Oceanside Sewer Improvements Program

Biological Technical Report

January 2026 | 01354.00005.001

Prepared for:

City of Oceanside
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TABLE OF CONTENTS

Section **Page**

Section **Page**

Section **Page**

LIST OF APPENDICES

LIST OF FIGURES

No. **Title** **Follows Page**

TABLE OF CONTENTS (cont.)

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
APN	Assessor's Parcel Number
BCLA	biological core and linkage area
BMP	best management practices
Buena Vista FM	Buena Vista Force Main
CAGN	coastal California gnatcatcher
CCC	California Coastal Commission
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 Oceanside
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB(A)	decibel hourly average
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
FM	force main
FPA	Focused Planning Areas
G	Global
GIS	Geographic Information Systems
GPS	Global Positioning System
HDPE	high-density polyethylene
HELIX	HELIX Environmental Planning, Inc.
ITP	Incidental Take Permit
LBVI	least Bell's vireo
LCP	Local Coastal Program
LF	linear feet
LFRR	Light-footed Ridgway's Rail
LO	Land Outfall
LSWWTP	La Salina Wastewater Treatment Plant

ACRONYMS AND ABBREVIATIONS (cont.)

MBTA	Migratory Bird Treaty Act
MHCP	Multiple Habitat Conservation Program
MGD	million gallons per day
MM	mitigation measure
NEPA	National Environmental Policy Act
NCCP	Natural Communities Conservation Planning
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
OMG LS	Oceanside Mesa Garrison Lift Station
OMZ	Off-Site Mitigation Zone
PAMA	Pre-approved Mitigation Areas
Program	Oceanside Sewer Improvements Program
RWQCB	Regional Water Quality Control Board
S	State
SAA	Streambed Alteration Agreement
SAP	Sub Area Plan
SDG&E	San Diego Gas & Electric
SKR	Stephens' kangaroo rat
SLR	San Luis Rey
SLRWRF	San Luis Rey Water Reclamation Facility
SWFL	southwestern willow flycatcher
TLB	Thread-leaved brodiaea
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WCPZ	Wildlife Corridor Planning Zone

EXECUTIVE SUMMARY

This biological technical report was prepared to evaluate the proposed Oceanside Sewer Improvements Program (proposed program). The proposed program area is located within the City of Oceanside (City), in San Diego County (County), California. The City is preparing to develop multiple sewer improvement projects, spanning the area between the San Luis Rey Wastewater Plant and the La Salina Wastewater Treatment Plant (LSWWTP). The final project footprints for each of these proposed projects within the proposed program area have not been finalized, and this report evaluates a greater area within which the various projects would be constructed (i.e., the survey area). The purpose of this report is to document the existing biological conditions within the survey area and provide an analysis of potential impacts on sensitive biological resources with respect to local, state, and federal policy and to recommend mitigation measures (MMs) for potential impacts to sensitive biological resources, if necessary. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA) by the City of Oceanside Water Utilities Department. HELIX Environmental Planning, Inc. conducted biological surveys for the survey area and immediate surrounding areas in 2020, 2021, 2022, and 2023. The purpose of these surveys was to map current vegetation communities, assess whether protected habitat and/or sensitive species occur within the survey area, and delineate potential jurisdictional aquatic resources.

Nine sensitive vegetation communities/habitat types occur in the survey area: freshwater marsh, southern riparian forest, mule fat scrub (including disturbed), southern willow scrub, Diegan coastal sage scrub (including disturbed), baccharis scrub, native grassland, salt grass grassland, and non-native grassland.

Two special-status plant species and eleven special-status animal species were observed in the survey area and surrounding areas during biological surveys: Thread-leaved brodiaea (*Brodiaea filifolia*), Brand's phacelia (*Phacelia stellaris*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), Cooper's hawk (*Accipiter cooperii*), Costa's hummingbird (*Calypte costae*), Vaux's swift (*Chaetura vauxi*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actis*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*).

Because the survey area and its immediate surrounding area support suitable habitat, there is potential for an additional eight special-status animal species to occur on the site, including: the monarch butterfly (*Danaus plexippus*; migratory population), southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), south coast garter snake (*Thamnophis sirtalis;* population: one), pallid bat (*Antrozous pallidus*), Stephens kangaroo rat (*Dipodomys stephensi*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The survey area also supports nesting habitat for bird species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife (CDFW) Game Code.

Aquatic resources are present in the survey area in the form of wetlands located primarily along the San Luis Rey River, as well as unvegetated and concrete-lined channels that meets the minimum criteria to be considered potential waters of the U.S. under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA), potential waters of the State under the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to

CWA Section 401, and potential streambed and riparian habitat under the regulatory jurisdiction of CDFW pursuant to Sections 1600-1603 of the California Fish and Game Code (CFG Code).

The survey area is located within the boundaries of the Multiple Habitat Conservation Program (MHCP) North County, which was finalized and adopted in 2003. Within the North County MHCP, the survey area is located in the Oceanside subarea. The Oceanside Draft Subarea Plan (SAP) has not been approved or adopted. In the context of these plans, the survey area runs through multiple hardline and softline preserve areas.

In addition to the preserve areas, portions of the survey area also occur within a Wildlife Corridor Planning Zone (WCPZ) and Off-Site Mitigation Zone (OMZ) as designated by the draft SAP. The northern portion of the survey area occurs adjacent to the Whelan Lake Bird Sanctuary. The western portion of the survey area, west of Interstate 5, from where the survey area occurs along Oceanside Avenue, is located within the Coastal Zone.

Portions of the survey area are located within U.S. Fish and Wildlife Service (USFWS) designated critical habitat for four species: the federally listed as threatened thread-leaved brodiaea (*Brodiaea filifolia*; TLB), federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN), federally listed as endangered least Bell's vireo (*Vireo belli pusillus*; LBVI), and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL).

The City is the Lead Agency for the proposed program. The proposed program consists of implementing multiple Sewer Improvement Projects spanning from the San Luis Rey Wastewater Plant to the LSWWTP. The proposed program consists of underground improvements as well as the construction of a new lift station. There is no specific development proposal at this time, and thus, no specific development and/or conservation footprint identified in the survey area. Because the locations and scope of future development proposal impacts are unknown at this time, this report conservatively assumes that the entire 107.92-acre survey area would be disturbed. This report evaluates impacts and proposes mitigation assuming this conservative scenario to special-status species, sensitive natural communities/habitats, and potential jurisdictional resources. It is anticipated that future development would be designed to reduce or avoid impacts to sensitive biological resources. It is also anticipated that development would be limited to occur on no more than 20 percent of critical populations or their occupied habitat acreage within the survey area because of MHCP requirements. Mitigation measures are proposed that would mitigate potentially significant impacts to less than significant levels.

It is anticipated that before the development of any of the proposed projects within the survey area, appropriate consultation with the USFWS would occur as required in accordance with Section 7 or Section 10 of the Federal Endangered Species Act (FESA) for potential impacts to the federally listed species, including critical habitats. If any of the individual projects associated with this programmatic effort could have significant impacts to state listed species that are not also federally listed, appropriate consultation with the CDFW would occur as required in accordance with Section 2081(b) of California Fish and Game (CFG) Code. Potential impacts to sensitive communities/habitats, non-listed special-status plant and animal species with the potential to be present within the project impact area of any of the associated projects with this programmatic effort would be mitigated to ensure, at a minimum, no net loss, through conformance with mitigation measures **Bio-1a** through **Bio-8b**. Unless otherwise specified by the USACE, RWQCB, and/or CDFW, impacts to jurisdictional resources shall be mitigated at a 3:1 ratio consisting of a minimum 1:1 creation/establishment and provided through the purchase of appropriate credits from an approved mitigation bank.

1.0 INTRODUCTION

At the request of the City of Oceanside (City), HELIX Environmental Planning, Inc. (HELIX) completed this biological technical report for the proposed Oceanside Sewer Improvements Program (Program). The City is planning and preparing for multiple sewer utility improvements, generally spanning a linear alignment between the San Luis Rey Wastewater Plant and the La Salina Wastewater Treatment Plant (LSWWTP). This report identifies the Program survey area that is used to evaluate the various proposed projects that would be constructed. Individual sewer improvement footprints for each of the proposed projects located within the proposed program area have not been finalized; however, where preliminary project location information is known (e.g., pipeline alignments, construction footprints, staging and access areas, etc.), it is included within this report and evaluated accordingly. The purpose of this report is to document the existing biological conditions within the survey area and provide an analysis of potential impacts on sensitive biological resources with respect to local, state, and federal policy and to recommend mitigation measures (MMs) for potential impacts to sensitive biological resources, if necessary. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA) by the City of Oceanside Water Utilities Department.

The survey area for this biological technical report encompasses approximately 107.92 acres, which is expected to include the proposed lift station site and existing/proposed pipeline alignments. An additional 500-foot buffer surrounding the survey area was also evaluated in this report for the bird surveys.

1.1 SURVEY LOCATION LOCATION

The original survey area is located within 779 Assessor's Parcel Numbers (APNs) in the northwestern portion of San Diego County (County) in the City of Oceanside, California. Additional survey areas were included following Program alternatives added in 2022, as well as staging areas and access route locations added in 2023. Survey areas added in 2022 and 2023 are located either adjacent to or within the vicinity of the original survey area, occurring within an additional 1,375 APNs (Figure 1, *Regional Location*; Appendix A, *APNs*). The collective survey areas (herein referred to as survey area) occur within Sections 5, 6, 7, 8, 18, and 19 of Township 11 South, Range 4 West, and Sections 24, 25, 26, and 35 of Township 11 South, Range 5 West, on the U.S. Geological Survey (USGS) 7.5-minute San Luis Rey quadrangle map (Figure 2, *USGS Topography*). The survey area is generally located north of State Route 78 and west of Interstate 15. The lift station associated with the program is currently proposed to occur on 3 acres of the permanently closed Garrison Elementary School property, located at 333 Garrison Street. Approximately 3 acres within the eastern portion of the 11.2-acre property would be subdivided to implement the OMG LS Project. The proposed program's underground components and facilities would follow a generally linear route south from the San Luis Rey Water Reclamation Facility (SLRWRF) at 3950 North River Road to Oceanside Boulevard, and then extend southwest to the LSWWTP (Figure 3, *Program Components*). The survey area crosses State Route 76 (SR-76), Interstate 5, and the North County Transit District rail line. Additional pipeline segments may occur along Los Arbolitos Boulevard, Pala Road, and/or Mission Avenue.

The majority of the survey area is surrounded by residential development and undeveloped land. Other surrounding land uses include roadways, commercial development (particularly along Oceanside Boulevard), utilities, schools, a park, a cemetery, a church, and the North County Transit District Sprinter

Station. Whelan Lake occurs west of the northern end of the survey area, and the northern portion of the survey area crosses Pilgrim Creek, the San Luis Rey River, and the San Luis Rey River Trail.

The survey area is located within the boundaries of the Multiple Habitat Conservation Program (MHCP) North County, which was finalized and adopted in 2003 (AMEC 2003). Within the North County MHCP, the survey area is located in the Oceanside subarea. The Oceanside Draft Subarea Plan (SAP) has not been approved or adopted (City of Oceanside 2010). In the context of these plans, the survey area runs through multiple hardline and preserve areas (Figure 4, *City Sub Area Plan*).

In addition to the preserve areas, portions of the survey area also occur within a Wildlife Corridor Planning Zone (WCPZ) and Off-Site Mitigation Zone (OMZ) as designated by the draft SAP (Figure 4). The northern portion of the survey area occurs adjacent to the Whelan Lake Bird Sanctuary. The western portion of the survey area, west of Interstate 5, from where the survey area occurs along Oceanside Avenue, is located within the Coastal Zone.

Portions of the survey area are located within U.S. Fish and Wildlife Service (USFWS) designated critical habitat for the federally listed as threatened thread-leaved brodiaea (*Brodiaea filifolia*), federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN), federally listed as endangered least Bell's vireo (*Vireo belli pusillus*; LBVI), and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL) (Figure 5, *Critical Habitat*).

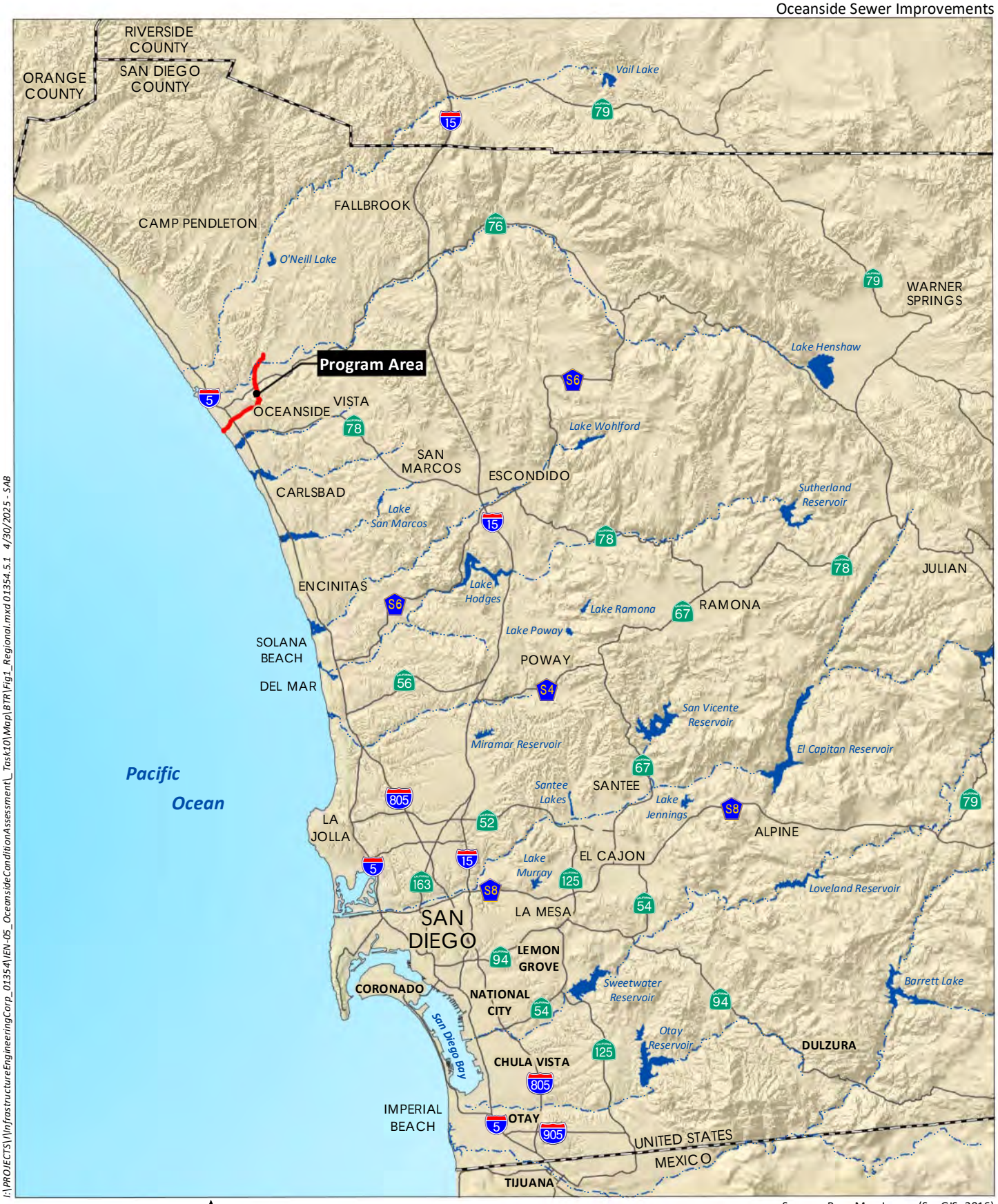
1.2 PROGRAM DESCRIPTION

The proposed Program consists of implementing multiple individual sewer utility improvement projects spanning a linear alignment from the SLRWRF to the terminus of the Oceanside Ocean Outfall at the LSWWTP. The proposed Program includes underground improvements and above-ground construction of a new lift station. Specific utility improvements are currently under design, and thus, no specific development or conservation footprints were identified in the survey area. Proposed program components are shown conceptually on Figure 3, and further described below.

Because the specific locations and scope of sewer improvement project impacts associated with this programmatic effort are unknown at this time, this report assumes that the entire 107.92-acre survey area will not be disturbed, but some degree of biological resources within the survey area will be impacted. The report will discuss biological resources within the survey area. Furthermore, this report evaluates potential Program impacts and proposes mitigation considering both the preliminary project information and the survey area as a whole. It is anticipated that sewer improvement/development project proposals associated with the programmatic effort and within the survey area would be designed to avoid and minimize impacts to sensitive biological resources.

Sewer improvement projects identified as part of this programmatic effort thus far include the following:

- Oceanside Mesa Garrison Force Main (OMG FM) ;
- Oceanside Mesa Garrison Lift Station (OMG LS);
- Land Outfall Replacement (two segments: SLRWRF to Garrison Elementary School and Garrison Elementary School to LSWWTP);



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

- Oceanside Mesa Garrison Lift Station
- Land Outfall Replacement
- Existing Land Outfall (not proposed for replacement)
- Gravity Sewer Main to Oceanside Mesa Garrison Lift Station
- Mission Avenue Lift Station Force Main Replacement
- Oceanside Mesa Garrison Force Main
- Oceanside Mesa Garrison Force Main Extension
- Potential Staging and Access

CAMP PENDLETON

OCEANSIDE

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0 2,000 Feet

Source: SAN LUIS REY 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

- Oceanside Mesa Garrison Lift Station
- Land Outfall Replacement
- Existing Land Outfall (not proposed for replacement)
- Gravity Sewer Main to Oceanside Mesa Garrison Lift Station
- Mission Avenue Lift Station Force Main Replacement
- Oceanside Mesa Garrison Force Main
- Oceanside Mesa Garrison Force Main Extension
- Potential Staging and Access

CAMP PENDLETON
CITY OF OCEANSIDE
CITY OF CARLSBAD
North River Rd
Douglas Dr
Pala Rd
Los Arbolitos Blvd
Coco Palms Dr
N El Camino Real
Peyri Rd
Fireside St
Rancho Del Oro Dr
Benet Rd
Airport Rd
Mission Ave
El Camino Real
San Luis Rey Rd
Jones Rd
E Barnwell St
N Barnwell St
Foussat Rd
Mesa Dr
Garrison St
State Route 76 Wb
Neptune Way
Bush St
Archer St
Brooks St
Civic Center Dr
N Coast Hwy
Canyon Dr
Crouch St
Oceanside Blvd
Skylark Dr
Dunstan St
Grant St
Division St
Country Club Ln
Downs St
Laurel Rd
Fire Mountain Dr
Avocado Rd
Via Las Rosas
Ivy Rd
Vista Way
S Pacific St
Wisconsin Ave
S Coast Hwy
California St
Hunsaker St
Alvarado St
S Coast Highway
Cassidy St
Jefferson St
Monroe St
Marron Rd
Avenida De Anita
Carlsbad Village Dr

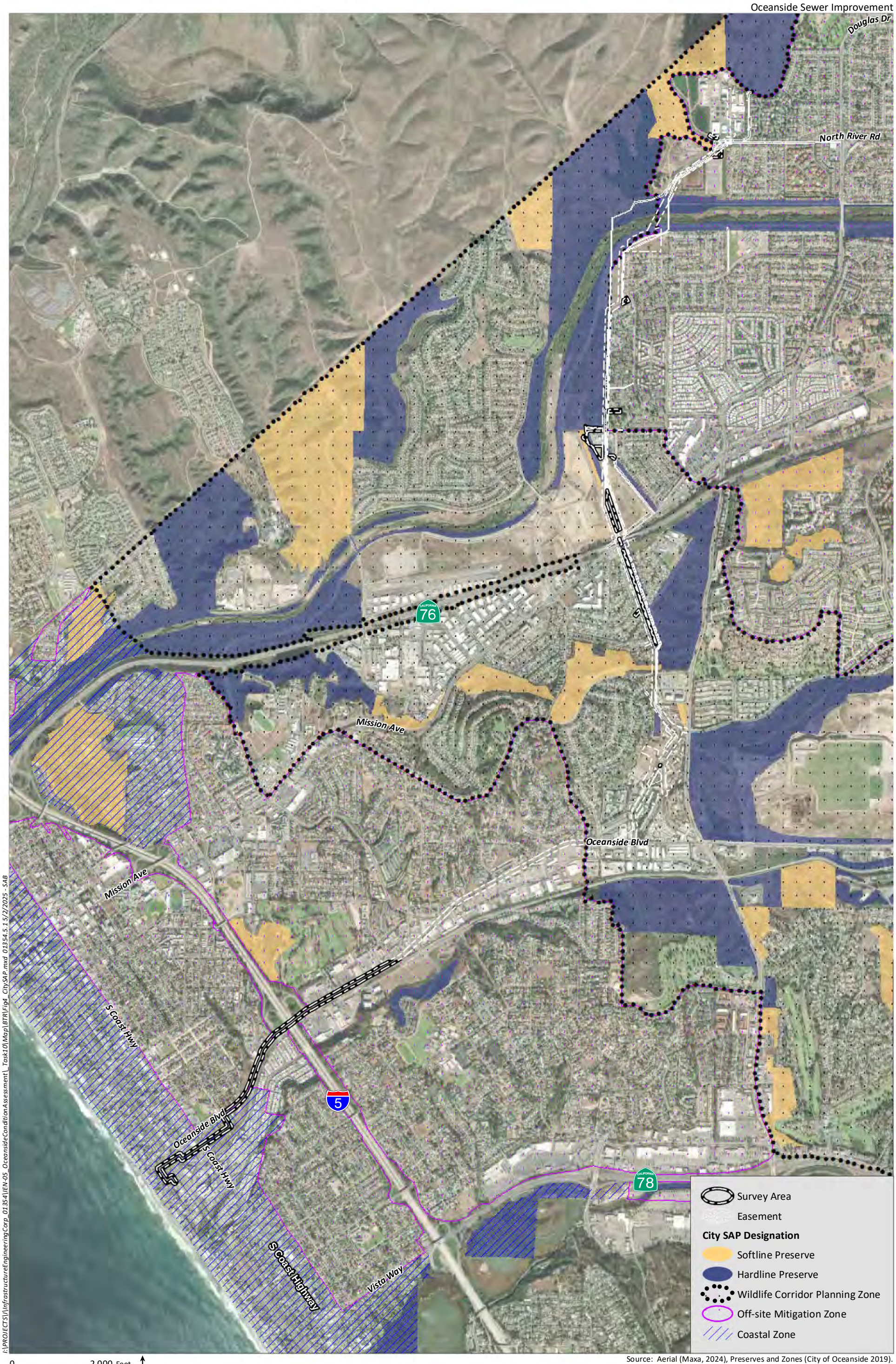
0 2,000 Feet

Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Program Components

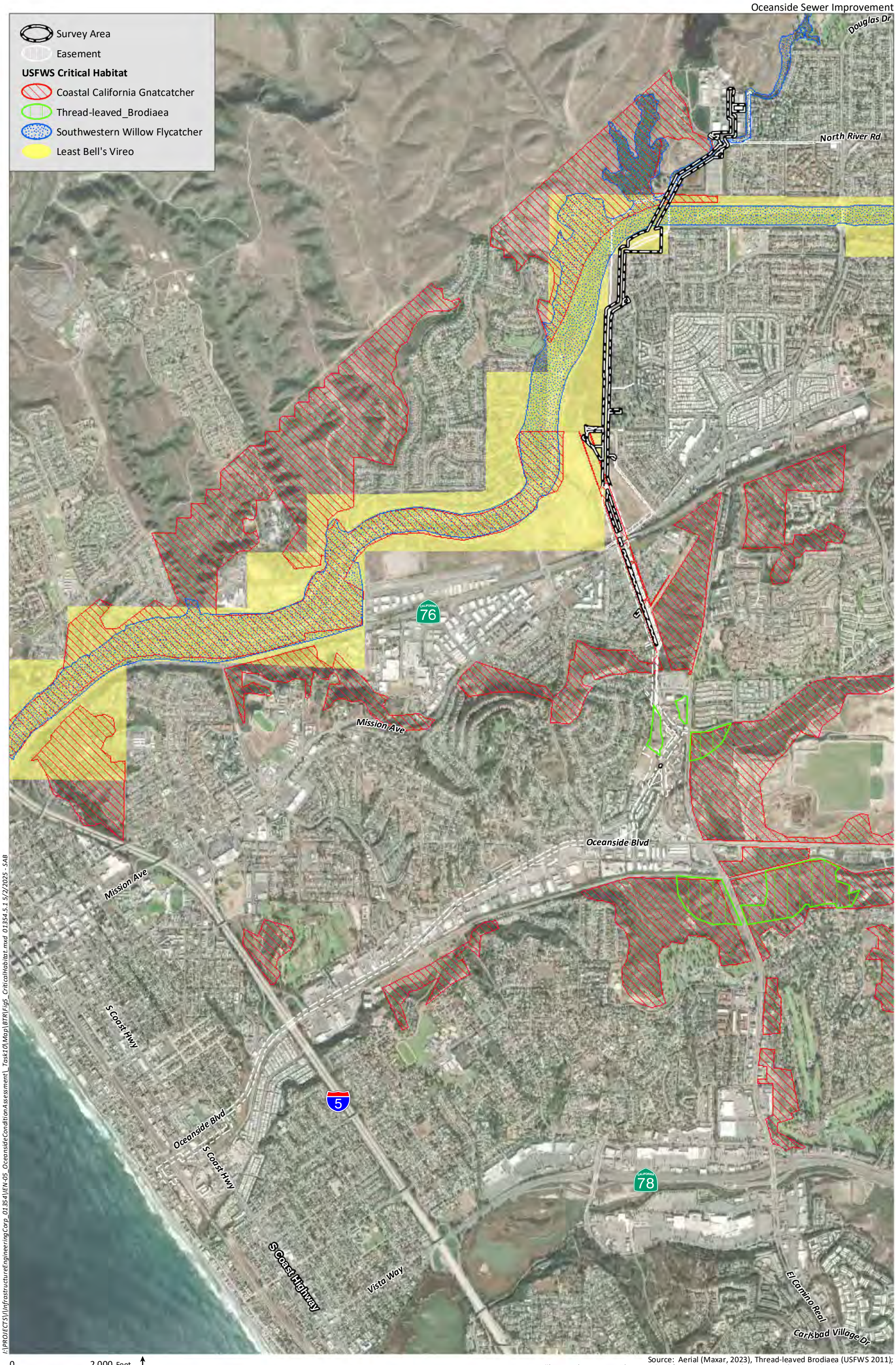
Figure 3



Source: Aerial (Maxa, 2024), Preserves and Zones (City of Oceanside 2019).

City Sub Area Plan

Figure 4



Source: Aerial (Maxar, 2023), Thread-leaved Brodiaea (USFWS 2011); Least Bell's Vireo (USFWS 1994); Coastal California Gnatcatcher (USFWS 2007); SW Willow Flycatcher 2013)

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Critical Habitat

Figure 5

- Mission Avenue Lift Station Force Main (MALS FM) Replacement; and
- Mission Avenue Gravity Sewer Lining and Replacement.

1.2.1 Oceanside Mesa Garrison Force Main

The OMG FM Project involves the design and construction of approximately 16,100 linear feet (LF) of 36-inch sewer force main that would carry wastewater flows from the proposed OMG LS, as well as flows from the existing Buena Vista FM, to the SLRWRF. The existing 36-inch/42-inch Buena Vista FM carries flows from the Buena Vista Lift Station (located near the Carlsbad Shopping Center at Jefferson Street and SR 78), and gravity flows from the Mesa-Garrison intersection, to SLRWRF.

A substantial portion of the pipeline would occur within existing City's easements outside of paved roadways. The OMG FM would commence at the OMG LS. North of the lift station, the FM would continue north along Garrison Street to the intersection with Mesa Drive. Here, it would connect to and collect flows from the existing Buena Vista FM. The OMG FM would continue northwest along Mesa Drive and then north through the San Diego Gas & Electric (SDG&E)/Kinder Morgan transmission corridor, northeast across the San Luis Rey River, and along Whalen Lake Road to the SLRWRF.

The new 36-inch OMG FM would parallel the existing Buena Vista FM and would utilize the existing Buena Vista FM piping within an approximately 800-LF portion of the tunnel ("Tunnel") near the SDG&E Substation that is west of El Camino Real and north of Mesa Drive. Piping within the Tunnel would not be replaced. The Buena Vista FM has a few maintenance/access locations, which limits the City from cleaning and inspecting the pipe. Upon installation of the new OMG FM the trunk sewer can be taken out of service, cleaned, inspected, and rehabilitated to safely serve as a redundant pipeline for the new OMG FM. To provide redundancy for the 36-inch pipe through the Tunnel section, an existing 22-inch high-density polyethylene (HDPE) pipe that currently carries Mesa-Garrison gravity flows through the Tunnel may be repurposed to handle the pressurized flow from the new OMG FM. Work would include connecting and installing valves on the 22-inch HDPE and replacing approximately 1,000 LF of lined gravity pipe north of the Tunnel.

An approximately 800-LF extension of the OMG FM is proposed to be constructed south of the OMG Lift Station to accommodate future system expansion and improved reliability. The OMG FM Extension would serve as a future system tie-in that could accommodate diversion of flows from the City's sewer collection system into the OMG FM. The OMG FM Extension would be constructed in conjunction with the OMG FM to minimize future construction costs and reduce potential service disruptions.

1.2.2 Oceanside Mesa Garrison Lift Station

The proposed OMG LS Project involves the design and construction of a five-million-gallon-per-day (MGD) sewer lift station near the intersection of Mesa Drive and Garrison Street. The new OMG LS would accommodate gravity flows from Mesa Drive and Garrison Street via a 24-inch gravity sewer main. Flows from the OMG LS would be conveyed north to the SLRWRF via the new OMG FM, which is described below in the following section.

The City has identified the permanently closed Garrison Elementary School property as the optimal location for the proposed OMG LS due to reduced pumping costs, proximity to the convergence of major sewer pipelines that would connect at the intersection of Mesa Drive and Garrison Street, and

avoidance of permanent structures under SDG&E high voltage power lines. The lift station would be developed within approximately 3 acres of the 11.2-acre property, which includes a 28-foot-wide access road proposed along the eastern property line for future utilities and maintenance access. The access road would also allow vehicle access to the project site from the south and possible the north because Garrison Street is not a through street between Oceanside Boulevard and Mesa Drive. The remaining former school property would be sold to a prospective developer.

The proposed OMG LS would include construction of access road and lift station and associated components, including a wet well, emergency storage, future pipelines, parking, training (open area), and equipment storage.

1.2.3 Land Outfall Replacement

The Land Outfall Replacement Project involves upsizing approximately 27,000 LF of existing 24-inch Land Outfall to 36-inch pipe between the SLRWRF and LSWWTP in various segments. The capacity increase would accommodate additional flows after Fallbrook Public Utility District's connection to the Land Outfall at Pala Road and future effluent diverted from LSWWTP . Approximately 19,000 LF of the Land Outfall from SLRWRF to the proposed OMG LS site generally follows the same corridor as the proposed OMG FM. This segment includes the 800 LF Tunnel section near the SDG&E Substation off El Camino Real north of Mesa Drive that would not be upsized. This upper reach is critical from an operational standpoint to accommodate future increased flows and provide spill control measures at SLRWRF. The upsized Land Outfall would provide the reliability and capacity to divert flows should the Pure Water (Advanced Water Treatment Facility) and Recycled Water production facilities be taken offline unexpectedly, as well as for maintenance purposes. This would also allow for future wastewater flow increases and potential coordination with nearby agencies that have expressed interest in sending more effluent through Oceanside's Land Outfall. Of the remaining 10,000 LF of pipe to be replaced, approximately 4,000 LF near the North County Transit District Railroad right-of-way was assessed in July 2021, and the condition was found to be extremely poor and requiring replacement. The other 6,000 LF in Oceanside Boulevard to Garrison Elementary School was not assessed, but upsizing would further alleviate capacity and operational issues.

1.2.4 Mission Avenue Lift Station Force Main Replacement

The MALS FM Replacement Project involves the replacement of approximately 13,000 LF of the existing 24-inch sewer force main from the existing Mission Avenue Lift Station to SLRWRF with a new parallel pipeline. The pipeline would commence at the lift station near Mission Avenue, where it would run north through the proposed Ocean KAMP development, the SDG&E/Kinder Morgan transmission corridor, the Mission Basin Groundwater Purification Facility, and north in an easement adjacent to San Luis Rey Fireside Pond under U.S. Army Corps of Engineers jurisdiction. The pipeline would continue north in a public easement through unpaved areas, where it would be incorporated into the private streets of a proposed 52-unit Cypress Point residential development at Pala Road before crossing under the San Luis Rey River along with the other proposed pipelines. There, the pipeline would continue to run northeast through unpaved areas, potentially around SLRWRF's holding ponds and to the plant's headworks. Once the new parallel pipe is constructed, the existing 24-inch MALS FM may be taken offline, cleaned, assessed, and repaired to serve as a backup force main to improve the reliability of the City's sewer system.

1.2.5 Mission Avenue Gravity Sewer Lining and Replacement

The Mission Avenue Gravity Sewer Lining and Replacement Project includes cured-in-place lining of approximately 600 LF of 24-inch gravity sewer pipe starting at 3560 Mission Avenue at the terminus of the Market Place Del Rio Sewer Replacement project west to Fireside Street. From the Fireside Street and Mission Avenue intersection, approximately 1,600 LF of the 24-inch pipe along Mission Avenue to the west would need to be upsized to a 30-inch and/or 36-inch pipe. The existing sewer is located in private easements through a commercial shopping center and undeveloped parcels owned by the Ocean KAMP development. The new replacement pipe would likely be relocated into Mission Avenue, where feasible. The Ocean KAMP development is conditioned to upsize a portion of the sewer in Mission Avenue in front of the development.

1.3 PROJECT PHASING

Phasing of the Program implementation would be subject to funding availability, potential constructability concerns during construction, soils conditions, and materials availability. An estimated schedule of construction of the Program components is presented in Table 1, *Sewer Improvements Program Schedule*.

Table 1
SEWER IMPROVEMENT PROGRAM SCHEDULE

Program Component	Construction	
	Start	End
Oceanside Mesa Garrison Lift Station	May 2026	February 2028
Oceanside Mesa Garrison Force Main	May 2026	December 2027
Land Outfall Replacement Parts A and B (SLRWRF to former Garrison Elementary School Entrance)	May 2026	October 2027
Land Outfall Replacement Part C1 (in Garrison Street from former Garrison Elementary School to Oceanside Boulevard)	October 2027	October 2028
Land Outfall Replacement Part C2 (along Oceanside Boulevard between Garrison Street and Canyon Drive)	June 2028	February 2029
Land Outfall Replacement Part D (along Oceanside Boulevard between Canyon Drive and LSWWTP)	August 2027	February 2029
Mission Avenue Lift Station Force Main Replacement	May 2026	December 2027
Mission Ave Gravity Sewer Lining and Replacement	November 2028	September 2029

* Construction schedules are approximate and subject to change.

1.4 CONSTRUCTION METHODS

Construction of the Program components would include both below and above-ground elements. While individual Program components may vary in construction sequencing, staging location, or construction method, all environmental impacts evaluated in this PEIR are based on reasonable worst-case

assumptions regarding ground disturbance, construction duration, equipment usage, and geographic extent within the defined Program Area.

Construction activities would be focused within previously developed and disturbed areas, including rights-of-way, and within existing utility corridors within the Program Area shown in Figure 3. A variety of construction equipment would be used throughout Program implementation. Such equipment is anticipated to include, but not be limited to, the use of excavators, loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, dump trucks, compactors, bore/drill rigs, welders, pumps, and cranes. The pipelines would be constructed primarily on off-road, disturbed easement areas, with some sections near existing residential neighborhoods. The pipelines would be constructed primarily using open-cut construction methods.

Selected portions of the proposed pipelines would be constructed using trenchless construction methods to minimize environmental and community impacts. The main trenchless construction methods are anticipated to be horizontal directional drilling (HDD), tunneling (auguring and boring), and pipe ramming. Trenchless construction may be required at certain facility/utility crossings. The pipelines may include up to four separate trenchless sections: under SR-76/Mission Avenue, under the San Luis Rey River, under the stormwater channel at the north end of the MBGPF, and south of the Canyon Creek Apartments across Garrison Creek.

2.0 METHODS

2.1 LITERATURE REVIEW

Before conducting the field surveys, HELIX performed a review of relevant maps, databases, and literature pertaining to biological resources known to occur within the survey area and vicinity, as well as the biological resources constraints analysis prepared for the proposed Program (HELIX 2021a). Recent and historical aerial imagery (Google 2023; Historical Aerials 2023; San Diego Geographic Information Source [SanGIS] 2023), topographic maps (USGS 2023), soils maps (Natural Resource Conservation Service 2019), and other maps of the survey area and vicinity were reviewed to obtain information on the natural environmental setting.

In addition, a query of sensitive species and habitats within a five-mile radius of the survey area was conducted, including the USFWS species records (USFWS 2020), California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB; CDFW 2023a), Calflora database (Calflora 2023), and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2023). A multiple quad search encompassing the five miles surrounding the survey area was conducted from the CNPS Electronic Inventory (CNPS 2023), and the USFWS' National Wetlands Inventory (NWI) was also reviewed (USFWS 2023). Recorded locations of species, habitat types, and other resources mapped and overlain onto aerial imagery using Geographic Information Systems.

2.2 BIOLOGICAL SURVEYS

2.2.1 General Biological Survey

On October 8 and 9, 2020, May 11 and May 12, 2022, and December 1, 2023, HELIX completed a biological resources constraints analysis of the survey area (Table 2, *Biological Surveys for the Oceanside*

Sewer Improvements Program). Vegetation communities were classified and mapped in accordance with Holland (1986) and Oberbauer (2008). Survey mapping utilized a 1-inch = 50-foot scale aerial map with an overlay of the survey area. A Global Positioning System (GPS) was used during the survey to record the limits of vegetation and other resources on-site.

Vegetation communities were mapped by HELIX to one-tenth of an acre (0.1 acre) for upland communities and one-hundredth of an acre (0.01 acre) for wetland communities. A list of all plant and animal species observed or detected within the survey area was prepared. Plant species were identified in the field or later in the laboratory with the aid of voucher specimens. Animals were identified in the field by direct visual observation with the aid of binoculars or indirectly by detection of calls, tracks, burrows, or scat.

In addition, a jurisdictional delineation and focused species surveys were conducted, as discussed below.

Table 2
BIOLOGICAL SURVEYS FOR THE OCEANSIDE SEWER IMPROVEMENTS PROGRAM

Survey Date	Survey Number	Personnel
General Biological Survey		
October 8, and 9, 2020	N/A	Jason Kurnow
General Biological Survey – Alternative Analysis Areas[1]		
May 11 and 12, 2022	N/A	Shawn Carroll
General Biological Survey –Potential Staging Areas and Access Routes[2]		
December 1, 2023	N/A	Angelia Bottiani
Jurisdictional Delineation		
October 20 and 26, 2020	N/A	Thomas Liddicoat Angelia Bottiani
May 25, 2022	N/A	Stacy Nigo Shawn Carroll
Rare Plant Surveys		
March 26 and 31, 2021	N/A	Angelia Bottiani
June 4 and 11, 2021	N/A	Angelia Bottiani
May 7, 2021[3]	N/A	Angelia Bottiani
April 8, 2022[4]	N/A	Jason Kurnow
May 6, 2022[4]	N/A	Jason Kurnow
May 11 and 12, 2023[5]	N/A	Jonathan Mercado
Arroyo Toad Focused Surveys		
March 24, 2021	1	Benjamin Rosenbaum Alexander Walsh
April 14, 2021	2	Benjamin Rosenbaum Kristina Beck
May 5, 2021	3	Benjamin Rosenbaum Matt Dimson
May 24, 2021	4	Benjamin Rosenbaum Ron Rizo
June 9, 2021	5	Benjamin Rosenbaum Kristina Beck
June 16, 2021	6	Benjamin Rosenbaum Kristina Beck

Survey Date	Survey Number	Personnel
Least Bell's Vireo Focused Surveys		
April 13, 2021	1	Mandy Mathews
April 23, 2021	2	Mandy Mathews
May 3, 2021	3	Mandy Mathews
May 24, 2021	4	Mandy Mathews
June 3, 2021	5	Mandy Mathews
June 14, 2021	6	Mandy Mathews
June 24, 2021	7	Mandy Mathews
July 6, 2021	8	Mandy Mathews
Southwestern Willow Flycatcher Focused Surveys		
May 17, 2021	1	John Konecny
June 3, 2021	2	John Konecny
June 15, 2021	3	John Konecny
June 29, 2021	4	John Konecny
July 9, 2021	5	John Konecny
Light-Footed Ridgeways Rail Focused Surveys		
February 26, 2021	1	John Konecny
March 5, 2021	2	John Konecny
March 23, 2021	3	John Konecny
April 1, 2021	4	John Konecny
April 9, 2021	5	John Konecny
April 16, 2021	6	John Konecny
Burrowing Owl Focused Surveys		
March 2 and 3, 2021	1	Matthew Dimson
May 3 and 4, 2021	2	Matthew Dimson
June 1 and 2, 2021	3	Matthew Dimson
June 29 and 30, 2021	4	Matthew Dimson
Coastal California Gnatcatcher Focused Surveys		
March 18, 2021	1	Mandy Mathews
March 29, 2021	2	Mandy Mathews
April 5, 2021	3	Mandy Mathews
April 12, 2021	4	Mandy Mathews
April 19, 2021	5	Mandy Mathews
April 21, 2021	6	Mandy Mathews
April 28, 2023	1	Alexander Walsh
May 5, 2023	2	Alexander Walsh
May 12, 2023	3	Jason Kurnow
May 19, 2023	4	Alexander Walsh
May 26, 2023	5	Alexander Walsh
June 2, 2023	6	Jason Kurnow
Stephens' Kangaroo Rat Site Assessment		
September 19, 2021	N/A	Philippe Vergne

[1] Some of the proposed alternatives overlapped with the original survey area. Only non-overlapping areas were surveyed.
[2] Only includes areas that were not surveyed during previous general biological surveys.
[3] San Diego Ambrosia survey
[4] Thread-leaved Brodiaea survey.
[5] Focused on the alignment corridors located within the survey area.

2.2.2 Jurisdictional Delineation

During the general biological survey occurring in October 2020, HELIX biologist Jason Kurnow preliminarily identified and mapped jurisdictional aquatic resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the Clean Water Act and State Porter-Cologne Water Quality Control Act (Porter-Cologne), and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game (CFG) Code, and wetlands defined by the California Coastal Commission. Additionally, HELIX biologists Thomas Liddicoat and Angelia Bottiani performed a formal wetland delineation on October 20 and 26, 2020. On May 25, 2022, a formal wetland delineation of portions of the survey area not covered in 2020 was conducted by HELIX biologists Stacy Nigro and Shawn Carroll. Potential aquatic resources evaluated within the survey area included wetland habitats associated with the San Luis Rey River corridor, , un-named drainage channels, concrete-lined channels, constructed swales, and culverts.

Waters of the U.S. (USACE Jurisdiction)

Potential USACE-jurisdictional wetlands and waters of the U.S. were delineated in accordance with the Wetlands Delineation Manual (Environmental Laboratory 1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008), and the Navigable Waters Protection Rule: 85 FR 22250 (USACE and USACE and Environmental Protection Agency [EPA], 2020) was also considered. The delineation was located within representative uplands and wetlands of the survey area, and mapping of drainage features was performed in the field based on the ordinary high-water mark (OHWM) and surface indications of hydrology. Eleven soil pits were excavated and evaluated by HELIX in 2020. Areas are determined to be potential wetland waters of the U.S. if there is a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas are determined to be non-wetland waters of the U.S. if there is evidence of regular surface flow (i.e., perennial or intermittent) within an OHWM, but the vegetation and/or soils criterion is not met, and the waters are immediately adjacent to wetlands or are hydrologically connected to downstream navigable waters.

Waters of the State (RWQCB Jurisdiction)

Potential RWQCB-jurisdictional areas were delineated in the same manner as potential waters of the U.S. All waters of the U.S. were considered waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. Additionally, features that support aquatic resources (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) but are isolated (i.e., lack downstream connectivity to traditional navigable waters of the U.S.) could be subject to regulation pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne) and would be identified as potential RWQCB-jurisdictional waters of the State.

Streambed and Riparian Habitat (CDFW Jurisdiction)

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a definable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses

the top-of-bank to top-of-bank width for the features within the survey area. Riparian habitat is not defined in Title 14, but the section refers to vegetation and habitat associated with a stream.

2.2.3 Focused Species Surveys

Rare Plants

Two rare plant surveys were initially conducted in 2021 by HELIX biologists during the expected blooming period for potentially occurring rare plants within the survey area. The first survey was conducted on March 26 and 31, 2021. The second was conducted on June 4 and 11, 2021 (Table 2). A second set of rare plant surveys were conducted on May 11 and 12, 2023 (Table 2). The surveys conducted in 2023 focused on the alignment corridors located within the survey area. The surveys consisted of systematically walking meandering transects throughout the survey area. At each rare plant location, the plant was identified to species based on unique flower characteristics, the number of individuals was estimated, and the location was recorded with a GPS unit. Species population densities were estimated as part of the surveys, but the focus was to determine species locations and population extends across the site.

Following the field surveys, GPS data points were analyzed via desktop, and polygons were created around clusters of rare plants to demonstrate overall distribution extent. Some clusters/individuals that were more isolated from other rare plant individuals were left as single point locations. Rare plants were also searched for during the jurisdictional delineation discussed above and the focused animal surveys summarized below.

San Diego Ambrosia

A focused survey for San Diego Ambrosia (*Ambrosia pumila*; federally listed endangered) was conducted on May 7, 2021 (Table 2). The survey consisted of systematically walking meandering transects throughout suitable habitat located within the survey area.

Thread-Leaved Brodiaea

Thread-leaved brodiaea (*Brodiaea filifolia*; TLB) was surveyed for as part of general rare plant surveys that occurred in 2021. In March of 2022, USFWS reached out to the EPA requesting additional information and survey efforts focusing on TLB critical habitat within the survey area. As a result, a focused survey was conducted in the spring of 2022. The TLB survey area occurred between Garrison Elementary School and Las Vegas Drive. On April 6, 2022, reference populations in Carlsbad, San Marcos, and Oceanside (reference population located 0.3 mile west of critical habitat within survey area) were checked to determine the status of the species. Once it was confirmed that vegetated non-blooming TLB individuals were up, a TLB survey focusing on vegetative individuals occurred on April 8, 2022 (Table 2). Liner transects spaced 30 feet apart and covering the entire TLB survey area were walked to obtain 100% visual coverage. Transects within the TLB survey area were slowly walked, with additional time taken in areas where there were dense/tall stands of non-native grasses. Following a field visit with USFWS on April 27, 2022, it was determined that another TLB survey should occur focusing on blooming individuals. Using the same reference sites and methodology as the initial vegetative survey, a HELIX biologist conducted the blooming-period survey on May 6, 2022 (Table 2). Reference populations were checked following the May 6th visit to further assess if the survey occurred during the peak blooming period for this species. Based on the reference populations, it was determined that the survey occurred either at or near the peak blooming period for that year.

Arroyo Toad

HELIX conducted focused surveys for arroyo toad (*Anaxyrus californicus*) in 2021 (HELIX 2021b) in accordance with the current USFWS survey protocol (USFWS 1999). Six site visits were made from March 24 through June 16, 2021 (Table 2), to survey potential arroyo toad habitat (i.e., stream margin and adjacent riparian habitat) where it occurs in the survey area along or directly adjacent to the confluence of Pilgrim Creek and the San Luis Rey River, and portions of the San Luis Rey River occurring west of Douglas Road and directly to the south the confluence of Pilgrim Creek and San Luis Rey River.

The surveys included both a daytime and a nighttime component conducted within the same 24-hour period, outside of the near- and full-moon phases. Daytime surveys were conducted during the daylight hours before sunset, and nighttime surveys began one hour after sunset. The primary objective of daytime surveys was to detect and document the presence of any arroyo toads in the immature life stage (egg strings, larvae, metamorphic individuals, or toadlets). Nighttime surveys were conducted to detect any breeding adults. A habitat assessment for the arroyo toad was conducted during the first daytime survey. Habitat was determined to be unsuitable (and was excluded from the survey area) or marginal, low, moderate, or high-quality breeding habitat for the species.

Daytime surveys were conducted by walking slowly along the stream margin and adjacent riparian habitat visually searching for eggs, larvae, and juveniles. Potential breeding pools and arroyo toad locations detected during the survey were either marked on an aerial photograph or recorded with a hand-held GPS unit. Nighttime surveys were conducted by walking slowly and methodically along stream banks while making repeated stops to listen for calling toads. Surveys were conducted as silently as possible to avoid any observer influence over toad behavior and to facilitate abundance estimates of any toads detected in the survey area. During daytime and nighttime surveys, precautions were taken to avoid potential disturbances to toads, including minimal use of artificial lighting.

Least Bell's Vireo

HELIX conducted focused surveys for the LBVI in 2021 (HELIX 2021c) in accordance with the *Least Bell's Vireo Survey Guidelines* (USFWS 2001). The survey consisted of eight site visits from April 13 through July 6, 2021 (Table 2); the visits were conducted during appropriate weather conditions and time of day appropriate for detecting LBVI.

The LBVI survey area consisted of potential LBVI habitat in the survey area (i.e., southern riparian forest, southern willow scrub, and mule fat scrub). Potential habitat that occurs within 500 feet adjacent to the survey area was also surveyed; however, HELIX did not enter private property to complete the surveys. The survey was conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by LBVI. Any LBVI locations were mapped on an aerial photograph map directly in the field.

Southwestern Willow Flycatcher

HELIX conducted focused surveys for the SWFL in 2021 (HELIX 2021d) in accordance with the *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (USGS 2010). The survey consisted of five site visits from May 17 through July 9, 2021 (Table 2); the visits were conducted during appropriate weather conditions and time of day appropriate for detecting SWFL.

The survey area consisted of potential SWFL habitat in the survey area and an additional 500-foot buffer (i.e., southern riparian forest and southern willow scrub). The SWFL survey was conducted by walking through and along the perimeter of vegetation, listening for birds, broadcasting the SWFL song recording, and looking for birds with the aid of binoculars. Any SWFL locations were mapped on an aerial photograph map directly in the field.

Light-footed Ridgway's Rail

HELIX biologist John Konecny conducted focused surveys for the light-footed Ridgway's rail (*Rallus obsoletus levipes*; LFRR)(formerly light-footed clapper rail [*Rallus longirostris levipes*]) in 2021 (HELIX 2021e) in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). Six focused LFRR survey events were conducted at least seven days apart in appropriate habitat throughout the entire reach of the survey area between February 26th and April 16th, 2021 (Table 2). Potential habitat that occurs within 500 feet adjacent to the survey area was also surveyed; however, HELIX did not enter private property to complete the surveys.

The surveys were conducted by walking on established trails, roads, and the pedestrian/bike levee path and stopping at stations approximately 100 feet (30 meters) apart to listen for vocalizing LFRRs. If rails were not detected passively, a digital call-prompt of the LFRR "dueting" was played with an iPod and amplified speakers at 30-second intervals. A response was listened for approximately 10 minutes before proceeding to the next survey station.

Burrowing Owl

HELIX conducted focused surveys for burrowing owl (*Athene cunicularia*) in 2021 in accordance with current CDFW burrowing owl survey guidelines (California Department of Fish and Game [now CDFW] 2012). Four site visits were made from March 2 through July 30, 2021 (Table 2), to survey potential burrowing owl habitat (i.e., grasslands, disturbed habitat, and Diegan coastal scrub and scrub communities where the shrub cover was sparse) where it occurs within the survey area. Potential habitat that occurs within 500 feet adjacent to the survey area was also surveyed; however, HELIX did not enter private property to complete the surveys. Some of the potential burrowing owl habitat was inspected with the aid of binoculars due to restricted access. Survey weather conditions and time of year and day were appropriate for detecting burrowing owl.

The biologist slowly walked meandering transects through areas of potential habitat where it was legally accessible. Posts, rocks, and other possible perching locations, as well as mammal burrows (especially those of California ground squirrel [*Otospermophilus beecheyi*]) potentially suitable for use by burrowing owls, were inspected and mapped with a hand-held GPS unit. These burrows were specifically searched for sign of recent burrowing owl occupation, including pellets with regurgitated fur, bones, insect parts, whitewash (excrement), and feathers. In addition, structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement that were present were checked for burrowing owl sign.

Coastal California Gnatcatcher

HELIX conducted focused surveys for the CAGN in 2021 and 2023 in accordance with the *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol* (USFWS 1997) (HELIX 2021f; 2023). The 2021 survey consisted of six site visits from March 18 through April 28, 2021 (Table 2); the visits were conducted during appropriate weather conditions and time of day

appropriate for detecting CAGN. The 2023 survey consisted of six site visits from April 28 through June 2, 2023 (Table 2); the visits were conducted during appropriate weather conditions and time of day appropriate for detecting CAGN. The survey that occurred in 2023 covered the same survey area as 2021.

The CAGN survey area consisted of potential CAGN habitat In the survey area (i.e., Diegan coastal sage scrub, including disturbed). Potential habitat that occurs within 500 feet adjacent to the survey area was also surveyed; however, HELIX did not enter private property to complete the surveys. The survey was conducted by walking within and along the perimeter of suitable CAGN habitat within the CAGN survey area. 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. Observations of nest building were conducted from a safe distance from the nest to not attract predators and to avoid disturbance to the nest. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. Any CAGN locations were mapped on an aerial photograph map directly in the field.

Stephens' Kangaroo Rat

A sub-consultant to HELIX conducted a site assessment for Stephens' kangaroo rat (*Dipodomys stephensi*; SKR; k-rat) on September 19, 2021 (Table 2). The survey was conducted within a portion of the Program survey area identified as a SKR survey area in the MHCP. The survey consisted of walking transects over suitable habitat looking for k-rat sign including scat, trails, tracks, and burrows (ENVIRA 2021).

2.3 SURVEY LIMITATIONS

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that use the survey area, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have the potential to occur within the survey area; however, are still addressed in this report.

2.4 NOMENCLATURE

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Jepson eFlora (2023), the "Jepson Manual" Baldwin et al. (2012) for plants; Collins et al. (2006) for reptiles; American Ornithological Society (2020) for birds, and Baker et al. (2003) for mammals. Plant species status is from the California Native Plant Society (CNPS; 2023) and CDFW (2023b). Animal species status is from CDFW (2023c and 2023d).

3.0 EXISTING CONDITIONS

3.1 GENERAL LAND USES

Much of the survey area is situated within or surrounded by existing development (Figure 3). The survey area follows several roadways, including (from north to south) Whalen Lake Road, Pala Road, Los Arbolitos Boulevard, Fireside Street, Mission Avenue, SR-76, Mesa Drive, Garrison Street, Oceanside

Boulevard, South Ditmar Street, Godfrey Street, South Myers Street, and a private driveway. The survey area includes the San Luis Rey Water Reclamation Facility, the permanently closed Garrison Elementary School property, Mission Basin Desalting Facility, and LSWWTP. Additionally, vegetation mapping survey visits suggest that portions of the survey area have been previously graded or otherwise anthropogenically disturbed. Although the survey area spans many developed areas, there are undeveloped sections of the survey area associated with the San Luis Rey River corridor (including Pilgrim Creek and the San Luis Rey River) and sections that occur between existing developments. The northern portion of the survey area occurs adjacent to the Whelan Lake Bird Sanctuary.

3.2 TOPOGRAPHY AND SOILS

The survey area is relatively flat, with elevations gradually decreasing from east to west. One exception is a relatively small hill located within the survey area south of Las Vegas Drive and north of Jibsail Street. Overall, elevations along the survey area range from zero feet above mean sea level (AMSL) to approximately 191 feet AMSL (Figure 2). According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey database (USDA 2020), 21 soil mapping units are identified within the survey area: Altamont clay, 9 to 15 percent slopes (AtD), Coastal beaches (Cr), Chesterton fine sandy loam, 2 to 5 percent slopes (CfB), Diablo clay, 15 to 30 percent slopes (DaE), Diablo clay, 30 to 50 percent slopes, warm MAAT, MLRA 20 (DaF), Grangeville fine sandy loam, 0 to 2 percent slopes (GoA), Las Flores loamy fine sand, 2 to 9 percent slopes (LeC), Las Flores loamy fine sand, 9 to 15 percent slopes, eroded (LeD2), Las Flores loamy fine sand, 15 to 30 percent slopes (LeE), Las Flores loamy fine sand, 9 to 30 percent slopes, severely eroded (LeE3), Las Flores loamy fine sand, 9 to 15 percent slopes, eroded (LeD2), Las Floras – Urban land complex, 9 to 30 percent slopes (LfE), Made Land (Md), Riverwash (Rm), Salinas clay loam, 0 to 2 percent slopes, warm MAAT, MLRA 19 (SbA), Salinas clay loam, 2 to 9 percent slopes (SbC), Terrace Escarpments (TeF), Tujunga sand, 0 to 5 percent slopes (TuB), Visalia sandy loam, 0 to 2 percent slopes (VaA), Visalia sandy loam, 2 to 5 percent slopes (VaB), and Water (W) (Natural Resource Conservation Service [NRCS] 2020; Figure 6, *Soils*).

3.3 VEGETATION COMMUNITIES

Thirteen vegetation communities or habitat types occur within the survey area: southern riparian forest, mule fat scrub (including disturbed), southern willow scrub, freshwater marsh, Diegan coastal sage scrub (including disturbed), baccharis scrub, native grassland, salt grass grassland, non-native grassland, non-native vegetation, eucalyptus woodland, disturbed habitat, and developed land (Table 3, *Existing Vegetation/Habitat Types*; Figures 7a-j, *Vegetation Communities and Sensitive Resources*). The survey area primarily supports non-native vegetation communities or development; however, sections of the survey area associated with the San Luis Rey River corridor and sections that occur between existing developments were found to support native vegetation communities.

Table 3
EXISTING VEGETATION/HABITAT TYPES [1]

VEGETATION COMMUNITY/ HABITAT TYPE	MHCP HABITAT GROUP	SURVEY AREA (acres)
Wetland		
Freshwater Marsh (52410)	A	0.05
Southern Riparian Forest (61300)	A	1.73
Mule Fat Scrub (including disturbed) (63310)	A	0.35

VEGETATION COMMUNITY/ HABITAT TYPE	MHCP HABITAT GROUP	SURVEY AREA (acres)
Southern Willow Scrub (63320)	A	1.21
	Wetland Subtotal	***3.34***
Upland		
Diegan Coastal Sage Scrub (including disturbed) (32500)	C	2.2
Baccharis Scrub (32530)	C	0.2
Native Grassland (42100)	B	0.2
Salt Grass Grassland (42130)	B	<0.1
Non-native Grassland (42200)	E	24.2
Non-native Vegetation (11000)	F	3.2
Eucalyptus Woodland (11100)	F	0.3
Disturbed Habitat (11300)	F	16.8
Developed (12000)	--	57.5
	Upland Subtotal	***104.6***
	TOTAL	**107.94**

[1]Acres rounded to the nearest 0.01 acre for wetland communities and 0.1 acre for upland communities. As a result, acreage totals vary slightly from the total survey area acreage of 107.92 acres.

3.3.1 Freshwater Marsh (52410)

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 (*Schoenoplectus* sp., *Scirpus* sp., and *Bolboschoenus maritimus*), 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 performing many other functions such as floodwater conveyance and water quality enhancement. Oberbauer (1991) reports a loss of 91% of freshwater marsh in San Diego County since the pre-European era. Coastal and valley freshwater marsh is considered sensitive by the City and County of San Diego and the California Department of Fish and Game and is protected by the U.S. Army Corps of Engineers (Ogden Environmental and Energy Services Company, et al. 1993).

Within the survey area, freshwater marsh occurs within a small area located near Garrison Elementary School (Figure 7d) and covers approximately 0.05 acre. Species observed include Typha and flatsedge (*Cyperus erythrorhizos*).

3.3.2 Southern Riparian Forest (61300)

Southern riparian woodlands and forests are composed of winter-deciduous trees that require water near the soil surface. Willow (*Salix* sp.), cottonwood (*Populus* sp.), and western sycamore (*Platanus*) form a dense, medium-height woodland or forest in moist canyons and drainage bottoms. Associated understory species include mule fat (*Baccharis salicifolia*), stinging nettle (*Urtica dioica* ssp. *Holosericea*), and wild grape (*Vitis girdiana*; Beauchamp 1986). 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.

Within the survey area, southern riparian forest is associated with the San Luis Rey River (Figures 7a and 7b) and covers approximately 1.73 acres. Within the survey area, southern riparian forest contains an overstory of arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), red willow (*Salix laevigata*), western sycamore, Fremont cottonwood (*Populus fremontii*), and coast live oak (*Quercus agrifolia* var. *agrifolia*). Understory species observed include mule fat, western ragweed (*Ambrosia psilostachya*), California mugwort (*Artemisia douglasiana*), and poison oak (*Toxicodendron diversilobum*). Non-native plant species observed in this vegetation community include giant reed (*Arundo donax*), salt cedar (*Tamarix ramosissima*), myoporum (*Myoporum laetum*), Peruvian pepper tree (*Schinus molle*), and poison-hemlock (*Conium maculatum*).

3.3.3 Mule Fat Scrub (Including Disturbed; 63310)

Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest (Holland 1986). In some environments, limited hydrology may favor the persistence of mule fat. Disturbed mule fat scrub contains many of the same shrub species as undisturbed mule fat scrub but has a higher proportion (above 25 percent) of non-native species.

Within the survey area, mule fat scrub generally occurs within small isolated areas north of SR-76 (Figure 7c). This vegetation community covers approximately 0.35 acre within the survey area, with mule fat as the primary species observed. Weeds present in this vegetation community include poison-hemlock (*Conium maculatum*), curly dock (*Rumex crispus*), garland daisy (*Glebionis coronaria*), black mustard (*Brassica nigra*), tree tobacco (*Nicotiana glauca*), and non-native grasses.

3.3.4 Southern Willow Scrub (63320)

Southern willow scrub consists of dense, broadleaved, 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.

Within the survey area southern willow scrub occurs adjacent to the San Luis Rey River (Figures 7a and 7b). Approximately 1.21 acres of this vegetation community occur within the survey area. Species observed consist of arroyo willow, narrow-leaved willow (*Salix exigua*), mule fat, and coyote brush (*Baccharis pilularis*). Understory species observed include white nightshade (*Solanum americanum*), flatsedge (*Cyperus erythrorhizos*), and tule (*Schoenoplectus* sp.).

3.3.5 Diegan Coastal Sage Scrub (Including Disturbed; 32500)

Diegan coastal sage scrub may be dominated by a variety of species depending on soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia*

Survey Area

Mapped Soils

- CcC - Carlsbad-Urban land complex, 2 to 9 percent slopes
- CfB - Chesterton fine sandy loam, 2 to 5 percent slopes
- Cr - Coastal beaches
- DaE - Diablo clay, 15 to 30 percent slopes
- DaF - Diablo clay, 30 to 50 percent slopes
- GoA - Grangeville fine sandy loam, 0 to 2 percent slopes
- LeC - Las Flores loamy fine sand, 2 to 9 percent slopes
- LeC2 - Las Flores loamy fine sand, 5 to 9 percent slopes, erod ed
- LeD - Las Flores loamy fine sand, 9 to 15 percent slopes
- LeD2 - Las Flores loamy fine sand, 9 to 15 percent slopes, ero ded
- LeE - Las Flores loamy fine sand, 15 to 30 percent slopes
- LeE2 - Las Flores loamy fine sand, 15 to 30 percent slopes, er oded
- LeE3 - Las Flores loamy fine sand, 9 to 30 percent slopes, sev erely eroded
- LfC - Las Flores-Urban land complex, 2 to 9 percent slopes
- LfE - Las Flores-Urban land complex, 9 to 30 percent slopes
- Md - Made land
- Rm - Riverwash
- SbA - Salinas clay loam, 0 to 2 percent slopes
- SbC - Salinas clay loam, 2 to 9 percent slopes
- TeF - Terrace escarpments
- TuB - Tujunga sand, 0 to 5 percent slopes
- VaA - Visalia sandy loam, 0 to 2 percent slopes
- W - Water

North River Rd
Douglas Dr
Pala Rd
Los Arbolitos Blvd
Coco Palms Dr
N El Camino Real
Peyri Rd
Fireside St
Rancho Del Oro Dr
Benet Rd
76
Airport Rd
Mission Ave
El Camino Real
San Luis Rey Rd
Jones Rd
E Barnwell St
N Barnwell St
Foussat Rd
Mesa Dr
Garrison St
State Route 76 Wb
Neptune Way
Bush St
Archer St
Brooks St
Civic Center Dr
N Coast Hwy
Canyon Dr
Crouch St
Oceanside Blvd
Division St
Court St
Club Ln
Skylark Dr
Dunstan St
Grant St
Downs St
Laurel Rd
Fire Mountain Dr
El Camino Real
S Pacific St
Wisconsin Ave
Avocado Rd
Via Las Rosas
Ivy Rd
Vista Way
5
California St
Hunsaker St
S Coast Hwy
78
CITY OF OCEANSIDE
CITY OF CARLSBAD
Alvarado St
Cassidy St
S Coast Highway
Vista Way
Jefferson St
Monroe St
Marron Rd
Avenida De Anita
Carlsbad Village Dr

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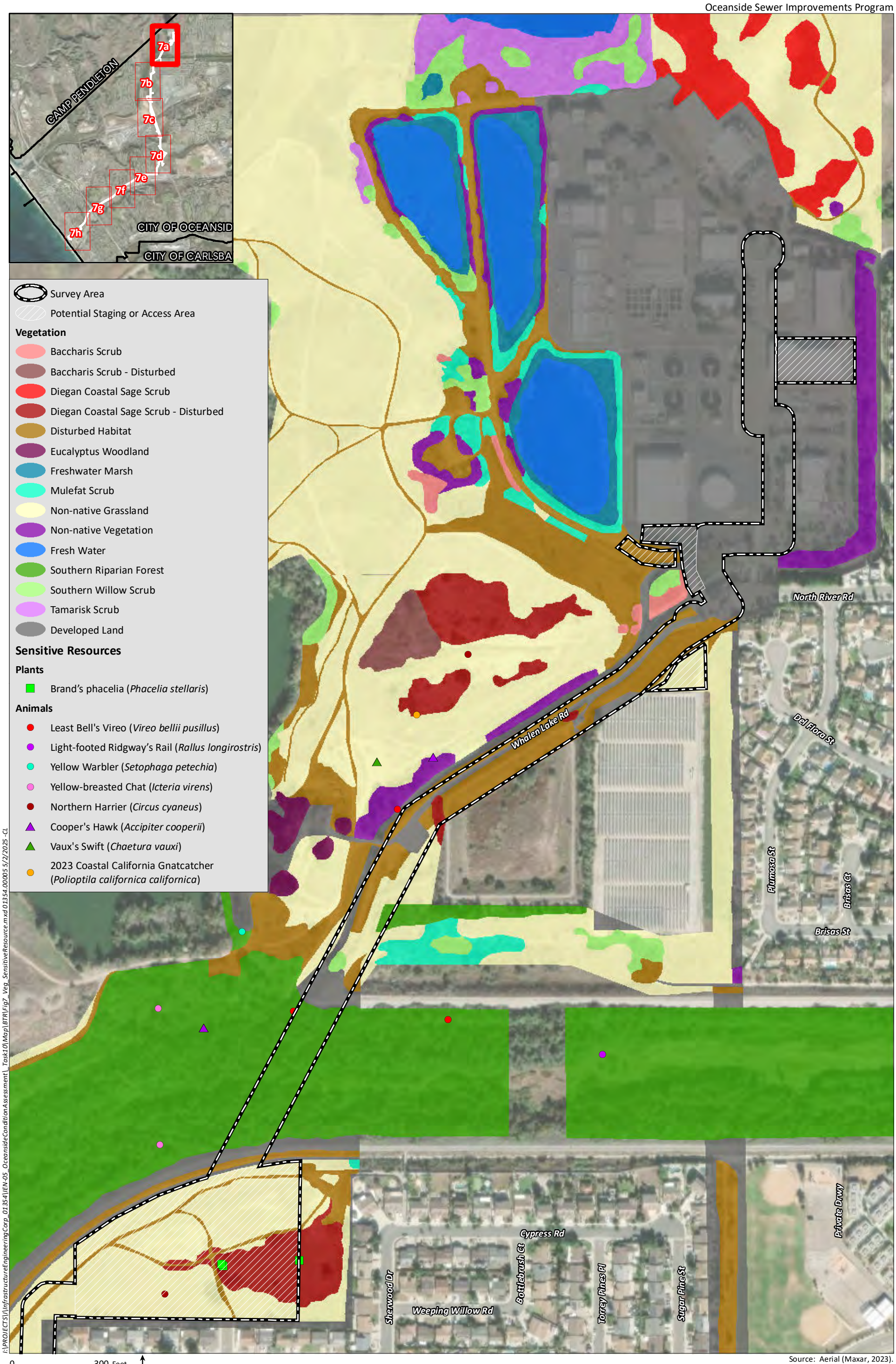
0 2,000 Feet

Source: Aerial (Maxar, 2023), Soils (USDA-NRCS 2011)

HELIX Environmental Planning

Soils

Figure 6



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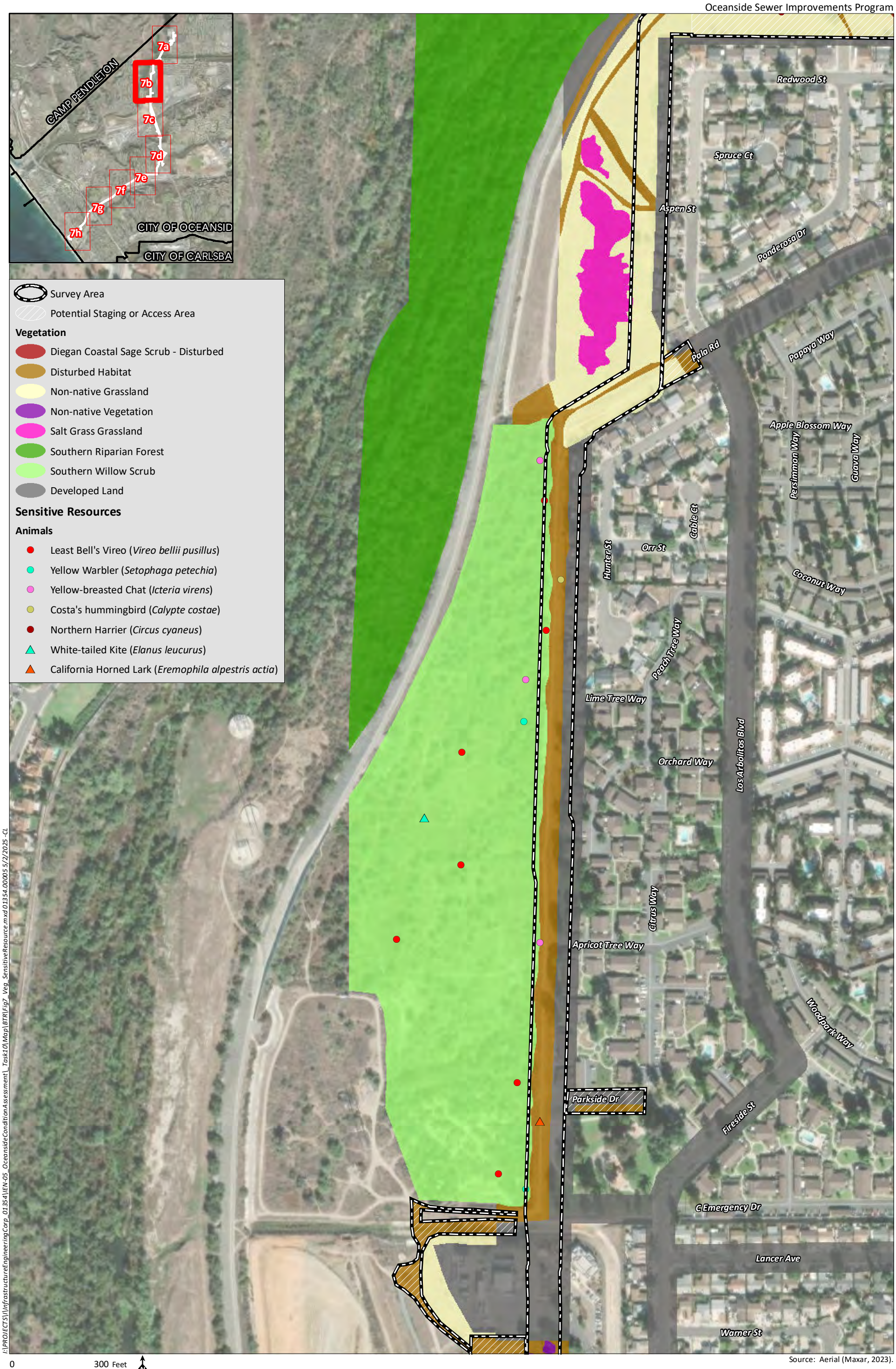
0 300 Feet

Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7a



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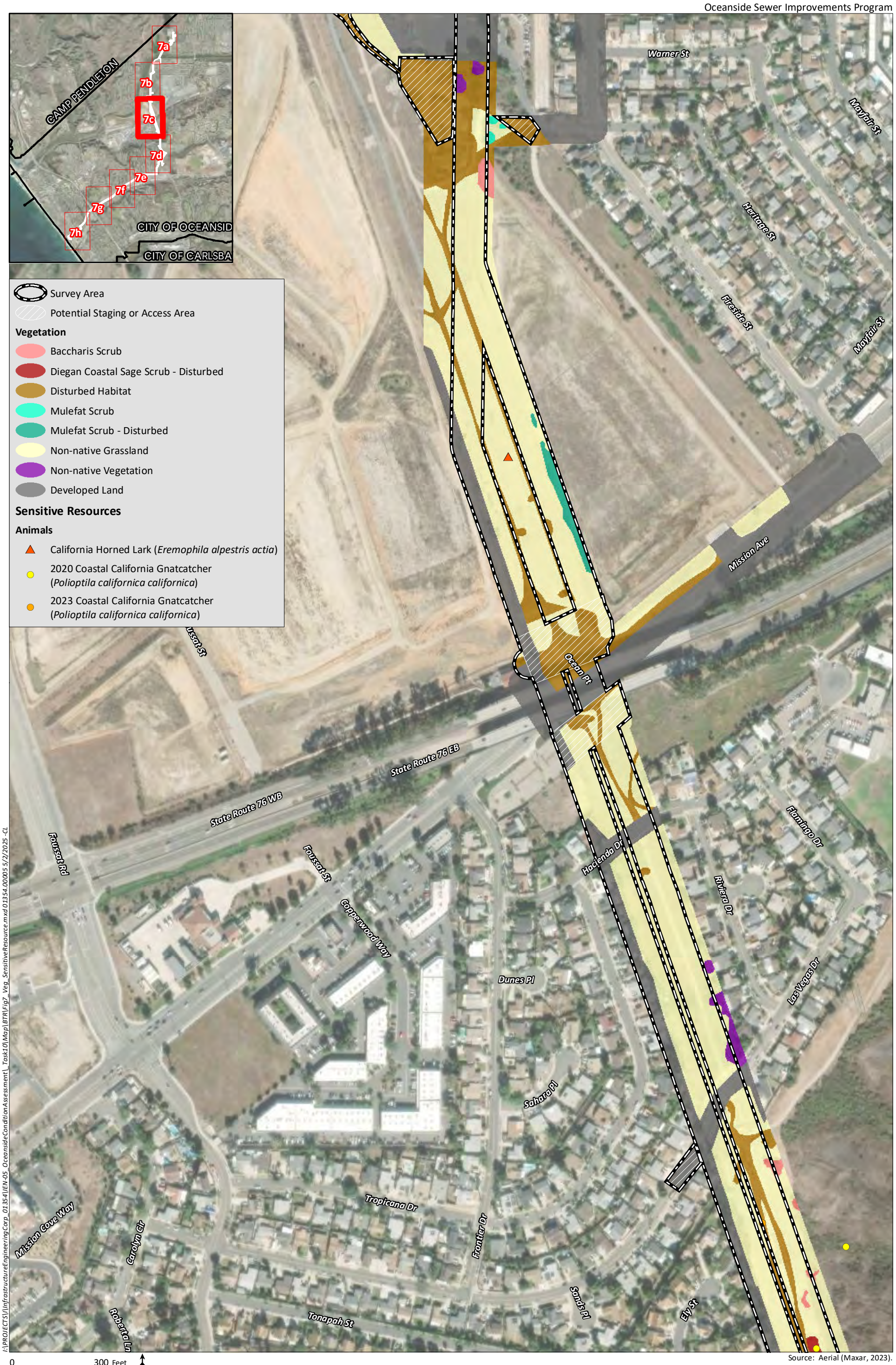
0 300 Feet

Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7b



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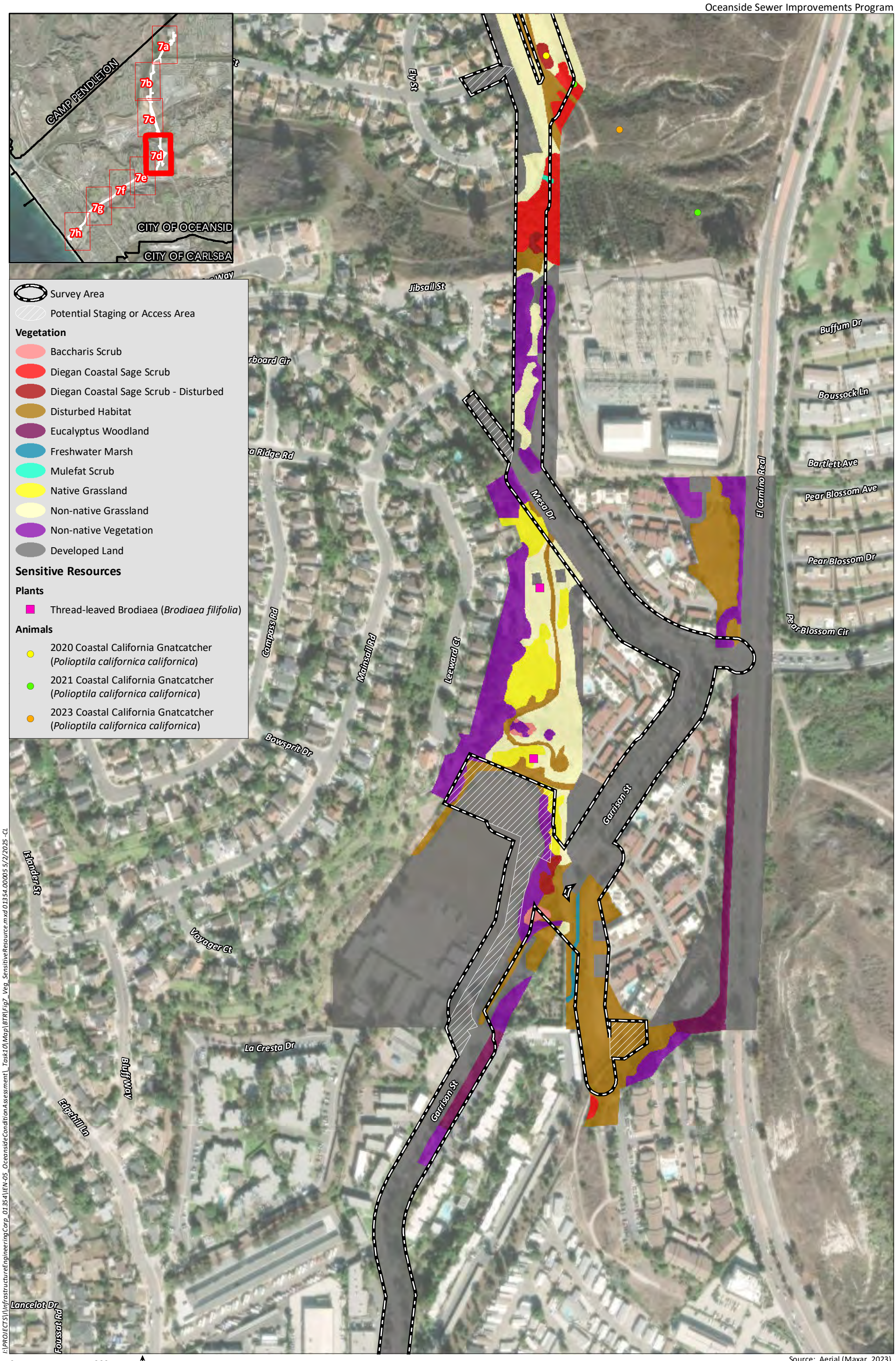
Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7c



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Source: Aerial (Maxar, 2023).

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Vegetation Communities and Sensitive Resources

Figure 7d

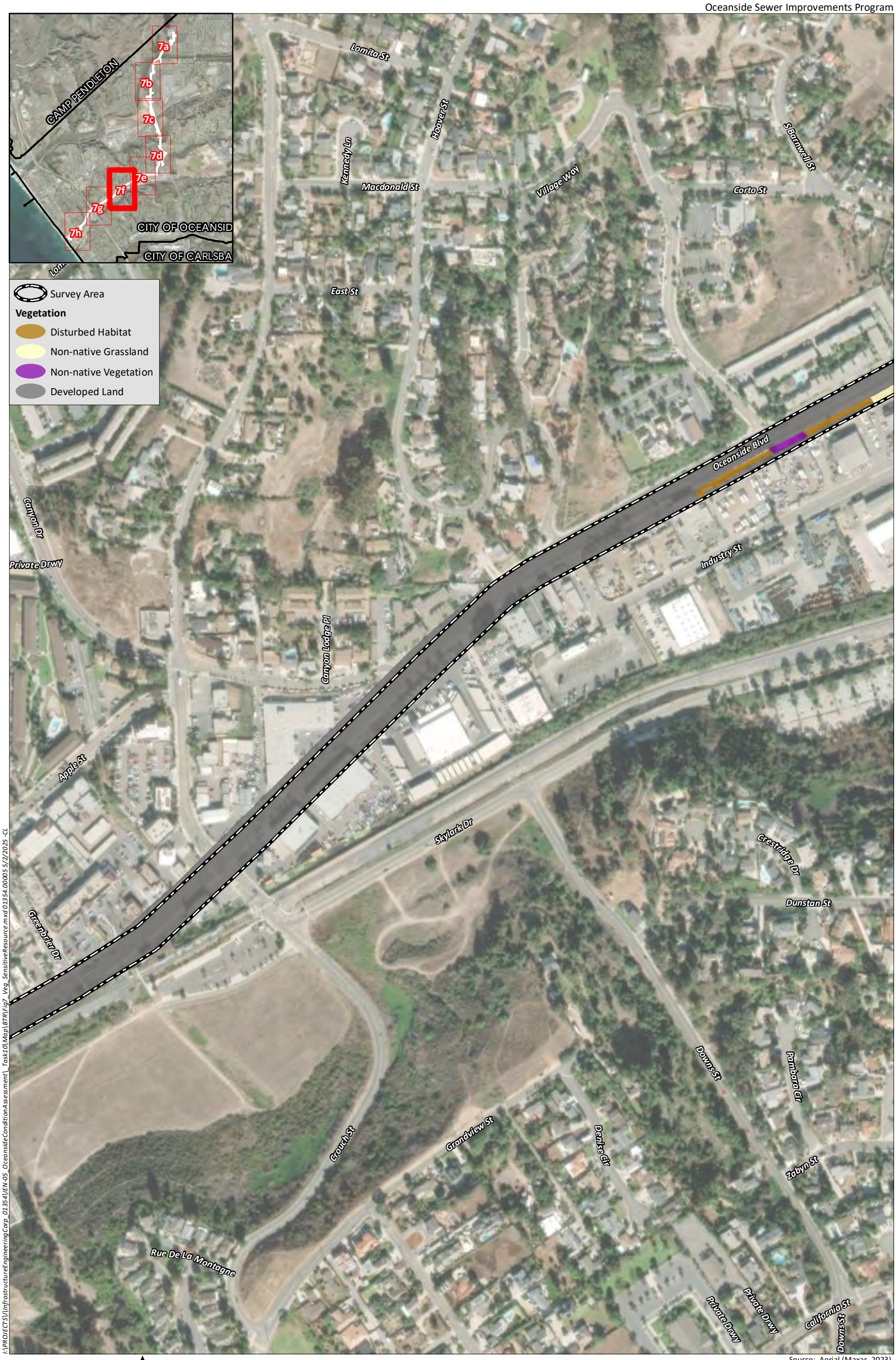
I:\PROJECTS\\InfrastructureEngineeringCorp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig7_Veg_SensitiveResource.mxd 01354.00005 5/2/2025 -CL

Source: Aerial (Maxar, 2023).

HELIX
Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7e



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0 300 Feet

Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7f

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HELIX
Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7g

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0 300 Feet

Source: Aerial (Maxar, 2023).

HELIX Environmental Planning

Vegetation Communities and Sensitive Resources

Figure 7h

californica), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina)*, and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but has a higher proportion (above 25 percent) of non-native species.

Within the survey area, Diegan coastal sage scrub (including disturbed) is found in small patches between the northern survey area boundary to Garrison Elementary School (Figures 7a, 7c and 7d), with the largest area located north of Jabsail Street (Figure 7f). In the survey area, Diegan coastal sage scrub contains California sagebrush, California buckwheat, black sage (*Salvia mellifera*), California encelia (*Encelia californica*), deerweed (*Acmispon glaber*), bladderpod (*Peritoma arborea*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), coastal prickly pear (*Opuntia littoralis*), a variety of native herbs, native and non-native grasses, and herbaceous weeds.

Approximately 2.2 acres of this vegetation community occur within the survey area.

3.3.6 Baccharis Scrub (32530)

Baccharis scrub is dominated by coyote brush (*Baccharis pilularis*), with lesser amounts of other typical coastal sage scrub species, such as California sagebrush, California buckwheat, laurel sumac, and black sage. Disturbed baccharis scrub contains many of the same shrub species as undisturbed baccharis scrub but has a higher proportion (above 25 percent) of non-native species.

Within the survey area, baccharis scrub is patchy in distribution occurring between Las Vegas Drive and Garrison Elementary School (7c and 7d). This vegetation community covers approximately 0.2 acre and is dominated by coyote brush with broom baccharis (*Baccharis sarothroides*) and mule fat. Weeds present in this vegetation community include black mustard and short-pod mustard (*Hirschfeldia incana*).

3.3.7 Native Grassland (42100)

Native grassland is a community dominated by perennial bunchgrasses such as purple needlegrass (*Stipa pulchra*), with annual and perennial forbs such as common golden stars (*Bloomeria crocea*) and California blue-eyed grass (*Sisyrinchium bellum*). Native grasslands generally occur on fine-textured soils that exclude the annual, exotic grasses. Almost all of the native grasslands in California have been displaced by non-native grassland dominated by introduced annual species. Native grasslands occur throughout California as small isolated islands.

Within the survey area, native grassland occurs west of Mesa Drive and adjacent to the northeastern portion of Garrison Elementary School (Figure 7d) and covers approximately 0.2 acre. In the survey area, native grassland occurs as patches of purple needlegrass (*Stipa pulchra*) and foothill needlegrass (*Stipa lepida*) within the greater non-native grassland. A variety of native herbaceous plants and goldenbush (*Isocoma menziesii*) are present within this community, including fascicled tarplant (*Deinandra fasciculata*), fiddleneck (*Amsinckia* spp.), cryptantha (*Cryptantha intermedia*), caterpillar phacelia (*Phacelia cicutaria*), rusty popcorn flower (*Plagiobothrys nothofulvus*), miniature lupine (*Lupinus bicolor*), dwarf plantain (*Plantago erecta*), blue-eyed grass (*Sisyrinchium bellum*), and blue dicks (*Dichelostemma capitatum*).

3.3.8 Salt Grass Grassland (42130)

Salt grass grassland is an area dominated by salt grass (*Distichlis spicata*). This vegetation community may be monotypic, contain bare areas, or contain a variety of other species characteristic of adjacent vegetation communities, including coastal salt marsh, coastal brackish marsh, and uplands. Salt grass grassland may also be alkaline, such as areas where water tends to accumulate (with the evaporating water presumably increasing the alkalinity of the soil). Certain halophytic species, such as salt grass and alkali weed, both of which are hardy plants and tolerant of disturbance, can persist in alkaline areas. (*Heliotropium curassavicum*), annual bur-sage (*Ambrosia acanthicarpa*), and garland daisy (*Glebionis coronaria*).

Within the survey area, salt grass grassland occurs west and northwest of the terminus of Pala Road (Figure 7b) and covers <0.1 acre. This vegetation community is dominated by salt grass, but also includes salt heliotrope (*Heliotropium curassavicum*), annual bur-sage (*Ambrosia acanthicarpa*), and garland daisy (*Glebionis coronaria*).

3.3.9 Non-native Grassland (42200)

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Characteristic species include wild oats (*Avena* sp.), red brome (*Bromus rubens*), ripgut (*B. diandrus*), ryegrass (*Festuca* sp.), and mustard (*Brassica* sp.). 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. These two factors, in addition to intensive grazing and agricultural practices in conjunction with severe droughts, contributed to the successful invasion and establishment of these species and the replacement of native grasslands with an annual-dominated non-native grassland (Jackson 1985).

Non-native grassland occurs along much of the survey area north of Garrison Elementary School (Figures 7a – 7d), and a few areas south of Garrison Elementary School (Figures 7e, 7f, and 7h). Areas south of this location occur adjacent to roadways. In the survey area, this vegetation community covers approximately 24.2 acres and includes an abundance of non-native grasses, including slender oat (*Avena barbata),* wild oats (*Avena fatua*), purple falsebrome (*Brachypodium distachyon*), common ripgut grass (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis*), fescue (*Festuca myuros*), Italian ryegrass (*Festuca perennis*), barley (*Hordeum murinum*), and Mediterranean grass (*Schismus barbatus*).

3.3.10 Non-native Vegetation (11000)

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping.

Non-native vegetation is patchy throughout the survey area, occurring adjacent to roadways and other developed areas (Figures 7b -7h) and covers approximately 3.2 acres. In the survey area, non-native vegetation was characterized by a variety of non-native shrubs and trees such as freeway iceplant (*Carpobrotus edulis*), mission cactus (*Opuntia ficus-indica*), century plant (*Agave americana*), Mexican fan palm (*Washingtonia robusta*), as well as Mohave yucca (*Yucca schidigera*) and herbaceous weeds.

3.3.11 Eucalyptus Woodland (11100)

Eucalyptus woodland is dominated by eucalyptus (Eucalyptus sp.), 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.

Eucalyptus woodland is located along a portion of Garrison Street (Figure 7d) and covers approximately 0.3 acre. In the survey area, eucalyptus woodland is dominated by eucalyptus trees, with an understory of weeds, including common ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and short-pod mustard.

3.3.12 Disturbed Habitat (11300)

Disturbed habitat 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.

Within the survey area, disturbed habitat covers approximately 16.8 acres and includes unpaved roads and trails, as well as larger areas characterized by bare ground and sparse annual non-native weeds (Figures 7a-7h).

3.3.13 Developed Land (12000)

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation.

Within the survey area, developed land covers approximately 57.5 acres and consists of roadways/highways/interstate, and residential, commercial, education, and other infrastructure development (Figures 7a-7h).

3.4 PLANTS

A total of 172 plant species were observed within the survey area during the biological surveys, of which 88 (51 percent) are non-native species (Appendix B, *Plant Species Observed*).

3.5 ANIMALS

A total of 107 animal species were observed/detected within the survey area and surrounding areas during the biological surveys, including four invertebrates, four amphibians, one reptile, 92 bird species, and six mammal species (Appendix C, *Animal Species Observed or Detected*).

3.6 SENSITIVE RESOURCES

3.6.1 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land areas that support unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines.

Nine sensitive vegetation communities/habitat types were mapped in the survey area: southern riparian forest, mule fat scrub (including disturbed), southern willow scrub, beach, Diegan coastal sage scrub (including disturbed), baccharis scrub (including disturbed), native grassland, salt grass grassland, and non-native grassland. The remaining areas in the survey area include non-native vegetation, eucalyptus woodland, disturbed habitat, and urban/developed, which are not considered sensitive.

3.6.2 Special-Status Plant Species

Special-status plant species have been afforded special status and/or recognition by the USFWS and/or CDFW. They may also be included in the CNPS Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. Sensitive species are those considered unusual or limited in that they are: (1) only found in the region; (2) a local representative of a species or association of species not otherwise found in the region; or (3) severely depleted within their ranges or within the region.

Special-Status Plant Species Observed

Two special-status plant species were observed within the survey area during the general biological and focused species surveys for the proposed Program. One species was located within the survey area, while the other was observed in close proximity to the survey area. These species are discussed below, and the occupied locations are depicted on Figures 7a and 7d.

Thread-leaved Brodiaea (*Brodiaea filifolia*)
Status: SE/FT CNPS Rank 1B.1.
Distribution: Within Los Angeles, Orange, Riverside, and San Diego Counties, and western San Bernardino County.
Habitat(s): Often associated with vernal pools and known from habitats including valley grassland, foothill woodland, coastal sage scrub, freshwater wetlands, and wetland-riparian.
Presence on-site: Six individuals were observed in non-native grassland and native grassland located north of Garrison Elementary School during a focused survey that occurred in 2022. Locations occur near the survey area, with no observations occurring within the survey area. Individuals located within TLB critical habitat.

Brand's phacelia (*Phacelia stellaris*)
Status: CNPS Rank 1B.1.
Distribution: Within Los Angeles, Orange, and San Diego Counties, and western San Bernardino and Riverside Counties.
Habitat(s): Occurs in sandy openings within coastal dunes and coastal scrub.
Presence on-site: Six individuals were observed in disturbed Diegan coastal sage scrub south of the San Luis Rey River within the survey area during 2021 surveys.

Special-Status Plant Species with Potential to Occur

A search of USFWS, CNPS, and CNDDB records (five-mile radius from the survey area), along with Calflora data, was used to develop a matrix of sensitive plant species that may have the potential to occur in the survey area due to the presence of suitable habitat (e.g., vegetation communities, soils, elevation, and geographic range, life form/blooming period, etc.). The matrix is presented in Appendix D, *Special-Status Plant Species Observed or with Potential to Occur*, and includes 48 special-status plant species, their favorable habitat conditions, and their potential to occur in the survey area.

Eight special-status plant species have historically been recorded in the survey area based on CNDDB records(CDFW 2023a): south coast saltscale (*Atriplex pacifica*), smooth tarplant (*Centromadia pungens* ssp. *Laevis*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), cliff spurge (*Euphorbia misera*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), mud nama (*Nama stenocarpa*), slender cottonheads (*Nemacaulis denudata* var. *gracilis*), and salt spring checkerbloom (*Sidalcea neomexicana*)(CDFW 2023b). In addition, there is a CNDDB record of prairie false oat (*Sphenopholis interrupta* ssp. *Californica*) that might have been recorded within the survey area. The uncertainty is due to the low accuracy of the GPS unit used (80-meter accuracy). None of these special-status plant species were observed in the survey area during rare plant surveys conducted in 2021 or 2023. As a result, they have a low potential of occurring within the survey area or, where suitable habitat is not present, they are not expected to occur.

Except for the two sensitive plant species observed within the survey area, all special-status plant species evaluated either are not expected to occur or have a low potential to occur within the survey area. The 34 plant species with a low potential to occur were yellow hairy sand verbena (*Abronia villosa* var. *aurita*), San Diego thorn mint (*Acanthomintha ilicifolia*), Nuttall's acmispon (*Acmispon prostratus*), California adolphia (*Adolphia californica*), San Diego ambrosia (*Ambrosia pumila*), aphanisma (*Aphanisma blitoides*), Coulter's saltbush (*Atriplex coulteri*), south coast saltscale, thread-leaved brodiaea (*Brodiaea filifolia*), Orcutt's brodiaea (*Brodiaea orcuttii*), southern tarplant (*Centromadia parryi* ssp. *Australis*), smooth tarplant, Orcutt's yellow chaenactis (*Chaenactis glabriuscula* var. *orcuttiana*), Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*), Wiggins' cryptantha (*Cryptantha wigginsii*), Blochman's dudleya (*Dudleya blochmaniae* ssp. *Blochmaniae*), many-stemmed dudleya (*Dudleya multicaulis*), variegated dudleya (*Dudleya variegata*), sticky dudleya (*Dudleya viscida*), coast wallflower (*Erysimum ammophilum*), cliff spurge, San Diego barrel cactus (*Ferocactus viridescens*), Palmer's grapplinghook (*Harpagonella palmeri*), Orcutt's hazardia (*Hazardia orcuttii*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), San Diego marsh-elder (*Iva hayesiana*), Coulter's goldfields (*Lasthenia glabrata* ssp. *Coulteri*), Robinson's pepper-grass, sea dahlia (*Leptosyne maritima*), mud nama, Nuttall's scrub oak (*Quercus dumosa*), California groundsel (*Senecio aphanactis*), prairie false oat, and Parry's tetracoccus (*Tetracoccus dioicus*).

3.6.3 Special-Status Animal Species

Special-status animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Special-Status Animal Species Observed or Otherwise Detected

Eleven special-status animal species were detected in and/or within 500 feet of the survey area during the biological surveys occurring in 2020, 2021, 2022, and 2023. These species are discussed below, and occupied locations are presented on Figures 7a-7d. Critical habitat for CAGN and LBVI is designated in the survey area. A major population area and critical population of LBVI are identified in the MHCP as occurring in and around the survey area.

Light-footed Ridgway's rail (*Rallus obsoletus levipes*), formerly light-footed clapper rail (*Rallus longirostris levipes*)
Status: Federally and state-listed endangered. CDFW Fully Protected. Covered Species under the MHCP, Proposed Covered Species under the Draft SAP.
Distribution: From Santa Barbara County in Southern California, south to Baja California
Habitat(s): Occurs as a resident in coastal salt marshes and lagoons. The species is found primarily in tall, dense cordgrass and occasionally pickleweed in the low marsh zone. Also found in freshwater marshes in winter.
Presence on-site: One single "kekking" male LFRR was detected within 500 feet of the survey area during focused surveys in 2021. This single male was recorded on two visits in the San Luis Rey River, just south of Whelan Lake. Single advertising males tend to be highly nomadic. The origin of this individual is unknown.

Least Bell's vireo (*Vireo bellii pusillus*)
Status: Federally and state listed endangered. Covered species under the MHCP. Proposed Covered Species under the Draft SAP. A major population area and critical populations of this species are identified in and around the survey area in the MHCP. Critical habitat occurs within the survey area.
Distribution: Observed throughout much of San Diego County in the breeding season (April 10 to July 31) but in smaller numbers in foothills and mountains.
Habitat(s): Occurs in mature riparian woodland.
Presence on-site: This species was observed in multiple locations in the survey area and within 500 feet of the survey area during focused surveys in 2021 and incidental observations during the general biological survey in 2022. This species was observed throughout the San Luis Rey River and adjacent riparian habitat.

Coastal California gnatcatcher (*Branchinecta sandiegonensis*)
Status: Federally listed threatened. State Species of Special Concern. Covered Species under the MHCP. Proposed Covered Species under the Draft SAP. A corridor for this species is identified in the survey area in the Draft SAP. Critical habitat occurs within the survey area.
Distribution: In San Diego County, occurs throughout coastal lowlands
Habitat(s): Typically occur in arid, open sage scrub habitats on gently sloped hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as a dominant or co-dominant species. The species is mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though the species may occur more regularly in inland regions dominated by black sage.
Presence on-site: Two pairs of CAGN were detected in the central portion of the survey area during the 2021 protocol survey. One pair and two individual CAGN were detected during the 2023 protocol survey within the same area where CAGN were observed in 2021.

Cooper's hawk (*Accipiter cooperii*)
Status: State Watch List. Covered species under the MHCP. Proposed Covered Species under the Draft SAP.
Distribution: Occurs year-round throughout San Diego County's coastal slopes, where stands of trees are present.
Habitat(s): Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.
Presence on-site: This species was observed within 500 feet of the survey area during the 2021 and 2022 surveys.

Costa's hummingbird (*Calypte costae*)
Status: Federal Bird of Conservation Concern (nesting).
Distribution: Breeds in the southwestern U.S., covering the southeastern border of California, the southwestern border of Arizona, as well as northwestern Mexico. Winters on the north half of Mexico's west coast.
Habitat(s): Occurs in desert and semi-desert, arid brushy foothills, and chaparral. In migration and winter also in adjacent mountains and in open meadows and gardens.
Presence on-site: This species was observed in the survey area during 2021 surveys.

Vaux's swift (*Chaetura vauxi*)
Status: State Species of Special Concern (nesting).
Distribution: Occurs along the western side of Canada, the United States, and Mexico and into the northern edge of South America.
Habitat(s): Nests and roost in large hollow trees in mature and old-growth coniferous and mixed forests. Forages over forest, rivers, lakes, fields, and gaps in forest, such as burned areas. Flocks preparing for migration roost in trees and also in chimneys, including in urban areas.
Presence on-site: This species was observed within 500 feet of the survey area during the 2021 surveys.

Northern harrier (*Circus hudsonius*)
Status: State Species of Special Concern.
Distribution: In San Diego County, distribution is primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert.
Habitat(s): Open grassland and marsh.
Presence on-site: This species was observed within 500 feet of the survey area during the 2021 surveys.

White-tailed kite (*Elanus leucurus*)
Status: CDFW Fully Protected.
Distribution: Primarily occurs throughout the coastal slopes of San Diego County.
Habitat(s): Riparian woodlands and oak or sycamore groves adjacent to grassland.
Presence on-site: This species was observed within 500 feet of the survey area during the 2021 and 2022 surveys.

California horned lark (*Eremophila alpestris actis*)
Status: State Watch List.
Distribution: Observed year-round scattered throughout San Diego County**.**
Habitat(s): Coastal strand, arid grasslands, and sandy desert floors.
Presence on-site: This species was observed in the survey area during the 2021 surveys.

Yellow-breasted chat (*Icteria virens*)
Status: State Species of Special Concern. Covered species under the MHCP. Proposed Covered Species under the Draft SAP.
Distribution: Occurs throughout San Diego County's coastal lowlands in the breeding season.
Habitat(s): Mature riparian woodland.
Presence on-site: This species was observed in the survey area during the 2021 and 2022 surveys.

Yellow warbler (*Setophaga petechia*)
Status: Federal Bird of Conservation Concern. State Species of Special Concern.
Distribution: Observed throughout much of San Diego County during the breeding season with rare sightings in winter.
Habitat(s): Riparian woodland.
Presence on-site: This species was observed within 500 feet of the survey area during the 2021 and 2022 surveys.

Special-Status Animal Species with Potential to Occur

A search of CNDDB and USFWS records (a five-mile radius from the survey area) was used to develop a matrix of sensitive animal species that may have the potential to occur on-site due to the presence of suitable habitat (e.g., vegetation communities, soils, elevation, geographic range, etc.). The matrix is presented in Appendix E, *Special-Status Animal Species Observed or with Potential to Occur*, and includes 50 special-status animal species, their favorable habitat conditions, and their potential to occur within the survey area.

In addition to the eleven sensitive animal species detected within the survey area (and an additional 500-foot buffer for avian species) during 2020, 2021, 2022, and 2023 biological surveys, nine other special-status animal species are historically recorded in the survey area based on CNDDB records (CDFW 2023a): Crotch bumble bee (*Bombus crotchii*), tidewater goby (*Eucyclogobius newberryi*), southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), southwestern willow flycatcher (*Empidonax traillii extimus*), bank swallow (*Riparia riparia*), and lesser long-nosed bat (*Leptonycteris yerbabuenae*). These historic locations have either been mapped over a non-specific area, presumed extirpated, and/or evaluated as having lower potential to occur due to observed conditions, distance from recorded populations, and/or age of records. For these reasons, all nine species have a low potential to occur within the survey area.

Eight animal species not detected during biological surveys in 2020, 2021, 2022, and 2023 were determined to have moderate or high potential to occur within the survey area. They consist of the monarch butterfly (*Danaus plexippus*; federal species of concern [overwintering population]), southern California legless lizard (Species of Special Concern), California glossy snake (Species of Special Concern), orange-throated whiptail (*Aspidoscelis hyperythra*; Watch List), south coast garter snake (*Thamnophis sirtalis;* population: one); Species of Special Concern), pallid bat (*Antrozous pallidus;* Species of Special Concern), Stephens kangaroo rat (*Dipodomys stephensi*; federally listed endangered and state listed threatened), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; Species of Special Concern). Determinations on high/moderate potential to occur were based on an assessment of the species' habitat requirements paired with conditions within the survey area. Although the potential for monarch butterflies is moderate, this only applies to migratory individuals who may utilize the survey area during migration to forage on nectar-producing flowering plants. The northern portion of the

survey area associated with Whelan Lake is within an MHCP survey area for SKR (Figure 8, *Stephens' Kangaroo Rat Survey Area*). Surveys for this species have not been conducted and will be required to properly evaluate this species' potential to occur within the survey area.

Three special-status animal species were not detected during protocol surveys: arroyo toad, southwestern willow flycatcher, and burrowing owl. Arroyo toad and southern willow flycatcher are federally listed as endangered. Designated critical habitat for the southwestern willow flycatcher occurs within the survey area (Figure 5). Burrowing owl is both a species of conservation concern and a species of special concern. Based on the survey results, it was determined these three species have a low potential to occur within the survey area.

An additional twelve species were not observed incidentally during any of the biological surveys occurring in 2020, 2021, 2022, and 2023. These twelve species consist of red-diamond rattlesnake (*Crotalus ruber*), western pond turtle (*Emys marmorata*), western spadefoot (*Spea hammondii*), tricolored blackbird, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Swainson's hawk, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), bank swallow, Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and Pacific pocket mouse (*Perognathus longimembris pacificus*). Pacific pocket mouse is federally listed as endangered and a species of special concern. Swainson's hawk is state threatened and a bird of conservation concern. Bank swallow is state-threatened. Tricolored blackbird is state threatened, a bird of conservation concern, and a species of special concern. Coastal cactus wren is a bird of conservation concern and species of special concern. Red-diamond rattlesnake, western pond turtle, western spadefoot, Dulzura pocket mouse, northwestern San Diego pocket mouse, and pocketed free-tailed bat are all species of special concern. Southern California rufous-crowned sparrow is a watch list species. Although these species were not observed and are currently presumed to be absent from the survey area based on the results of biological surveys in 2020, 2021, 2022, and 2023, there remains a low potential for them to occur in the future. The remaining fourteen special-status animal species evaluated are not expected to occur or have no potential to occur in the survey area due to the lack of suitable habitat (Appendix E).

Nesting Birds

Habitats within the survey area could provide suitable nesting habitat for bird species, including raptors, known to occur in the region.

3.7 JURISDICTIONAL AQUATIC RESOURCES

Results of the delineation concluded potentially jurisdictional resources occur in the survey area, consisting of waters of the U.S./State (including wetlands), riparian vegetation, and streambed. In the survey area, these resources are represented by wetlands located primarily along the San Luis Rey River, as well as unvegetated and concrete-lined channels scattered throughout the survey area north of Oceanside Boulevard. A summary of the acreages is provided below in Table 4, *Potentially Jurisdictional Resources*, and spatially presented on Figures 9a-9h, *Potentially Jurisdictional USACE and RWQCB Wetlands and Waters*, and Figures 10a-10h, *Potentially Jurisdictional CDFW Wetlands and Waters*.

Table 4
POTENTIALLY JURISDICTIONAL AQUATIC RESOURCES (acres)[1]

Habitat	Potential Resource Agency Jurisdiction		
	USACE	RWQCB	CDFW
Wetland			
Freshwater Marsh	0.05	0.05	0.05
Southern riparian forest	1.57	1.57	1.73
Southern willow scrub	0	0	1.21
Mule fat scrub	0	0	0.01
Subtotal	***1.62***	***1.62***	***3.00***
Non-Wetland			
Concrete brow ditch or drainage	0.22	1.34	1.32
Potential drainage	0	0.22	0.22
Subtotal	***0.22***	***1.56***	***1.54***
TOTAL	**1.84**	**3.18**	**4.54**

[1] Areas are presented in acre(s) rounded to the nearest 0.01.
USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.

3.7.1 Wetland Waters of the U.S./State

Potential wetland waters of the U.S. identified within the survey area could be subject to regulation by USACE and consist of southern riparian forest, southern willow scrub, mule fat scrub, and freshwater marsh. These features were found to support a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Wetland waters of the U.S. features also represent waters of the State subject to RWQCB jurisdiction pursuant to Section 401 of the CWA. A majority of these areas occur in the northern portion of the survey area associated with the San Luis Rey River.

3.7.2 Non-Wetland Waters of the U.S./State

The various concrete-lined brow ditches or drainages north of Oceanside Boulevard were identified as potential non-wetland waters of the U.S. that could be subject to regulation by USACE. These features did not support a dominance of hydrophytic vegetation and did not contain hydric soils; however, evident characteristics of flow (i.e., bed and bank, upstream and downstream culverts) were observed on-site. Except for the beach, the waters of the U.S. also represent waters of the State subject to RWQCB jurisdiction pursuant to Section 401 of the CWA. In addition, drainages within the survey area (that were not concrete-lined) were potential non-wetland waters of the State.

3.7.3 Waters of the State

No features were considered potentially jurisdictional as isolated surface waters of the State subject to RWQCB jurisdiction, exclusively, pursuant to Porter-Cologne.

3.7.4 Streambed and Riparian Habitat

Potential riparian and streambed habitat under the jurisdiction of CDFW within the survey area consists of southern riparian forest, southern willow scrub, mule fat scrub, and various unvegetated and concrete-lined channels north of Oceanside Boulevard. These features could be subject to the jurisdiction of CDFW pursuant to Sections 1600-1603 of the CFG Code.

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0 2,000 Feet

Source: Aerial (Maxar, 2023).

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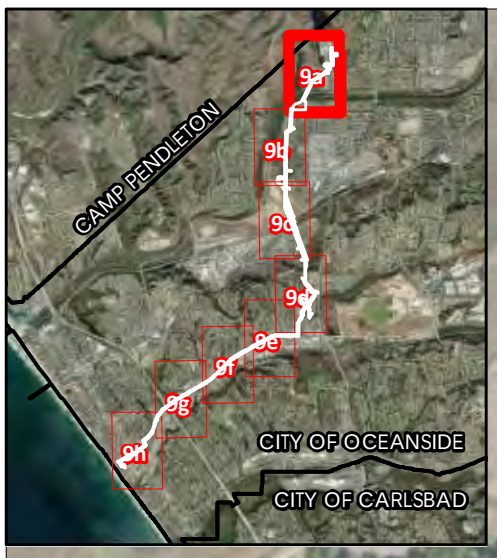
Stephens' Kangaroo Rat Survey Area

Figure 8



Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

RWQCB/USACE Jurisdiction

Non-wetland Waters of the U.S/State
Concrete-lined Channel
Freshwater Marsh
Mulefat Scrub
Fresh Water
Southern Riparian Forest
Southern Willow Scrub
Tamarisk Scrub

RWQCB Only Jurisdiction

Unvegetated Channel
Concrete-lined Channel
Wastewater Treatment Holding Pond

20'/10'
25'/18'
20'/15'
12'/8'
36'/36'
45'/12'
15'/15'
North River Rd
Whalen Lake Rd
Del Flora St
Plumosa St
Brisas Ct
Brisas St
Cypress Rd
Sherwood Dr
Bottlebrush Ct
Weeping Willow Rd
Torrey Pines Pl
Sugar Pine St
Private Drwy

I:\PROJECTS\Infrastructure Engineering Corp_01354\EN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig9_Potential_USACE_RWQCB.mxd 01354.5.1 5/2/2025 - SAB

0 300 Feet

Source: Aerial (Maxar, 2023)

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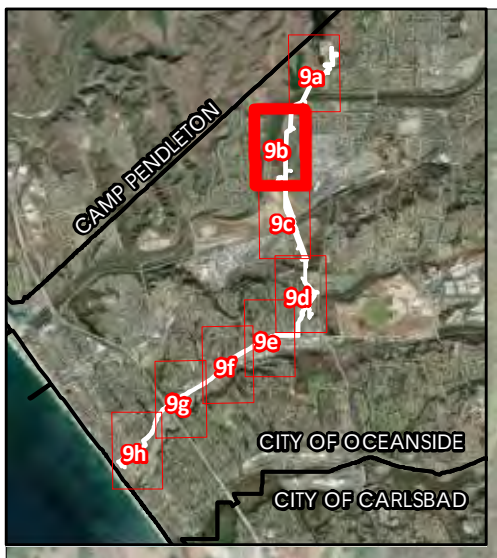
Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9a



Survey Area
Proposed Alignment
Potential Staging or Access Area

Potential Jurisdictional Features

Southern Riparian Forest

RWQCB Only Jurisdiction

Unvegetated Channel
Concrete-lined Channel

Other Features (Non-Jurisdictional)

Culvert
Concrete-lined Channel
Man-made Swale

15'/15'
20'/20'
4'/4'
3'/3'
2'/2'
8'/8'
30'/30'
60'/60'
Redwood St
Spruce Ct
Aspen St
Ponderosa Dr
Pala Rd
Papaya Way
Apple Blossom Way
Persimmon Way
Guava Way
Cable Ct
Hunter St
Orr St
Coconut Way
Peach Tree Way
Lime Tree Way
Orchard Way
Los Arbolitos Blvd
Citrus Way
Apricot Tree Way
Woodpark Way
Parkside Dr
Fireside St
C Emergency Dr
Lancer Ave
Warner St
Northwood Dr
tree Dr

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0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9b

Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

RWQCB Only Jurisdiction

Unvegetated Channel
Concrete-lined Channel

Other Features (Non-Jurisdictional)

Culvert

I:\PROJECTS\\Infrastructure Engineering Corp_01354\EN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig9_Potential_USACE_RWQCB.mxd 01354.1 5/2/2025 - SAB

0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9c

Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

RWQCB/USACE Jurisdiction

Concrete-lined Channel
Freshwater Marsh

RWQCB Only Jurisdiction

Unvegetated Channel
Concrete-lined Channel
Non-wetland Waters

Other Features (Non-Jurisdictional)

Culvert
Concrete-lined Channel

Ely St
Jibsail St
Newport Pier Way
Starboard Cir
Sea Ridge Rd
Mesa Dr
El Camino Real
Buffum Dr
Boussock Ln
Bartlett Ave
Pear Blossom Ave
Pear Blossom Dr
Pear Blossom Cir
Seafarer Ct
Boomvang Ct
Binnacle Way
Compass Rd
Mainsail Rd
Leeward Ct
Bowsprit Dr
Garrison St
Islander St
Voyager Ct
La Cresta Dr
Bluff Way
Edgehill Ln
Lancelot Dr
Foussat Rd

4'/4'
1'/1'
2'/2'
2'/2'
6'/6'
16'/6'

I:\PROJECTS\\Infrastructure Engineering Corp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig9_PotentialJurisdictional_USACE_RWQCB.mxd 01354.5.1 5/2/2025 - SAB

0 300 Feet

Source: Aerial (Maxar, 2023)

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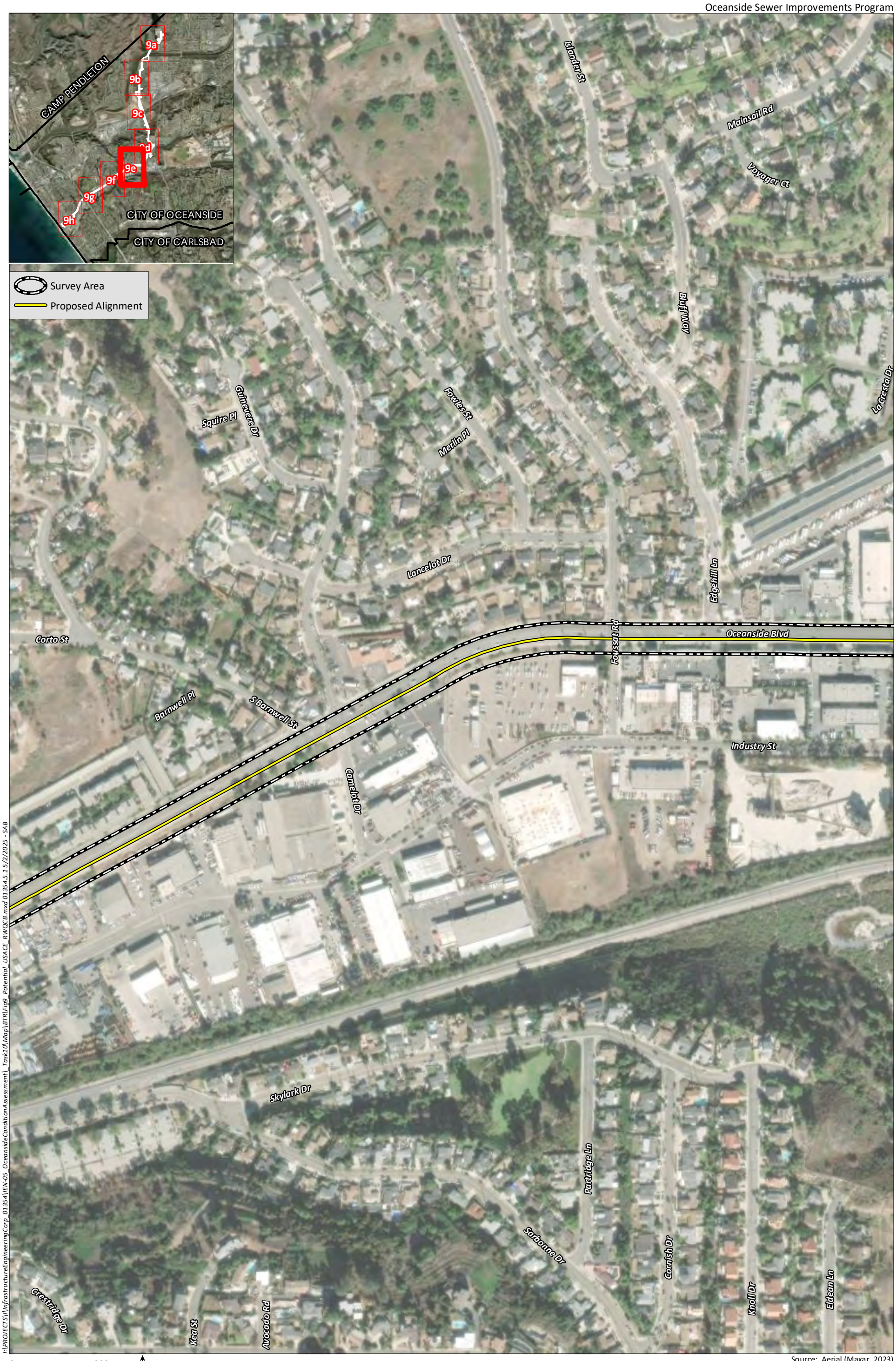
Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9d



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0 300 Feet

Source: Aerial (Maxar, 2023)

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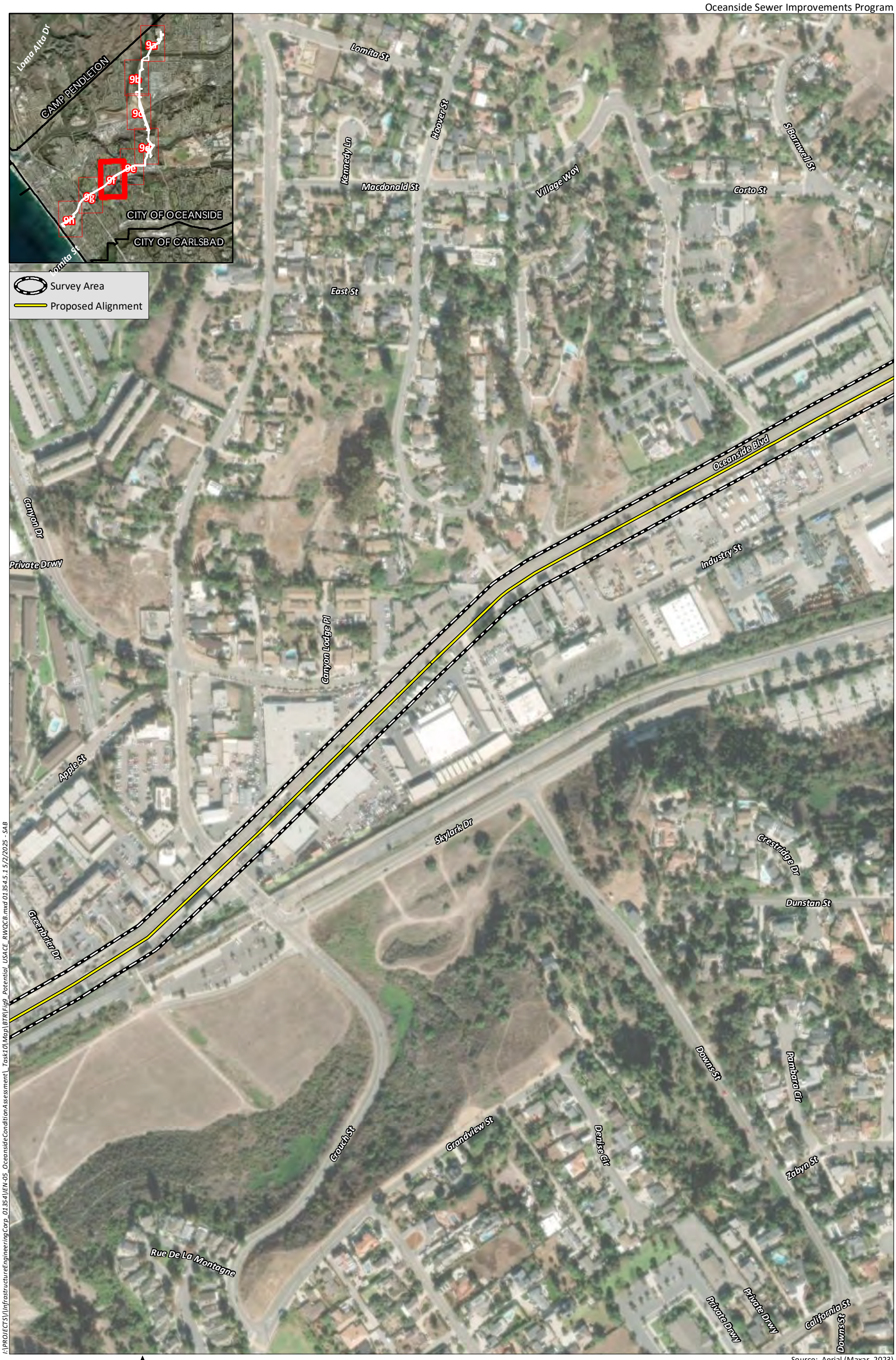
Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9e



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0 300 Feet

Source: Aerial (Maxar, 2023)

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Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9f

Survey Area
Proposed Alignment

Interstate 5 Ramp
Oceanside Blvd
Apple St
Greenbrier Dr
Goat Hill Dr
State Tree
S Oceanside Blvd
Union Plaza Ct
Commerce St
Cole Way
Vine St
Freeway Ln
Parkwood Ln
Maywood Ln
Mountain View Ave
Seaview Ave
Grandview St
La Bella Cir
Hunsaker St
Beechwood Ln
Oakwood Ln
Elmwood Ln
Greenwood Ln
Evergreen Pky
Blue Springs Ln
Idlewild Ln
Long Palm St
Alpine Ln
Interstate 5 SB
Interstate 5 NB
Bellaire St
Kurtz St
Lakewood Ln
Club Ln
Laguna St
Burroughs St
Hillside Ln
Moreno St
California St

I:\PROJECTS\Infrastructure Engineering Corp_01354\EN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig9_Potential_USACE_RWQCB.mxd 01354.5.1 5/2/2025 - SAB

0 300 Feet

Source: Aerial (Maxar, 2023)

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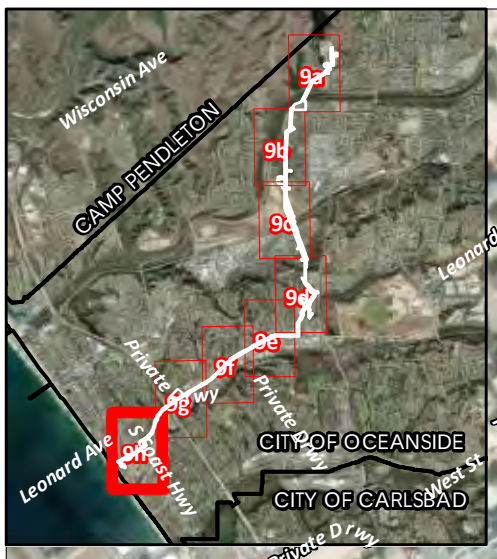
Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9g



Survey Area
Proposed Alignment

Private Drwy
Stanley St
S Ditmar St
S Glementine St
Shafer St
Eucalyptus St
Vine St
Oceanside Blvd
Elmwood Ln
Greenwood Ln
S Nevada St
Reese St
Beechwood Ln
Lakewood Ln
Evergreen Pky
Hillside Ln
Blue Springs Ln
Eucalyptus St
S Tremont St
Oceanside Blvd
Mitchell St
S Freeman St
Marwood Ln
Forster St
S Cleveland St
Godfrey St
S Myers St
Tait St
S Coast Hwy
Lucky St
Witherby St
Oceanside Blvd
Godfrey St
S Pacific St
Croswaithe St
S Myers St
Private Drwy
Channel Ln
Kristy Ln
Sherri Ln
La Salina Pl
La Salina St
California St
Witherby St
Vista Del Mar Way
Morse St
S Freeman St
S Pacific St
Private Drwy
Morse St
S Tremont St
S Coast Hwy

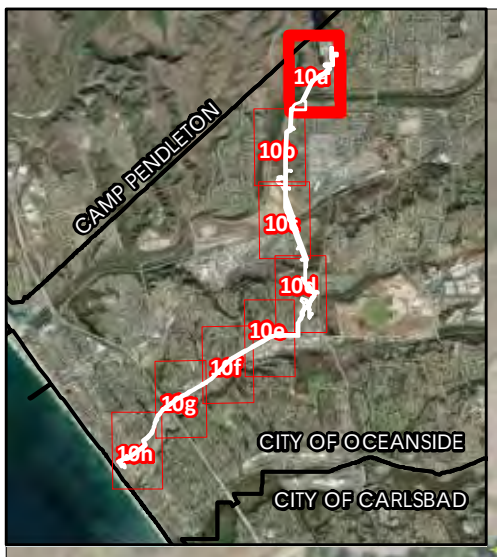
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional USACE and RWQCB Wetlands and Waters

Figure 9h



Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

CDFW Jurisdiction

Concrete-lined Channel
Streambed
Unvegetated Channel
Freshwater Marsh
Mulefat Scrub
Open Water
Southern Riparian Forest
Southern Willow Scrub
Tamarisk Scrub

Other Features (Non-jurisdictional)

Wastewater Treatment Holding Pond

i:\PROJECTS\Infrastructure Engineering Corp_01354\EN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig10_Potential_CDFW.mxd 01354.5.1 5/2/2025 - SAB

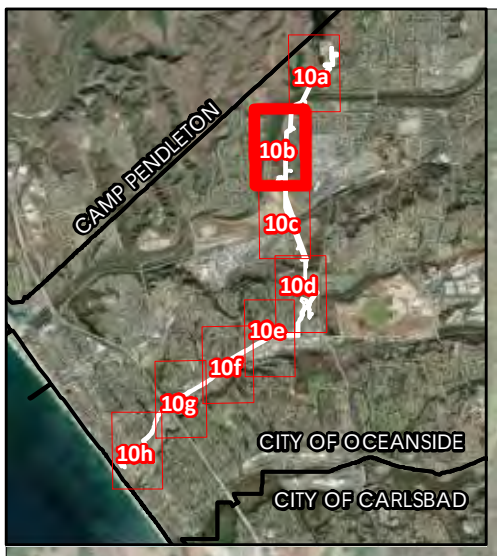
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10a



Survey Area
Proposed Alignment
Potential Staging or Access Area

Potential Jurisdictional Features

CDFW Jurisdiction

Concrete-lined Channel
Unvegetated Channel
Southern Riparian Forest
Southern Willow Scrub

Other Features (Non-Jurisdictional)

Concrete-lined Channel
Man-made Swale

I:\PROJECTS\Infrastructure Engineering Corp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig10_Potential_CDFW.mxd 01354.5.1 5/2/2025 - SAB

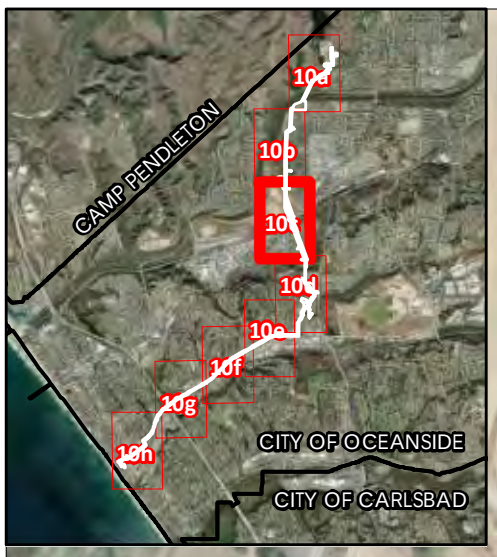
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10b



Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

CDFW Jurisdiction

Concrete-lined Channel
Unvegetated Channel

Other Features (Non-jurisdictional)

Mulefat Scrub
Mulefat Scrub - Disturbed

Warner St
Mayfair St
Heritage St
Fireside St
Mayfair St
Mission Ave
Foussat St
Ocean Pt
State Route 76 EB
State Route 76 WB
Foussat Rd
Foussat St
Copperwood Way
Hacienda Dr
Flamingo Dr
Riviera Dr
Dunes Pl
Las Vegas Dr
Sahara Pl
Tropicana Dr
Frontier Dr
Mission Cove Way
Carolyn Cir
Roberta Ln
Tonapah St
Sands Pl
Ely St

3'
6'
6'
5'
3'
2'
6'
6'
10'
5'
3'
4'
5'

0 300 Feet

Source: Aerial (Maxar, 2023)

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Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10c

Survey Area
Proposed Alignment
Proposed Alignment (Horizontal Directional Drilling/Sub-Surface)
Potential Staging or Access Area

Potential Jurisdictional Features

CDFW Jurisdiction

Concrete-lined Channel
Unvegetated Channel
Freshwater Marsh
Mulefat Scrub
Non-wetland Waters/Stream

Other Features (Non-Jurisdictional)

Concrete-lined Channel

Ely St
Jibsail St
Starboard Cir
Sea Ridge Rd
Willcox St
Mesa Dr
El Camino Real
Buffum Dr
Boussock Ln
Bartlett Ave
Pear Blossom Ave
Pear Blossom Dr
Pear Blossom Cir
Seafarer Dr
Boomvang Ct
Binnacle Way
Compass Rd
Mainsail Rd
Leeward Ct
Bowsprit Dr
Islander St
Voyager Ct
Garrison St
La Cresta Dr
Bluff Way
Edgehill Ln
Lancelot Dr
Foussat Rd

4'
5'
1'
2'
2'
6'
16'

I:\PROJECTS\\Infrastructure Engineering Corp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig10_Potential_CDFW.mxd 01354.5.1 5/2/2025 - SAB

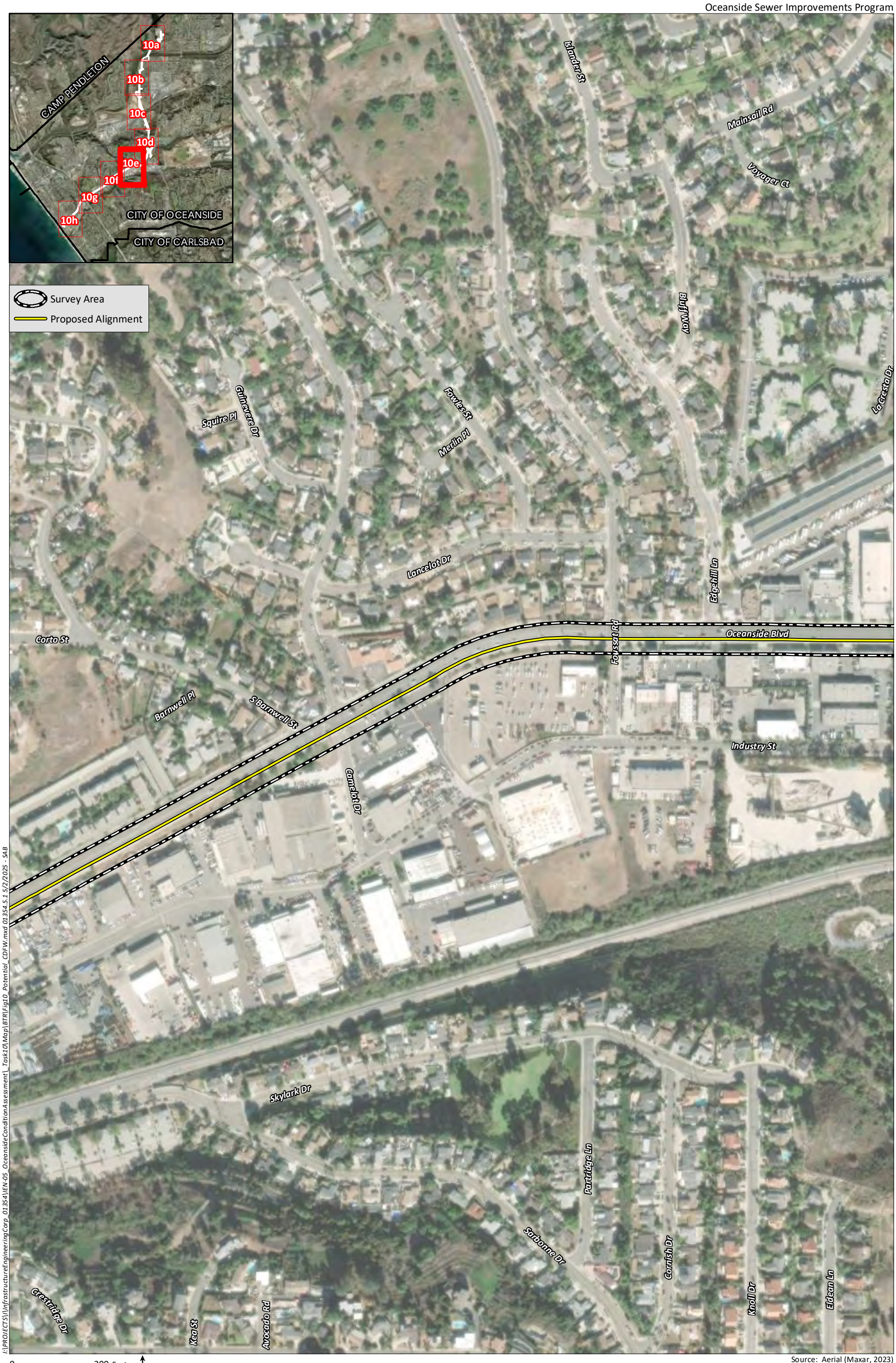
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10d



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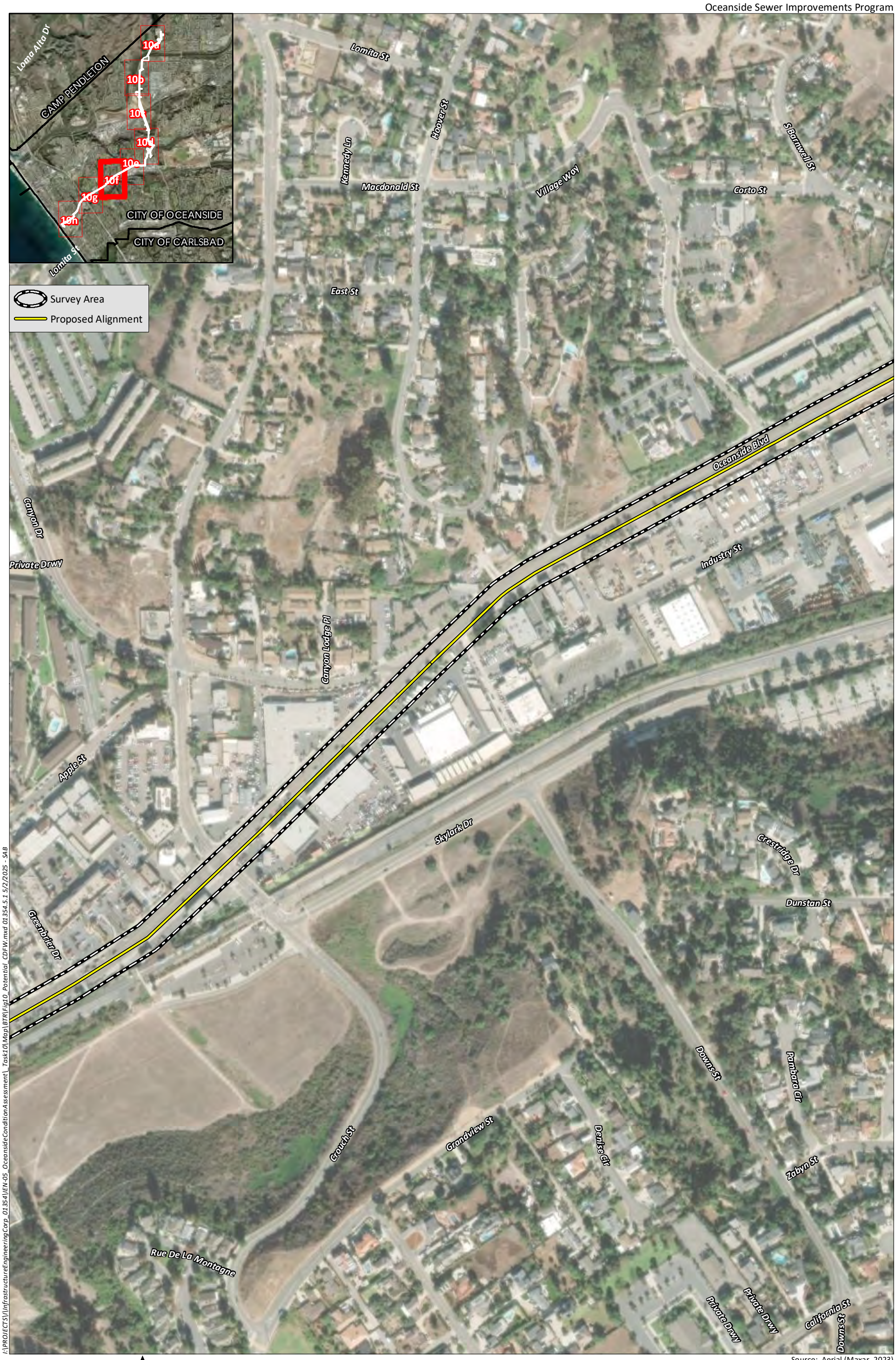
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10e



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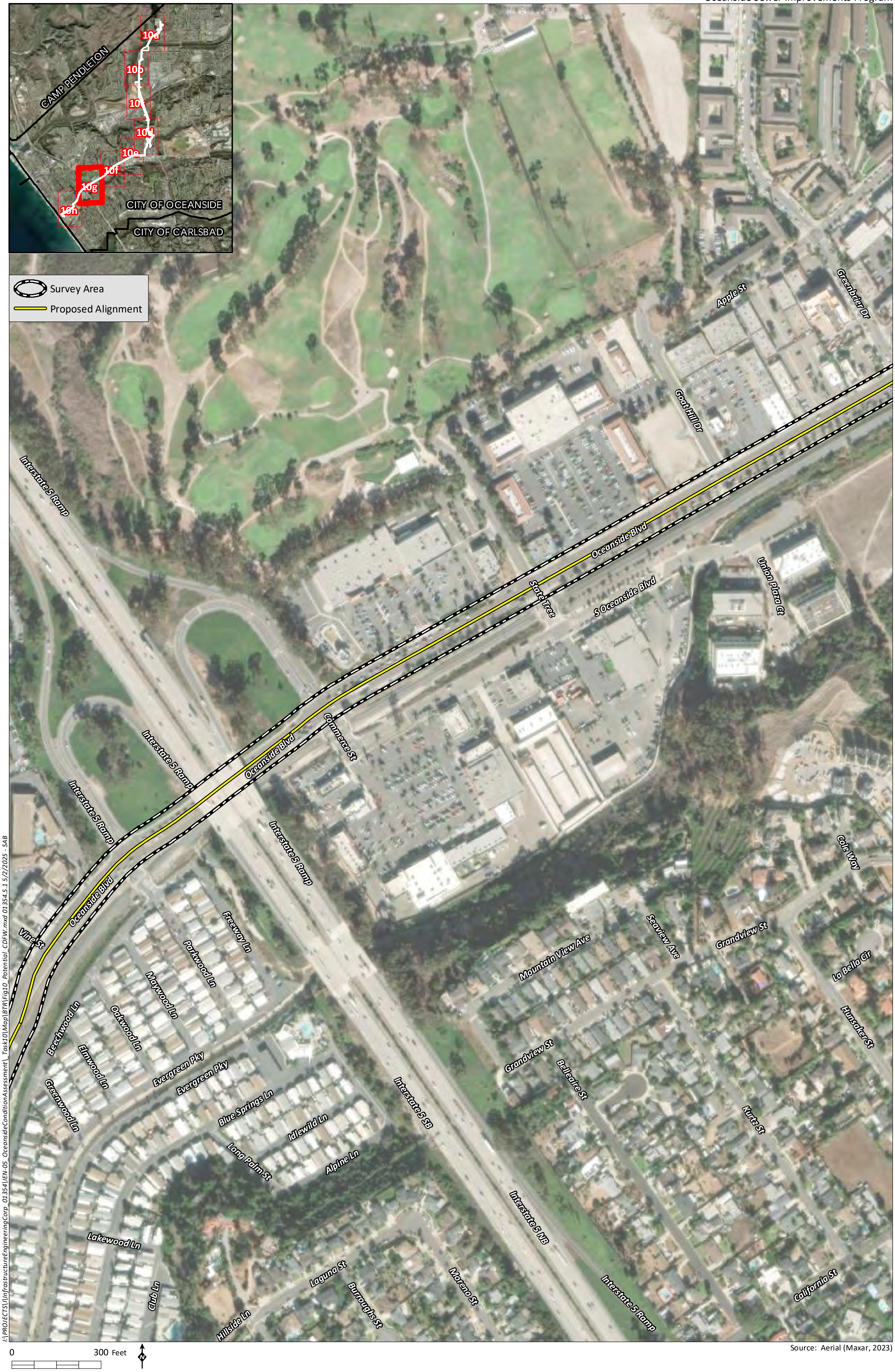
0 300 Feet

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10f


CAMP PENDLETON
10a
10b
10c
10d
10e
10f
10g
10h
CITY OF OCEANSIDE
CITY OF CARLSBAD
Survey Area
Proposed Alignment
Apple St
Greenbrier Dr
Goat Hill Dr
Interstate 5 Ramp
Oceanside Blvd
State Tree
S Oceanside Blvd
Union Plaza Ct
Commerce St
Interstate 5 Ramp
Interstate 5 Ramp
Interstate 5 Ramp
Oceanside Blvd
Vine St
Cole Way
Seaview Ave
Grandview St
Mountain View Ave
La Bella Cir
Freeway Ln
Parkwood Ln
Maywood Ln
Beechwood Ln
Oakwood Ln
Elmwood Ln
Evergreen Pky
Evergreen Pky
Greenwood Ln
Blue Springs Ln
Idlewild Ln
Long Palm St
Alpine Ln
Interstate 5 SB
Grandview St
Belleaire St
Kurtz St
Hunsaker St
Interstate 5 NB
Lakewood Ln
Club Ln
Laguna St
Burroughs St
Moreno St
Hillside Ln
Interstate 5 Ramp
California St
0
300 Feet
N

I:\PROJECTS\I\InfrastructureEngineeringCorp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig10_Potential_CDFW.mxd 01354.5.1 5/2/2025 - SAB

Source: Aerial (Maxar, 2023)

HELIX Environmental Planning

Potentially Jurisdictional
CDFW Wetlands and Waters

Figure 10g

I:\PROJECTS\Vinfrastructure\EngineeringCorp_01354\IEN-05_OceansideConditionAssessment_Task10\Map\BTR\Fig10_Potential_CDFW.mxd 01354.5.1 5/2/2025 - SAB

HELIX Environmental Planning

Potentially Jurisdictional CDFW Wetlands and Waters

Figure 10h

3.8 WILDLIFE CORRIDOR/CORE WILDLIFE AREAS

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. 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 and 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 a 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.

Important corridors and linkages have been identified on a local and regional scale throughout the Draft North County MHCP (AMEC Earth & Environmental et al. 2003) and Draft SAP. The planning objectives of most corridors and linkages in western San Diego County include establishing a connection between the northern and southern regional populations of the CAGN, in addition to facilitating movement and connectivity of habitat for large mammals and riparian bird species.

A portion of the northeastern survey area is designated in the Draft SAP as a Wildlife Corridor Planning Zone (Figure 4). A portion of the survey area also runs through a designated CAGN corridor, as shown in the Draft SAP. Additionally, multiple MHCP hardline and softline preserve areas (Focused Planning Areas [FPAs]) are located within the survey area, and the survey area is contiguous with undeveloped land (Figure 11, *Preserves*).

The survey area is a mix of infrastructure facilities and pipelines. Most of the anticipated impacts are for pipelines, which would be constructed underground. While there could be temporary impacts to wildlife use of corridors during construction, long-term impacts of the pipelines to wildlife corridors are not expected. Maintenance of the proposed sewer improvements is not expected to be intensive or potentially disruptive to wildlife use of the area. Since facilities are permanent, aboveground structures, they could impact wildlife movement depending on their location. One facility (a lift station) is proposed to occur on the permanently closed Garrison Elementary School property. Where the proposed facility overlaps the former development, it is not expected to change wildlife's ability to use corridors.

4.0 REGULATORY FRAMEWORK

Biological resources within the survey area are subject to regulatory review by federal, State, and local agencies. Under CEQA, impacts associated with a proposed Program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, City of Oceanside), pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply to the proposed Program include the Federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), and CFG Code.

4.1 FEDERAL

4.1.1 Federal Endangered Species Act

Administered by the USFWS, the federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered take under the FESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 7 and 4(d) of the Federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7, administered by the USFWS, describes a process of Federal interagency consultation for use when Federal actions may adversely affect listed species. A Section 7 Consultation (formal or informal) is required when there is a nexus between a listed species' use of a site and if the program is requesting a federal action, including funding. A biological assessment is required for any major construction activity if it may affect listed species. Take can be authorized via a letter of Biological Opinion issued by the USFWS for non-marine related listed species issues. A Section 7 Consultation could be required if impacts to a federally listed species would occur.

If the program could directly or indirectly impact federally listed species and/or their critical habitat, and there is no federal action/nexus (e.g., permit, funding, ownership, etc.), the Federal Endangered Species Act requires the program proponent (City) to consult with the USFWS under Section 10. A consultation under Section 10 of the ESA requires the submittal of an Incidental Take Permit (ITP) application and a Habitat Conservation Plan to USFWS for evaluation of proposed program impacts. If the USFWS determines the program would have a "low effect" on listed, proposed, or candidate species and their habitats, and the program would have minor effects on other environmental resources, the USFWS would complete the consultation process and issue an ITP. If the program is determined by the USFWS to have a "moderate or high effect" on listed, proposed, or candidate species and their habitats, the USFWS would require preparation of National Environmental Policy Act (NEPA) analysis before the issuance of an ITP. The NEPA analysis would include additional evaluation of the program's impacts in the form of an Environmental Assessment or an Environmental Impact Statement. A Section 10 Consultation could be required if impacts to a federally listed species would occur.

Identified by the USFWS, critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat, so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of the critical habitat.

4.1.2 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 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on the disturbance of active bird nests during

WHELAN RANCH
CITY OF OCEANSIDE OPEN SPACE
CITY OF OCEANSIDE OPEN SPACE
SAN LUIS REY RIVER PARK
SAN LUIS REY RIVER PARK
SAN LUIS REY RIVER PARK
SAN LUIS REY RIVER PARK
S.D. COUNTY
OCEANSIDE
WESTMINSTER PRESERVE
VISTA DE LA VALLE PRESERVE
CITY OF OCEANSIDE OPEN SPACE
CITY OF OCEANSIDE OPEN SPACE
CITY OF OCEANSIDE OPEN SPACE
OCEANSIDE
CARLSBAD
Douglas Dr
North River Rd
Mission Ave
Oceanside Blvd
Oceanside Blvd
S Coast Hwy
S Coast Highway
Vista Way
El Camino Real
Carlsbad Village Dr
CALIFORNIA 76
CALIFORNIA 78
5

Survey Area
Conserved Lands (within 400ft)
Whelan Lake Bird Sanctuary, Inc.
City SAP Designation
Softline Preserve
Hardline Preserve

0 2,000 Feet

Source: Aerial (Maxar, 2023), Conserved Lands (SanGIS 12/2022).

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HELIX Environmental Planning

Preserves

Figure 11

the nesting season (generally January 15 to August 31, including raptors). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

4.1.3 Clean Water Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments.

4.2 STATE

4.2.1 California Environmental Quality Act

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

4.2.2 California Endangered Species Act

The 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 MHCP is a regional Natural Communities Conservation Plan that was granted take coverage under Section 2081 of the CESA.

4.2.3 California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of the CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required before any such activities.

If the program could result in adverse impacts to a state-listed species that is not also federally listed, Section 2081(b) of the California Fish and Game Code provides a mechanism for CDFW to permit, on a program-specific basis, incidental take of species listed under CESA. The preparation and submission of an ITP application with CDFW by the program proponent is required. The application must include program details, potential program impacts, an analysis of “jeopardy” for the continued existence of the

impacted species, and species-specific mitigation and avoidance measures that would fully mitigate the program impacts.

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 this code or any regulation made pursuant thereto. Raptors 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. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

4.2.4 Porter-Cologne Water Quality Control Act

This statute regulates surface waters and wetlands within the State and is governed by the RWQCB. Features that support aquatic resources (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) but are isolated (i.e., lack downstream connectivity to waters of the U.S.) could be subject to regulation pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne). Impacts to isolated wetlands and/or waters of the State require a Waste Discharge Requirement (WDR) Permit from the RWQCB.

4.2.5 Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by a species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits.

4.2.6 California Coastal Act

The California Coastal Act of 1976 is designed to encourage local governments to create Local Coastal Programs to govern decisions that determine the short- and long-term conservation and use of coastal resources. This act stipulates that the California Coastal Commission regulates the development of coastal wetlands. Sections 30230, 30231, 30233, 30236, and 30240 of the Coastal Act are directly applicable to the preservation and protection of wetlands and other environmentally sensitive areas. Section 30121 of the California Coastal Act defines wetlands within the coastal zone.

4.3 LOCAL

4.3.1 Multiple Habitat Conservation Program

The California NCCP Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. A Natural Communities Conservation Program, initiated by the State of California, focuses on conserving coastal sage scrub, and in concert with the USFWS and the federal ESA, is intended to avoid the need for future federal and state listing of coastal sage scrub-dependent species.

The MHCP Plan spans northwestern San Diego County and has the goal of protecting over 80 special-status species and approximately 19,000 acres of proposed conservation land (AMEC Earth & Environmental et al. 2003). The City of Oceanside and six additional city jurisdictions (Carlsbad, Encinitas, Escondido, San Marcos, Solana Beach, and Vista) make up the MHCP Plan area. It is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve. The MHCP is one of several large multiple jurisdictional habitat planning efforts in San Diego County, each of which constitutes a subregional plan under the NCCP Act of 1991. The MHCP includes incorporated cities in northwestern San Diego County that will implement their respective portions of the MHCP through citywide “subarea” plans, which describe the specific implementing mechanisms each city will institute for the MHCP. The survey area is located within the Oceanside Subarea, which has a Draft Subarea Plan but was never approved or adopted and remains in draft form as of the date of this report. Although not adopted, the Draft SAP identifies potential preserve areas as Pre-approved Mitigation Areas (PAMA), “softline” preserve, “hardline” preserve, and conservation banks, collectively referred to as FPAs. In general, hardline preserves and conservation banks are areas that are already preserved to Draft Subarea Plan standards. Softline preserves and PAMA identify areas specifically targeted for future preservation. In the context of the Draft SAP, the survey area runs through multiple hardline and softline preserve areas (Figure 4). Because the City of Oceanside has not approved or adopted its Draft SAP, the proposed program is not subject to the requirements of the MHCP, although it is recognized herein as a guide for survey area planning considerations.

4.3.2 Local Coastal Program

The California Coastal Act requires that coastal jurisdictions prepare LCPs that establish policies and regulations for land use within each locality’s state-prescribed coastal zone. The City of Oceanside’s LCP was adopted in 1986 and is currently being updated.

5.0 SIGNIFICANCE OF PROGRAM IMPACTS AND PROPOSED MITIGATION

This section provides a Program-level biological resources impact analysis for the survey area in support of environmental review. This section analyzes potential direct and indirect impacts to sensitive biological resources known to occur or with potential to occur across the entire survey area and proposes mitigation to offset or avoid potential significant impacts. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts are actions that are not the direct removal of habitat or species but affect the surrounding biological resources adjacent to the survey area. Indirect impacts can be short-term or long-term, and examples of such impacts include construction-related noise, increased human presence, domesticated animals, spread of non-native ornamental/weedy plant species, drainage, and artificial lighting. Potential direct and indirect impacts to biological resources that could occur as a result of the proposed Program are discussed further herein in this report.

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 proposed Program impacts to a less than significant level are also provided herein.

The proposed Program proposes to implement multiple sewer improvement projects spanning from the San Luis Rey Wastewater Plant to the LSWWTP. Because these improvements have not been fully designed, the footprint, scope, and schedule of these proposed projects associated with the proposed Program are unknown. Thus, the potential direct impact area evaluated for the overall Program is based on the conservative assumption that the entire 413.09-acre survey area could hypothetically be disturbed. It is anticipated that these future improvement/development projects associated with the programmatic effort would be designed to reduce or avoid impacts to sensitive biological resources.

5.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

The significance of impacts on biological resources present or with the potential to occur in the survey area was determined based on the resource's sensitivity and the extent of the anticipated impact. For certain highly sensitive resources (e.g., a federally listed species), any impact would be considered significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the region but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, proposed Program impacts to biological resources would be considered significant if they would:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations, or by CDFW or USFWS.

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

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

(e) Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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

5.2 ISSUE 1: SPECIAL-STATUS SPECIES

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

5.2.1 Impact Analysis

Less than Significant with Mitigation. Special-status plant and animal species could be directly impacted by grading and construction for proposed utility improvement/development projects associated with the programmatic effort within the survey area. Direct impacts could also occur during construction if activities inadvertently encroach into areas outside or beyond the authorized limits of work. Direct impacts to sensitive species could be significant, as described below, but would be reduced to less than significant levels with the implementation of work limits demarcation, biological construction monitoring, and habitat-based mitigation.

Indirect impacts to sensitive species could also occur, both during construction and post-construction, and/or during the operation of these future improvement/development projects associated with the programmatic effort. Common indirect impacts that affect special-status species during construction include noise, fugitive dust, erosion, sedimentation, increased human presence, artificial lighting, and spread of non-native plant species. Typical long-term indirect impacts to special-status species post-construction during operation, include the spread of non-native ornamental plant species, use of pesticides/herbicides/fertilizers, artificial lighting, or encroachments into habitat by landscape maintenance and/or trampling from increased human presence. Indirect impacts to sensitive species would be considered significant, as described further below, but would be reduced to less than significant levels with the implementation of construction best management practices (BMPs) and future utility improvement/development proposal design considerations. Further analysis on potential direct and indirect impacts to special-status species is discussed below.

Special-Status Plants

Two special-status plant species were observed during focused surveys in 2021 and 2022 (Figures 7a and 7d): Thread-leaved Brodiaea (SE/FT CNPS Rank 1B.1) and Brand's phacelia (CNPS California Rare Plant

Rank [CRPR] 1B.1). No other special-status plant species were observed or are expected to occur within the survey area.

Thread-leaved Brodiaea

TLB was observed in native grassland and non-native grassland areas located north of Garrison Elementary School (Figure 7d) in USFWS critical habitat for this species. TLB is federally listed as threatened and state-listed as endangered. This species is also a covered species under the MHCP and proposed as a covered species under the Draft SAP.

If TLB occurs within the development footprint associated with any of the sewer improvement projects associated with the programmatic effort, then such direct impacts would be considered significant without mitigation and would require additional avoidance, minimization, and conservation measures prescribed by mitigation measure **Bio-1a** to ensure impacts to this species would be reduced to less than significant levels. Further, direct impacts to this listed species would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable, as well as with CDFW in accordance with the CESA Section 2081 or 2080.1 processes (**Bio-2**). Construction activities could also impact this species if appropriate avoidance and minimization measures are not implemented, including the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Brand's Phacelia

Brand's phacelia was observed in a patch of disturbed DCSS located in the northern portion of the survey area approximately 1,000 feet south of Whelan Lake during focused surveys in 2021 (Figure 7a). The current improvements/development design and alignments are conceptual. If this species is present within any of the individual project development footprints associated with the programmatic effort, direct impacts to Brand's phacelia, although non-listed, would be considered significant because it is a CNPS CRPR 1B.1 species, which carries a higher rank of sensitivity than other CRPRs as these species are rare, are generally considered endemic to California, and their populations and range have been in decline.

If any of the individual final project development footprints associated with the programmatic effort proposes unavoidable direct impacts to this species, then additional avoidance and minimization measures prescribed by mitigation measure **Bio-1a** would be required to ensure impacts to this species would be reduced to less than a significant level.

Potential indirect impacts to this species could occur if appropriate avoidance and minimization measures are not implemented during construction, including the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Other Special-Status Plants

Eight other special-status plant species have been previously recorded in the survey area based on historic CNDDB records (CDFW 2023a): south coast saltscale, smooth tarplant, San Diego button-celery, cliff spurge, Robinson's pepper-grass, mud nama, slender cottonheads, and salt spring checkerbloom. One other species, prairie false oat (*Sphenopholis interrupta* ssp. *californica*), was potentially recorded in

the survey area based on CNDDB records (CDFW 2023a). The uncertainty is due to the poor accuracy of the GPS used to record this species. Since these species were not observed during focused species surveys in 2021 or 2023, they were assessed as having a low potential to occur or are not expected to occur. Thus, implementation of the proposed Program is not expected to have impacts on these species.

Special-Status Animal Species

Light-footed Ridgway's Rail

Although this species was not detected in the survey area during the 2021 protocol surveys, this species was observed within 500 feet of the survey area; thus, for purposes of this analysis, this species could occur in the survey area (Figure 7a). Light-footed Ridgway's rail is a federally and state-listed endangered species. This species is also CDFW Fully Protected, a covered species under the MHCP, and proposed as a covered species under the Draft SAP. If light-footed Ridgway's rail occurs within the final development footprint associated with any of the sewer improvement projects associated with the programmatic effort, then such direct impacts would be considered significant without mitigation and would require avoidance, minimization, and conservation measures prescribed by mitigation measures **Bio-1b** and **Bio-1c** to ensure impacts to this species would be avoided and/or reduced to less than significant levels. Impacts to this listed species would also require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable, as well as with CDFW in accordance with the CESA Section 2081 or 2080.1 processes (**Bio-2**). Direct impacts/loss of occupied habitat for this species would be mitigated in accordance with **Bio-7a** and **Bio-7b** (see discussion of Issue 2: Riparian Habitat and Sensitive Natural Communities, Section 5.3 below). Indirect impacts associated with excessive noises during the breeding season (February 15 to September 30) would be mitigated by the implementation of **Bio-3**. Besides noise, other construction activities during the breeding season could also impact this species if appropriate avoidance and minimization measures are not implemented, such as the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Least Bell's Vireo

This species was observed in the survey area and within 500 feet of the survey area during 2021 protocol surveys (Figures 7a and 7b). Least Bell's vireo is a federally and state-listed endangered species. This species is also a covered species under the MHCP and proposed as a covered species under the Draft SAP. A major population area and critical populations of this species are identified in and around the survey area in the MHCP. Additionally, USFWS designated critical habitat for this species occurs within the survey area.

If least Bell's vireo (including suitable habitat) occurs within the development footprint associated with any of the sewer improvement projects associated with the programmatic effort, then such direct impacts would be considered significant without mitigation and would require avoidance, minimization, and conservation measures prescribed by mitigation measures **Bio-1b** and **Bio-1c** to ensure impacts to this species would be reduced to less than significant levels. Further, direct impacts to this listed species would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable, as well as with CDFW in accordance with the CESA Section 2081 or 2080.1 processes (**Bio-2**). Direct impacts/loss of occupied habitat for this species would be mitigated by the implementation of **Bio-7a** and **Bio-7b** (see discussion of Issue 2: Riparian Habitat and Sensitive Natural Communities, Section 5.3 below). Indirect impacts associated with noise exceedances during the

breeding season (March 15 to September 15) would be mitigated by the implementation of **Bio-3**. Besides noise, other construction activities during the breeding season could also impact this species if appropriate avoidance and minimization measures are not implemented, including the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Coastal California Gnatcatcher

This species was observed in the survey area and within 500 feet of the survey area during the 2021 and 2023 protocol surveys (Figures 7a, 7c, and 7d). The coastal California gnatcatcher is federally listed as threatened and is a CDFW species of special concern. This species is a covered species under the MHCP and proposed as a covered species under the Draft SAP. A corridor for this species is identified in the survey area within the Draft SAP. USFWS designated critical habitat for this species also overlaps within the survey area.

If CAGN (including suitable habitat) occurs within the development footprint associated with any of the sewer improvement projects associated with the programmatic effort, then such direct impacts would be considered significant without mitigation and would require additional avoidance, minimization, and conservation measures prescribed by mitigation measures **Bio-1b** and **Bio-1c** to ensure impacts to this species would be reduced to less than significant levels. Further, direct impacts to this listed species would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable, as well as with CDFW in accordance with the CESA Section 2081 or 2080.1 processes (**Bio-2**). Direct impacts/loss of occupied habitat for this species would be mitigated by the implementation of **Bio-7a** and **Bio-7b** (see discussion of Issue 2: Riparian Habitat and Sensitive Natural Communities, Section 5.3 below). Indirect impacts associated with noise exceedances during the breeding season (February 15 to August 31) would be mitigated by the implementation of **Bio-3**. Besides noise, other construction activities during the breeding season could also impact this species if appropriate avoidance and minimization measures are not implemented, including the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Stephens' Kangaroo Rat

A site assessment for this species was conducted in 2021 within a portion of the Program survey area that overlapped with the SKR survey area identified in the MHCP (by Whelan Lake). Results of the survey indicated soils were suitable for k-rat occupancy but k-rat sign (i.e., scat, tracks, burrows) was not observed. The results also indicate that the vegetation cover and duff layer located over much of the suitable habitat is too dense for occupancy by this species. Despite these results, a pre-construction survey for k-rat will be needed due to the lapse of time between the 2021 survey and the start of any construction activities within the k-rat survey area (by Whelan Lake). Other portions of the Program area where suitable habitat k-rat occurs will also require pre-construction surveys due to the relatively close proximity of documented individuals per CNDDB records. If Stephens' kangaroo rat (including suitable habitat) occur within the development footprint associated with any of the sewer improvement projects associated with the programmatic effort, then construction impacts would potentially be considered significant without mitigation and would require additional avoidance, minimization, and conservation measures prescribed by mitigation measures **Bio-1c** and **Bio-1d** to ensure impacts to this species would

be reduced to less than significant levels. Construction impacts to Stephens' kangaroo rat, a federally and state listed species, would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable, as well as with CDFW in accordance with the CESA Section 2081 or 2080.1 processes (**Bio-2**). Impacts to occupied habitat would be mitigated in accordance with **Bio-7a** and **Bio-7b** (see discussion of Issue 2: Riparian Habitat and Sensitive Natural Communities, Section 5.3 below). Additionally, the MHCP states that any Stephens' kangaroo rat population shall be treated consistent with the Narrow Endemic Species Policy (MHCP Appendix E) until all criteria for full recovery (i.e., delisting) of the species have been met. Potential impacts to this species during construction would be mitigated by the implementation of mitigation measure **Bio-1d**.

Cooper's Hawk, Costa's Hummingbird, Vaux's Swift, Northern Harrier, White-tailed Kite, California Horned Lark, Yellow-breasted Chat, and Yellow Warbler

These species were observed in and/or within 500 feet of the survey area during biological surveys occurring in 2020, 2021, and 2022 (Figures 7a-7c). Costa's hummingbird is a USFWS Bird of Conservation Concern, with respect to nesting individuals. Yellow warbler is a USFWS Bird of Conservation Concern and CDFW species of special concern. Vaux's swift, northern harrier, and yellow-breasted chat are CDFW species of special concern. White-tailed kite and brown pelican are CDFW Fully Protected. Cooper's hawk, and California horned lark are CDFW Watch List species. Yellow-breasted chat, and Cooper's hawk are also covered species under the MHCP and proposed as covered species under the Draft SAP.

Indirect impacts associated with noise exceedances during the general breeding season for avian species (collectively from January 15 through September 15) would be mitigated by the implementation of **Bio-4.** Implementation of avoidance and minimization measures during construction would also be mitigated by the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

Other Special-Status Animals

Seven other special-status animal species were determined to have high or moderate potential to occur in the survey area: Monarch butterfly (*Danaus plexippus*), California legless lizard (Species of Special Concern), California glossy snake (Species of Special Concern), orange-throated whiptail (*Aspidoscelis hyperythra*; Watch List), south coast garter snake (Species of Special Concern), pallid bat (*Antrozous pallidus;* Species of Special Concern), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; Species of Special Concern).

Although monarch butterflies have a moderate potential of occurring within the survey area, this classification only applies to migratory individuals who may utilize the survey area during migration to forage on nectar-producing flowering plants. The survey area does not contain appropriate wintering habitat, nor were larval host plants identified during biological surveys in 2020 and 2021. In instances where construction would occur in non-developed portions of the survey area, there are also adjacent non-developed areas with similar nectaring resources. Potential direct or indirect impacts to this species are unlikely, and there would be a biological monitoring presence in accordance with **Bio-6**. Thus, impacts associated with this species are considered less than significant. Reptilian species and mammalian species (other than SKR discussed above) with the potential to occur in the survey area are not federally/state listed, nor are they considered narrow endemic under the draft SAP. Because potential direct impacts to these species would be limited to a few individuals, if any, and impacts would not jeopardize the species, potential direct impacts to reptilian species identified with the potential to

occur within the survey area would be considered less than significant and do not require mitigation. Suitable habitat associated with these species would be mitigated by Program implementation of **Bio-7a** and **Bio-7b**, further ensuring no significant direct impacts to these species. Indirect impacts to special status reptile species and mammalian (except for SKR discussed above) species with potential to occur in the survey area are not expected; the Program would be required to implement construction BMPs that eliminate potential adverse effects beyond the authorized limits of work.

Nesting Birds

Trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code are present within and in the immediate vicinity of the survey area and could be directly impacted. Construction of future development on site could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Adverse indirect effects could also 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. Impacts (direct or indirect) on nesting birds would be considered significant. However, implementation of mitigation measure **Bio-4** would require pre-construction surveys before impacts, and construction fencing and biological monitoring measures **Bio-5** and **Bio-6** would reduce potentially significant impacts on nesting birds, including raptors, to less than significant levels.

USFWS Critical Habitat

The survey area overlaps with the designated final critical habitat overlay for four federally listed species: TLB, CAGN, LBVI, and SWFL (Figure 5). Critical habitat for LFRR and ARTO do not occur in or near the survey area.

TLB was observed during a focused survey effort in 2022. Locations of TLB within the survey area occur within critical habitat for this species. Based on preliminary project information there will be no impacts to the TLB locations nor impacts to TLB critical habitat. If the project design changes and TLB critical habitat is impacted, impacts would be considered significant without mitigation. Furthermore, impacts to TLB critical habitat would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable.

Critical habitat associated with SWFL is correlated with the SLR. When crossing the SLR, the applicable project(s) associated with the programmatic effort would likely use a sub-surface methodology such as jack and bore, multi-directional drilling, or tunneling. If exit/entry pits occur in areas adjacent to the SLR within critical habitat, an effort would be made to avoid suitable habitat for this species (i.e., riparian habitat). Based on construction methodologies used to cross the SLR, the project components are not expected to result in adverse modification to critical habitat for SWFL.

LBVI were observed in the survey area during focused species surveys in 2021. CAGN were observed in the survey area during focused surveys in 2021 and 2023. None of the above-ground components of the improvement projects associated with the programmatic effort occur within critical habitat for these species. Critical habitat associated with LBVI is correlated with the SLR and adjacent non-developed areas. When crossing the SLR, the applicable project(s) associated with the programmatic effort would likely use a sub-surface methodology such as jack and bore, multi-directional drilling, or tunneling. If exit/entry pits occur in areas adjacent to the SLR within critical habitat, an effort would be made to

avoid suitable habitat for this species (i.e., riparian habitat). The area of critical habitat for CAGN would not be able to be avoided, but there would not be a permanent impact footprint since impacts in this area are anticipated to be limited to trenching associated with pipeline construction and placement, although the sub-surface methodology described above could also be utilized. If a sub-surface methodology is used in CAGN critical habitat, impacts (both permanent and temporary) would greatly be reduced and potentially be avoided. Implementation of the applicable project components associated with the programmatic effort are not expected to result in adverse modification to critical habitat for LBVI, but could be considered significant for CAGN, depending on the final design. If the final design for any of the applicable projects associated with the programmatic effort would impact CAGN occupied critical habitat, it would be considered significant without mitigation and would require additional avoidance, minimization, and conservation measures to ensure impacts to these species would be reduced to less than significant levels. Further, impacts to critical habitat for either of these listed species would require authorization and consultation with USFWS through the ESA Section 7 or Section 10 processes, as applicable.

If the development footprint associated with any of the sewer improvement projects associated with the programmatic effort would significantly impact critical habitat occupied by listed species, then additional avoidance, minimization, and conservation measures prescribed by mitigation measures **Bio-1b**, **Bio-1c**, **Bio-2**, **Bio-5**, and **Bio-6** would be required to ensure impacts to these species would be reduced to less than significant levels. Direct impacts/loss of occupied critical habitat resulting from project development associated with the programmatic effort are not anticipated. If this changes and direct impacts/loss of critical habitat occurs, then the off-site purchase of mitigation credits in accordance with **Bio-7a** and **Bio-7b** would be needed to mitigate impacts to below a level of significance (see discussion of Issue 2: Riparian Habitat and Sensitive Natural Communities, Section 5.3 below).

Potential indirect impacts to occupied critical habitat could occur if appropriate avoidance and minimization measures are not implemented during construction. Potential indirect impacts would be avoided through the installation of temporary construction and/or silt fencing at the limits of work (**Bio-5**), biological construction monitoring where work limits occur adjacent to known sensitive resources (**Bio-6**), and implementation of construction BMPs.

5.2.2 Mitigation Measures

The following mitigation measures, **Bio-1a** through **Bio-6**, would reduce potential impacts related to special-status plants and animals to a less than significant level.

Bio-1a **Rare Plant Avoidance and Mitigation.** The development footprint associated with all sewer improvement projects located within the Program area shall be designed to maximally avoid and minimize impacts to rare plants, especially federally and/or state listed species (i.e., thread-leaved brodiaea), which have been identified within the Program area. Prior to ground-disturbing activities within the areas where rare plants are re-construction surveys shall be implemented prior to ground-disturbing activities to identify precise locations of rare plants to ensure avoidance to the maximum extent feasible, including incorporating all relevant mitigation in this PEIR, including **BIO-5**, **BIO-6**, and **BIO-7**. Based on the results of the pre-construction survey, a USFWS-approved biologist shall establish the appropriate monitoring buffer for rare plants that have been detected within the construction area. Specific to thread-leaved brodiaea observed near the survey area, a USFWS-approved biologist would be required to be on site during ground disturbing activities occurring within 500 feet of known or potential

thread-leaved brodiaea habitat. Specific to Brand's phacelia, Program components proposed for development within areas of known presence shall seek to restrict and minimize impacts to the species populations through project-level design changes and/or construction methods (e.g., walls, fencing, and/or trenchless utilities/technologies). Impacts to federally listed species would require conformance with **BIO-2**.

Bio-1b Critical Populations of Species Avoidance and Mitigation. Prior to approval of final design plans for each Program component, construction footprints shall be designed to maximally avoid and minimize impacts (both direct and indirect) to critical populations of special-status wildlife species (including, but not limited to, least Bell's vireo) as well as designated critical habitat occurring within the survey area. This shall include incorporation of the following avoidance measures during the design phase:

- Elimination of direct impacts by shifting the footprint outside of mapped critical populations and designated critical habitat wherever feasible.

- Minimization of indirect impacts by reducing ground disturbance, vegetation removal, noise, vibration, and human activity near sensitive areas.

Full avoidance of critical populations through limiting the area of disturbance for each future Program component identified within the overall Program area boundaries shall be required to the maximum extent feasible, unless determined in coordination with the City that complete avoidance is infeasible due to engineering, safety, or legal constraints. Infeasibility must be demonstrated through written explanation reviewed and approved by the City of Oceanside (City; Owner) or its Designated Representative(s) prior to final design plan approval. All relevant mitigation in this PEIR, including **BIO-5**, **BIO-6**, and **BIO-7**, shall be implemented to mitigate potential impacts where full avoidance cannot be achieved.

Bio-1c Sensitive Animal Avoidance and Mitigation. Before the construction of each Program component, vegetation communities and sensitive resource mapping documented during prior surveys shall be reviewed by a Qualified Biologist to determine if pre-construction protocol level surveys are required to confirm presence/absence and distribution of federally and/or state listed species This measure is applicable to the following species: least Bell's vireo, southwestern willow flycatcher, light-footed Ridgway's rail, burrowing owl, and coastal California gnatcatcher. This condition does not apply to arroyo toad based on negative findings and low/marginal habitat within the survey area. If any of these species are identified as occurring within the Program component construction footprint(s), impacts to the species (including its habitat) shall be restricted and minimized through project-level design changes and/or construction methods (e.g., walls, fencing, scheduling outside of avian breeding seasons) as prescribed by the Qualified Biologist, to the extent feasible. Impacts to federally listed sensitive animal species shall also implement mitigation measure **BIO-2**, which provides for consultation with the USFWS via Section 7 or Section 10, as appropriate. Impacts to state listed species shall also implement mitigation measure **BIO-2**, which provides for consultation with the CDFW via Section 2081(b) Incidental Take Permit or Section 2080.1 Consistency Determination. Indirect impacts within occupied habitat occurring within the breeding season for these species would require additional pre-construction surveys in accordance with **BIO-3**.

Bio-1d **Stephen's Kangaroo Rat Avoidance and Mitigation.** If the development footprint associated with any of the sewer improvement projects associated with the programmatic effort is proposed to occur within the Stephens' kangaroo rat survey area indicated on the MHCP Database Records Map (near Whelan Lake) and/or if suitable habitat for this species occurs within the development footprint, then a Qualified Biologist possessing a Section 10(a)1(A) research permit for this species shall survey areas containing potentially suitable habitat (open coastal sage scrub, agricultural fields, and grasslands on soils low in clay content) using approved survey protocols (sign surveys for burrows, scats, tracks, trails, followed by protocol trapping to verify species presence) as part of the CEQA review process for Program components, as applicable. Surveys shall occur regardless of project location inside or outside of the FPA. If Stephens' kangaroo rat is found present on any of the project sites associated with the proposed Program, consultation with USFWS is required. If construction is allowed to occur in the area based on USFWS consultation, then the following construction measures are proposed to conform with the MHCP: (a) removal of native vegetation and habitat should be avoided and minimized to the maximum extent practicable, (b) implement standard BMPs per Appendix B of the MHCP, (c) construction-related vehicle traffic shall be limited to daylight hours to minimize roadkill, (d) for temporary impacts involving trenching or other excavation, measures shall be taken to prevent Stephens' kangaroo rat from falling into the trench. Excavations shall not be covered (e.g., with metal plates or boards) to exclude rodents, because these may actually attract them to burrow beneath and become entrapped, and (e) to minimize injury or mortality of individuals, the USFWS may authorize qualified biologists to relocate individual Stephens' kangaroo rats to nearby suitable habitat. Proposed minimization/avoidance measures must be approved by the USFWS. If Stephens' kangaroo rats are not present, items (a) and (b) should be implemented within the MHCP Stephens' kangaroo rat survey area and a biological monitor possessing a Section 10(a)1(A) research permit for this species shall be present when construction activities are occurring within the MHCP Stephens' kangaroo rat survey area.

Bio-2 **Listed Species Conservation Measures.** Where take of a federally listed species would potentially result from implementation of any of the sewer improvement projects proposed as part of the programmatic effort (as identified through preconstruction surveys required under **BIO-1c** and **BIO-1d**), then before the issuance of land disturbance, clearing, grubbing, or grading permits for that project, it shall be demonstrated that consultation with the USFWS for the Program has analyzed project-level related significant adverse effects to the applicable listed species, has occurred in accordance with the FESA. Additionally, if the Program would impact a state listed species, then it shall be demonstrated that a Section 2081(b) Incidental Take Permit or Section 2080.1 Consistency Determination for impacts to the applicable species has been issued by CDFW or that none was required. Impacts to listed species' habitat shall be compensated by the implementation of habitat-based mitigation off-site purchase of mitigation credits (see mitigation measures **BIO-8a** and **BIO-8b** below).

Bio-3 **Listed Species Breeding Season Restrictions.** No clearing, grubbing, grading, or other construction activities shall occur during the breeding season for coastal California gnatcatcher (February 15 to August 31), least Bell's vireo (March 15 to September 15), light-footed Ridgeway's rail (February 15 to September 30), and/or southwestern willow flycatcher (May 1 to September 1). If construction activity is scheduled to occur during the breeding season for these species, then the following shall be conducted to protect these federal or state listed avian species during construction.

If construction activity is scheduled to occur during the breeding season for these species, a Qualified Biologist, approved by USFWS, will be on site during any project construction within 500 feet of known or potential gnatcatcher, vireo, flycatcher, or rail habitat to ensure compliance with all applicable mitigation measures. The biologist will allow direct communication with the Carlsbad Fish and Wildlife Office (CFWO) at any time regarding the proposed project. The biologist will be provided with a copy of the Informal Section 7 Consultation Documentation between the USEPA and USFWS and will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Resident Engineer to ensure that issues relating to the gnatcatcher, vireo, flycatcher, or rail and their habitats are appropriately and lawfully managed. The biologist will perform the following duties:

a. Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher, vireo, flycatcher, or rails nests within 500 feet of project construction proposed during their breeding seasons. The surveys will begin a maximum of 7 days prior to construction (including temporary fence installation) and one survey will be conducted the day immediately prior to the initiation of work. Additional surveys will be done once a week during project construction in the breeding season. Through coordination with, and concurrence of, the CFWO, these additional surveys may be suspended. The applicant will notify the CFWO at least 7 days prior to the initiation of surveys and within 24 hours of locating any gnatcatcher, vireo, flycatcher, or rail nest.

b. If pre-construction surveys determine that these species are not present, work can occur unimpeded. If an active gnatcatcher, vireo, flycatcher, or rail nest is found within 500 feet of project construction, the biologist will postpone work within 500 feet of the nest and contact the CFWO to discuss: (i) the best approach to avoid/minimize impacts to nesting vireo or flycatcher (e.g., sound walls, noise monitoring); and (ii) a nest monitoring program acceptable to the CFWO. Subsequent to these discussions, work may be initiated subject to implementation of the agreed upon avoidance/minimization approach and nest monitoring program. Nest monitoring will occur according to a schedule approved by the CFWO. The biologist will determine whether gnatcatcher, vireo, flycatcher, or rail are being disrupted. If the biologist determines that gnatcatcher, vireo, flycatcher, or rail are being disrupted, the applicant will stop work and coordinate with the CFWO to review the avoidance/minimization approach. Upon agreement as to the necessary revisions to the avoidance/minimization approach, work may resume subject to the revisions and continued nest monitoring. Nest monitoring will continue until fledglings have dispersed or the nest is no longer active, as approved by the CFWO.

Bio-4 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the Program shall comply with the following: Construction activities requiring the removal and/or trimming of vegetation suitable for nesting birds (including clearing, grubbing, trenching, grading, or land disturbances) shall occur outside of the general bird breeding season (January 15 to September 15). This condition may be waived provided that the following additional avoidance measures are taken. If the construction activities cannot avoid the general bird breeding season, a Qualified Biologist shall be retained to conduct a pre-construction nesting bird survey within seven days before the start of the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the Qualified Biologist , then the activities shall proceed with the reassurance that

no violation of the MBTA and CFG Code would occur. If an active bird nest is found by the Qualified Biologist, then vegetation removal and/or trimming activities at the nest location, and within 300 feet for passerine birds and 500 feet for raptors, shall not be allowed to occur until the Qualified Biologist has determined that the nest is no longer active. Buffers may be reduced only at the discretion of the Qualified Biologist depending on the bird species and construction/ vegetation removal activities required in the vicinity of the active nest.

Bio-5 **Construction Work Limits Fencing.** Before the issuance of land disturbance, clearing, grubbing, or grading permits for each Program component, the approved grading boundaries and limits of work shall be presented on the Final Construction Drawings, including the limits of work fencing. To help ensure inadvertent/unauthorized impacts to environmentally sensitive areas outside of the approved limits of work are avoided, temporary construction fencing (orange fencing or similar), including silt fencing as appropriate, shall be installed at the edges of the approved impact limits within 500 feet of known thread-leaved brodiaea, coastal California gnatcatcher, least Bell's vireo, light-footed Ridgeway's rail, and southwestern willow flycatcher habitat. This fencing shall be installed before construction and maintained for the duration of construction activity. Fencing shall be installed in a manner that does not impact habitats to be avoided. The City shall submit to the CFWO for approval, at least 5 working days prior to initiating soil-disturbing impacts, the final plans for construction. These final plans will include photographs that show the fenced limits of impact, sediment-trapping devices installed prior to grading (if applicable), and all areas to be avoided.

Once fencing is installed, a biological monitor (see **BIO-6**) shall determine the need for additional inspections and monitoring activities throughout the duration of construction. Under no circumstances shall work occur beyond the fenced or demarcated limits of impact. Temporary construction fencing shall be removed upon completion of construction.

Bio-6 **Biological Construction Monitoring.** A USFWS-approved biologist shall be retained to monitor construction activities. The monitoring, at minimum, shall include inspection of construction work areas, including staging and storage areas, to confirm that activities are kept within the approved limits and that BMPs are in place. The Qualified Biologist shall regularly monitor construction activities throughout construction and perform the following duties.

a. Oversee installation of and inspect temporary fencing and erosion control measures within or up-slope of avoided areas a minimum of once per week during installation and daily during all rain events until established to ensure that any breaks in the fence or erosion control measures are repaired immediately.

b. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust and that all other conditions are followed.

c. Train all contractors and construction personnel a maximum of 14 days prior to construction on the biological resources associated with the Program component(s) and ensure that training is implemented by construction personnel. At a minimum, training will include: (i) the purpose for resource protection; (ii) a description of the gnatcatcher, vireo, flycatcher, and rail and their habitats; (iii) the conservation measures given in this consultation that should be implemented during project construction to conserve sensitive resources, including strictly limiting activities, vehicles, equipment, and construction

materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (iv) environmentally responsible construction practices; (v) the protocol to resolve conflicts that may arise at any time during the construction process; and, (vi) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act.

d. Halt work, if necessary, and confer with the CFWO to ensure the proper implementation of species and habitat protection measures. The biologist will report any violation to the CFWO within 24 hours of its occurrence.

e. Submit weekly letter reports via electronic mail (email) to the CFWO during construction within 500 feet of avoided brodiaea, gnatcatcher, vireo, flycatcher, or rail habitat, or unless otherwise agreed to by the CFWO. The weekly reports will document that authorized impacts were not exceeded, work did not occur within the 500-foot buffer, or otherwise CFWO-approved setback and general compliance with all CMs. The reports will also outline the duration of vireo, flycatcher, or gnatcatcher monitoring, the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatcher, vireo, flycatcher, or rail and nests, sex of the birds, observed behavior (especially in relation to construction activities), and remedial measures employed to avoid, minimize, and mitigate impacts to vireo, flycatcher, or gnatcatcher and nests. Raw field notes should be available upon request by the CFWO.

f. Submit a final report to the CFWO within 60 days of project completion that includes: (i) maps of areas within 500 feet of brodiaea, gnatcatcher, vireo, flycatcher, or rail habitat with an overlay of habitat that was impacted and avoided; (ii) photographs of habitat areas that were to be avoided; and iii) summary of all gnatcatcher, vireo, flycatcher, or rail and nest observations; and (iv) other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all mitigation measures was achieved.

If items of non-compliance are identified, the biologist shall notify the on-site construction superintendent and/or other appropriate personnel immediately to discuss and implement corrective actions. If the non-compliance items involve USFWS critical habitat, occupied sensitive species habitat, and/or sensitive species, the biologist has stop work authority. Issues of non-compliance that result in additional impacts to sensitive biological resources shall be documented within 72-hours of identification. Mitigation for unauthorized impacts shall adhere to the applicable measures in this PEIR.

BIO-7 Construction Best Management Practices. The City shall ensure that the following conditions are implemented during construction to minimize potential impacts to sensitive species:

a. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the project and will be specified in construction plans.

b. To avoid attracting predators of the gnatcatcher, vireo, flycatcher, and rail, the project site will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site.

c. Disposal or temporary placement of excess fill, brush, or other debris will not be allowed in waters of the U.S. or on their banks.

d. Pets of project personnel will not be allowed on the project site.

e. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

f. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will occur in designated areas outside of waters of the United States within the fenced project impact limits. These designated areas will be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering waters of the United States and will be shown on the construction plans. Fueling of equipment will take place within existing paved areas greater than 100 feet from waters of the United States. Contractor equipment will be checked for leaks prior to operation and repaired as necessary. “No-fueling zones” will be designated on construction plans.

5.2.3 Conclusion

Individual projects associated with the proposed Program have the potential to result in significant impacts to special-status plant and animal species, including general nesting birds and raptors. This is most applicable in the northern portion of the survey area associated with the SLR and adjacent non-developed areas. However, the implementation of mitigation measures **Bio-1a** through **Bio-7** would ensure that potential impacts to special-status species and their habitat are avoided and/or are reduced to below significant. Further, impacts to special-status species habitat would be compensated by the implementation of habitat-based mitigation via the purchase of appropriate mitigation credits within a City-approved conservation bank (see mitigation measures **Bio-8a, Bio-8b, Bio-9a,** and **Bio-9b** below).

5.3 ISSUE 2: RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

5.3.1 Impact Analysis

Less than Significant with Mitigation. Implementation of the proposed Program within the survey area would potentially result in significant direct impacts to sensitive natural communities, which requires mitigation. Direct impacts to non-sensitive habitats would also occur but are not considered significant and do not require mitigation. Direct impacts would be permanent and temporary. Indirect impacts to riparian habitat and sensitive natural communities could occur as a result of construction activities related to any of the individual projects associated with the programmatic effort. Sensitive communities, including riparian habitat, in the survey area that could be impacted are depicted on Figures 7a-7h, *Vegetation Communities and Habitat Types*, and are summarized below within Table 5, *Potential Impacts on Sensitive Natural Communities*.

Table 5
POTENTIAL IMPACTS ON SENSITIVE NATURAL COMMUNITIES

Vegetation Community or Habitat Type	MHCP Habitat Group	Acres[1]
Wetland/Riparian		
Freshwater Marsh (52410)	A	0.05
Southern Riparian Forest (61300)	A	1.73
Mule Fat Scrub (including disturbed) (63310)	A	0.35
Southern Willow Scrub (63320)	A	1.21
	Wetland Subtotal	***3.34***
Upland		
Diegan Coastal Sage Scrub (including disturbed) (32500)	C	2.2
Baccharis Scrub (32530)	C	0.2
Native Grassland (42100)	B	0.2
Salt Grass Grassland (42130)	B	<0.1
Non-native Grassland (42200)	E	24.2
	Upland Subtotal	***26.8***
	TOTAL	**30.14**

[1]Acres rounded to the nearest 0.01 acre for wetland habitat and 0.1 acre for upland habitat.

Implementation of mitigation measure **Bio-5** would ensure that sensitive natural communities beyond the authorized limits of work are protected during construction through the installation of temporary work/impact limits fencing (orange silt fencing or similar) to clearly delineate the edge of the approved limits of grading and clearing. Implementation of **Bio-6** would require monitoring throughout construction to also verify that the authorized impact limits are not exceeded. Mitigation measures **Bio-8a** and **Bio-8b** would ensure that direct impacts for the vegetation communities identified in Table 5 are compensated in accordance with regional mitigation ratio standards (i.e., MHCP). Further, mitigation measures **Bio-9a** and **Bio-9b** provide specific requirements for how compensatory mitigation for impacts to sensitive natural communities also considered jurisdictional aquatic resources would be implemented (see discussion of Issue 3: Jurisdictional Wetlands and Waterways, Section 5.4 below).

5.3.2 Mitigation Measures

Bio-7a Compensatory Mitigation for Impacts to Sensitive Natural Communities. Before the issuance of land disturbance, clearing, grubbing, or grading permits for any of the proposed sewer projects associated with the programmatic effort, it shall be demonstrated that compensatory mitigation for direct impacts caused by any of the projects associated with the programmatic effort (including permanent and temporary) to sensitive natural communities has been adequately proposed in accordance with the ratios provided in Table 6, *Mitigation Ratios for Impacts to Sensitive Natural Communities*. Mitigation for permanent impacts will need to be secured through the purchase of off-site conservation credits from a City-approved conservation bank in the region. This includes all impacts occurring within City Sewer Easements. Although many of the impacts within these areas would otherwise be considered temporary, the routine maintenance required in these areas and the potential for ground disturbance (i.e., associated with a repair) deems these areas unsuitable for restoration.

Table 6
MITIGATION RATIOS FOR IMPACTS TO SENSITIVE NATURAL COMMUNITIES [1]

VEGETATION COMMUNITY OR HABITAT TYPE	MITIGATION RATIO
Wetland/Riparian	
Freshwater Marsh (52410)	3:1
Southern Riparian Forest (61300)	3:1
Mule Fat Scrub (including disturbed) (63310)	3:1
Southern Willow Scrub (63320)	3:1
Upland	
Diegan Coastal Sage Scrub (including disturbed) (32500)[2]	2:1 to 3:1
Baccharis Scrub (including disturbed) (32530)	2:1 to 3:1
Native Grassland (42100)	3:1
Salt Grass Grassland (42130)	3:1
Non-native Grassland (42200)	0.5:1

[1] primary conservation actions for upland habitat in WCPZ are to avoid as much as possible and to minimize any unavoidable impacts. Upland habitat conserved and managed on-site in WCPZ may be used to satisfy in-kind mitigation obligations associated with impacts to upland habitats located on-site. Upland habitat may be removed in PAMA. Upland habitat conserved and managed on-site in PAMA may be used to satisfy in-kind mitigation obligations associated with impacts to upland habitats located on-site. Mitigation obligations that cannot be satisfied with on-site conservation, must be located inside WCPZ or other PAMA. Up-tiering of mitigation will be considered on a case-by-case basis and must be approved by the wildlife agencies.

[2] Impacts to coastal sage scrub in the Coastal Zone and Agency approved areas of the Offsite Mitigation Zone shall be mitigated at a 2:1 ratio.

Bio-7b Sensitive natural communities identified in Table 3.2-3 of the PEIR that would be temporarily impacted during construction shall be recontoured and/or revegetated immediately (within 12 months) following construction to a pre-construction condition or better, pursuant to the Programmatic Revegetation Plan. This plan shall include clearly defined success criteria and describe the methods to achieve those criteria. Sensitive habitat communities shall be revegetated in-kind to preserve ecological integrity, while temporary impacts to non-sensitive communities shall be restored using a low-fuel native erosion control seed mix. Additionally, all areas within the sewer easement—although considered permanent impacts—shall also be revegetated with the same low-fuel native mix to ensure compliance with erosion control standards.

5.3.3 Conclusion

Implementation of any of the sewer improvement projects associated with the programmatic effort would potentially result in significant direct impacts to sensitive natural communities (i.e., southern riparian forest, mule fat scrub [including disturbed], southern willow scrub, beach, Diegan coastal sage scrub [including disturbed], baccharis scrub, native grassland, salt grass grassland, and non-native grassland). Purchase of conservation credits within a mitigation bank acceptable to the City and wildlife agencies (as applicable) as well as successful implementation of a programmatic revegetation plan would fully compensate for the loss of habitat and reduce Program impacts to below a level of significance.

5.4 ISSUE 3: JURISDICTIONAL WETLANDS AND WATERWAYS

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

5.4.1 Impact Analysis

Less than Significant with Mitigation. Although a final development footprint for the individual projects associated with the programmatic effort has not been determined, these projects could directly and/or indirectly affect federally protected wetlands, waterways, and other potential jurisdictional aquatic resources in the survey area, including wetlands and waters under Section 404 of the CWA subject to jurisdiction of USACE, jurisdictional waters of the State subject to jurisdiction by RWQCB under Section 401 of the CWA, protected streambed and associated riparian habitat under the jurisdiction of CDFW per Section 1602 of the CDFW Game Code (see Table 7, *Potential Impacts to Jurisdictional Aquatic Resources*).

Table 7
POTENTIALLY IMPACTS TO JURISDICTIONAL AQUATIC RESOURCES (acres)[1]

Habitat	Potential Resource Agency Jurisdiction		
	USACE	RWQCB	CDFW
Wetland			
Freshwater Marsh	0.05	0.05	0.05
Southern riparian forest	1.57	1.57	1.73
Southern willow scrub	0	0	1.21
Mule fat scrub	0	0	0.01
Subtotal	***1.62***	***1.62***	***3.00***
Concrete brow ditch or drainage	0.22	1.34	1.32
Potential drainage	0	0.22	0.22
Subtotal	***0.22***	***1.56***	***1.54***
TOTAL	**1.84**	**3.18**	**4.54**

[1] Areas are presented in acre(s) rounded to the nearest 0.01.
USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.

Where feasible, construction of any of the projects associated with the programmatic effort would avoid direct impacts to jurisdictional resources associated with the SLR as well as other jurisdictional aquatic resources by means of specific construction methods that would install the pipeline beneath jurisdictional features (e.g., jack and bore, multi-directional drilling, or tunneling). If it is determined that direct impacts to jurisdictional resources are unavoidable, such impacts are expected to be temporary but would still be considered significant. No permanent impacts or development within jurisdictional aquatic resources are anticipated as a result of any of the projects associated with the programmatic effort. Indirect impacts to jurisdictional wetlands or waterways are not expected as a result of any of the projects associated with the programmatic effort.

As a regulatory requirement, a future development proposal would be required to notify and obtain necessary permits from these responsible agencies, including the USACE, RWQCB, and CDFW. Measures **Bio-9a** and **Bio-9b** would ensure that the appropriate permits are obtained and that the impact is

compensated in accordance with regulatory agency requirements. Implementation of required construction BMPs in combination with mitigation measures **Bio-5** through **Bio-7** would also ensure that construction activities are regularly monitored, are contained within the proposed work limits, and that no additional impacts to adjacent jurisdictional resources occur.

5.4.2 Mitigation Measures

Bio-8a **Regulatory Permitting.** Before the issuance of land disturbance, clearing, grubbing, or grading permits to impact potentially jurisdictional aquatic resources, the City shall obtain and retain evidence that regulatory permits from USACE, RWQCB, and/or CDFW as determined to be at that time applicable, have been issued, or that no such permits are required.

Bio-8b **Compensatory Mitigation for Impacts to Jurisdictional Resources.** Permanent and temporary impacts to potentially jurisdictional resources under the regulation of USACE, RWQCB, and/or CDFW that result from any of the development footprints associated with the sewer improvement projects associated with the programmatic effort shall be mitigated at a 3:1 ratio consisting of a minimum 1:1 creation/establishment and subject to regulatory permitting requirements of the USACE, RWQCB, or CDFW (**BIO-9a**). Mitigation shall be provided through the purchase of appropriate credits from a mitigation bank approved by the USACE, RWQCB, or CDFW, as applicable. Jurisdictional aquatic resources temporarily impacted during construction shall be recontoured and/or revegetated immediately (within 12 months) following construction to a pre-construction condition or better. No revegetation monitoring shall be needed, unless otherwise required by the USACE, RWQCB, or CDFW as applicable.

5.4.3 Conclusion

Development footprints associated with the sewer improvement projects associated with the programmatic effort could result in potentially significant impacts to protected wetlands, waters, and/or streambed and associated riparian vegetation under the jurisdiction of USACE, RWQCB, and CDFW. Future development proposals would be required to secure the necessary regulatory permits before impacts per mitigation measure **Bio-8a**. Because the proposed designs of the projects associated with the programmatic effort are still being developed, and due to changing regulatory guidelines, it is uncertain which regulatory permits may be needed for the Program. If at the time a final development proposal is made, the potential wetlands or waters of the U.S. are determined to be jurisdictional wetlands or waters by the Resource Agencies, it is anticipated that a 404 permit from the USACE, 401 Certification from the RWQCB, and 1602 agreement from CDFW would be needed. If the potential wetlands or waters on-site are ruled non-jurisdictional by USACE, it is anticipated that a WDR Permit from RWQCB and a 1602 agreement from CDFW would be required for a future development proposal. Mitigation measure **Bio-8b** proposes ratios consistent with those typically required by these regulatory agencies and, therefore, would compensate for impacts to jurisdictional resources, such that impacts would be reduced to below a level of significance. Implementation of mitigation measures **Bio-5** and **Bio-6** during construction would prevent additional impacts to potentially jurisdictional features.

5.5 ISSUE 4: WILDLIFE MOVEMENT AND NURSERY SITES

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

5.5.1 Impact Analysis

Less Than Significant with Mitigation. A majority of the survey area occurs within urban/developed land located outside regional or local wildlife corridors. The northern portion of the survey area includes the SLR and non-developed areas east of Whelan Lake. These areas are within an MHCP biological core and linkage area (BCLA). The development footprint associated with the sewer improvement projects, associated with the programmatic effort located within a BCLA, may impact (directly and/or indirectly) the SLR and/or areas within the BCLA that could potentially be used for wildlife movement, fish, and/or native wildlife nursery sites. Additionally, portions of the survey area are designated in the Draft SAP as a Wildlife Corridor Planning Zone (WCPZ; Figure 4), designated CAGN corridor, and MHCP hardline and softline preserve areas. Where feasible, the design of projects within these areas would avoid and/or minimize direct and indirect impacts to these potential wildlife movement areas. Direct impacts to BLCA, preserve areas, WCPZ, and corridors are expected to be temporary, and in some instances, subsurface. In addition, components of the Program that cross the SLR would likely be constructed using specific methods such as jack and bore, multi-directional drilling, or tunneling that would avoid direct impacts to this wildlife movement corridor. Indirect impacts could occur and would be associated with excessive construction noise if construction occurs during the breeding season. Given that the single aboveground facility for the Program is proposed to occur within an existing developed setting on the Garrison Elementary School property and that the school does not serve as a wildlife corridor or nursery site, implementation of the Program at this location would not impede local wildlife movement or nursery sites.

A major population area and critical population of LBVI are identified in and around the northern portion of the survey area in the MHCP, associated with the SLR. Based on the analysis above and the fact that the applicable portions of the sewer improvements Program would either minimize (**Bio-1b**, **Bio-1c**, **Bio-2**), or completely avoid riparian habitat (e.g., jack and bore or tunneling), the proposed Program would have less than significant impacts to wildlife movement or corridors and would not interfere with potential nursery sites.

To further reduce potential impacts to wildlife movement in the survey area, avoidance and minimization measures such as construction limit delineation (**Bio-5**), biological construction monitoring in areas where work limits occur adjacent to potential wildlife movement areas (**BIO-6**), and measures to minimize potential indirect impacts (**BIO-7**) would be implemented.

5.5.2 Mitigation Measures

Implementation of mitigation measures **BIO-1b**, **BIO-1c**, **BIO-2** and **BIO-5** through **BIO-7** would be implemented to avoid or reduce impacts to wildlife movement areas.

5.5.3 Conclusion

Development footprints associated with individual projects within the Program could have temporary impacts on the movement of wildlife species and corridors. This is most applicable in the northern portion of the survey area associated with the SLR and adjacent non-developed areas. The proposed Program is not expected to impede the use of a native wildlife nursery site. Because the majority of impacts would be temporary, wildlife use is not expected to change in aboveground Program areas, temporary construction and/or silt fencing would be installed at the limits of work (**Bio-5**), and biological

construction monitoring would be implemented (**Bio-6**), impacts to wildlife movement would be avoided and/or reduced to below significant.

5.6 ISSUE 5: LOCAL POLICIES AND ORDINANCES

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

5.6.1 Impact Analysis

No Impact. It is presumed that the development of all final project components associated with the programmatic effort would be required to comply with City policies and ordinances. The City does not have a local tree preservation policy or other policies or ordinances protecting biological resources. Thus, no impact to local policies or ordinances protecting biological resources would occur.

5.6.2 Mitigation Measures

No mitigation is required.

5.6.3 Conclusion

The final development of all final project components associated with the programmatic effort would not conflict with local policies or ordinances protecting biological resources. No impact would occur, and no mitigation is required.

5.7 ISSUE 6: ADOPTED CONSERVATION PLANS

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

5.7.1 Issue 6 Impact Analysis

Less Than Significant with Mitigation. The proposed Program is located within the boundaries of the MHCP and specifically within the Draft SAP area. The Draft SAP has not been adopted and remains in draft form since 2010; therefore, any conflicts would not be considered a conflict with the provisions of an adopted habitat conservation plan. The proposed Program would also not conflict with the provisions of the MHCP.

The development of all final project components associated with the programmatic effort is also encouraged to comply with minimum standards and mitigation ratios required by the MHCP, as set forth in mitigation measures **Bio-1a** through **Bio-9b**. Compliance with mitigation measures **Bio-1a** through **Bio-9b** in this report would ensure that the project would reduce significant impacts to less than significant. Overall, the implementation of the individual projects associated with the programmatic effort would not preclude or prevent finalizing and adoption of the Draft SAP, and Program impacts would be less than significant.

5.7.2 Mitigation Measures

Compliance with existing regulations, in addition to the implementation of mitigation measures **Bio-1** through **Bio-9b**, would ensure consistency with the MHCP and Draft SAP and reduce potential significant effects to below significant levels.

5.7.3 Conclusion

The development of final project components associated with the programmatic effort could result in potential significant impacts to sensitive biological resources addressed under the MHCP; however, compliance with existing regulations and implementation of measures **Bio-1a** through **Bio-9b** would ensure that development in the survey area does not conflict with the MHCP or Draft SAP, or other approved/adopted conservation plan.

6.0 CERTIFICATION/QUALIFICATION

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

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Appendix A

Assessor's Parcel Numbers

APN	APN	APN	APN	APN	APN
1602906800	7715803166	7715802609	7715802635	7715802766	7715802930
1583015400	7715803169	7715802621	7715802653	7715802769	7715802932
1521711800	7715803175	7715802624	7715802662	7715802801	7715802950
1583015100	7715803176	7715802632	7715802668	7715802805	7715802952
1583015300	7715803108	7715802638	7715802706	7715802817	7715802963
1583014700	7715803109	7715802641	7715802647	7715802836	7715802978
1582502100	7715803111	7715802644	7715802648	7715802856	7715802986
1582501700	7715803112	7715802601	7715802649	7715802802	7715803008
1580510100	7715803113	7715802604	7715802655	7715802813	7715803009
1582502000	7715803120	7715802617	7715802703	7715802818	7715803011
1582501800	7715803125	7715802619	7715802718	7715802827	7715803012
1582501400	7715803135	7715802620	7715802726	7715802830	7715803017
1582501300	7715803150	7715802626	7715802729	7715802847	7715803052
7715803101	7715803106	7715802640	7715802713	7715802850	7715803062
7715803146	7715803121	7715802661	7715802714	7715802846	7715803067
7715803149	7715803122	7715802704	7715802725	7715802855	7715802976
7715803167	7715803123	7715802705	7715802738	7715802823	7715802984
7715803177	7715803131	7715802652	7715802739	7715802828	7715802989
7715803132	7715803133	7715802658	7715802745	7715802843	7715803013
7715803147	7715803152	7715802660	7715802758	7715802848	7715803015
7715803102	7715803107	7715802667	7715802719	7715802822	7715803016
7715803103	7715803110	7715802669	7715802721	7715802833	7715803024
7715803148	7715803115	7715802603	7715802733	7715802834	7715803034
7715803118	7715803124	7715802610	7715802753	7715802839	7715803040
7715803127	7715803126	7715802616	7715802764	7715802842	7715803048
7715803117	7715803129	7715802631	7715802776	7715802853	7715803054
7715803144	7715803134	7715802646	7715802659	7715802854	7715803056
7715803139	7715803136	7715802606	7715802666	7715802860	7715803063
7715803154	7715802864	7715802611	7715802701	7715802874	7715803065
7715803155	7715802997	7715802614	7715802715	7715802903	7715803066
7715803156	7715803105	7715802623	7715802727	7715802944	7715803073
7715803160	7715803151	7715802630	7715802736	7715802945	7715802990
7715803165	7715803161	7715802612	7715802747	7715802949	7715802992
7715803137	7715803163	7715802618	7715802756	7715802973	7715803003
7715803140	7715803172	7715802629	7715802804	7715802974	7715803005
7715803145	7715803173	7715802651	7715802841	7715802979	7715803020
7715803157	7715803170	7715802663	7715802845	7715802981	7715803028
7715803168	7715803171	7715802664	7715802857	7715802988	7715803030
7715803174	7715803180	7715802637	7715802844	7715803039	7715803038
7715803128	7715803114	7715802639	7715802849	7715803041	7715803036
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APN	APN	APN	APN	APN	APN
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7715803050	7715802890	7715802962	7715802737	7715802730	7715803045
7715803072	7715802868	7715802971	7715802743	7715802732	7715803046
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7715802872	7715802895	7715802939	7715802824	7715802752	1583015200
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7715802889	7715802924	7715802959	7715802775	7715802665	1523204033
7715802906	7715802859	7715802965	7715802803	7715802702	1523204004
7715802915	7715802867	7715802967	7715802808	7715802717	1523204006
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7715802927	7715802875	7715802876	7715802835	7715802731	1523204012
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7715802975	7715802911	7715802893	7715802735	7715802760	1523204010
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7715803032	7715802929	7715802925	7715802767	7715802810	1523204036
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7715803044	7715802937	7715802991	7715802770	7715802821	1523204019
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7715802877	7715802942	7715802995	7715802806	7715803181	1523204018
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7715802920	7715802970	7715803026	7715802720	7715803081	1523204003
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1620307412	1620307513	1620307431	1620307711	1620307716	1530110600
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1620307507	1620307519	1620307322	1620307604	1620307730	1530123200
1620307508	1620307522	1620307323	1620307702	1620307528	1530123100
1620307226	1620307610	1620307401	1620307704	1620307605	1521930500
1620307228	1620307230	1620307615	1620307709	1620307617	1521910500
1620307312	1620307319	1620307402	1620307717	1620307614	1604111000
1620307110	1620307326	1620307410	1620307729	1620307712	1604120300
1620307122	1620307404	1620307414	1620307705	1620307714	1604120400
1620307123	1620307405	1620307421	1620307710	1620307719	1581901100
1620307212	1620307406	1620307511	1620307727	1620307731	1578806800
1620307217	1620307420	1620307516	1620307620	1620202200	1578806500
1620307219	1620307423	1620307607	1620307707	1624611600	1578808200
1620307225	1620307413	1620307622	1620307726		1600901700
1620307111	1620307417	1620307515	1620307523	1620202300	1605123100
1620307124	1620307418	1620307527	1620307524	1624611800	1605124000
1620307203	1620307419	1620307601	1620307416		1601331100
1620307302	1620307425	1620307603	1620307422	1583605200	1600520900
1620307424	1620307426	1620307616	1620307505	1582500800	1600520300
1620307428	1620307512	1620307619	1620307510	1582503700	1493300500

Appendix B

Plant Species Observed

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	NNG, DCSS, SRF, MFS, DH
Aizoaceae	*Carpobrotus edulis**	freeway iceplant	NNV
	*Mesembryanthemum crystallinum**	crystalline iceplant	NNG
	*Mesembryanthemum nodiflorum**	slender-leaved iceplant	NNG
Amaranthaceae	*Amaranthus albus**	white tumbleweed	DH
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS
	Rhus integrifolia	lemonadeberry	DCSS
	*Schinus molle**	Peruvian pepper tree	SRF
	*Schinus terebinthifolius**	Brazilian pepper tree	DH
	Toxicodendron diversilobum	poison oak	SRF
Apiaceae	*Apium graveolens**	celery	SRF
	*Conium maculatum**	poison-hemlock	NNG, DH, SRF, MFS
	Daucus pusillus	rattlesnake weed	DCSS
	*Foeniculum vulgare**	fennel	NNG
Araceae	*Lemna* sp.	duckweed	SRF
Asteraceae	*Ambrosia acanthicarpa*	annual bur-sage	NNG, DH, SGG
	Ambrosia psilostachya	western ragweed	SRF, NNG, DH
	*Anthemis cotula**	dog fennel	NNG
	Artemisia californica	California sagebrush	DCSS, NNG
	Artemisia douglasiana	California mugwort	SRF
	Baccharis pilularis	coyote brush	NNG, BS, DCSS, SRF, SWS
	Baccharis salicifolia	mule fat	NNG, BS, DCSS, SRF, SWS
	Baccharis sarothroides	broom baccharis	BS
	Brickellia californica	brickellbush	DCSS
	*Carduus pycnocephalus**	Italian thistle	NNG, DH
	*Centaurea melitensis**	tocalote	NNG, DH
	Corethrogyne filaginifolia	sand aster	NNG, DCSS
	*Cotula australis**	Australian brassbuttons	DH
	Deinandra fasciculata	fascicled tarplant	DCSS, NNG, DH, NG
	Encelia californica	California encelia	DCSS
	Erigeron canadensis	horseweed	DH, NNG
	*Glebionis coronaria**	garland daisy	NNG, DH, MFS, SGG
	Grindelia camporum	Grindelia	DH
	*Hedypnois cretica**	Crete weed	NNG, DH
	*Helminthotheca echioides**	bristly ox-tongue	NNG, DH
	Heterotheca grandiflora	telegraph weed	BS, NNG, DH
	*Hypochaeris glabra**	smooth cat's ear	DCSS, NNG
	Isocoma menziesii	goldenbush	DCSS, NNG, NG
	*Lactuca serriola**	wild lettuce	NNG, DH
	*Logfia gallica**	narrow-leaf filago	DCSS, DH, NNG, NG
	*Matricaria discoidea**	pineapple-weed	NNG, DH, NNV
	Pseudognaphalium beneolens	fragrant everlasting	DCSS
	Pseudognaphalium californicum	California everlasting	DCSS
	*Pseudognaphalium luteoalbum**	common cudweed	DH
	*Senecio vulgaris**	common groundsel	DH
	*Sonchus asper**	prickly sowthistle	NNG, SRF, DH, NNV
	*Sonchus oleraceus**	common sowthistle	DH, NNV
	Stephanomeria sp.	wreath plant	NNG

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Asteraceae (cont.)	*Stephanomeria* sp.	wreath plant	NNG
	Xanthium strumarium	cocklebur	SRF
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck	NNG, NG
	Amsinckia menziesii	Menzies' fiddleneck	NNG, NG
	Cryptantha intermedia	cryptantha	DCSS, NG
	Heliotropium curassavicum	salt heliotrope	NNG, SGG
	Pectocarya linearis	slender pectocarya	DH, NNG
	Phacelia cicutaria	caterpillar phacelia	DCSS, NG
	Phacelia stellaris†	Brand's phacelia	D-DCSS
	Plagiobothrys nothofulvus	rusty popcorn flower	DCSS, NG
Brassicaceae	*Brassica nigra**	black mustard	BS, NNG, MFS, DH
	*Capsella bursa-pastoris**	shepherd's purse	NNG
	*Hirschfeldia incana**	short-pod mustard	BS, NNG, DH, EW
	*Lepidium latifolium**	perennial pepperweed	NNG, DH
	Lepidium oblongum	wayside peppergrass	NNG, DH
	*Raphanus sativus**	wild radish	NNG, SRF
	*Sisymbrium altissimum**	tall tumble mustard	NNG
Cactaceae	*Opuntia ficus-indica**	mission cactus	NNV
	Opuntia littoralis	coastal prickly pear	DCSS
Caryophyllaceae	*Cerastium glomeratum**	mouse-ear chickweed	MFS, DH
	*Herniaria hirsuta**	hairy rupturewort	DH
	Spergularia sp.*	sand spurrey	NNG
	Stellaria sp.*	chickweed	SRF
Chenopodiaceae	*Atriplex semibaccata**	Australian saltbush	DH
	*Chenopodium album**	lamb's quarters	DH
	*Chenopodium murale**	nettle-leaf goosefoot	DH
	*Salsola tragus**	Russian thistle	DH
Cleomaceae	*Peritoma arborea*	bladderpod	DCSS
Convolvulaceae	*Calystegia macrostegia* ssp. *tenuifolia*	San Diego morning glory	DCSS
	*Convolvulus arvensis**	bindweed	NNG
	Cressa truxillensis	alkali weed	NNG
Crassulaceae	*Crassula connata*	pygmy-weed	NNG, SRF
Cucurbitaceae	*Cucurbita foetidissima*	calabazilla	NNG
Euphorbiaceae	*Croton californicus*	California croton	NNG
	*Euphorbia maculata**	spotted spurge	NNG, DH
	*Euphorbia peplus**	petty spurge	SRF
	*Ricinus communis**	castor bean	DH, NNG
Fabaceae	*Acacia cyclops**	coastal wattle	DH
	*Acacia longifolia**	golden wattle	DH
	Acmispon glaber	deerweed	DCSS
	Acmispon heermannii	Heermann's lotus	NNG
	Acmispon micranthus	Acmispon	DH
	Acmispon strigosus	strigose lotus	NNG
	Lupinus bicolor	miniature lupine	NNG, NG
	Lupinus succulentus	arroyo lupine	DCSS
	*Medicago polymorpha**	burclover	NNG, SRF
	*Melilotus albus**	white sweetclover	DH
	*Melilotus indicus**	annual yellow sweetclover	NNG, DH

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Fabaceae (cont.)	*Quercus agrifolia* var. *agrifolia*	coast live oak	SRF
	Quercus rubra	red oak	DH
	*Trifolium hirtum**	rose clover	DH, NNG
	Trifolium sp.	clover	NNG
Geraniaceae	*Erodium botrys**	long-beak filaree	NNG
	*Erodium cicutarium**	red-stem filaree	NNG, DH, MFS
	*Erodium moschatum**	white-stem filaree	DH
Lamiaceae	*Lamium amplexicaule**	henbit	SRF
	*Marrubium vulgare**	horehound	NNG, SRF
	Salvia mellifera	black sage	DCSS
Malvaceae	*Malva parviflora**	cheeseweed	NNG, DH
	Malvella leprosa	alkali-mallow	NNG, DH
Meliaceae	*Melia azedarach*	chinaberry	DH, NNG
Montiaceae	*Claytonia* sp.	claytonia	SRF
Myrsinaceae	*Anagallis arvensis**	scarlet pimpernel	DH
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	EW
Onagraceae	*Camissoniopsis bistorta*	California sun cup	NNG
	Camissoniopsis hirtella	field sun cup	NNG
	Oenothera elata ssp. *hirsutissima*	great marsh evening-primrose	DH
Phrymaceae	*Diplacus puniceus*	sticky monkeyflower	DCSS
Pinaceae	*Pinus halepensis**	Aleppo pine	DH
Plantaginaceae	*Plantago erecta*	dwarf plantain	DCSS, NG
	*Plantago lanceolata**	English plantain	NNG
	Plantago ovata	wooly plantain	NNG
Platanaceae	*Platanus racemosa*	western sycamore	SRF
Plumbaginaceae	*Limonium perezii**	statice	DH, NNG
Polygonaceae	*Eriogonum fasciculatum*	buckwheat	DCSS, NNG
	Eriogonum sp.	annual eriogonum	DCSS
	Lastarriaea coriacea	spine flower	NNG, DH
	*Polygonum aviculare**	common knotweed	DH
	*Rumex crispus**	curly dock	MFS, NNG
Rosaceae	*Heteromeles arbutifolia*	toyon	DCSS
	Rosa californica	California rose	SRF
Rubiaceae	*Galium aparine**	goosegrass	DH, SRF
Salicaceae	*Populus fremontii*	Fremont cottonwood	SRF
	Salix exigua	narrow-leaved willow	SWS, DCSS
	Salix gooddingii	black willow	SRF
	Salix laevigata	red willow	SRF
	Salix lasiolepis	arroyo willow	DCSS, SRF, SWS
Saururaceae	*Anemopsis californica*	yerba mansa	SRF
Scrophulariaceae	*Myoporum laetum**	myoporum	SRF
Solanaceae	*Datura wrightii*	jimson weed	DCSS, DH
	*Nicotiana glauca**	tree tobacco	NNG, SWS, MFS
	Solanum americanum	white nightshade	DH, SWS
Tamaricaceae	*Tamarix ramosissima**	saltcedar	SRF, TS
Urticaceae	*Urtica dioica* ssp. *holosericea*	stinging nettle	SRF
	*Urtica urens**	dwarf nettle	NNG, SRF
Verbenaceae	*Verbena menthifolia*	mint-leaf verbena	SRF

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Zygophyllaceae	*Tribulus terrestris**	puncture vine	DH
Monocots			
Agavaceae	*Agave americana**	century plant	NNV
	Chlorogalum parviflorum	small-flower soap-plant	DCSS
	Yucca schidigera	Mohave yucca	NNV
Arecaceae	*Washingtonia robusta**	Mexican fan palm	DH, NNV
Cyperaceae	*Cyperus erythrorhizos*	flatsedge	SWS, FWM
	Schoenoplectus sp.	tule	SWS
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	DCSS, NG
Poaceae	*Arundo donax**	giant reed	SRF
	*Avena barbata**	slender oat	NNG, DCSS
	*Avena fatua**	wild oats	NNG, DCSS
	*Brachypodium distachyon**	purple false brome	NNG
	*Bromus diandrus**	common ripgut grass	BS, NNG, MFS, EW
	*Bromus hordeaceus**	soft brome	NNG, DCSS
	*Bromus madritensis**	foxtail chess	BS, NNG, MFS, DCSS, EW
	*Cynodon dactylon**	Bermuda grass	SRF, MFS, DH
	Distichlis spicata	saltgrass	SGG, NNG
	*Festuca myuros**	fescue	NNG, DCSS
	*Festuca perennis**	Italian ryegrass	NNG
	*Hordeum murinum**	Barley	NNG
	*Lamarckia aurea**	goldentop	DH
	*Polypogon monspeliensis**	annual beardgrass	DH, MFS
	*Schismus barbatus**	Mediterranean grass	NNG, DH
	Stipa lepida	foothill needlegrass	NG, DCSS
	Stipa pulchra	purple needlegrass	NG, DCSS
Themidaceae	*Dichelostemma capitatum*	blue dicks	NG, DCSS, NNG
	Brodiaea filifolia†	thread-leaved brodiaea	NNG, DH
Typhaceae	*Typha* sp.	cattail	SRF, FWM

* Non-Native Species

† Special Status Species

1 B=Beach; BS=Baccharis scrub (includes disturbed phase); DCSS=Diegan coastal sage scrub (includes disturbed phase); DH=Disturbed habitat; EW=Eucalyptus woodland; FWM = Freshwater marsh; MFS=Mule fat scrub (includes disturbed phase); NG=Native grassland; NNG=Non-native grassland; NNV=Non-native vegetation; SGG=Salt grass grassland; SRF=Southern riparian forest; SWS=Southern willow scrub; TS = Tamarisk scrub.

Appendix C

Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	**Family**		
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	Honeybee
	Formicidae	--	Harvester Ant
Lepidoptera	Papilionidae	*Heraclides rumiko*	Western Giant Swallowtail
Orthoptera	--	--	Unidentified Cricket
VERTEBRATES			
Amphibians and Reptiles			
Anura	Bufonidae	*Anaxyrus boreas*	Western Toad
	Hylidae	*Pseudacris regilla*	Pacific Chorus Frog
	Ranidae	*Lithobates catesbeianus*	American Bullfrog
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	Western Fence Lizard
Birds			
Accipitriformes	Accipitridae	*Accipiter cooperii* †	Cooper's Hawk
		Buteo jamaicensis	Red-tailed Hawk
		Buteo lineatus	Red-shouldered Hawk
		Circus hudsonius †	Northern Harrier
		Elanus leucurus †	White-tailed Kite
	Cathartidae	*Cathartes aura*	Turkey Vulture
Anseriformes	Anatidae	*Aix sponsa*	Wood Duck
		Anas crecca crecca	Green-winged Teal
		Anas fulvigula	Mottled Duck
		Anas platyrhynchos	Mallard
		Mareca americana	American Wigeon
		Mareca strepera	Gadwall
		Oxyura jamaicensis	Ruddy Duck
		Spatula clypeata	Northern Shoveler
		Spatula cyanoptera	Cinnamon Teal
		Spatula discors	Blue-winged Teal
Apodiformes	Apodidae	*Aeronautes saxatalis*	White-throated Swift
		Chaetura vauxi †	Vaux's Swift
	Trochilidae	*Calypte anna*	Anna's Hummingbird
		Calypte costae †	Costa's Hummingbird
		Selasphorus sasin	Allen's Hummingbird
		Archilochus alexandri	Black-chinned Hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
	Scolopacidae	*Calidris mauri*	Western Sandpiper
Columbiformes	Columbidae	*Columba livia*	Rock Pigeon
		Streptopelia decaocto	Eurasian Collared-Dove
		Zenaida macroura	Mourning Dove
Cuculiformes	Cuculidae	*Geococcyx californianus*	Greater Roadrunner
Falconiformes	Falconidae	*Falco sparverius*	American Kestrel
Galliformes	Odontophoridae	*Callipepla californica*	California Quail
Gruiformes	Rallidae	*Fulica americana*	American Coot
		Gallinula chloropus	Common Moorhen
		Porzana Carolina	Sora
Passeriformes	Aegithalidae	*Psaltriparus minimus*	Bushtit
	Alaudidae	*Eremophila alpestris actis* †	California Horned Lark
	Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing

Taxon		Scientific Name†	Common Name
Order	**Family**		
Birds (cont.)			
Passeriformes (cont.)	Cardinalidae	*Pheucticus melanocephalus*	Black-headed Grosbeak
		Piranga ludoviciana	Western Tanager
	Corvidae	*Aphelocoma californica*	California Scrub-Jay
		Corvus corax	Common Raven
	Fringillidae	*Spinus psaltria*	Lesser Goldfinch
		Spinus tristis	American Goldfinch
	Hirundinidae	*Petrochelidon pyrrhonota*	Cliff Swallow
		Stelgidopteryx serripennis	Northern Rough-winged Swallow
		Tachycineta bicolor	Tree Swallow
		Tachycineta thalassina	Violet-green Swallow
	Icteria	*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
		Quiscalus mexicanus	Great-tailed Grackle
		Sturnella neglecta	Western Meadowlark
	Mimidae	*Mimus polyglottos*	Northern Mockingbird
		Toxostoma redivivum	California Thrasher
	Motacillidae	*Anthus rubescens*	American Pipit
	Parulidae	*Cardellina pusilla*	Wilson's Warbler
		Geothlypis trichas	Common Yellowthroat
		Oreothlypis celata	Orange-crowned Warbler
		Setophaga coronate	Yellow-rumped Warbler
		Setophaga petechia †	Yellow Warbler
	Passerellidae	*Melospiza melodia*	Song Sparrow
		Melozone crissalis	California Towhee
		Passerculus sandwichensis	Savannah Sparrow
		Pipilo maculatus	Spotted Towhee
		Zonotrichia leucophrys	White-crowned Sparrow
	Polioptilidae	*Polioptila caerulea*	Blue-gray Gnatcatcher
		Polioptila californica californica †	Coastal California Gnatcatcher
	Regulidae	*Regulus calendula*	Ruby-crowned Kinglet
	Sturnidae	*Sturnus vulgaris*	European Starling
	Sylviidae	*Chamaea fasciata*	Wrentit
	Troglodytidae	*Thryomanes bewickii*	Bewick's Wren
		Troglodytes aedon	House Wren
	Turdidae	*Sialia Mexicana*	Western Bluebird
	Tyrannidae	*Empidonax difficilis*	Pacific-slope Flycatcher
		Myiarchus cinerascens	Ash-throated Flycatcher
		Sayornis nigricans	Black Phoebe
		Sayornis saya	Say's Phoebe
		Tyrannus verticalis	Western Kingbird
		Tyrannus vociferans	Cassin's Kingbird

Taxon		Scientific Name†	Common Name
Order	**Family**		
Birds (cont.)			
Passeriformes (cont.)	Vireonidae	*Vireo bellii pusillus* †	Least Bell's Vireo
		Vireo huttoni	Hutton's Vireo
Pelecaniformes	Ardeidae	*Ardea alba*	Great Egret
		Ardea Herodias	Great Blue Heron
		Butorides virescens	Green Heron
	Pelecanidae	*Egretta thula*	Snowy Egret
Piciformes	Picidae	*Colaptes auratus*	Northern Flicker
		Dryobates nuttallii	Nuttall's Woodpecker
		Dryobates pubescens	Downy Woodpecker
Podicipediformes	Podicipedidae	*Podiceps nigricollis*	Eared Grebe
		Podilymbus Podiceps	Pied-billed Grebe
Strigiformes	Tytonidae	*Tyto alba*	Barn Owl
Mammals			
Carnivora	Canidae	*Canis familiaris*	Domestic Dog
		Canis latrans	Coyote
	Mephitidae	*Mephitis mephitis*	Striped Skunk
Lagomorpha	Leporidae	*Sylvilagus audubonii*	Desert Cottontail
Rodentia	Geomyidae	*Thomomys bottae*	Botta's pocket gopher
	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

† Special Status Species

Appendix D

Special-Status Plant Species Observed or with Potential to Occur

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Abronia villosa var. *aurita*	yellow hairy sand verbena	--/--, CNPS Rank 1B.1	Annual herb. Occurs in sandy places within coastal scrubs, chaparral, and desert dunes. Flowering period: March to September. Elevation: 246 to 5,249 feet (75 to 1,600 meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth and blooming period for this species. During these surveys, the species was not observed and would have been conspicuous if present.
Acanthomintha ilicifolia	San Diego thorn mint	SE/FT, CNPS Rank 1B.1 MHCP Covered Proposed Subarea Plan Covered MHCP and Proposed Subarea Plan Narrow Endemic	Annual herb. Typically found on clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Flowering period: April to June. Elevation: below 3150 feet (960 meters).	**Low**. Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth and blooming period for this species. During these surveys, the species was not observed and would have been conspicuous if present.
Acmispon prostratus	Nuttall's Acmispon	--/--, CNPS Rank 1B.1 MHCP Covered Proposed Subarea Plan Covered MHCP and Proposed Subarea Plan Narrow Endemic	Annual herb. Found in the coastal regions of southern California and Baja California. Habitats include coastal dunes, coastal scrub with sandy soils, and disturbed areas. Flowering Period: March to June. Elevation: below 33 feet (X meters).	**Low.** Potential habitat for this species within the survey area was closely investigated during this year's three botanical surveys. Surveys were conducted during the species' peak growth and blooming period. The species was not observed within the survey area during all three surveys.
Adolphia californica	California adolphia	--/--, CNPS Rank 2B.1	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks on clay soils. Flowering period: December to April. Elevation: below 1,312 feet (400 meters).	**Low.** Suitable intact habitats to support this species are very limited within the survey area. This conspicuous perennial shrub would have been observed during this year's three botanical surveys if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Agave shawii var. *shawii*	Shaw's agave	--/--, CNPS Rank 2B.1	Perennial succulent. Most often found on coastal bluffs and along mesas and foothills. Flowering period: September to May. Elevation: below 984 feet (300 meters).	**Not Expected.** Suitable intact habitats to support this species are absent within the survey area. Moreover, this conspicuous perennial succulent would have been observed during this year's three botanical surveys if present.
Ambrosia pumila	San Diego ambrosia	--/FE, CNPS Rank 1B.1 MHCP Covered Proposed Subarea Plan Covered MHCP and Proposed Subarea Plan Narrow Endemic	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April to July. Elevation: 164 to 1,969 feet (50 to 600 meters).	**Low**. Though this species is known to be present in suitable intact habitat in areas adjacent to the survey area, suitable intact habitat found within the survey area is very limited. Potential habitat for this species within the survey area was closely investigated during all three focused botanical surveys this year. All surveys were conducted during this species' peak growth and blooming period. At which time, the neighboring populations outside of the survey area were clearly observable; however, this species was not observed within the survey area during all three surveys.
Aphanisma blitoides	aphanisma	--/--, CNPS Rank 1B.2	Annual herb. Found coastally on bluffs and saline sand within sage scrub communities. Flowering period: June to September. Elevation: below 656 feet (200 meters).	**Low.** Suitable intact habitats to support this species are very limited within the survey area. Potential habitat for this species within the survey area was closely investigated during this year's three botanical surveys. All surveys were conducted during the species' peak growth period. The species was not observed within the survey area during all three surveys.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	--/FE, CNPS Rank 1B.1 MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Perennial shrub. Found within Relatively open, coastal chaparral. At occasional inland sites it occurs in denser mixed chaparral vegetation. Elevation: below 1,200 feet. Flowering Period: December to June.	**Not Expected.** Suitable habitat to support this species is absent from the survey area. Moreover, this conspicuous perennial shrub would have been observed during this year's three botanical surveys conducted this year if present.
Astragalus tener var. *titi*	coastal dunes milk vetch	SE/FE, CNPS Rank 1B.1	Annual herb. Occurs in coastal bluff scrub, coastal dunes, and coastal prairie. Associated with moist, sandy depressions of bluffs or dunes near the Pacific Ocean. Flowering period: March to May. Elevation: below 65 feet (20 meters).	**Not Expected.** Suitable habitat to support this species is absent from the survey area. Moreover, all three botanical surveys were conducted during the species' peak growth and blooming period and this species was not observed within the survey area.
Atriplex coulteri	Coulter's saltbush	--/--, CNPS Rank 1B.2	Perennial herb. Occurs on alkaline or clay soils within coastal dunes, coastal bluffs, coastal sage scrub, and grasslands. Flowering period: March to October. Elevation: below 1,510 feet (460 meters).	**Low**. Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.
Atriplex pacifica	south coast saltscale	--/--, CNPS Rank 1B.2	Annual herb. Found coastally on dunes and within playas in alkali sinks, sage scrub and wetland riparian communities. Flowering period: March to October. Elevation: below 984 feet (300 meters).	**Low**. A historic observation of this species from 1881 is recorded in the survey area, but the exact location of this occurrence is unknown, and the record was centered on the San Luis Rey River. Suitable intact habitats to support this species are very limited within the survey area. Potential habitat for this species within the survey area was closely investigated during three botanical surveys conducted in 2021 during the species' peak growth period. The species was not observed and would have been conspicuous if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Brodiaea filifolia	thread-leaved brodiaea	SE/FT, CNPS Rank 1B.1 MHCP Covered Proposed Subarea Plan Covered MHCP and Proposed Subarea Plan Narrow Endemic	Perennial bulbiferous herb. Often associated with vernal pools and known from habitats including valley grassland, foothill woodland, coastal sage scrub, freshwater wetlands, and wetland-riparian. Flowering period: March to June. Elevation: 82 to 2821 feet (25 to 860 meters).	**Present.** Six individuals were observed in non-native grassland and native grassland located north of Garrison Elementary School during a focused survey occurring in 2022 .
Brodiaea orcuttii	Orcutt's brodiaea	--/--, CNPS Rank 1B.1	Perennial bulbiferous herb. Occurs within closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers mesic or clay soils. Flowering period: May to July. Elevation: 98 to 5,550 feet (30 to 1,692 meters).	**Low.** Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though during the blooming period it would have been conspicuous if present.
Ceanothus verrucosus	wart-stemmed ceanothus	--/--, CNPS Rank 2B.2	Perennial shrub. Found on rocky slopes within chaparral, particularly southern maritime chaparral. Flowering period: December to May. Elevation: below 1,148 feet (350 meters).	**Not Expected.** Suitable habitat to support this species is absent from the survey area. Moreover, this conspicuous perennial shrub would have been observed during the three botanical surveys conducted this year if present.
Centromadia parryi ssp. *australis*	southern tarplant	--/--, CNPS Rank 1B.1	Annual herb. Found at the margins of salt marshes, vernally mesic areas within grasslands, and vernal pools. Found in the coastal regional from Santa Barbara County south to San Diego County. Flowering Period: May to November. Elevation: below X feet (480 meters).	**Low**. Potential habitat for this species within the survey area was closely investigated during this year's three botanical surveys. Surveys were conducted during the species' peak growth period. The species was not observed within the survey area during all three surveys.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Centromadia pungens ssp. *laevis*	smooth tarplant	--/--, CNPS Rank 1B.1	Annual herb. Occurs on alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Flowering Period: April to September. Elevation: below 2,100 feet (640 meters).	**Low**. A historic observation of smooth tarplant from 1896 is recorded in the survey area, but the exact location of this occurrence is unknown, and the record was centered on the San Luis Rey River. Potential habitat for this species within the survey area was closely investigated during three botanical surveys conducted in 2021 during the species' peak growth period. The species was not observed.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's yellow chaenactis	--/--, CNPS Rank 1B.1	Annual herb. Found on coastal dunes and sandy coastal bluff scrub. Typically, in proximity to moist ocean breezes. Elevation: below 328 feet (X meters). Flowering Period: January to August.	**Low**. Potential habitat for this species within the survey area was closely investigated during this year's three botanical surveys. All surveys were conducted during the species' peak growth and blooming period. The species was not observed within the survey area during all three surveys.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	--/--, CNPS Rank 1B.2	Perennial shrub. Occurs in chaparral and cismontane woodland. Flowering period: May to June. Elevation: 328 to 1,804 feet (100 to 550 meters).	**Not Expected.** Suitable habitat to support this species is absent from the survey area. Moreover, this conspicuous perennial shrub would have been observed during the three botanical surveys conducted this year if present.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	--/--, CNPS Rank 1B.1 MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Perennial herb. Found on sandy soils and disturbed areas within southern maritime chaparral, coastal sage scrub, and coastal bluffs. Flowering Period: May to September. Elevation: below 492 feet (X meters).	**Low.** Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Cryptantha wigginsii	Wiggins' cryptantha	--/--, CNPS Rank 1B.2	Annual herb found in clay soils within coastal scrub habitat. Flowering February – June.	**Low.** Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	--/--, CNPS Rank 1B.1 Proposed Subarea Plan Covered	Perennial herb succulent. Grows on open, rocky slopes, often on serpentine or clay dominated soils in coastal sage scrub and valley grassland communities. Flowering period: April to June. Elevation: below 1,476 feet (450 meters).	**Low.** Suitable intact habitats on serpentine or clay soils to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.
Dudleya multicaulis	many-stemmed dudleya	--/--, CNPS Rank 1B.2	Perennial herb. Found in clay soils and sandstone outcrops associated with coastal sage scrub, chaparral, and valley grasslands. Found in the southern California coastal regions from Los Angeles south to San Diego County. Flowering Period: April to July. Elevation: X to X feet (15 to 790 meters).	**Low.** Suitable intact habitats on sandstone or clay soils to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Dudleya variegata	variegated dudleya	--/--, CNPS Rank 1B.2 MHCP and Proposed Subarea Plan Narrow Endemic	Perennial herb succulent. Occurs on clay soils of dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Flowering period: April to June. Elevation: below 984 feet (300 meters).	**Low.** Suitable intact habitat on clay soils to support this species is very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.
Dudleya viscida	sticky dudleya	--/--, CNPS Rank 1B.2 Proposed Subarea Plan Covered	Perennial herb. Occurs in rocky areas within coastal bluffs, coastal sage scrub, chaparral, and woodlands. Grows primarily on very steep north-facing slopes. Elevations below 1,800 feet. Flowers May to June.	**Low.** Suitable intact habitats to support this species are very limited or absent within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.
Eryngium aristulatum var. *parishii*	San Diego button-celery	SE/FE, CNPS Rank 1B.1 MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Annual or perennial herb. Grows in vernal pools and other mesic areas, such as marshes. Flowering period: May to June. Elevation: below 2,313 feet (705 meters).	**Not Expected.** Suitable vernal pool or other habitat to support this species is absent within the survey area. A historic observation from 1897 was recorded within the survey area but is presumed extirpated. The species would have been detected during 2021 rare plant surveys if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Erysimum ammophilum	coast wallflower	--/--, CNPS Rank 1B.2	Perennial herb. Found in open areas and sandy soils within coastal dunes, coastal strand, coastal sage scrub, and maritime chaparral. Flowering Period: February to June Elevation: below 197 feet (X meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.
Euphorbia misera	cliff spurge	--/--, CNPS Rank 2B.2	Perennial shrub. Found in rocky areas of coastal bluffs, coastal sage scrub, and Mojavean desert scrub. Flowering period: December to August. Elevation: below 1,800 feet (500 meters).	**Low.** A previous observation of cliff spurge was mapped in a non-specific area from an un-dated record and overlaps the survey area. Suitable intact habitats to support this species are very limited within the survey area. This conspicuous perennial shrub would have been observed during 2021 rare plant surveys if present.
Ferocactus viridescens	San Diego barrel cactus	--/--, CNPS Rank 2B.1 Proposed Subarea Plan Covered	Perennial (stem succulent) shrub. Grows in sandy to rocky areas within chaparral, valley grassland and coastal sage scrub communities. Flowering period: May to June. Elevation: 33 to 492 feet (10 to 150 meters).	**Low.** Suitable intact habitats to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Harpagonella palmeri	Palmer's grapplinghook	--/--, CNPS Rank 4.2	Annual herb. Found in clay soils in annual grasslands and coastal sage scrub. Flowering Period: March to May. Elevation: 65 to 3,100 feet (20 to 955 meters).	**Low.** Suitable intact habitats on clay soils to support this species are very limited within the survey area. These areas were closely investigated during this year's three botanical surveys conducted during the peak growth period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous with careful examination if present.
Hazardia orcuttii	Orcutt's hazardia	ST/--, CNPS Rank 1B.1 MHCP Covered Proposed Subarea Plan Covered MHCP and Proposed Subarea Plan Narrow Endemic	Perennial evergreen shrub found in clay soils in maritime chaparral and coastal scrub habitats. Flowering August - October.	**Low.** Suitable intact habitats on clay soils to support this species are absent or very limited within the survey area. This conspicuous perennial shrub would have been observed during biological surveys if present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	--/--, CNPS Rank 1B.2	Perennial shrub. Occurs in sandy soil and disturbed areas on the inland side of dunes, hillsides, and arroyos within coastal sage scrub and chaparral communities. Flowering period: July to November. Elevation: below 656 feet (200 meters).	**Low**. Suitable intact habitats to support this species are limited within the survey area. Potential habitat for this species within the survey area was closely investigated during this year's three focused botanical surveys. All surveys were conducted during the species' peak growth period. The species was not observed within the survey area during all three surveys.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Iva hayesiana	San Diego marsh-elder	--/--, CNPS Rank 2B.2 Proposed Subarea Plan Covered	Perennial herb. Found in alkaline flats, depressions, and streambanks within wetland communities. Flowering period: April to October. Elevation: 32 to 1,640 feet (10 to 500 meters).	**Low**. Suitable intact habitats to support this species are limited within the survey area. Potential habitat for this species within the survey area was closely investigated during this year's three focused botanical surveys. All surveys were conducted during the species' peak blooming and growth period. The species was not observed within the survey area during all three surveys.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	--/--, CNPS Rank 1B.1	Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	--/--, CNPS Rank 4.3	Annual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas. Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).	**Low.** Suitable intact habitats to support this species are limited within the survey area. A previously mapped observation of this species from 1937, which overlaps the survey area, is described as estimated in the vicinity of the San Luis Rey River. Suitable areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth and blooming period for this species. Although the species was observed during these surveys, the rare variation was not observed.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Leptosyne maritima	sea dahlia	--/--, CNPS Rank 2B.2	Perennial herb. Occurs within coastal scrub and coastal bluffs scrub. Flowering period: March to May. Elevation: below 500 feet (150 meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.
Myosurus minimus ssp. *apus*	little mouse tail	--/--, CNPS Rank 3.1 MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Annual herb. Occurs in alkaline vernal pools within native grassland. Flowering period: March to June. Elevation: 65 to 2,100 feet (20 to 640 meters).	**Not Expected.** Suitable intact habitats to support this species are absent from the survey area.
Nama stenocarpa	mud nama	--/--, CNPS Rank 2B.2	Annual herb. Occurs in intermittently wet areas such as streambanks and muddy lake edges. Flowering period: March to October. Elevation: below 2,657 feet (810 meters).	**Low.** Suitable intact habitats to support this species are limited within the survey area. A previously mapped observation of this species from 1937, which overlaps the survey area, is described as estimated in the vicinity of the San Luis Rey River. Suitable areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth period for this species. During these surveys, the species was not observed and would have been conspicuous with careful examination if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Navarretia fossalis	spreading navarretia	--/FT, CNPS Rank 1B.1 MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Flowering period: April to June. Elevation: 98 to 4,265 feet (30 to 1,300 meters).	**Not Expected.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth and blooming period for this species. During these surveys, the species was not observed and would have been conspicuous if present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	--/--, CNPS Rank 1B.2	Annual herb. Occurs within coastal dunes. The back dunes in mildly protected areas seem to be preferred. Flowering Period: April to September. Elevation: below 330 feet (X meters)	**Not Expected.** Suitable intact habitats to support this species are absent from the survey area.
Nemacaulis denudata var. *gracilis*	slender woolly heads	--/--, CNPS Rank 2B.2	Annual herb. Occurs within dunes in coastal strand or creosote bush scrub. Flowering Period: January to April. Elevation: below 330 feet (X meters)	**Not Expected.** Suitable intact habitats to support this species are absent from the survey area. A previously mapped observation of this species from 1923, which overlaps the survey area, is described as possibly extirpated and mapped as a best guess in Oceanside.
Phacelia stellaris	Brand's phacelia	--/--, CNPS Rank 1B.1	Annual herb. Occurs in sandy openings within coastal dunes and coastal scrub. Flowering Period: March to June. Elevation: below 1,315 feet (X meters).	**Present.** Six individuals were observed in disturbed Diegan coastal sage scrub south of the San Luis Rey River during 2021 surveys.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Pseudognaphalium leucocephalum	white cudweed	--/--, CNPS Rank 2B.2	Perennial herb. Occurs on sandy or gravelly soils of benches, dry stream bottoms, and canyon bottoms within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: July to November. Elevation: below 6,890 feet (2,100 meters).	**Not Expected.** Suitable intact habitats to support this species are absent or specific conditions within coastal scrub habitat do not occur within the survey area. Moreover, this conspicuous perennial herb would have been observed during this year's three botanical surveys if present.
Quercus dumosa	Nuttall's scrub oak	--/--, CNPS Rank 1B.1 Proposed Subarea Plan Covered	Perennial shrub. Occurs on sandy or clay loam soils near the coast within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: March to May. Elevation: below 656 feet (200 meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. This conspicuous perennial shrub would have been observed during this year's three botanical surveys if present.
Senecio aphanactis	California groundsel	--/--, CNPS Rank 2B.2	Annual herb. Occurs on alkali flats and dry, open, rocky areas within grasslands, coastal scrub, and cismontane woodland. Flowering period: February to May. Elevation: 33 to 1,804 feet (10 to 550 meters).	**Low.** Suitable intact habitats to support this species are absent or very limited within the survey area. Suitable areas were closely investigated during this year's three botanical surveys conducted during the peak growth and blooming period for this species. During these surveys, the species was not observed though at the time it would have been conspicuous during its blooming period if present.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Sidalcea neomexicana	mountain sidalcea	--/--, CNPS Rank 2B.2	Perennial herb. Occurs within chaparral, lower montane coniferous woodland, Mojavean desert scrub, playas, and coastal scrub. Flowering period: March to June. Elevation: 50 and 5,020 feet (15 to 1,530 meters).	**Not Expected.** Suitable intact habitats to support this species are absent or very limited within the survey area. A previously mapped observation of this species from 1940, which overlaps the survey area, is described as mapped as a best guess in Oceanside. Suitable areas were closely investigated during three botanical surveys conducted in 2021 during the peak growth and blooming period for this species. During these surveys, the species was not observed and would have been conspicuous during its blooming period if present.
Sphenopholis interrupta ssp. *californica*	prairie false oat	--/--, CNPS Rank 1B.1	Annual grass-like herb. Thought to be extinct but rediscovered near Carlsbad in 2020. Observed on small clay lenses in dense coastal chaparral with the endangered San Diego thorn-mint (*Acanthomintha ilicifolia*), as well as fescue (*Festuca* sp.), fascicled tarplant (*Deinandra fasciculata*), blue-eyed grass (*Sisyrinchium bellum*), mock parsley (*Apiastrum angustifolium*), purple falsebrome (*Brachypodium distachyon),* and tocalote (*Centaurea melitensis*).	**Low.** The species was recorded during 2020 surveys (with 80-meter accuracy) overlapping the survey area. Occurrence not thought to be within the survey area due to lack of associated habitat and species. Species not observed during 2021 rare plant surveys.
Suaeda esteroa	estuary seablite	--/--, CNPS Rank 1B.2	Perennial herb. Found in coastal salt marshes and swamps. Flowering period: May to October. Elevation: below 16 feet (5 meters).	**Not Expected.** Suitable intact habitats to support this species are absent from the survey area.

Scientific Name	Common Name	Status[1]	Habitat, Ecology and Life History	Potential to Occur[2]
Tetracoccus dioicus	arry's tetracoccus	--/--, CNPS Rank 1B.2	erennial shrub. Occurs on dry slopes within coastal sage scrub and chaparral. Usually, conditions are quite xeric with only limited annual growth. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	**ow.** Suitable intact habitat to support this species is absent or is very limited within the survey area. Suitable areas were closely investigated during botanical surveys this year. During these surveys, this conspicuous perennial shrub would have been observed if present.

[1] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

CNPS = California Native Plant Society Rare Plant Rank: 1A–presumed extirpated in California and either rare or extinct elsewhere; 1B–rare, threatened, or endangered in California and elsewhere; 2A–presumed extirpated in California, but more common elsewhere; 2B–rare, threatened, or endangered in California, but more common elsewhere; 3–more information needed; 4–watch list for species of limited distribution. Extension codes: .1–seriously endangered; .2–moderately endangered; .3–not very endangered.

MHCP = San Diego Multiple Habitat Conservation Program

[2] Potential to Occur is assessed as follows: **None**: There are no present or historical records of the species occurring on or in the immediate vicinity (i.e., as defined by the 5-mile search radius) of the survey area and the diagnostic habitats and soils associated with the species do not occur on or in the immediate vicinity of the project;

Not Expected: There are no present or historical records of the species occurring on or in the immediate vicinity of the survey area. Suitable habitat not present on-site; or, suitable habitat is present; but the species would have been observed during focused surveys for the species.

Low: Suitable habitat is present in the survey area and a historical record of the species occurs in the immediate vicinity but existing conditions such as elevation, soils, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation substantially reduce the possibility that the species may occur;
Moderate: 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. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity;

High: Suitable habitat occurs in the survey area and the species has been recorded recently on or in the immediate vicinity, but the species was not observed during project surveys;

Present: The species was observed during biological surveys for the project and is assumed to occupy the survey area;

Presumed Absent: Species would be visible all year and would have been observed if present.

Appendix E

Special-Status Animal Species Observed or with Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
ANIMALS				
Crustaceans				
Branchinecta lynchi	vernal pool fairy shrimp	FT/--	Occur primarily in vernal pools, seasonal wetlands, and stagnant ditches that fill with water during fall and winter rains and dry up in spring and summer.	**None:** The survey area lacks suitable vernal pool habitat required by this species.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/-- MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	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.	**None:** The survey area lacks suitable vernal pool habitat required by this species.
Streptocephalus woottoni	Riverside fairy shrimp	FE/-- MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Typically occurs in deep vernal pools and seasonal wetlands at least 30 centimeters deep.	**None:** The survey area lacks suitable vernal pool habitat required by this species.
Other Invertebrates				
Bombus crotchii	Crotch's bumble bee	--/CE	Occurs in open grassland and scrub. This bee is able to persist in semi-natural habitats surrounded by intensely modified landscapes	**Low:** Suitable grassland and scrub is present in the survey area. The survey area occurs within the historic range for the species (this species was recorded in the survey area in 1915), but the species was not detected during 2021 biological surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Danaus plexippus	monarch butterfly	FC (overwintering population) /—	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* spp.).	**Moderate:** Adults may utilize site during migration to forage on nectar-producing flowering plants. Limited eucalyptus for roosting present in the survey area and milkweed was not observed. Species was not observed roosting during 2021 biological surveys.
Fishes				
Eucyclogobius newberryi	tidewater goby	FE/-	Occurs in coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats.	**None:** Suitable habitat does not occur in the survey area. A non-specific area was recorded in the survey area in 1984; this occurrence describes the species as possibly extirpated.
Amphibians and Reptiles				
Anaxyrus californicus	Arroyo Toad	FE/SSC MHCP Covered, Proposed Subarea Plan Covered	Requires rivers with sandy banks, willows, cottonwoods, and sycamores. Breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months.	**Low:** Suitable habitat for foraging and breeding is present in the survey area, but the nearest recorded occurrence is along the Santa Margarita River in Camp Pendleton, which is not connected to Pilgrim Creek or the San Luis Rey River. Species was not observed during focused species surveys or other biological surveys in 2021.
Anniella stebbinsi	southern California legless lizard	—/SSC	Occurs in moist warm loose soil with plant cover. May be found in coastal sand dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**High.** Suitable riparian habitat is present in the survey area and the species was recorded within the survey area. Species was not observed during 2021 biological surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Arizona elegans occidentalis	California glossy snake	—/SSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and loose soil.	**Moderate.** Suitable habitat occurs within the northern portion of the survey area. There is a historic occurrence from the 1890's in the southwestern end of the study area that is currently developed. Species was not observed during 2021 biological surveys.
Aspidoscelis hyperythra	orange-throated whiptail	—/WL MHCP Covered, Proposed Subarea Plan Covered	Occurs in open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions, particularly termites (*Reticulitermes* sp.).	**High:** Suitable habitat is present in the survey area, and there is an occurrence from 1993 near Pilgrim Creek upstream of the study area. . Species was not observed during 2021 biological surveys.
Crotalus ruber	red-diamond rattlesnake	—/SSC	Occurs in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**Low:** Suitable breeding and feeding habitat occurs in the survey area. This species has been reported in 1995 approximately a mile north of the survey area through urban areas. Species was not observed during 2021 biological surveys.
Emys marmorata	western pond turtle	—/SSC MHCP Covered, Proposed Subarea Plan 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.	**Low:** This species has been reported in 1988 over four miles from the survey area, in a different riparian corridor north of the Santa Margarita River in Camp Pendleton. It is not connected to Pilgrim Creek or the San Luis Rey River. Additionally, the survey area lacks breeding habitat required by this species.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Spea hammondii	western spadefoot	—/SSC MHCP Covered, Proposed Subarea Plan Covered	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:** This species has been reported in 2004, approximately two miles north of the survey area, across urban areas including Interstate 76. Suitable habitat for breeding and feeding occur in the survey area; however, bullfrogs present. Species was not observed during protocol arroyo toad surveys nor other biological surveys occurring in 2021.
Thamnophis sirtalis pop. 1	south coast garter snake	—/SSC	Typically found in woodlands, grasslands, coniferous forests, and scrublands near water. Found in the coastal plain from Ventura County to San Diego County, from sea level to about 850 m.	**High:** This species has been reported in 2009, along the San Luis Rey River, approximately 0.6 mile downstream of the survey area. Suitable habitat is present in the survey area. Species was not observed during 2021 biological surveys.
Birds				
Accipiter cooperii	Cooper's hawk	--/-- WL (nesting) MHCP Covered, Proposed Subarea Plan Covered	Occurs in oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	**Present:** Observed during 2021 biological surveys.
Agelaius tricolor	tricolored blackbird	BCC/ST, SSC	Generally found in large freshwater marshes with dense stands of cattails or bulrushes. Forages in open habitats such as farm fields, pastures, and large lawns.	**Low:** Suitable foraging habitat occurs within the survey area and the species has been recorded in the survey area. However, breeding habitat is of low quality. Species was also not observed/detected during least Bell's vireo, southwestern willow flycatcher, or light-footed Ridgeway's rail surveys occurring in 2021.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	—/WL MHCP Covered, Proposed Subarea Plan 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.	**Low.** Although sage scrub does occur within the survey area it is limited, mostly disturbed, and surrounded by development. Species not observed/detected during coastal California gnatcatcher surveys or other biological surveys occurring in 2021.
Aquila chrysaetos	golden eagle	BCC/FP, WL MHCP Covered, Proposed Subarea Plan Covered	Nesting occurs on cliff ledges or in trees on steep slopes, with foraging occurring primarily in grassland and sage scrub. Generally nests on remote cliffs; requires areas of solitude at a distance from human habitation.	**Not expected:** Suitable foraging habitat occurs within the survey area, but of low quality surrounded by development. Suitable breeding areas not present.
Athene cunicularia	burrowing owl	BCC/SSC (burrow sites and some wintering sites)	Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Also occupies agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as the California ground squirrel (*Spermophilus beecheyi*). Will also utilize natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	**Low:** Suitable habitat for foraging and breeding is present in the survey area, but the nearest recorded occurrence is approximately 16 miles to the southeast. Species was not observed during focused species surveys or other biological surveys in 2021.
Buteo swainsoni	Swainson's hawk	BCC/ST	Occurs in open grassland, desert, or sparse scrub with large trees. Once a common species in San Diego County, now a rare migrant, observed primarily in Borrego Valley. Species no longer nests in southern California (Unitt 2004).	**Low:** Species recorded in the survey area in 1902 but described as possibly extirpated. Habitat for breeding and foraging is of low quality. Species was not observed during 2021 biological surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Calypte costae	Costa's hummingbird	BCC/-- (nesting)	Occurs in desert and semi-desert, arid brushy foothills and chaparral. In migration and winter also in adjacent mountains and in open meadows and gardens.	**Present:** Observed during 2021 biological surveys.
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	BCC/SSC MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Occurs in coastal sage scrub with large cacti for nesting.	**Low:** Suitable habitat for foraging occurs but of low quality. Lacks succulent/cactus species for nesting. Species not observed/detected during coastal California gnatcatcher surveys or other biological surveys occurring in 2021.
Chaetura vauxi	Vaux's Swift	--/SSC (nesting)	Nests and roost in large hollow trees in mature and old-growth coniferous and mixed forests. Forages over forest, rivers, lakes, fields, and gaps in forest, such as burned areas. Flocks preparing for migration roost in trees and also in chimneys, including in urban areas.	**Present:** Observed during 2021 biological surveys.
Charadrius alexandrinus nivosus	western snowy plover	FT, BCC/SSC MHCP Covered, Proposed Subarea Plan Covered	Chiefly found on seacoasts, but also occur in open flats near brackish or saline lakes, lagoons, seasonal water courses, salt-works and depressions. Usually prefer sand, silt or dry mud with even surface, avoiding rocky or broken ground. This species exhibits breeding site fidelity.	**Not expected:** The survey area is not within the known breeding locations for this species.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Circus hudsonius	Northern harrier	--/SSC	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.	**Present:** Observed during 2021 biological surveys.
Elanus leucurus	White-tailed kite	--/FP	Riparian woodlands and oak or sycamore groves adjacent to grassland or agriculture.	**Present:** Observed during 2021 biological surveys.
Empidonax traillii extimus	southwestern willow flycatcher	FE/SE MHCP Covered, Proposed Subarea Plan 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:** Suitable riparian and willow scrub habitat are present within the survey area but are of low quality. Species was recorded in the survey area in 2008 but was not observed during focused species surveys or other biological surveys in 2021.
Eremophila alpestris actis	California Horned Lark	--/WL	In California occurs along the coastal ranges of from San Joaquin Valley south to U.S./Mexico border. Inhabits a wide variety of open habitats with low, sparse vegetation where trees and large shrubs are generally absent. Suitable habitats include grasslands along the coast, deserts within the inland regions, shrub habitat at higher elevations, and agricultural areas.	**Present:** Observed during 2021 biological surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Icteria virens	Yellow-breasted chat	—/SSC MHCP Covered, Proposed Subarea Plan Covered	Occurs in mature riparian woodland. Nests in low, dense riparian vegetation consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	**Present:** Observed during 2021 biological surveys.
Laterallus jamaicensis coturniculus	California black rail	BCC/ST, FP	Occur in high coastal marshes to freshwater marshes along the lower Colorado River. Along the coast, favors marshland with unrestricted tidal influence (estuarine, intertidal, emergent, and regularly flooded). Primarily nest in pickleweed.	**Not expected:** Survey area lacks suitable habitat for breeding with limited access to tidal flow and desired vegetation.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	—/SE MHCP Covered, Proposed Subarea Plan Covered	Generally found in salt marshes. Nests on the ground in natural depression or scrape, primarily in pickleweed habitat at the higher levels of the marsh, above the reach of the highest spring tides.	**Not expected:** Survey area lacks suitable salt marsh habitat and desired vegetation for breeding and foraging. Nearest record to the south in Buena Vista Lagoon.
Pelecanus occidentalis	Brown Pelican	Delisted/Delisted, FP MHCP Covered, Proposed Subarea Plan Covered	Found year-round in estuarine, marine subtidal, and marine pelagic waters along the California coast. Rare to uncommon visitor at the Salton Sea in Imperial County from July to September. Nests on undisturbed islands adjacent to marine fishing areas. Rests on water or inaccessible rocks offshore or on the mainland, but also uses mudflats, sandy beaches, wharfs, and jetties.	**Low.** Appropriate habitat for this species is generally located more than 500-feet from the survey area. Potential to occur at Whelan Lake.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Phalacrocorax auratus	Double-crested Cormorant	—/WL	Year-round resident along the entire coast of California also occurring east of the coast within the Central Valley, lower Colorado River, and Salton Sea. Inhabits fresh and saltwater estuaries, and inland lakes requiring suitable places for feeding, resting, loafing, and nighttime roosts. Breeds in colonies safe from predators and adjacent to feeding areas such as rocky or sandy islands, bridges, docks, nesting towers, trees, emergent marsh vegetation, and on the ground.	**Low.** Appropriate habitat for this species is generally located more than 500-feet from the survey area. Potential to occur at Whelan Lake.
Plegadis chihi	white-faced ibis	—/WL MHCP Covered, Proposed Subarea Plan Covered	Occurs in large freshwater marshes, with nesting colony hidden in inaccessible reedbed or willow-covered area. Forages in shallow waters and wet, grassy habitats.	**Not expected:** Although this species has been reported within five miles of the survey area, the survey area lacks suitable habitat to support this species
Polioptila californica californica	coastal California gnatcatcher	FT/SSC MHCP Covered, Proposed Subarea Plan Covered[4]	Year-round resident of California. Typically occur in arid , open sage scrub habitats on gently slopes hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as dominant or co-dominant species. The species is mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though the species may occur more regularly in inland regions dominated by black sage.	**Present**: Two pairs were observed during 2021 focused species surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Rallus obsoletus levipes	light-footed Ridgway's rail	FE/SE, FP MHCP Covered, Proposed Subarea Plan Covered	Occurs in coastal marshes, lagoons and maritime environments with dense vegetation and shallow waters.	**Present:** A single male observed in the survey area in the San Luis Rey River, just south of Whelan Lake during 2021 focused species surveys. Surveyor noted that single advertising males tend to be highly nomadic, but the origin of this individual is unknown.
Riparia riparia	bank swallow	--/ST	Occur in lowland river valleys and coastal areas. Prefer to nest in soft banks or bluffs along rivers, streams and coastal areas, can also use sandy coastal bluffs or cliffs along with gravel pits, quarries and road cuts. Forage over bodies of water or large areas of short growing vegetation such as meadows, agricultural fields, or wetlands.	**Low:** Suitable habitat is present within the survey area but of low quality and no sign of the species was observed during 2021 surveys. Channel banks are mostly lined with concrete making it a poor breeding and roosting habitat. Species recorded in a 1-mile area overlapping the survey area in 1925 but described as extirpated.
Setophaga petechia	Yellow warbler	BCC/SSC	Occurs in riparian woodland and swamp edges. Often found near streams.	**Present:** Observed during 2021 biological surveys.
Sternula antillarum browni	California least tern	FE/SE, FP MHCP Covered, Proposed Subarea Plan Covered	Nest in colonies on relatively open beaches kept free of vegetation by natural scouring from tidal action. Found along the Pacific Coast of California.	**Not expected:** This species has been reported within five miles of the survey area (within Buena Vista Lagoon to the south). However, beach habitat within the survey area is not associated within a known breeding site. The beach within the survey area is also subject to human disturbance.
Vireo bellii pusillus	least Bell's vireo	FE/SE MHCP Covered Proposed Subarea Plan Covered[5]	Occurs in riparian thickets, usually willow and cottonwood.	**Present**: Observed throughout the San Luis Rey River and adjacent riparian habitat during 2021 focused species surveys.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Mammals				
Antrozous pallidus	pallid bat	—/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, buildings or hollow trees; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks.	**High**: Marginal roosting habitat and suitable foraging habitat is present in the survey area. Unidentified bats were observed in survey area.
Chaetodipus californicus femoralis	Dulzura pocket mouse	—/SSC	Occurs in a variety of habitats including chaparral, coastal scrub, and grasslands in San Diego County. Often associated with grass-chaparral edges.	**Low**. Pockets of suitable habitat occur in the survey area. No recent reported occurrences of the species in the vicinity (Camp Pendleton is the nearest observation from 1931) and not observed during 2021 surveys.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	—/SSC MHCP Covered, Proposed Subarea Plan Covered	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**Low**: Limited sage scrub is present in the survey area and of low quality containing many non-native species.
Dipodomys stephensi	Stephens kangaroo rat	FE/ST MHCP Covered, Proposed Subarea Plan Covered	Occurs primarily in annual and perennial grasslands, but also coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree with loose, friable, well-drained soil, but will burrow into firm soil.	**Moderate**: No known locations within the survey area. However, northern portion of the survey area (by Whalen Lake) occurs within survey area for this species. Pockets of suitable habitat occur in this area and other areas associated with the northern portion of the survey area.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Eumops perotis californicus	western mastiff bat	—/SSC	Found in a variety of habitats, from desert scrub to chaparral to oak woodland and into the ponderosa pine belt. Roosts in crevices in cliff faces, high buildings, trees and tunnels. Prefers rocky canyons with abundant crevices.	**Not expected**: Suitable roosting habitat does not occur in the survey area.
Lasiurus xanthinus	western yellow bat	—/SSC	Occurs in wooded areas and desert scrub. Roosts in foliage, particularly in thorny vegetation palms and other desert riparian habitats. Rare visitor to San Diego County.	**Not expected**: Suitable roosting habitat does not occur in the survey area.
Leptonycteris yerbabuenae	lesser long-nosed bat	Delisted/SSC	Occurs in desert scrub habitats. Feed on succulents, cacti and agave primarily	**Not expected**: Suitable foraging succulent/ cacti habitat are not present in the survey area. Recorded in a 1-mile area overlapping the survey area in 1996.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	—/SSC MHPA Covered, Proposed Subarea Plan Covered	Occurs primarily in open scrub with short grasses in arid regions. Occurs in desert or dune, grassland, and chaparral habitats. May occur in grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High**: Pockets of suitable habitat occur in the survey area. The most recent record is from 2001 near Goat Hill Park. The species was not observed during 2021 biological surveys.
Nyctinomops femorosaccus	pocketed free-tailed bat	—/SSC	Colonial species that roosts primarily in caves and crevices of rugged cliffs. May also roost under roof tiles of buildings. It has been found in a variety of habitat associations, including desert shrub and pine-oak forests. Preferred habitat is rocky areas with high cliffs.	**Low**: Roosting habitat is limited to structures within the survey area. Rocky areas with high cliffs are not present, and there are no recent reported occurrences of the species in the vicinity.

Species Name	Common Name	Status[1]	Habit, Ecology, and Life History	Potential to Occur[2]
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC MHCP Covered MHCP and Proposed Subarea Plan Narrow Endemic	Typically found in open habitats associated with gentle terrain including grasslands and coastal sage scrub. Also found in alluvial fans and desert scrub in desert regions. Prefers habitats with friable soils with scattered shrubs and mixed grasses.	**Low**: Pockets of suitable habitat occur in the survey area. No recent reported occurrences of the species in the vicinity (Camp Pendleton is the nearest observation from 1936) and not observed during 2021 biological surveys.

[1] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = State Candidate Endangered; FC = Federal Candidate; R = Rare; BCC = Federal Birds of Conservation Concern; FP = State Fully Protected; SSC = State Species of Special Concern; WL = Watch List.
MHCP = San Diego Multiple Habitat Conservation Program

[2] Potential to Occur is assessed as follows. **None**: Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the survey area; **Not Expected**: There are no present or historical records of the species occurring on or in the immediate vicinity of the survey area. The species moves freely and might disperse through or across the survey area, but suitable habitat for residence or breeding does not occur; **Low**: Suitable habitat is present in the survey area and there is a historical record of the species in the vicinity, but no sign of the species was observed during surveys. Existing conditions such as elevation, species composition, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation may substantially reduce the possibility that the species may occur; **Moderate**: Diagnostic habitats associated with the species occur on or adjacent to the survey area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High**: Suitable habitat associated with the species occurs in the survey area and the species has been recorded recently on or near the survey area but was not observed during biological surveys; **Present**: The species was observed during biological surveys for the survey area and is assumed to occupy the survey area.