alignment within Forester Creek.
San Diego mesa mint	*Pogogyne abramsii*	FE/SE CRPR 1B.1 MSCP Covered	Annual herb. Restricted to vernal pools in grasslands, chamise chaparral, and coastal sage scrub on mesas. Flowering period: March - July. Elevation: 360 – 590 feet (110 – 180 meters)	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.
San Diego sagewort	*Artemisia palmeri*	--/-- CRPR 4.2	Perennial shrub. Stream courses, often within coastal sage scrub and southern mixed chaparral. Flowering period: May - September. Elevation: below 1,969 feet (600 meters).	**Species Present.** Approximately six individuals located at the west end of the alternative alignment south of the San Diego River along Camino del Rio North.
San Diego thorn-mint	*Acanthomintha ilicifolia*	FE/SE CRPR 1B.1 MSCP Covered NE	Annual herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Flowering period: April – June. Elevation: below 3,281 feet (3,000 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.
singlewhorl burrobrush	*Ambrosia monogyra*	--/-- CRPR 2B.2	Perennial shrub. Found within washes and dry riverbeds within chaparral communities. Flowering period: September – November. Elevation: below 1,640 feet (500 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable chaparral habitat to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
smooth tarplant	*Centromadia pungens* ssp. *laevis*	--/-- CRPR 1B.1	Annual herb. Occurs in valley and foothill grasslands, particularly near alkaline locales. Flowering period: April – September. Elevation: 330 – 2,000 feet (100-610 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable valley and foothill grassland habitat to support this species.
snake cholla	*Cylindropuntia californica var. californica*	--/-- CRPR 1B.1 NE	Perennial herb stem succulent. Occurs within coastal sage scrub and coastal chaparral communities. Flowering period: April – July. Elevation: Below 820 feet (250 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species. However, this conspicuous species would have been apparent during biological surveys.
Southwestern spiny rush	*Juncus acutus* ssp. *leopoldii*	--/-- CNPS List 4.2	Perennial herb. Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes. Flowering period: May - June. Elevation: Below 1,310 feet (400 meters).	**Species Present.** Approximately 13 individuals located at the west end of the alterative alignment within Forester Creek.
spreading navarretia	*Navarretia fossalis*	FT/-- CRPR 1B.1 MSCP Covered	Annual herb. Occurs in vernal pools, chenopod scrub, marshes, swamps, and playas. Flowering period: April – June. Elevation: 98 – 4,265 feet (30–1,300 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable vernal pool habitat to support this species.
summer holly	*Comarostaphylis diversifolia* ssp. *diversifolia*	--/-- CRPR 1B.2	Perennial shrub. Occurs in chaparral and cismontane woodland. Flowering period: May –June. Elevation: 328 –1,804 feet (100 – 550 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable chaparral and cismontane woodland habitat to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
variegated dudleya	*Dudleya variegata*	--/-- CRPR 1B.2 MSCP Covered NE	Perennial herb succulent. Occurs on dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Flowering period: April – June. Elevation: below 984 feet (300 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species. However, this conspicuous species would have been apparent during biological surveys.
wart-stemmed ceanothus	*Ceanothus verrucosus*	--/-- CRPR 2B.2 MSCP Covered	Perennial evergreen shrub occurring in xeric chamise or southern maritime chaparral on rocky soil. Flowering period: January -April. Elevation: below 1,148 feet (350 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable chaparral habitat or rocky soil to support this species.
Western dichondra	*Dichondra occidentalis*	--/-- CRPR 4.2	Perennial rhizomatous herb. Occurs in Diegan coastal sage scrub, southern mixed chaparral, chamise chaparral, or rocky outcrops in grasslands. Often proliferates on recently burned slopes. Flowering period: March - June. Elevation: below 1,706 feet (520 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species.
white rabbit-tobacco	*Pseudognaphalium leucocephalum*	--/-- CRPR 2B.2	Perennial herb. Occurs in coastal sage scrub and chaparral habitats. Flowering period: August - November. Elevation: 100 – 4,035 feet (30 - 1,230 meters).	**Moderate Potential to Occur.** There are historic records in the immediate vicinity and the project site occurs adjacent to suitable coastal sage scrub habitat to support this species.
willowy monardella	*Monardella viminea*	FE/SE CRPR 1B.1 MSCP Covered	Perennial herb. Occurs in riparian scrub, usually at sandy locales in seasonally dry washes is habitat of this small subshrub. Generally, there is no canopy cover, and river cobbles may lie in close proximity. Flowering period: June – August. Elevation: 150 – 885 feet (45 – 270 meters).	**Low Potential to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable riparian scrub in seasonally dry wash habitat to support this species.

Appendix E (cont.)
Special Status Plant Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
woven-spored lichen	*Texosporium sancti-jacobi*	--/-- CRPR 3	Lichen. Occurs in chaparral habitats on soil, small animal pellets, dead twigs, and on *Selaginella* spp. Elevation: 195 – 2,165 feet (60-660 meters).	**Not Likely to Occur.** There are historic records in the immediate vicinity, but the project site lacks suitable chaparral habitat to support this species.

[1]Listing codes are as follows:

Federal:
FE Federal Endangered
FT Federal Threatened
FPT Federal Proposed Threatened
FSC Federal Species of Concern
BCC Bird of Conservation Concern

State:
SE State Endangered
ST State Threatened
SCE State Candidate Endangered
SSC California Species of Concern
WL Watch List

City of San Diego:
MSCP Covered Covered Species under City of San Diego MSCP Subarea Plan
NE Narrow Endemic Species under City MSCP Subarea Plan.

California Rare Plant Rank:
1A Plants presumed extinct in California.
1B Plants rare, threatened, or endangered in California and elsewhere.
2 Plants rare, threatened, or endangered in California, but more common elsewhere.
3 Plants in need of more information.
4 Plants of limited distribution.

Potential to Occur:
Not Likely to Occur – There are no present or historical records of the species occurring on or in the immediate vicinity, (within 1 mile) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the survey area.
Low Potential to Occur – There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat on the survey area, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.
Moderate Potential to Occur – The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 1 mile). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.
High Potential to Occur – There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 1 mile).
Species Present – The species was observed on the survey area at the time of the survey or during a previous biological survey.

This page intentionally left blank

Appendix F

Special Status Animal Species with Potential to Occur

Appendix F
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
INVERTEBRATES				
Crotch bumble bee	*Bombus crotchii*	--/SCE	Open grassland and scrub habitat.	**Moderate Potential to Occur.** There are historical records in the immediate vicinity but all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
Hermes copper butterfly	*Lycaena hermes*	FPT/--	Southern mixed chaparral and coastal sage scrub at western edge of Laguna mountains. Requires host plant redberry (*Rhamnus crocea*) in close proximity to California buckwheat (*Eriogonum fasciculatum*) or other nectar sources.	**Moderate Potential to Occur.** There are historical records in the immediate vicinity but there is no suitable southern mixed chaparral habitat within the disturbance area and all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
Quino checkerspot butterfly	*Euphydryas editha quino*	FE/--	Sunny openings within chaparral and coastal sage shrublands. Host plants include *Plantago erecta, Cordylanthus rigidus*, *Collinsia* spp., *Plantago patagonica*, *Antirrhinum coulterianum*, and *Castilleja exserta.*	**Moderate Potential to Occur.** There are historical records in the immediate vicinity; however, all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE/-- MSCP Covered	Occurs in seasonally astatic pools, which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	**Not Likely to Occur.** There are historical records in the immediate vicinity but there are no vernal pools within the disturbance area.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES				
Reptiles and Amphibians				
California glossy snake	*Arizona elegans occidentalis*	--/SSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral.	**High Potential to Occur.** Suitable arid scrub and chaparral habitat is present and there are historical records in the immediate vicinity.
coast horned lizard	*Phrynosoma blainvillii*	--/SSC MSCP Covered	Occurs in coastal sage scrub, chaparral, open oak woodlands, and open coniferous forests. Important habitat components include basking sites, adequate scrub cover, areas of loose soil, and an abundance of harvester ants (*Pogonomyrmex* sp.), a primary prey item.	**Moderate Potential to Occur.** There are historical records in the immediate vicinity and there is suitable coastal sage scrub habitat present to support the species; however, all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
coast patch-nosed snake	*Salvadora hexalepis virgultea*	--/SSC	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	**Low Potential to Occur.** There are historical records in the immediate vicinity but there is no suitable semi-arid brushy areas or chaparral habitat present to support the species.
Coronado skink	*Plestiodon skiltonianus interparietalis*	--/WL	Occurs in grasslands, coastal sage scrub, and open chaparral where there is abundant leaf litter or low herbaceous growth.	**High Potential to Occur.** Suitable coastal sage scrub habitat is present and there are historical records in the immediate vicinity.
orange-throated whiptail	*Aspidoscelis hyperythra*	--/WL MSCP Covered	Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).	**Species Present.** At least two individuals were observed along the Father Junipero Serra trail.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Reptiles and Amphibians (cont.)				
red-diamond rattlesnake	*Crotalus ruber*	--/SSC	Found in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**High Potential to Occur.** Marginally suitable habitat is present and there are historical records in the immediate vicinity; however, all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
San Diego banded gecko	*Coleonyx variegatus abbotti*	--/SSC	Chaparral and coastal sage scrub in areas with rock outcrops.	**Moderate Potential to Occur.** There are historical records in the immediate vicinity but there are limited suitable rocky areas within coastal sage scrub and chaparral habitat present to support the species. Furthermore, all impacts are anticipated to occur within existing roads or trails where this species is unlikely to occur.
southern California legless lizard	*Anniella stebbinsi*	--/SSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**Moderate Potential to Occur.** There are historical records in the immediate vicinity and marginally suitable stream terrace habitat is present adjacent to the project site to support this species.
Southwestern pond turtle	*Clemmys marmorata pallida*	--/SSC MSCP Covered	Almost entirely aquatic; occurs in ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not Likely to Occur.** Although there are historical records in the immediate vicinity, the project site lacks suitable open water to support this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Reptiles and Amphibians (cont.)				
two-striped gartersnake	*Thamnophis hammondii*	--/SSC	Typical habitat is along permanent and intermittent streams bounded by dense riparian vegetation; also found associated with vernal pools and stock ponds.	**High Potential to Occur. T**here are historical records in the immediate vicinity and marginally suitable riparian habitat occurs within the project site to support this species.
western spadefoot	*Spea hammondii*	--/SSC	Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; requires temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp.).	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable sandy or gravelly washes to support this species.
Western whiptail	*Aspidoscelis tigris stejnegeri*	--/SSC	Open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	**High Potential to Occur.** There are historical records in the immediate vicinity and there is suitable coastal sage scrub habitat to support this species.
Birds				
American peregrine falcon	*Falco peregrinus anatum*	FP, BCC/-- MSCP Covered	Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.	**Species Present.** At least one individual was observed flying and calling along the Father Junipero Serra trail.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Bell's sage sparrow	*Artemisiospiza belli belli*	BCC/WL	Occurs in sunny, dry stands of coastal sage scrub or chaparral.	**High Potential to Occur.** There are historical records in the immediate vicinity and there is suitable coastal sage scrub and chaparral habitat to support this species.
Burrowing owl	*Athene cunicularia*	BCC/SSC MSCP Covered	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow. All records of burrowing owl in northwestern San Diego County are prior to 1997 (Unitt 2004).	**Low Potential to Occur**. There are historical records in the immediate vicinity, but suitable habitat within the project site is marginal and highly disturbed.
California black rail	*Laterallus jamaicensis coturniculus*	FP/ST	Found in saltwater and brackish marshes. Extirpated from the region. Last known nest in San Diego County was observed in 1953.	**Not Likely to Occur.** This species has been extirpated from the Southern California region. The last known nest in San Diego County was observed in 1953 (Unitt 2004).
California horned lark	*Eremophila alpestris actia*	--/WL	Found on sandy beaches and in agricultural fields, grassland, and open areas.	**Low Potential to Occur.** There are historical records in the immediate vicinity and marginally suitable open habitat is present on-site. However, the majority of the project site is highly disturbed in nature and areas of open habitat are small and isolated patches.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	--/SSC MSCP Covered	Occurs in coastal sage scrub with large cacti for nesting.	**Not Likely to Occur.** Although there are historical records in the immediate vicinity, the project site lacks suitable coastal sage scrub with large cacti required by this species.
coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC MSCP Covered	Obligate resident of arid coastal scrub below about 1,500 ft. Usually found within dense coastal scrub habitat in arid washes, on mesas, and on slopes of coastal hills. California buckwheat, coastal sage, and patches of prickly pear are particularly favored.	**Species Present.** Focused surveys conducted in 2021 within a limited area of the project site were conducted during were negative; however, several individuals were detected within the Mission Trails Regional Park during 2016 and 2018 City surveys and incidentally during 2021 HELIX surveys.
Cooper's hawk	*Accipiter cooperii*	--/WL MSCP Covered	Tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas such as scrublands or fields.	**Species Present.** At least three individuals were observed during project surveys.
Costa hummingbird	*Calypte costae*	BCC/--	Occurs in chaparral and sage scrub habitats in coastal California.	**Species Present.** At least one individual were observed during project surveys.
grasshopper sparrow	*Ammodramus savannarum*	--/SSC	Typical habitat is dense grasslands that have little or no shrub cover.	**Not Likely to Occur.** Although there are historical records in the immediate vicinity, the project site lacks suitable grassland habitat to support this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
least Bell's vireo	*Vireo bellii pusillus*	FE/SE MSCP Covered	Summer resident of Southern California. Inhabits riparian woodland and is most frequent in areas that combine an understory of dense, young willows or mule fat with a canopy of tall willows.	**Species Present.** Several individuals were detected incidentally and during 2021 focused surveys. This species has also been detected throughout the study area during 2016 and 2018 City surveys
least bittern	*Ixobrychus exilis*	--/SSC	This species inhabits areas that contain freshwater or brackish marshes with tall emergent vegetation.	**Not Likely to Occur.** Although there are historical records in the immediate vicinity, the project site lacks suitable freshwater or brackish marsh habitat.
Northern harrier	*Circus cyaneus hudsonius*	--/-- MSCP Covered	Within San Diego County, distribution is primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. Typical habitat consists of open grassland and marsh.	**Low Potential to Occur.** There are historical records in the immediate vicinity, however, the project site lacks suitable open grassland or marsh habitat to support nesting for this species. This species may forage over the project site.
prairie falcon	*Falco mexicanus*	--/WL	Inhabits dry, open terrain, either level or hilly. Nests on cliffs or bluffs and forages over open desert scrub or grassland.	**Not Likely to Occur.** There are historical records in the immediate vicinity, however, suitable dry, open terrain with cliff or bluff habitat is not present on-site.
southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	--/WL MSCP Covered	Occurs in coastal sage scrub and sparse mixed chaparral on rocky hillsides and in canyons; also found in open sage scrub/grassy areas of successional growth.	**Species Present.** At least one individual was detected along the Father Junipero Serra trail.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE/SE MSCP Covered	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. One of the most important characteristics of the habitat appears to be the presence of dense vegetation, usually throughout all vegetation layers present. Almost all breeding habitats are within close proximity of water or very saturated soil.	**Low Potential to Occur.** There are historical records in the immediate vicinity of the project site. Although the project site partially consists of suitable willow thicket habitat, this species is closely monitored and has not been observed nesting in the vicinity of the project site in several decades.
Swainson's hawk	*Buteo swainsoni*	BCC/ST MSCP Covered	This species typically inhabits North American in the spring and summer and winters in South America. They typically prefer open and semi-open country in deserts, grasslands, and prairies. Also likes hayfields and pastures.	**Not Likely to Occur.** Although there are historical records in the immediate vicinity, the project site lacks suitable open, arid habitat to support this species.
tricolored blackbird	*Agelaius tricolor*	BCC/SSC MSCP Covered	Marsh habitat near grasslands, pastures, and agricultural fields.	**Low Potential to Occur.** There are historical records in the immediate project vicinity; however, only marginally suitable marsh habitat is present on-site.
yellow-breasted chat	*Icteria virens*	--/SSC	Species occurs as a migrant and summer resident breeding from the coastal regions in northern California, east of the Cascades, and throughout the central and southern portions of the State. Breeds in early successional riparian habitats with well-developed shrub layer and an open canopy nesting on the borders of streams, creeks, rivers, and marshes.	**Species Present.** Several individuals were observed or detected during biological surveys.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
yellow rail	*Coturnicops noveboracensis*	BCC/SSC	Shallow marshes and wet meadows. In winter, drier fresh-water, and brackish marshes.	**Not Likely to Occur.** Suitable habitat is not present on-site and this species does not breed in San Diego County.
yellow warbler	*Setophaga petechia*	BCC/SSC	Common to locally abundant species breeding throughout California at elevations below 8,500 feet, excluding most of the Mojave Desert, and all of the Colorado Desert. Breeds in riparian areas dominated by willows (Salix spp.) and cottonwoods (Populus spp.), near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests in higher elevation areas.	**Species Present.** Several individuals were observed or detected during biological surveys.
western bluebird	*Sialia mexicana*	--/-- MSCP Covered	Occurs in montane coniferous and oak woodland habitats	**Species Present.** At least one individual were observed during project surveys.
Mammals				
American badger	*Taxidea taxus*	--/SSC MSCP Covered	Uncommon resident in California that occurs in herbaceous, shrub, and open stages of most habitats with dry, friable soils (Zeiner et al. 1990).	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable dry, friable soils to support this species.
big free-tailed bat	*Nyctinomops macrotis*	--/SSC	A rare species in California (Zeiner et al. 1990). Prefers rugged, rocky canyons. Often forages over water. Roosts in crevices in high cliffs or rock outcrops.	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable rugged, rocky canyons to support this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	--/SSC	Prefers gravelly substrates with good sun exposure. Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Associated with grass-chaparral edges.	**High Potential to Occur.** There are historical records in the immediate vicinity, and marginally suitable coastal scrub habitat occurs within the project site to support this species.
Mexican long-tongued bat	*Choeronycteris mexicana*	--/SSC	Arid scrub, mixed forest, and canyons in mountain ranges rising from the desert. By day, usually in caves and mines, but sometimes in buildings near the entrance.	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable arid scrub, mixed forest, or canyons to support this species.
Mountain lion	*Felis concolor*	--/-- MSCP Covered	Requires extensive areas of riparian vegetation and brushy stages of various habitats with interspersed irregular terrain, rocky outcrops, and tree/brush edges. Main prey is mule deer.	**High Potential to Occur.** There are historical records in the immediate vicinity, and the project site partially consists of suitable areas of riparian vegetation, irregular terrain, or rocky outcrops to support this species.
Mule deer	*Odocoileus hemionus*	--/-- MSCP Covered	Found throughout California with the species lacking from only completely urbanized areas and the desert floor. Distribution determined by vegetation type, water availability, and quality and quantity of foraging habitat. Inhabits a wide array of habitats from grasslands, meadows, coastal sage scrub, chaparral, riparian, and montane forests.	**High Potential to Occur.** There are historical records in the immediate vicinity and suitable habitat is present to support this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	--/SSC	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**High Potential to Occur.** There are historical records in the immediate vicinity and suitable habitat is present to support this species.
pallid bat	*Antrozous pallidus*	--/SSC	Locally common species of low elevations in California. Rocky, mountainous areas and near water; also found over more open, sparsely vegetated grasslands, and prefers foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks.	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable rocky, mountainous areas to support this species.
pocketed free-tailed bat	*Nyctinomops femorosaccus*	--/SSC	Semiarid desert lands. Day-roosts in caves, crevices in cliffs, and under the roof tiles of buildings. Uses a variety of arid habitats in southern California: pine-juniper woodlands, desert scrub, palm oases, desert wash, desert riparian, etc. Prefers rocky areas with high cliffs.	**Moderate Potential to Occur.** There are historical records and rocky cliffs in the immediate vicinity, but the project site lacks semiarid desert habitat to support this species.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	--/SSC	Found primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High Potential to Occur.** There are historical records in the immediate vicinity and suitable habitat is present to support this species.
San Diego desert woodrat	*Neotoma lepida intermedia*	--/SSC	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**High Potential to Occur.** There are historical records in the immediate vicinity and suitable habitat is present to support this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Common Name	Species Name	Status [1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
western mastiff bat	*Eumops perotis californicus*	--/SSC	Suitable habitat consists of extensive open areas with abundant roost locations (crevices in cliff faces, high buildings, trees, tunnels).	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks extensive open areas with suitable roost habitat to support this species.
western red bat	*Lasiurus blossevillii*	--/SSC	Riparian areas dominated by cottonwoods, oaks, sycamores, and walnuts.	**High Potential to Occur.** There are historical records in the immediate vicinity and suitable habitat is present to support this species.
western yellow bat	*Lasiurus xanthinus*	--/SSC	Found in wooded areas and desert scrub, particularly in palm trees. Rare visitor to San Diego County (Bats of San Diego County 2012).	**Low Potential to Occur.** There are historical records in the immediate vicinity, but the project site lacks suitable desert scrub habitat to support this species.

[1]Listing codes are as follows:

Federal:

FE	Federal Endangered
FT	Federal Threatened
FPT	Federal Proposed Threatened
FSC	Federal Species of Concern
BCC	Bird of Conservation Concern

State:

SE	State Endangered
ST	State Threatened
SCE	State Candidate Endangered
SSC	California Species of Concern
WL	Watch List

City of San Diego:

MSCP Covered Covered Species under City of San Diego MSCP Subarea Plan

Potential to Occur:

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 1 mile) of the survey area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the survey area.

Low Potential to Occur - There is a historical record of the species in the vicinity of the survey area and potentially suitable habitat on the survey area, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The survey area is above or below the recognized elevation limits for this species.

Appendix F (cont.)
Special Status Animal Species with Potential to Occur

Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the survey area, but there is not a recorded occurrence of the species within the immediate vicinity (within 1 mile). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.

High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the survey area (within 1 mile).

Species Present - The species was observed on the survey area at the time of the survey or during a previous biological survey.

Appendix G

California Gnatcatcher
2021 Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

July 8, 2021 02632.00001.001

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, CA 92008

Subject: 2021 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project, also referred to herein as the project. The project is under the East County Advanced Water Purification Joint Powers Authority, in collaboration with the City of San Diego (City) and Padre Dam Municipal Water District (District). This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE778195-14.

PROJECT DESCRIPTION AND LOCATION

The project site includes locations in the City and southwestern portion of the City of Santee, in San Diego County (Figure 1, *Regional Location*). The proposed project would include three separate pipelines to convey project wastewater from the East Mission Gorge Pump Station (EMGPS), south of the Forrester Creek, to the Interstate 15 and Interstate 8 interchange, in the City of San Diego (Figure 2, *USGS Topography*). The wastewater conveyance system would maintain service of the wastewater collection system and transport highly concentrated discharges from the East County Advanced Water Purification facilities. The proposed project would also include improvements to the East Mission Gorge Force Main, located primarily within Mission Gorge Road. (Figure 3, *Aerial Photography*).

METHODS

The survey consisted of six breeding season surveys that were performed by HELIX biologists Katie Bellon and Mandy Mathews (TE778195-14) in accordance with the current (1997) USFWS protocol. Padre Dam Municipal Water District is not a participating entity under the Natural Community Conservation Planning (NCCP) Program, therefore, the USFWS requires that a minimum of six surveys be conducted at least one week apart, during the period between March 15 and June 30 (USFWS 1997). The CAGN survey area encompassed approximately 5.9 acres of potential CAGN habitat, consisting of Diegan coastal sage scrub, including disturbed and Baccharis-dominated forms, that occurs adjacent to

Mission Gorge Road (Figure 4, *2021 Coastal California Gnatcatcher Survey Results*). The CAGN survey area included potential CAGN habitat within 500 feet of the project. Table 1, *Survey Information* details the survey dates, times, and conditions.

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist(s)	Start/Stop Time	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions	Survey Results
1	4/12/21	Katie Bellon	0735/1000	5.9 ac/ 2.4 ac/hr	61°F, wind 0-1 mph, 100% cloud cover 61°F, wind 0-1 mph, 100% cloud cover	No CAGN detected
2	4/21/21	Mandy Mathews	0700/0915	5.9 ac/ 2.6 ac/hr	55°F, wind, 0-2 mph, 100% cloud cover 57°F, wind, 1-3 mph, 100% cloud cover	No CAGN detected
3	4/29/21	Katie Bellon	0730/0945	5.9 ac/ 2.6 ac/hr	59°F, wind 0-1 mph, 0% cloud cover 67°F, wind 0-1 mph, 0% cloud cover	No CAGN detected
4	5/7/21	Katie Bellon	0605/0830	5.9 ac/ 2.4 ac/hr	59°F, wind 0-1 mph, 35% cloud cover 60°F, wind 0-1 mph, 0% cloud cover	No CAGN detected
5	5/14/21	Katie Bellon	0715/0900	5.9 ac/ 3.4 ac/hr	61°F, wind 1-3 mph, 100% cloud cover 61°F, wind 1-3 mph, 100% cloud cover	No CAGN detected
6	5/27/21	Katie Bellon	0715/0845	5.9 ac/ 3.9 ac/hr	59°F, wind 2-4 mph, 98% cloud cover 60°F, wind 0-2 mph, 25% cloud cover	No CAGN detected

The surveys were conducted by walking within and along the perimeter of suitable CAGN habitat in the survey area. Private property was not entered without permission. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by CAGN. Surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. The approximate survey route followed is depicted on Figure 4.

COASTAL CALIFORNIA GNATCATCHER HABITAT

Diegan coastal sage scrub, including disturbed and Baccharis-dominated, is the vegetation community within the survey area determined to be suitable for CAGN (Figure 4).

Diegan Coastal Sage Scrub

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*). Diegan coastal sage scrub occurs throughout the site and is dominated primarily by California sagebrush, California buckwheat, and laurel sumac. The disturbed form of Diegan coastal sage scrub within the site is dominated by California sagebrush, California

buckwheat, and short pod mustard (*Hirschfeldia incana*). The baccharis-dominated form of Diegan coastal sage scrub within the site is dominated by broom baccharis (*Baccharis sarothroides*)

RESULTS

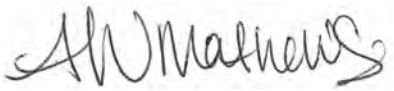
CAGN were not observed or otherwise detected during this survey effort.

CERTIFICATION

We certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Katie Bellon or Karl Osmundson at (619) 462-1515 you have any questions.

Sincerely,

Katie Bellon
Biologist



Mandy Mathews
Biologist

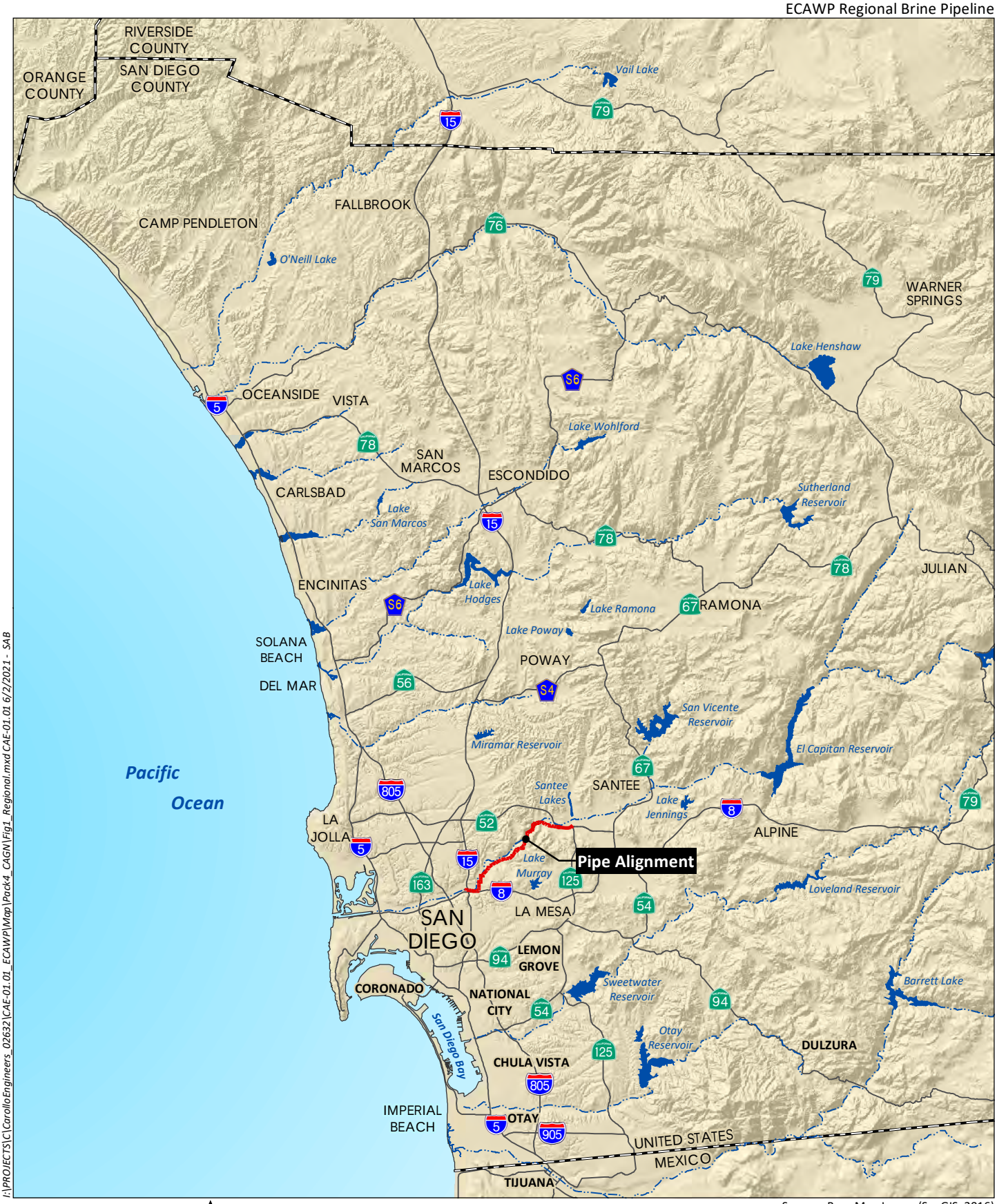
Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: 2021 Coastal California Gnatcatcher Survey Results

.

REFERENCES

U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_CAGN\Fig1_Regional.mxd CAE-01.01 6/2/2021 - SAB

0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

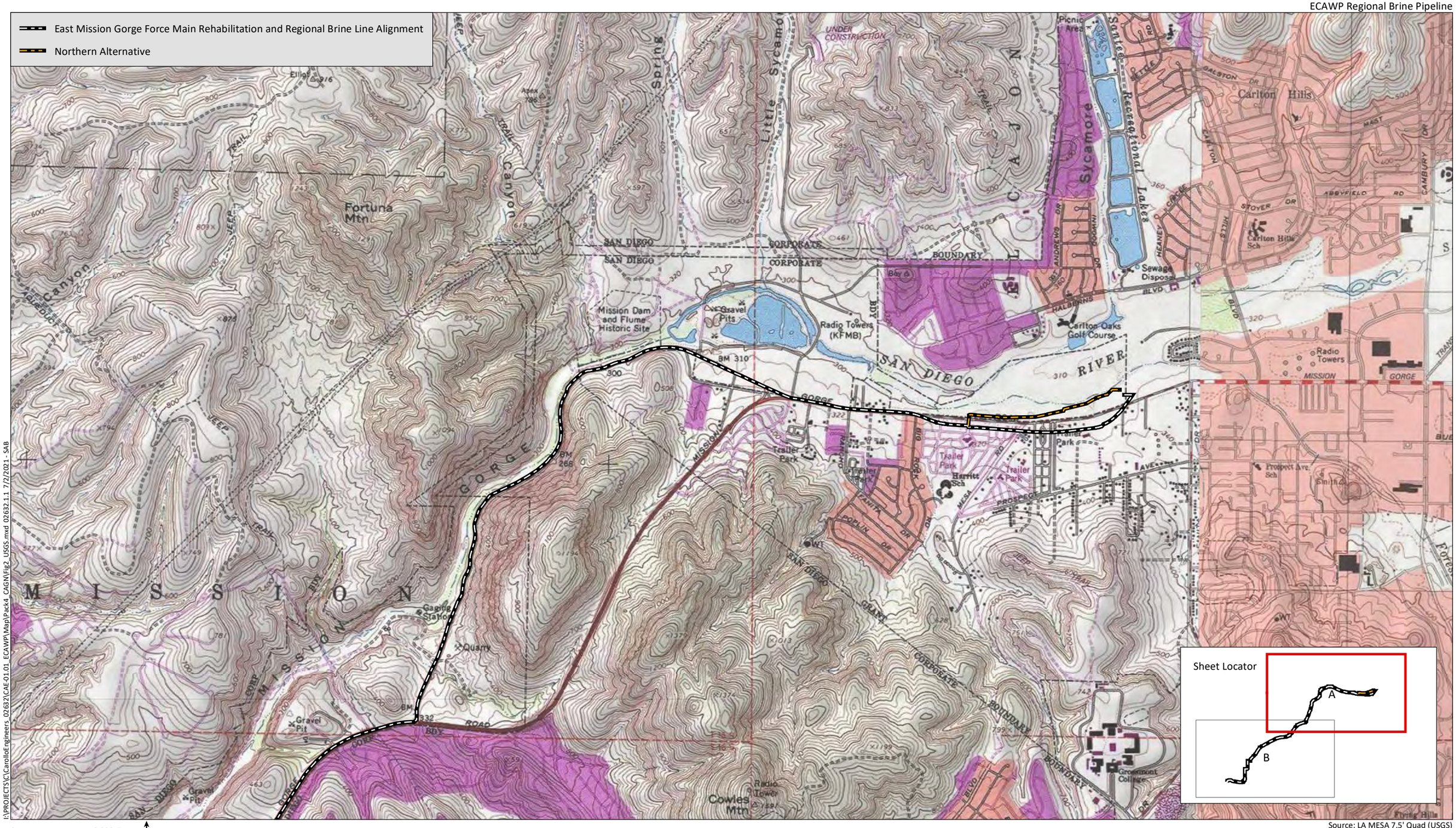
HELIX Environmental Planning

Regional Location

Figure 1

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



0 2,000 Feet

Source: LA MESA 7.5' Quad (USGS)

i:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\MapPack4_CAGN\Fig2_USGS.mxd 02632.1.1 7/2/2021 - SAB

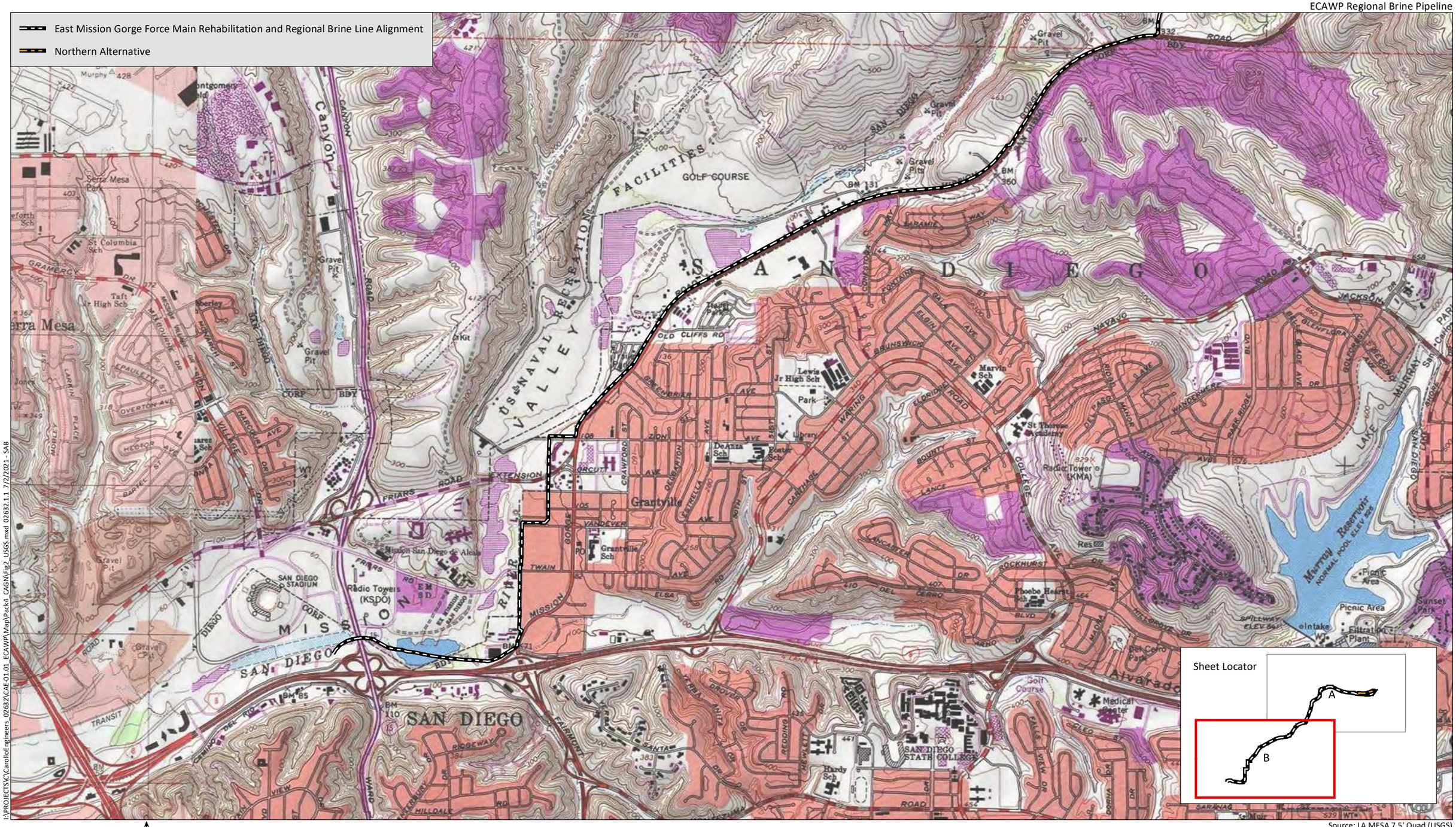
HELIX Environmental Planning

Project Location on USGS Topography

Figure 2A

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



0 2,000 Feet

Source: LA MESA 7.5' Quad (USGS)

I:\PROJECTS\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_CAGN\Fig2_USGS.mxd 02632.1.1 7/2/2021 - SAB

HELIX Environmental Planning

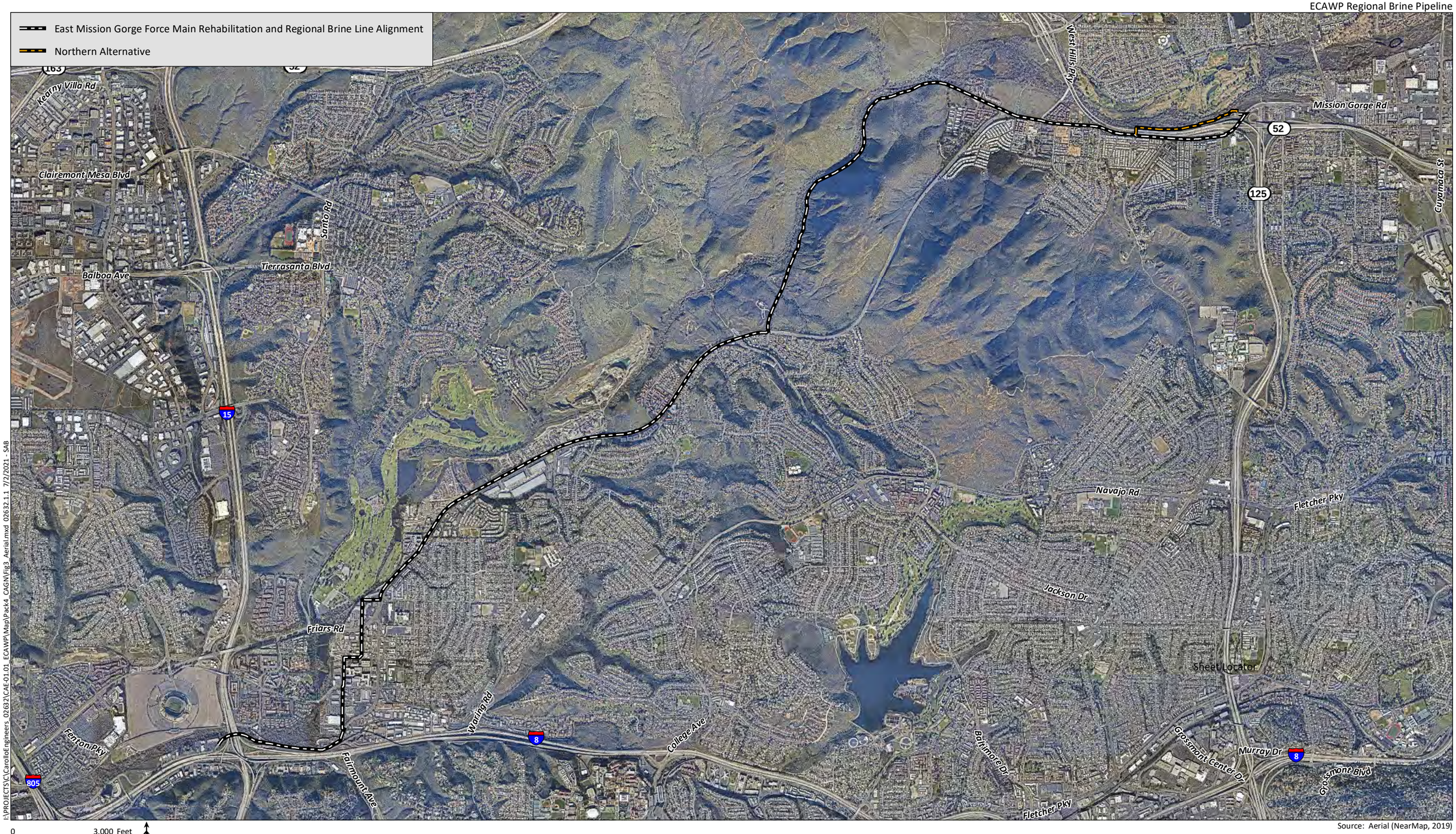
Project Location on USGS Topography

Figure 2B

ECAWP Regional Brine Pipeline

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



0 3,000 Feet

N

Source: Aerial (NearMap, 2019)

I:\PROJECTS\CarrolloEngineers_02632\CAE-01.01_ECAWP\MapPack4_CAGN\Fig3_Aerial.mxd 02632.1.1 7/2/2021 - SAB

HELIX Environmental Planning

Aerial Photograph of Project Location

Figure 3

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative

500-ft Survey Area

Survey Route

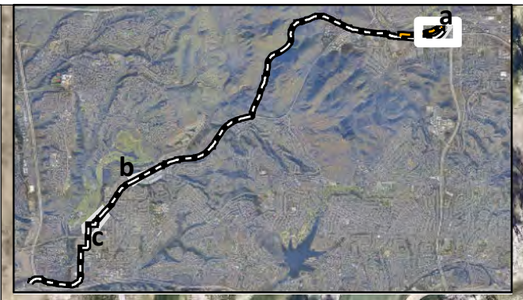
Gnatcatcher Habitat

Baccharis Dominated Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub - Disturbed

Excluded Habitat



0 200 Feet

N

Source: Aerial (NearMap, 2019)

I:\PROJECTS\CarolloEngineers_02832\CAE-01.01_ECAWP\Map\Pack4_CAGN\Fig4_SurveyRslts.mxd CAE-01.01 7/2/2021 - SAB

HELIX Environmental Planning

2021 Coastal California Gnatcatcher Survey Results

Figure 4a

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

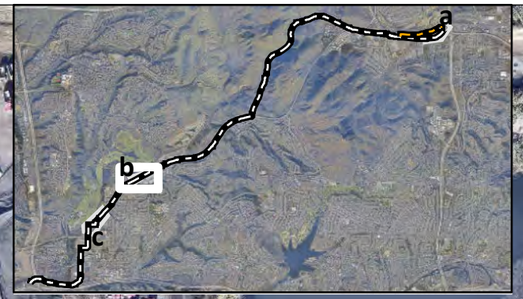
500-ft Survey Area

Survey Route

Gnatcatcher Habitat

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub - Disturbed



I:\PROJECTS\CarrolloEngineers_02632\CAE-01.01_ECAWP\MapPack4_CAGN\Fig4_SurveyRslts.mxd CAE-01.01 7/2/2021 - SAB

0 200 Feet

N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

2021 Coastal California Gnatcatcher Survey Results

Figure 4b

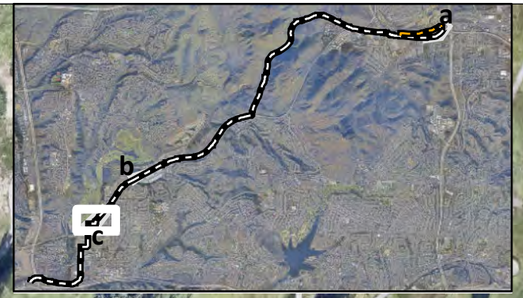
East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

500-ft Survey Area

Survey Route

Gnatcatcher Habitat

Diegan Coastal Sage Scrub - Disturbed



Mission Gorge Rd
Alfred Rd
Archwood Ave
Burgundy St
Crawford St
Zion Ave
Riverdale St

0 200 Feet

N

Source: Aerial (NearMap, 2019)

I:\PROJECTS\CarolloEngineers_02623\CAE-01.01_ECAWP\Map\Pack4_CAGN\Fig4_SurveyRslts.mxd CAE-01.01 7/2/2021 - SAB

HELIX Environmental Planning

2021 Coastal California Gnatcatcher Survey Results

Figure 4c

Appendix H

Least Bell's Vireo
2021 Survey Report

HELIX Environmental Planning, Inc.
16485 Laguna Canyon Road
Suite 150
Irvine, CA 92618
949.234.8792 **tel.**
619.462.0552 **fax**
www.**helixepi**.com

August 11, 2021 02632.00001.001

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2021 Least Bell's Vireo (*Vireo bellii pusillis*) Survey Report for the East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed East Mission Gorge Force Main Rehabilitation and Regional Brine Line Project (project). This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The project site includes locations in the City of San Diego and southwestern portion of the City of Santee, in San Diego County, California. Specifically, the project will occur north of Interstate 8, south of Highway 52, west of Highway 125, and east of Interstate 15 (Figure 1, *Regional Location*). The project consists of rehabilitation of the existing East Mission Gorge Force Main (EMGFM), installation of a new brine pipeline that would be slip-lined within an existing pipeline, and construction of the Padre Dam Basin 2 Force Main within disturbed and developed (paved) right-of-way generally associated with Mission Gorge Road, Father Junipero Serra Trail Road, and Camino Del Rio (Figures 2, *USGS Topography* and 3, *Aerial Photography*). Areas within Father Junipero Serra Trail Road were not surveyed due to reliance on existing data regarding LBVI occurrences within the Mission Trails Regional Park. An alternative alignment ("Northern Alternative") to the northernmost section of the project was also included within the survey area; however, this alternative was added after the fourth survey. This alternative was determined not to be preferred. It was nevertheless included in the current survey effort to inform selection of the preferred project.

METHODS

The survey consisted of eight site visits conducted by HELIX biologists Katie Bellon and Mandy Mathews between April 16 and June 28, 2021 (Table 1, *Survey Information*), in accordance with the current USFWS survey protocol.[1] The Northern Alternative was added to the survey area after the fourth survey; therefore, only three surveys were conducted within the additional survey area associated with the Northern Alignment. The LBVI survey areas included all potential LBVI habitat located within 500 feet of the proposed alignment. Approximately 13.17 acres of potential LBVI habitat composed of southern willow scrub, southern cottonwood-willow riparian forest, southern riparian forest, riparian woodland, and southern coast live oak riparian woodland were surveyed during the first four surveys (Figures 4a-f, *2021 Least Bell's Vireo Survey Results*). Approximately 134.45 acres were surveyed during the final three surveys.

The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey areas while listening for LBVI and viewing birds with the aid of binoculars. The survey route was designed to ensure complete survey coverage of habitat potentially occupied by LBVI.

Table 1, *Survey Information*, details the survey dates, times, weather conditions, and survey results.

[1] U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time (Start/Stop)	Approx. Acres Surveyed/Acres per Hour	Weather Conditions (Start/Stop)	Survey Results	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
1	4/16/21	Mandy Mathews	0630/1030	13.17 ac/ 3.3 ac per hr.	55°F, wind 0-1 mph, 100% clouds 62°F, wind 1-3 mph, 5% clouds	• Male No. 7 heard singing west of the strip mall.	0
2	4/27/21	Mandy Mathews	0745/1100	13.17 ac/ 4.1 ac per hr.	54°F, wind 2-3 mph, 50% clouds 64°F, wind 1-3 mph, 20% clouds	No LBVI detected	0
3	5/7/21	Katie Bellon	0605/0830	13.17 ac/ 4.5 ac per hr.	59°F, wind 0-1 mph, 100% clouds 60°F, wind 0-1 mph, 35% clouds	• Male No. 2 heard singing west of the East Mission Gorge Pump Station (EMGPS) building. • Male No. 3 heard singing northeast of the EMGPS building. • Male No. 4 heard singing east of Male No. 3. • Male No. 5 heard outside of the survey area, east of Male No. 4.	3
4	5/18/21	Katie Bellon	0715/1040	13.17 ac/ 3.9 ac per hr.	60°F, wind 1-2 mph, 100% clouds 62°F, wind 2-4 mph, 100% clouds	• Male No. 2 heard singing west of the EMGPS building. • Male No. 3 heard singing northeast of the EMGPS building. • Male No. 4 heard singing east of Male No. 3.	1
5	5/28/21	Mandy Mathews	0630/1100	134.45 ac/ 29.9 ac per hr.	61°F, wind 2-4 mph, 100% clouds 70°F, wind 1-3 mph, 0% clouds	• Male No. 1 heard singing near entrance ramp to CA-52. • Male No. 2 heard singing west of the EMGPS building. • Male No. 7 heard singing west of strip mall.	3
6	6/7/21	Katie Bellon	0700/1010	134.45 ac/ 42.5 ac per hr.	62°F, wind 0-1 mph, 100% clouds 63°F, wind 5-7 mph, 100% clouds	• Male No. 7 heard singing west of strip mall. • Male No. 6 heard west of Male No. 7.	5

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time (Start/Stop)	Approx. Acres Surveyed/Acres per Hour	Weather Conditions (Start/Stop)	Survey Results	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[1]
7	6/17/21	Mandy Mathews	0700/1100	134.45 ac/ 33.6 ac per hr.	62°F, wind 0-2 mph, 100% clouds 71°F, wind 1-3 mph, 50% clouds	• Male No. 1 heard singing near entrance ramp to CA-52. • Male No. 2 singing northeast of the EMGPS building. • Male No. 7 heard singing west of the strip mall.	1
8	6/28/21	Mandy Mathews	0700/1100	134.45 ac/ 33.6 ac per hr.	67°F, wind 0-1 mph, 100% clouds 71°F, wind 0-1 mph, 200% clouds	• Male No. 1 heard singing near entrance ramp to CA-52. • Male No. 3 heard singing northeast of the EMGPS building. • Male No. 7 heard singing west of strip mall.	0

SURVEY RESULTS

Five male vireos were detected within the study area and two male vireos were detected adjacent to the study area during 2021 survey effort, though not all individuals were detected during each survey visit (Figure 4, *2021 Least Bell's Survey Results*). Five of the males (numbered Male No. 1 through Male No. 5) were located within the northern portion of the study area. The remaining two males (Male No. 6 and Male No. 7) were detected within the southern portion of the study area. A detailed description of LBVI locations and observations is included below.

A single male vireo (Male No. 1) was heard singing approximately 1,100 feet west of the East Mission Gorge Pump Station (EMGPS) building north of the entrance ramp to CA-52 (Figure 4a). The male was heard singing in the same general area during the fifth, seventh, and eighth surveys, but was not detected during the first, second, third, fourth, or sixth surveys.

A single male vireo (Male No. 2) was heard singing immediately north of the EMGPS building and approximately 1,100 feet east of Male No. 1 (Figure 4a). Male No. 2 was heard singing in the same general area during the third, fourth, fifth, and seventh surveys. Male No. 2 was not detected during the first, second, sixth, or eighth surveys.

A single male vireo (Male No. 3) was heard singing north of the EMGPS building and approximately 150 feet northeast of Male No. 2 (Figure 4a). Male No. 3 was heard singing in the same general area during the third, fourth, and eighth surveys. Male No. 3 was not detected during the first, second, fifth, sixth, or seventh surveys.

A single male vireo (Male No. 4) was heard singing northeast of the EMGPS building and approximately 470 feet northeast of Male No. 3 (Figure 4a). Male No. 4 was heard singing in the same general area during the third and fourth surveys but was not detected during the other surveys.

A single male vireo (Male No. 5) was heard singing outside of the study area northeast of the EMGPS building and approximately 580 feet southeast of Male No. 4 (Figure 4a). Male No. 5 was heard singing only during the fifth survey. Male No. 5 was not detected during the other surveys.

A single male vireo (Male No. 6) was heard singing in the southern portion of the study area, approximately 740 feet west of the strip mall situated on the northwest corner of Camino Del Rio North and Fairmount Avenue (Figure 4b). Male No. 6 was only detected during the sixth survey. Male No. 6 was not detected during the other surveys.

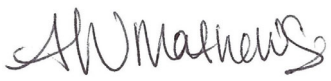
A single male vireo (Male No. 7) was heard singing in the southern portion of the study area, approximately 70 feet west of the strip mall (Figure 4b). Male No. 7 was heard singing in the same general area during the first, fifth, sixth, seventh, and eighth surveys. Male No. 3 was not detected during the second, third, or fourth surveys.

Brown-headed cowbirds were detected during five of the eight surveys in one location within the study area (Figure 4). Observations of BHCO included individuals flying overhead, singing males, and calling females.

CERTIFICATION

We certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Katie Bellon or Karl Osmundson at (619) 462-1515 you have any questions.

Sincerely,

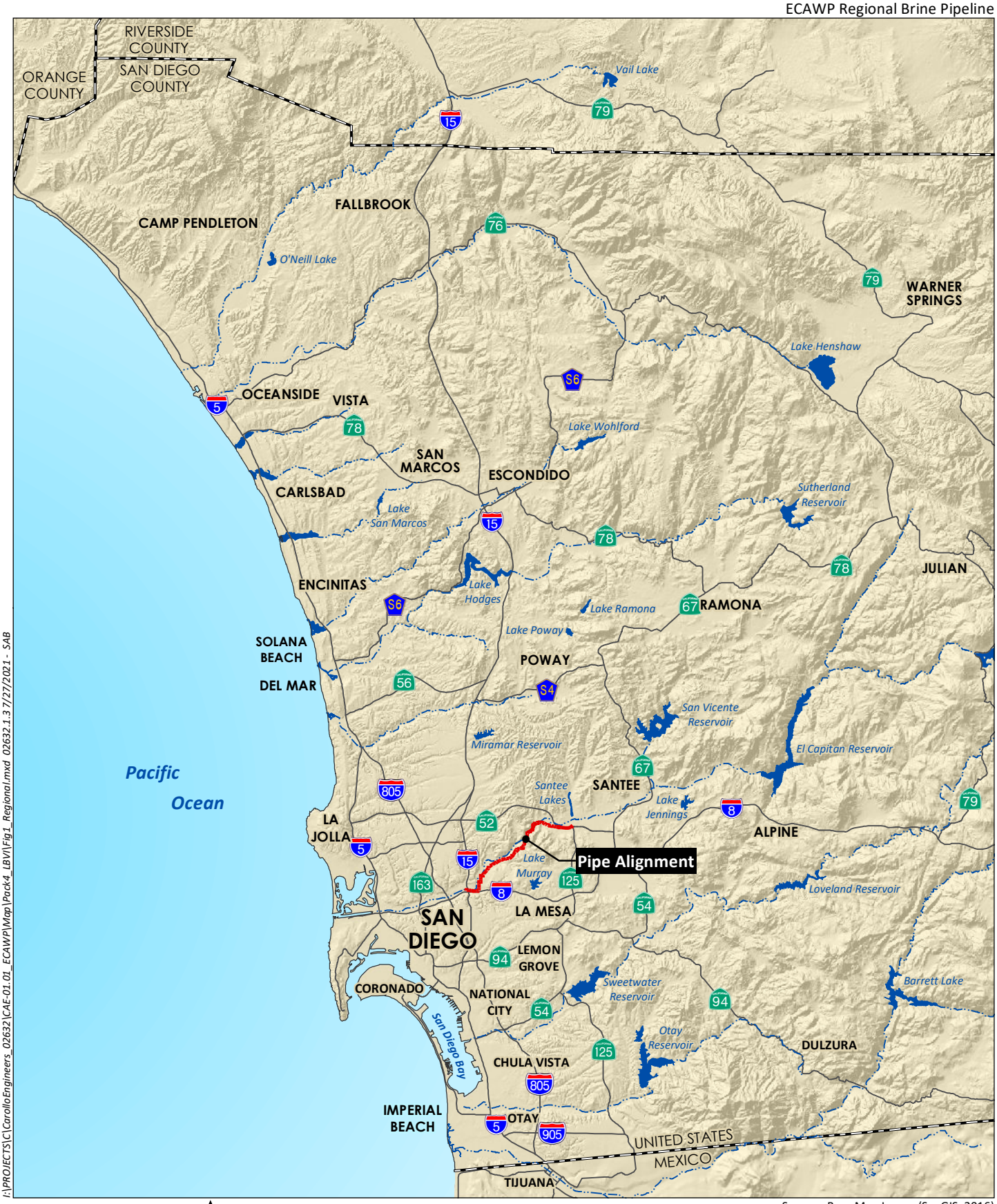


Mandy Mathews
Biologist

Katie Bellon
Biologist

Attachments:

Figure 1: Regional Location
Figure 2A-B: USGS Topography
Figure 3: Aerial Photograph
Figures 4a-f: 2021 Least Bell's Vireo Survey Results



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig1_Regional.mxd 02632.1.3 7/27/2021 - SAB

0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

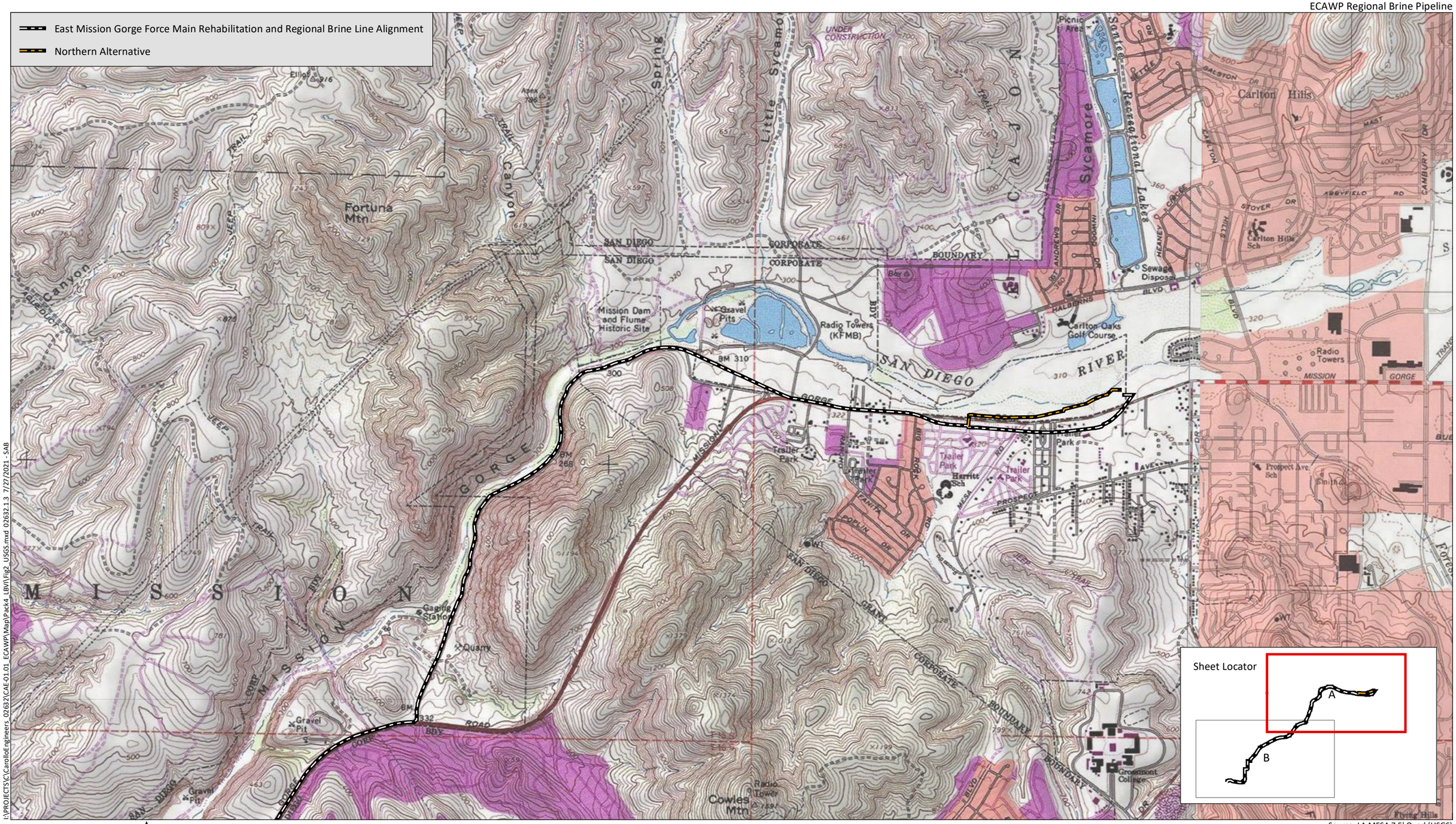
HELIX Environmental Planning

Regional Location

Figure 1

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\MapPack4_LBV\Fig2_USGS.mxd 02632.1.3 7/27/2021 - SAB

0 2,000 Feet

Source: LA MESA 7.5' Quad (USGS)

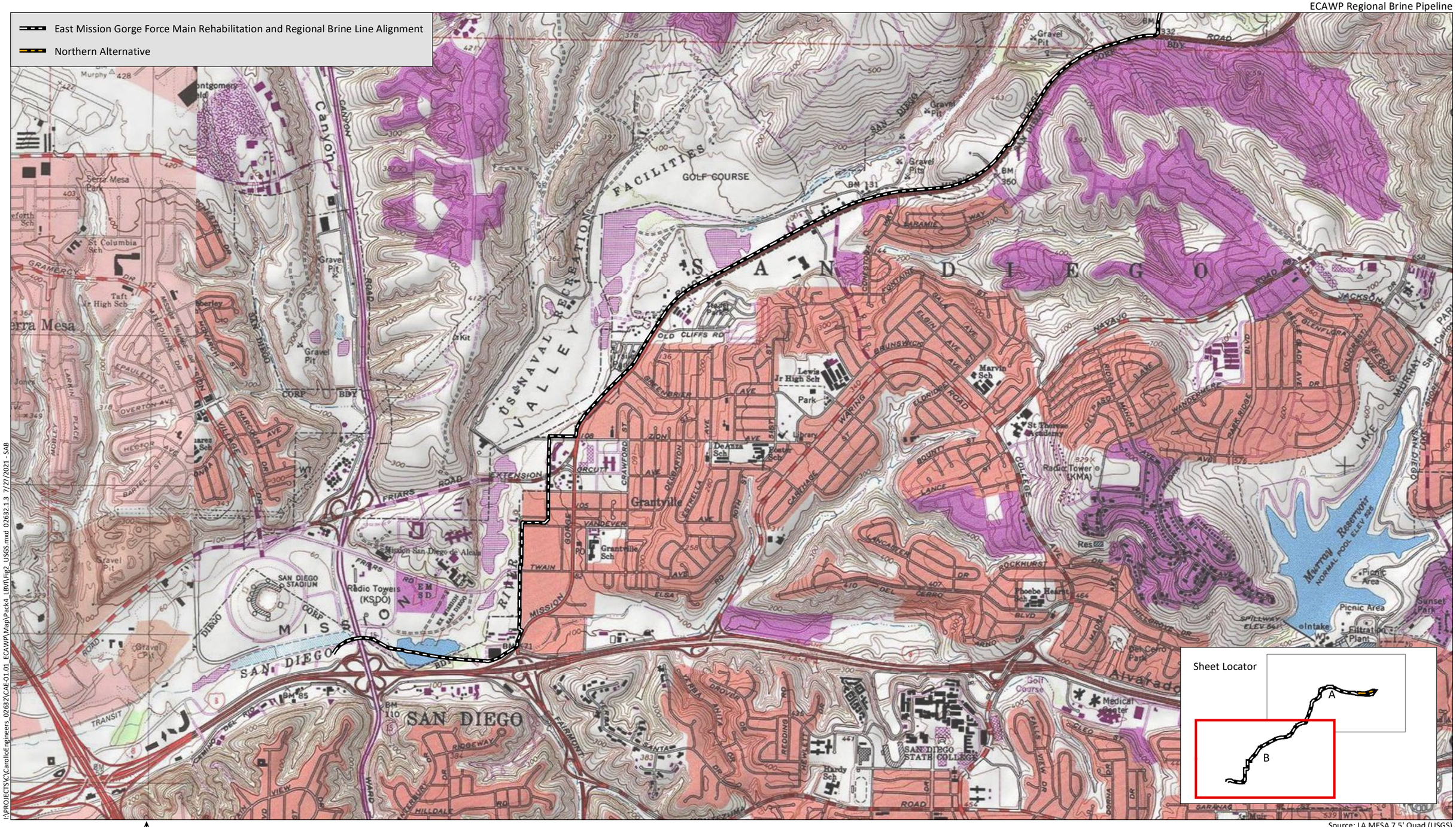
HELIX Environmental Planning

Project Location on USGS Topography

Figure 2A

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



0 2,000 Feet

Source: LA MESA 7.5' Quad (USGS)

I:\PROJECTS\C\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig2_USGS.mxd 02632.1.3 7/27/2021 - SAB

HELIX Environmental Planning

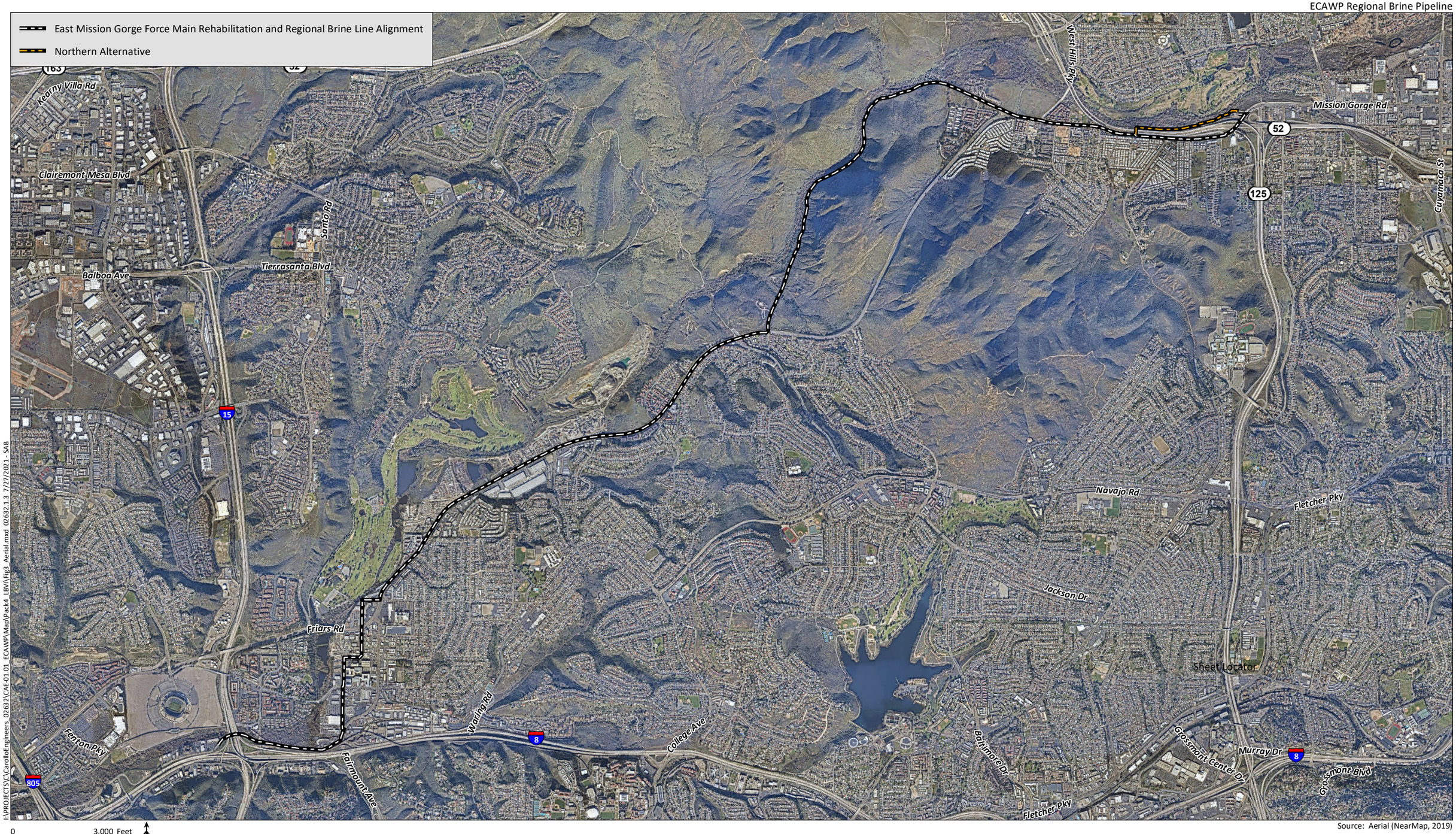
Project Location on USGS Topography

Figure 2B

ECAWP Regional Brine Pipeline

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative



I:\PROJECTS\CarrolloEngineers 02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig3_Aerial.mxd 02632.1.3 7/27/2021 - SAB

0 3,000 Feet

N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

Aerial Photograph of Project Location

Figure 3

ECAWP Regional Brine Pipeline

Survey Area

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative

Least Bell's Vireo

Brown-headed Cowbird

Least Bells's Vireo Suitable Habitat

Riparian Scrub

Southern Cottonwood-willow Riparian Forest

Southern Riparian Forest

Southern Willow Scrub

a

b

c

d

e

f

Male No. 1
5/28/2021 - Singing
6/17/2021 - Singing
6/28/2021 - Singing

Male No. 2
5/7/2021 - Singing
5/18/2021 - Singing
5/28/2021 - Singing
6/17/2021 - Singing

Male No. 3
5/7/2021 - Singing
5/18/2021 - Singing
6/28/2021 - Singing

Male No. 4
5/7/2021 - Singing
5/18/2021 - Singing

Male No. 5
5/7/2021
- Singing

I:\PROJECTS\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig4_SurveyRslts.mxd 02632.1.38/10/2021 - SAB

0 200 Feet

N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4a

ECAWP Regional Brine Pipeline

Survey Area

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Northern Alternative

Least Bell's Vireo

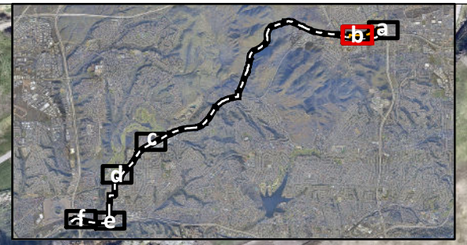
Least Bells's Vireo Suitable Habitat

Southern Riparian Forest

Southern Riparian Woodland

Southern Willow Scrub

Southern Willow Scrub - Disturbed



Male No. 1
5/28/2021 - Singing
6/17/2021 - Singing
6/28/2021 - Singing

0 200 Feet

N

Source: Aerial (NearMap, 2019)

I:\PROJECTS\CarrolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBVI\Fig4_SurveyRslts.mxd 02632.1.38/10/2021 - SAB

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4b

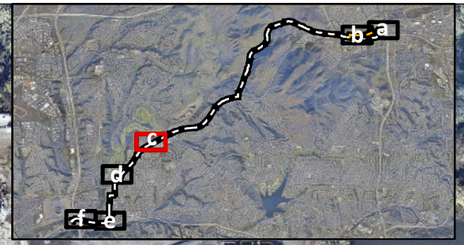
ECAWP Regional Brine Pipeline

Survey Area

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

Least Bells's Vireo Suitable Habitat

Southern Riparian Forest



0 200 Feet

N

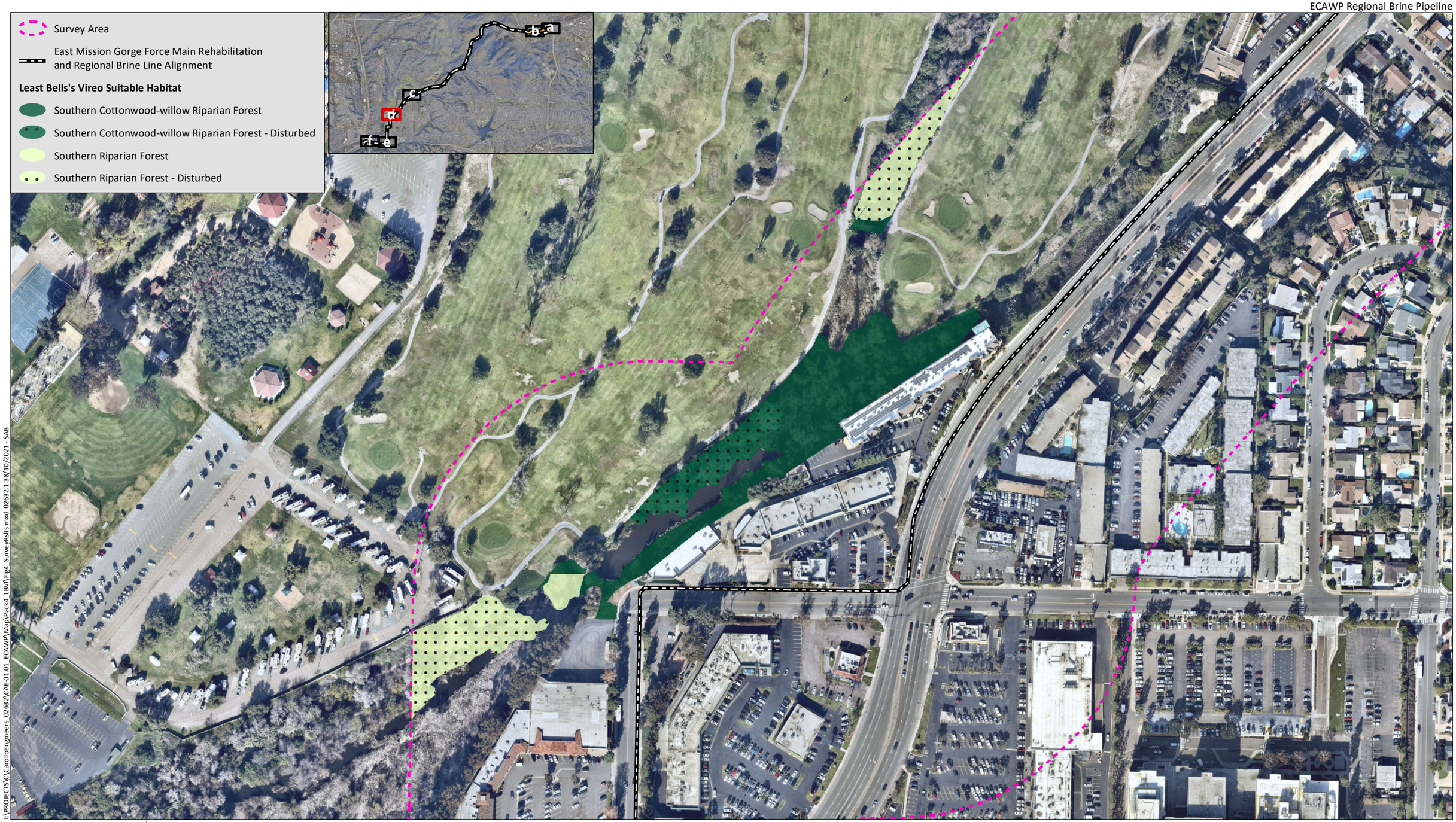
Source: Aerial (NearMap, 2019)

I:\PROJECTS\CarolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig4_SurveyRslts.mxd 02632.1.38/10/2021 - SAB

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4c



Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4d

ECAWP Regional Brine Pipeline

Survey Area

East Mission Gorge Force Main Rehabilitation and Regional Brine Line Alignment

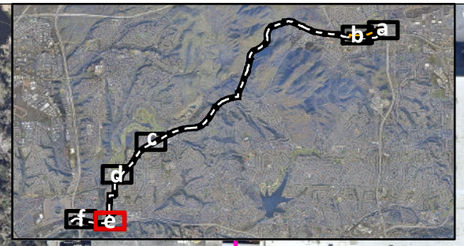
Least Bell's Vireo

Least Bells's Vireo Suitable Habitat

Southern Riparian Forest

Southern Willow Scrub

Southern Willow Scrub - Disturbed



Male No. 7
4/16/2021
5/28/2021
6/7/2021
6/17/2021
6/28/2021

Male No. 6
6/7/2021

I:\PROJECTS\C\CarrolloEngineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBV\Fig4_SurveyRslts.mxd 02632.1.38/10/2021 - SAB

0 200 Feet

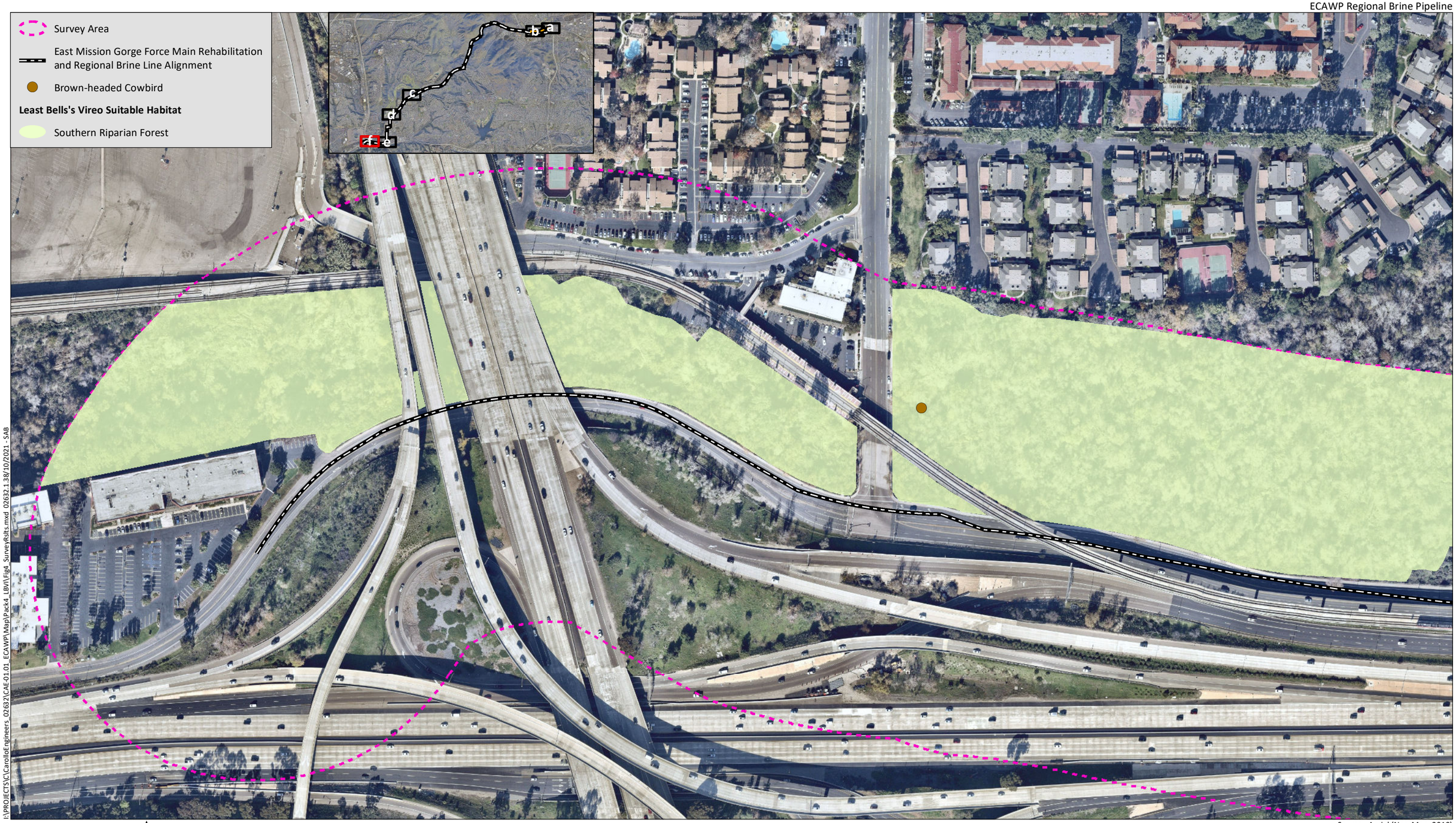
N

Source: Aerial (NearMap, 2019)

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4e



Source: Aerial (NearMap, 2019)

I:\PROJECTS\C\Carlsbad Engineers_02632\CAE-01.01_ECAWP\Map\Pack4_LBVI\Fig4_SurveyRslts.mxd 02632.1.38/10/2021 - SAB

HELIX Environmental Planning

2021 Least Bell's Vireo Survey Results

Figure 4f