Appendix B
Biological Technical Report

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MEMORANDUM

To:	Juan Larios, P.E., PTP, Public Works Director- City of Imperial Beach Public Works Department
From:	Eilleen Salas-Biologist
Subject:	Biological Resources Assessment for the Palm Avenue Complete Multimodal Corridor Project, Imperial Beach, California
Date:	June 6, 2025
cc:	Dudek: Jason Reynolds, Lily Sam, Michael Cady
Attachments:	A: Photo Exhibit; B: Species Compendium; C: Special-Status Plant Species Potentially Occurring in the Study Area; D: Special-Status Wildlife Species Potentially Occurring in the Study Area

This report presents the findings of a biological resources assessment conducted by Dudek for the proposed Palm Avenue Project ("Project"). The purpose of this assessment is to evaluate the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed project, including a 500-foot buffer ("Study Area"). This report is prepared at a level of detail sufficient to address California Environmental Quality Act (CEQA) requirements, specifically the biological thresholds of significance included in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and identify the potential need for permits for sensitive resources protected under federal and state regulations.

1 Introduction

1.1 Project Location

The proposed Project is located within the City of Imperial Beach, specifically from the northwest Project terminus at the Palm Avenue and Rainbow Drive intersection and extending east to the Palm Avenue and Georgia Street intersection ("Project site") (Figure 1, Project Location). The Project is located south of the San Diego Bay National Wildlife Refuge. The Project falls within Township 18 South, Range 2 West, Section 20 of the Imperial Beach, California 7.5-minute Quadrangle.

1.2 Project Description

The Project proposes to transform Palm Avenue between Rainbow Drive and Georgia Street into a multimodal complete street corridor that improves safety, accessibility, and visual character. The Project involves improving the corridor to enhance the experience for all users, increase safety, and improve the overall aesthetics of the area. From a high level, the proposed improvements would include the following:

- Upgrades to existing sidewalks to be a minimum 10 feet wide;
- Replacement of deteriorated curb and gutter;

- Storm drain assessments and replacement/rehabilitation
- Stormwater management that integrates low impact development strategies and improves drainage;
- Utility relocations;
- Landscaping and irrigation updates; and
- Trees and pedestrian-scale lighting.

2 Environmental Setting

2.1 Land Use

The Project site is within a highly urbanized zone within the City of Imperial Beach, CA. It consists of a high trafficked street, Palm Avenue, running east to west. The surrounding developed areas are comprised of residential neighborhoods and commercial properties. The San Diego Bay National Wildlife Refuge is to the north of the Project and the Study Area overlaps a portion of it.

2.2 Topography

The topography within the Study Area is generally flat and heavily developed space. Elevations in the Study Area range from seven to 24 feet above mean sea level. The developed portion of the Study Area is at a slightly higher elevation with a drop off as you approach the wetland marsh habitat in the northern portion of the Study Area. (Google 2025).

2.3 Soils

According to the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025a), two soil mapping units occur within the Study Area: Lagoon Water and Huerhuero Series, as shown in Figure 2, Soils. Soil series are described by the NRCS as follows (USDA 2025a):

Lagoon Water refers to a miscellaneous water feature rather than a true soil type. It can be found in shallow or standing bodies of water in coastal or estuarine environments where they are permanently inundated and lack soil development. Examples of this could be coastal lagoons that are comprised of brackish or saline water. This mapping unit is found in the northwestern and northeastern portions of the Study Area.

Huerhuero Series soils are moderately well-drained loams that derived from sandy marine sediments. The topsoil is strongly acid (pH 5.3) pale-, yellowish-, grayish- or strong-brown in color and sandy loam to loam in texture, and from five to 30 inches thick. Below this is an alkaline pan of clay or heavy clay loam. The subsoil extends to 68 inches depth, grading into and a sandy loam texture. Huerhuero soils support tarweeds and annual grasses and forbs. Huerhuero loam (5%–9% slopes, eroded) soils are found in the upland portions of the Study Area.

3 Methods

Data regarding biological resources present within the Study Area were obtained through a review of pertinent literature, field reconnaissance, and a jurisdictional waters delineation.

3.1 Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2025a)
- U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) (USFWS 2025a)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) (CNPS 2025a)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's Web Soil Survey (USDA 2025a)
- CDFW's Biogeographic Information and Observation System (CDFW 2025b)

Prior to conducting the field investigation, the CNDDB and CNPS Inventory were queried based on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map for Imperial Beach, California where the Study Area is located, as well as the surrounding eight USGS 7.5-minute quadrangle maps (i.e., Jamul Mountains, Otay Mesa. Point Loma, and National City). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the Study Area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2025b); the California Natural Community list (CDFW 2025c); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2025d); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2025e); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2025f). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2025; NETR 2025); the USGS Imperial Beach 7.5-minute topographic quadrangle map (USGS 2018); the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025); and the USFWS National Wetland Inventory (USFWS 2054b).

3.2 General Field Reconnaissance

Dudek biologist Eilleen Salas conducted a general biological resources survey of the Study Area on April 18, 2025, from 1:30 PM to 4:40 PM. The survey was conducted when weather conditions were favorable, with 20-30% cloud cover, wind speeds of two to five miles per hour, and temperatures ranging from 65 to 69 degrees Fahrenheit. All plant and wildlife species encountered within the Study Area were identified and recorded. The potential for special-status plant and wildlife species to occur within the Study Area was evaluated based on the observed vegetation communities, soils present, and surrounding features. Vegetation communities and land covers on-site were mapped directly in the field.

Vegetation Community and Land Cover Mapping

Vegetation communities and land cover types were mapped according to the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008). Community classifications were selected based on site factors, descriptions, distribution, and characteristic species present within the Study Area. The extent of vegetation communities was mapped in the field using an ArcGIS application with submeter accuracy Global Positioning System (GPS) units. The shapes were transferred to create GIS coverage for the Project Study Area. Vegetation community sensitivity was determined using the San Diego County Multiple Species Conservation Program (MSCP) Plan (County of San Diego 1998). During the field surveys, a general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs was compiled.

Plants

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Inventory (CNPS 2025a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2025), and common names follow the USDA NRCS Plants Database (USDA 2025b). Potential for special-status plant species to occur within the Study Area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region.

Wildlife

All wildlife species, as detected during the field survey—by sight, calls, tracks, scat, or other signs—were identified and recorded. Binoculars were used to aid in the identification of observed wildlife. No trapping or focused surveys for special-status species or nocturnal species were conducted. In addition to species actually observed, expected wildlife usage of the Study Area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish. Potential for special-status wildlife species to occur within the Study Area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence.

Special-Status Species Assessments

After completion of the reconnaissance surveys, the potential for special-status plant and wildlife species to occur on or near the Study Area was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided:

- Known to occur: the species has been documented on the property by a reliable source.
- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity and suitable habitat is present.
- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.

- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: the property is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species.

Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in Section 15380(b) of the CEQA Guidelines (14 CCR 15000 et seq.) are referred to as "special-status plant species" and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and the FESA (CDFW 2025d); and/or (2) plant species with a CRPR 1 or 2 as designated by the CNPS (2025a). Species with CRPR 3 or 4 generally do not qualify for protection under CEQA; therefore, are not analyzed in this report.

For each special-status plant species known to occur in the vicinity of or within the Study Area, a determination was made regarding the potential for the species to occur within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025e); (2) California Species of Special Concern (SSC) as designated by CDFW (2025h); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2025i).

For each special-status wildlife species listed, a determination was made regarding potential use within the Study Area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat preferences, and knowledge of the species' relative distributions in the area.

3.3 Jurisdictional Waters Delineation

A formal delineation of potentially jurisdictional aquatic resources was not conducted for the Study Area during the site visit; however, the site was inspected for the presence of potentially jurisdictional wetlands and waters. In addition to a site inspection, a desktop review using aerial imagery (Google 2025), the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025), and the USFWS National Wetland Inventory (USFWS 2025b) was conducted.

4 Results

Representative photos of the Study Area and the biological resources described in this chapter are included in Appendix A, Photo Exhibit.

4.1 Vegetation Communities and Land Covers

Four vegetation communities and three land cover types are present within the Study Area. Vegetation communities include Southern Coastal Salt Marsh, Diegan coastal sage scrub (including disturbed forms), and non-native grassland. Non-vegetated land cover types include urban/developed areas, disturbed habitat, and open water. Acreages of vegetation communities and land covers are listed in Table 1, and their spatial distribution is depicted in Figure 4, Vegetation Communities.

Table 1. Acreages of Vegetation Communities and Land Covers

Vegetation Community / Land Cover	Oberbauer Code	Acreage
Upland Vegetation Communities		
Southern coastal salt marsh	52120	10.08
Diegan coastal sage scrub	32500	0.52
Disturbed Diegan coastal sage scrub	32500	1.95
Non-native grassland	42200	0.01
	Subtotal	*12.55*
Non-Vegetated Land Cover Types		
Urban/developed	12000	160.70
Disturbed habitat	11300	1.07
Open Water	—	2.29
	Subtotal	*164.06*
	Total	**176.61**

Note: Totals may not sum due to rounding.

4.1.1 Southern Coastal Salt Marsh

Southern coastal salt marsh is a wetland community that forms in bays, lagoons, and estuaries along the coast. Frankenia (*Frankenia* spp.), seablite (*Suaeda* spp.), and/or Parish's glasswort (*Arthrocnemum subterminale*) often occur along the upper, drier edges of the marshes; dwarf saltwort (*Salicornia bigelovii*), Pacific swampfire (*Salicornia pacifica*), and turtleweed (*Batis maritima*) often occur at the middle elevations; and cordgrass (*Spartina* spp.) generally occurs closest to open water (Oberbauer et al. 2008).

Within the Study Area, southern coastal salt marsh is mapped on the northwestern and northeastern portion of the Study Area. These areas were dominated by Parish's glasswort, alkali heath (*Frankenia salina*), marsh jaumea (*Jaumea carnosa*), and marsh rosemary (*Limonium californicum*).

4.1.2 Diegan Coastal Sage Scrub

Diegan coastal sage scrub habitat is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species, such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.), with scattered evergreen shrubs, including lemonade berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*).

Within the Study Area, the Diegan coastal sage scrub community on the western portion of the Study Area is generally dominated by California brittlebush (*Encelia californica*) and lacks California sagebrush and California buckwheat. Invasive crown daisy (*Glebionis coronaria*) was often present in the understory. A small narrow portion of Diegan coastal sage scrub was mapped on the eastern portion of the Study Area. This portion was previously disturbed and restored with native plantings.

4.1.3 Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub is similar in species composition to coastal sage scrub but has a higher cover of bare ground or non-native shrubs, forbs, and grasses. Disturbed coastal sage scrub intergrades with annual grassland and disturbed habitat depending on the abundance of annual grasses or non-native forbs. Native species associated with the Diegan coastal sage scrub include drought-deciduous species—such California sagebrush, California buckwheat, laurel sumac, and lemonade berry.

Disturbed Diegan coastal sage scrub is present at the northwestern portion of the Study Area and a thin sliver on the eastern portion. The northwestern area consists predominantly of California buckwheat and non-native grasses and forbes such as red brome (*Bromus rubens*) and crown daisy .The southeastern portion had a higher diversity that included California sagebrush and purple sage (*Salvia leucophylla*).

4.1.4 Non-Native Grassland

Non-native grassland consists of dense to sparse cover of annual grasses with flowering culms between 0.5 to 3 feet in height (Oberbauer et al. 2008). In San Diego County, the presence of wild oat, bromes, stork's bill, and mustard are common indicators. In some areas, depending on past disturbance and annual rainfall, annual forbs may be the dominant species; however, it is presumed that grasses will dominate.

Non-native grasslands were found along the northwestern portion of the Study Area. Dominant species include crown daisy, slender oat (*Avena barbata*), barley (*Hordeum murinum*), bermudagrass (*Cynodon dactylon*), and several *Bromus* species, almost all of which were non-native and/or invasive species.

4.1.5 Urban/Developed

Urban/developed land refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials (Oberbauer et al. 2008). Developed areas are generally graded and compacted, sometimes covered with gravel road base or built, and have little to no vegetation present. Urban/developed land made up most of the entire Study Area.

4.1.6 Disturbed Habitat

Disturbed habitat refers to areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation communities but continue to retain a soil substrate (Oberbauer et al. 2008). Typically, vegetation, if present, is nearly exclusively composed of non-native plant species such as ornamentals or ruderal exotic species (Oberbauer et al. 2008). Examples of disturbed habitat include areas that have been graded, repeatedly cleared for fuel management purposes and/or experienced repeated use that prevents natural revegetation (i.e., dirt parking lots, trails that have been present for several decades), recently graded firebreaks, graded construction pads, construction staging areas, off-road vehicle trails, and old homesites (Oberbauer et al. 2008). Disturbed habitat was mapped along the eastern portion of the Study Area.

4.1.7 Open Water

The open water category generally refers to terrestrial wetlands with minimal vegetative cover. Usually comprised of open water, rocky outcroppings, sandy beaches, or mudflats. Open water refers to a ponded area located north of Palm Avenue on the eastern portion of the Study Area. The water appeared to be polluted with a visible oily sheen. This water is assumed to originate from urban run-off and other urban resources upstream of the large culvert located at the underpass of Palm Avenue.

4.2 Plant Species

A list of plant species observed during the biological reconnaissance survey is included in Appendix B, Species Compendium. A total of 22 species of native or naturalized vascular plants, 11 native (50%) and 11 non-native (50%), were recorded on the site. The high percentage of non-native species is likely due to the highly disturbed nature of the site.

4.2.1 Special Status Plant Species

Appendix C, Special-Status Plant Species Potentially Occurring in the Study Area, lists special-status plant species known to occur in the USGS 7.5-minute Imperial Beach quadrangle and the surrounding four USGS 7.5-minute quadrangles, as well as plant species included within the USFWS IPaC list generated for the Study Area (CDFW 2025a; CNPS 2025a; USFWS 2025a). No special-status plant species were observed within the Study Area during the general biological reconnaissance survey.

Four species were found to have a moderate or high potential to occur in the Study Area. All four species were found to have potential outside of the Project boundaries due to the developed nature of the Project Site. Table 2 summarizes the regulatory status, ecological associations, and potential for the species to occur. The species not expected to occur or have low potential are assessed in Appendix C. No critical habitat for plants has been designated within the Study Area (USFWS 2025a).

Table 2. Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct(Nov)/0–100	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Frankenia palmeri	Palmer's frankenia	None/None/2B.1	Coastal dunes, Marshes and swamps (coastal salt), Playas/perennial herb/May–July/0–35	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/5–4,005	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps (coastal salt)/perennial herb/(Jan–May)July–Oct/0–15	High potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records within a mile.

Notes:
[1] Status Abbreviations
CRPR: California Rare Plant Rank
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
Threat Rank Modifier
.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Moderately threatened in California (20% - 80% of occurrences threatened/moderate degree and immediacy of threat)

4.3 Wildlife Species

A total of seven wildlife species, all common native avian species, were recorded within the site. A list of wildlife species observed during the biological reconnaissance survey is included in Appendix B, Species Compendium.

4.3.1 Special Status Wildlife Species

Appendix D, Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area, lists special-status wildlife species that are known to occur in the USGS 7.5-minute Imperial Beach quadrangle and the surrounding four USGS 7.5-minute quadrangles, as well as wildlife species included within the USFWS

Information for Planning and Consultation list generated for the study area (CDFW 2025f; CNPS 2025a; USFWS 2025a).

No special-status wildlife species were observed during the biological reconnaissance survey. The assessment for occurrence resulted in one special-status species having a high potential to occur within the Study Area: light-footed Ridgway's rail (*Rallus obsoletus levipes*). However, suitable nesting and foraging habitat does not occur within the Project site due to the developed nature and the lack of natural habitat within the Project boundaries.

4.3.2 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the Study Area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), as shown in the CDFW Biogeographic Information and Observation System (CDFW 2025b). On a local level, the Project site does not have any streams that would provide fish passage, and it provides limited connectivity for terrestrial wildlife movement. The Project is adjacent to open space to the north that is expected to facilitate wildlife movement in the region, which would not be impacted by the Project.

No diagnostic signs of bird rookeries (e.g., numerous nests, whitewash) or large maternal or overwintering bat roosts (e.g., large concentrations of guano or guano odors) were identified in the Study Area and are not expected. The lack of habitat to provide substantial foraging opportunities for birds on site or in the immediate area make rookeries unlikely. The lack of typical urban roosting habitat (bridges and older buildings with structural deficiencies) makes it unlikely for the study area to support native wildlife nursery sites. Shrub vegetation and trees located within and adjacent to the Study Area provides suitable nesting habitat for birds.

4.4 Jurisdictional Wetlands and Waters

Although a formal jurisdictional delineation was not performed, the Study Area was inspected for the presence of potentially jurisdictional wetlands and waters during the April 2025 site visit. Two swale-like features and one drainage feature (Features 1-3) were observed within the western portion of the Study Area and the very eastern portion (Figure 3, Hydrology). Additionally, a salt marsh is located directly north to the Project site along the western and eastern portion of the Study Area. This area is labeled as an estuarine and marine wetland according to the National Wetland Inventory (USFWS 2025b).

Features 1 and 2 are comprised of ornamental and non-native plant species such as bougainvillea (*Bougainvillea* sp.) and bermudagrass. Neither swale contained an obvious ordinary high-water mark (OHWM) or relatively permanent waters. Feature 3 is a manmade stormwater drainage feature. This feature had a fenced in perimeter and was difficult to determine whether an OHWM was visible. However, this feature is an artificial man-made drainage stormwater drain system with plantings of native coastal sage scrub species used after restoration.

The salt marsh wetland on the western and eastern portion of the Study Area is adjacent to the developed portion of the Study Area and outside of the Project boundaries.

The proposed Project is located within the boundaries of the coastal zone. Specifically, it is within the San Diego Bay Critical Coastal Area, which is identified as a principal bay or estuary (CCC 2025). Because the project is located in the coastal zone, the California Coastal Commission (CCC) requires compliance with the California Coastal Act through the City's approved Local Coastal Program (LCP) Land Use Plan (City of Imperial Beach 2022).

4.5 Local, Regional, or State Habitat Conservation

The Project site is entirely within the City of Imperial Beach, which is part of the San Diego County MSCP Plan (CDFW 2025; County of San Diego 1998), but which has not pursued nor obtained authorization to implement the MSCP Plan through an adopted Subarea Plan. The eastern portion of the Project site is adjacent to the City of San Diego, which does have an approved MSCP Subarea Plan (City of San Diego 1997). The proposed Project is entirely within developed areas and does not change the condition of habitat or open space areas in a manner that would negatively affect the adjacent City of San Diego MSCP conservation areas (i.e., the Multi Habitat Planning Area).

5 Project Impacts

This chapter addresses direct and indirect impacts to biological resources that would result from implementation of the proposed Project.

5.1 Definition of Impacts

5.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

5.1.2 Direct Temporary Impacts

Direct temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would be reversible. Areas currently supporting native vegetation temporarily disturbed by construction activities would be restored and revegetated with a native species mix similar to that which existed prior to disturbance following completion of work in the area such that full biological function can be restored. Areas not currently supporting native vegetation would be adequately restored to prevent adverse effects such as erosion or establishment of invasive species following construction.

5.1.3 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone that may occur during construction (i.e., short-term construction related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within the defined Study Area, but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects) that are adjacent to naturalized areas.

For the proposed Project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities, accidental leaks or spills from construction equipment, noise from construction activities, and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources.

5.1.4 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a project could: (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project would potentially have a significant effect if it:

Impact BIO-1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Impact BIO-2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Impact BIO-3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-4. 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 wildlife corridors, or impedes the use of native wildlife nursery sites?

Impact BIO-5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-6. 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?

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact and the offsetting benefits of mitigation are the primary determinants of whether or not that impact can be mitigated to a less-than-significant level.

There are no local biological resource protection ordinances applicable to the Project site, but it is within the San Diego County MSCP Plan.

5.2 Impact BIO-1: Special-Status Species

Special-Status Plants

Direct Impacts

The Project Site is generally within a fully developed area, with an abundance of ornamental, non-native and invasive species present. All special-status species with potential to occur are found outside of the Project boundaries. As such, there are no direct impacts to special-status plants associated with the proposed project.

Indirect Impacts

Special-status plants in the areas adjacent to the Project site could be inadvertently impacted should construction workers or vehicles stray out of the Project footprint. Invasive plant species could be introduced by the Project during construction and installation of landscaping that could alter the habitat for special-status plants in the Project vicinity. Invasive plants could compete with special-status plants for resources (i.e., water) and space. These indirect impacts could be significant without mitigation. Implementation of Mitigation Measure (MM)-BIO-1, Demarcation of Disturbance Limits, would avoid and minimize Project activities outside of the Project footprint. MM-BIO-2, Invasive Plant Species Prevention, would avoid and minimize the introduction of invasive plant species to the Project site. With the implementation of MM-BIO-1 and MM-BIO-2, indirect impacts to special-status plants will be less than significant.

Special-Status Wildlife

Direct Impacts

One special-status species, light-footed Ridgway's rail, was found to have a high potential to occur within the Study Area. However, no suitable habitat is present within the Project site, therefore this species is not anticipated to be directly impacted by the proposed Project.

Indirect Impacts

Indirect short-term and long-term impacts to special-status wildlife species may include both habitat degradation and effects on individuals. Indirect construction impacts to wildlife habitat may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling, as well as attracting predators. Trash and other garbage associated with construction activities can degrade vegetation communities and wildlife habitat and can attract nuisance and pest species that affect several of the wildlife guilds. Trash and debris include discarded construction-related materials, such as packaging materials, which may be dispersed into natural areas by wind. Trash generated by construction personnel, such as food packaging and cigarette butts, also can be dispersed by wind and water into natural areas. These indirect impacts could be significant without mitigation. Implementation of MM-BIO-1 (Demarcation of Disturbance Limits) and MM-BIO-2 (Invasive Plant Species Prevention) would reduce indirect impacts to special-status wildlife to less than significant.

Trees and shrub habitat within the proposed project provides suitable nesting habitat for special-status bird species, as well as other bird species protected under the MBTA (16 USC 703–712) and California Fish and Game Code Sections 3503.5, 3503, and 3513. Vegetation removal or grading activities conducted during the general nesting bird season (February 1 through September 30) could result in the direct take of a bird (i.e., individuals, active nests, eggs, or young) if nesting within proposed disturbance areas during construction. Harm to or the loss of individuals during construction could be significant, absent mitigation. **MM BIO-3** (Nesting Bird Avoidance) would require seasonal avoidance, pre-construction nesting bird surveys, avoidance buffers, or monitoring, as applicable. Accordingly, direct impacts to special-status birds and nesting birds protected under the MBTA and California Fish and Game Code would be less than significant with implementation of **MM-BIO-3**.

5.3 Impact BIO-2: Riparian Habitat and Sensitive Communities

Direct Impacts

Four sensitive vegetation communities were identified within the Study Area, but outside of the Project boundaries. Therefore, direct impacts to riparian or sensitive vegetation communities are not anticipated to occur.

Indirect Impacts

Potential short-term indirect impacts to special-status vegetation community in the study area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust, increased human activity, and the introduction of pollutants from construction equipment. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and

diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other project-related materials) may affect special-status vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. These potential short-term, construction-related indirect impacts could affect the special-status vegetation community in the study area.

Potential construction-related indirect impacts to special-status vegetation communities would be less than significant with the implementation of MM-BIO-1 (Demarcation of Disturbance Limits).

5.4 Impact BIO-3: Jurisdictional Wetlands and Waters

Direct Impacts

The swale-like feature (Feature 1) on the western portion of the Study Area will be directly impacted by the proposed Project (Figure 3. Hydrology). This feature is a manmade round bottom swale comprised of ornamental and non-native species. For these reasons, neither feature is expected to be regulated under the CWA or California Fish and Game Code. However, both features may be considered a water of the state and could be regulated by the Regional Water Quality Control Board per the Porter-Cologne Water Quality Control Act. Impacts to jurisdictional waters would be significant. However, the Project is expected to restore and enhance the feature so there would be not net loss and compensatory mitigation is not warranted. **MM-BIO-4** (Aquatic Resources Mitigation) would be implemented to ensure that the Project complies with the Porter-Cologne Water Quality Control Act by consulting with the Regional Water Quality Control Board (RWQCB) if Waste Discharge Requirements are needed.

Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required stormwater pollution prevention plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

5.5 Impact BIO-4: Wildlife Corridors and Nurseries

The Project site does not function as a wildlife corridor or habitat linkage and does not occur within any designated wildlife corridors or habitat linkages. Direct or indirect impacts to wildlife corridors and habitat connectivity are not anticipated and would therefore be less than significant.

The project would be required to comply with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a Project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. Compliance with the MBTA would ensure that the implementation of the project would not interfere with the nesting of any native bird species. With the implementation of MM-BIO-3, direct and indirect impacts would be less than significant.

5.6 Impact BIO-5: Local Policies or Ordinances

The Project would not conflict with any local policies or ordinances that concern biological resources.

5.7 Impact BIO-6: HCP/NCCP

There are no lands within the Project site that are included in any regional or local habitat conservation framework (i.e., HCP, NCCP, etc.) that require mitigation. This includes the City of Imperial Beach's General Plan/Local Coastal Program Land Use Plan (City of Imperial Beach 2022) and the San Diego County MSCP Plan (San Diego County 1998). Sensitive vegetation as well as lands designated as open space and Areas of Potential Environmentally Sensitive Habitat Area (ESHA) adjacent to the Project site would not be directly impacted. As such, the Project would not conflict with this threshold, and no mitigation is required.

6 Mitigation Measures

MM-BIO-1 Demarcation of Disturbance Limits. Prior to commencement of earthwork in the undeveloped portion of the Project site, the construction limits shall be clearly demarcated (e.g., installation of flagging or temporary high visibility construction fence), as recommended by Biological Monitor. All construction activities including equipment staging and maintenance shall be conducted within the marked disturbance limits to prevent inadvertent disturbance to sensitive vegetation communities outside the limits of work. The flagging shall be maintained throughout construction.

MM-BIO-2 Invasive Plant Species Prevention. The Project shall not include invasive plant species listed on the California Invasive Plant Council inventory in Project landscaping palettes. Project landscape palettes shall be reviewed and approved by the County of San Diego Regional Planning to ensure that invasive plant species are excluded. In addition, to prevent the spread of invasive plant species

during construction and until the establishment of common landscaped areas associated with the Project (for a period of up to five years): (1) All equipment shall be washed prior to entering and prior to leaving the Project site in an upland location where any seed material from invasive species will be contained and (2) All vegetative material removed from the Project impact footprint shall be transported in a covered vehicle and will be disposed of at a certified disposal site.

MM-BIO-3 Nesting Bird Avoidance. Project construction shall be conducted in compliance with the conditions set forth in the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code to protect active bird/raptor nests. To the maximum extent feasible, vegetation removal shall occur outside of the breeding season for nesting birds (October 1 through January 31) to avoid impacts to nesting birds and raptors. If construction activities must occur during the breeding season for nesting birds (February 1 through September 30), a pre-construction nesting bird survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of breeding birds and active nests. The nesting bird survey shall be performed by a qualified biologist (more than 3 years of experience of conducting nesting bird surveys) within 72 hours prior to the start of construction in accordance with the MBTA and California Fish and Game Code Sections 3503, 3503.5, and 3513. If the biologist does not find any active nests within 500 feet of the impact areas, the vegetation clearing/construction work shall be allowed to proceed.

If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate buffer established around the nest, which will be determined by the biologist based on the species' sensitivity to disturbance. The nest area shall be avoided until the nest is vacated and/or the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site nest monitoring shall also be conducted when construction occurs in close proximity to an active nest buffer. No project activities may encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined the nestlings have fledged and the nest is no longer considered active.

MM-BIO-4 Aquatic Resources Mitigation Aquatic Resources Mitigation. The Project site supports aquatic resources that may be jurisdictional under the Regional Water Quality Control Board (RWQCB). Prior to construction activity, the Project applicant shall coordinate with the San Diego RWQCB (Region 9) to ensure conformance with the requirements Porter-Cologne Water Quality Control Act and acquire Waste Discharge Requirements if needed and comply with the requirements within the permit.

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Attachment A

Photo Exhibit

Photo 1. Representative photo of the developed nature throughout the Project Site.

Photo 2. Representative phot of the southern coastal salt marsh within the Study Area (outside of Project Site).

Photo 3. View facing southeast at a marsh feature in the study area.

Photo 4. Representative photo of Feature 1 located on the southeastern portion of the Study Area.

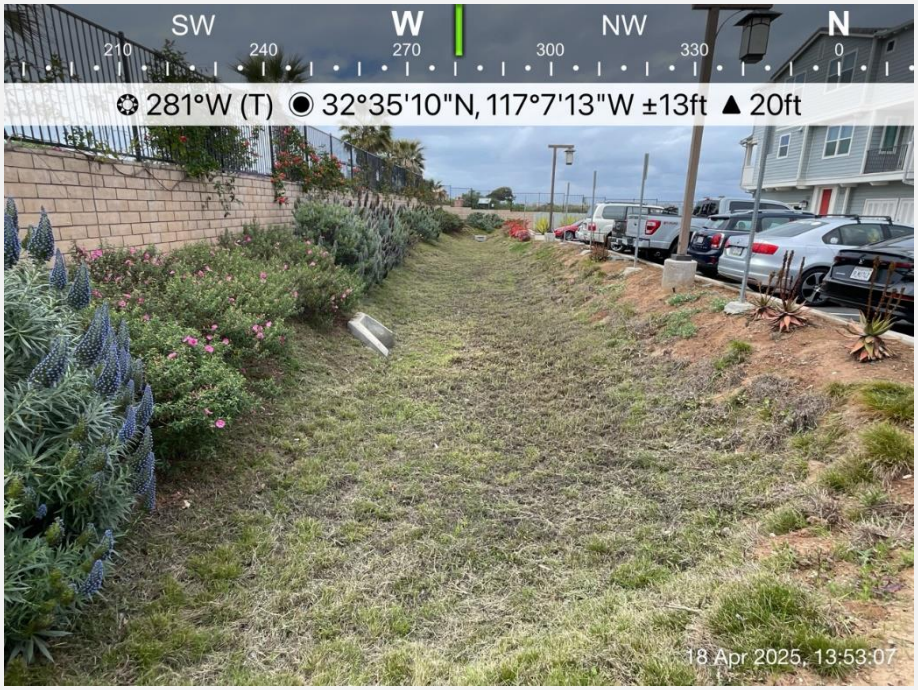

Photo 5. View facing west at Feature 2 in the northwestern portion of the study area.

Photo 6. Representative photo of Feature 3.

Photo 1. Representative photo of Diegan Coastal Sage Scrub outside of the Project boundaries.

Photo 2. Representative photo of disturbed Diegan Coastal Sage Scrub outside of the Project boundaries.

Photo 3. Representative photo of the open water north adjacent to the Project Site on the eastern portion of the Study Area.

Photo 4. View culvert outlet found on the north side of the Project Site on the eastern portion of the Study Area.

Attachment B

Species Compendium

Plant Species

Vascular Species

Eudicots

AIZOACEAE – FIG-MARIGOLD FAMILY

* *Carpobrotus edulis* – hottentot fig

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

Rhus integrifolia – lemonade berry

ASTERACEAE – SUNFLOWER FAMILY

Baccharis pilularis – coyote brush

Encelia californica – California brittlebush

* *Glebionis coronaria* – crowndaisy

Iva hayesiana – San Diego marsh-elder

Jaumea carnosa – marsh jaumea

BRASSICACEAE – MUSTARD FAMILY

* *Raphanus raphanistrum* – wild radish

CHENOPODIACEAE – GOOSEFOOT FAMILY

Atriplex canescens – fourwing saltbush

* *Chenopodium murale* – nettleleaf goosefoot

FRANKENIACEAE – FRANKENIA FAMILY

Frankenia salina – alkali heath

LAMIACEAE – MINT FAMILY

Salvia mellifera – Black sage

MALVACEAE – MALLOW FAMILY

* *Malva parviflora* – cheeseweed mallow

MUSACEAE – BANANA FAMILY

* *Musa ornata* – flowering banana

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

* *Bougainvillea spp.* – Bougainvillea species

PLUMBAGINACEAE – LEADWORT FAMILY

* *Limonium perezii* – Perez's sea lavender

POLYGONACEAE – BUCKWHEAT

Eriogonum fasciculatum – California buckwheat

Monocots

ARECACEAE – PALM FAMILY

* *Washingtonia robusta* – Washington fan palm

JUNCACEAE – RUSH FAMILY

Juncus acutus – spiny rush

POACEAE – GRASS FAMILY

* *Cynodon dactylon* – Bermudagrass

TYPHACEAE – CATTAIL FAMILY

Typha angustifolia – narrowleaf cattail

Wildlife Species

Birds

Falcons

FALCONIDAE – CARACARAS & FALCONS

Falco sparverius – American kestrel

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Herons & Bitterns

ARDEIDAE – HERONS, BITTERNS & ALLIES

Ardea alba – great egret

Jays, Magpies & Crows

CORVIDAE – CROWS & JAYS

Corbus brachyrhynchos – American crow

Shorebirds

CHARADRIIDAE – LAPWINGS & PLOVERS

Charadrius vociferus – killdeer

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Melospiza melodia – song sparrow

Passerculus sandwichensis beldingi – Belding's savannah sparrow

* signifies introduced (non-native) species

Attachment C

Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, Openings/annual herb/Apr–June/35–3,150	Not expected to occur. No suitable habitat is present within the Study Area.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar–June(July)/0–35	Not expected to occur. No suitable habitat is present within the Study Area.
Adolphia californica	California adolphia	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec–May/35–2,430	Not expected to occur. No suitable habitat is present within the Study Area.
Agave shawii var. shawii	Shaw's agave	None/None/2B.1	Coastal bluff scrub, Coastal scrub/perennial leaf/Sep–May/10–395	Not expected to occur. No suitable habitat is present within the Study Area.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Loam (sometimes), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Not expected to occur. No suitable habitat is present within the Study Area.
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Feb–June/5–1,000	Not expected to occur. No suitable habitat is present within the Study Area.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,510	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Atriplex pacifica	south coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. No suitable habitat is present within the Study Area.
Bergerocactus emoryi	golden-spined cereus	None/None/2B.2	Chaparral, Closed-cone coniferous forest, Coastal scrub; Sandy/perennial stem/May–June/10–1,295	Not expected to occur. No suitable habitat is present within the Study Area.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct(Nov)/0–100	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1	Chaparral (maritime), Closed-cone coniferous forest, Coastal scrub; Openings, Sandy/annual herb/Mar–May/10–410	Not expected to occur. No suitable habitat is present within the Study Area.
Chorizanthe polygonoides var. longispina	long-spined spineflower	None/None/1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay (often)/annual herb/Apr–July/100–5,020	Not expected to occur. No suitable habitat is present within the Study Area.
Corethrogyne filaginifolia var. incana	San Diego sand aster	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub/perennial herb/June–Sep/10–375	Not expected to occur. No suitable habitat is present within the Study Area.
Cylindropuntia californica var. californica	snake cholla	None/None/1B.1	Chaparral, Coastal scrub/perennial stem/Apr–May/100–490	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Deinandra conjugens	Otay tarplant	FT/SE/1B.1	Coastal scrub, Valley and foothill grassland; Clay/annual herb/(Apr)May–June/80–985	Not expected to occur. No suitable habitat is present within the Study Area.
Dicranostegia orcuttiana	Orcutt's bird's-beak	None/None/2B.1	Coastal scrub/annual herb (hemiparasitic)/(Mar)Apr–July(Sep)/35–1,150	Not expected to occur. No suitable habitat is present within the Study Area.
Dudleya attenuata ssp. attenuata	Orcutt's dudleya	None/None/2B.1	Chaparral, Coastal bluff scrub, Coastal scrub; Gravelly (sometimes), Rocky (sometimes)/perennial herb/May–July/10–165	Not expected to occur. No suitable habitat is present within the Study Area.
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentine/perennial herb/Apr–June/15–1,475	Not expected to occur. No suitable habitat is present within the Study Area.
Dudleya variegata	variegated dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial herb/Apr–June/10–1,905	Not expected to occur. No suitable habitat is present within the Study Area.
Dudleya viscida	sticky dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub; Rocky/perennial herb/May–June/35–1,805	Not expected to occur. No suitable habitat is present within the Study Area.
Ericameria palmeri var. palmeri	Palmer's goldenbush	None/None/1B.1	Chaparral, Coastal scrub; Mesic/perennial evergreen shrub/(July)Sep–Nov/100–1,970	Not expected to occur. No suitable habitat is present within the Study Area.
Eryngium aristulatum var. parishii	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/annual/perennial herb/Apr–June/65–2,035	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Erysimum ammophilum	sand-loving wallflower	None/None/1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; Openings, Sandy/perennial herb/Feb–June(July–Aug)/0–195	Not expected to occur. No suitable habitat is present within the Study Area.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	Not expected to occur. No suitable habitat is present within the Study Area.
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem/May–June/10–1,475	Not expected to occur. No suitable habitat is present within the Study Area.
Frankenia palmeri	Palmer's frankenia	None/None/2B.1	Coastal dunes, Marshes and swamps (coastal salt), Playas/perennial herb/May–July/0–35	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1	Coastal scrub (mesic), Vernal pools/ephemeral liverwort/N.A./35–1,970	Not expected to occur. No suitable habitat is present within the Study Area.
Heterotheca sessiliflora ssp. sessiliflora	beach goldenaster	None/None/1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar–Dec/0–4,020	Not expected to occur. No suitable habitat is present within the Study Area.
Isocoma menziesii var. decumbens	decumbent goldenbush	None/None/1B.2	Chaparral, Coastal scrub (often disturbed areas, sandy)/perennial shrub/Apr–Nov/35–820	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Iva hayesiana	San Diego marsh-elder	None/None/2B.2	Riverwashes /perennial herb/Apr–Oct/0–1,640	Not expected to occur. No suitable habitat is present within the Study Area.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/5–4,005	Moderate potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records in San Diego Bay.
Leptosyne maritima	sea dahlia	None/None/2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/15–490	Not expected to occur. No suitable habitat is present within the Study Area.
Monardella stoneana	Jennifer's monardella	None/None/1B.2	Chaparral, Closed-cone coniferous forest, Coastal scrub, Riparian scrub; Rocky (usually), Streambanks (often)/perennial herb/June–Sep/35–2,590	Not expected to occur. No suitable habitat is present within the Study Area.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/Jan–July/15–1,640	Not expected to occur. No suitable habitat is present within the Study Area.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/100–2,150	Not expected to occur. No suitable habitat is present within the Study Area.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.2	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/10–3,970	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Phacelia stellaris	Brand's star phacelia	None/None/1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310	Not expected to occur. No suitable habitat is present within the Study Area.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/perennial evergreen shrub/Feb–Apr(May–Aug)/50–1,310	Not expected to occur. No suitable habitat is present within the Study Area.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/Jan–Apr(May)/50–2,625	Not expected to occur. No suitable habitat is present within the Study Area.
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps (coastal salt)/perennial herb/(Jan–May)July–Oct/0–15	High potential to occur. Suitable habitat is present in the Study Area, outside of the Project limits, and the species has recent records within a mile.

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Attachment D

Special-Status Wildlife Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Spea hammondii	western spadefoot	FPT/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Not expected to occur. No suitable habitat is present within the Study Area.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Not expected to occur. No suitable habitat is present within the Study Area.
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	Not expected to occur. No suitable habitat is present within the Study Area.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Not expected to occur. Coastal scrub habitat is present within the Study Area but it is too limited to sustain a population of the species and it is isolated by development from open space areas to the east.
Aspidoscelis tigris stejnegeri	coastal whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable habitat is present within the Study Area.
Chelonia mydas	green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. No suitable habitat is present within the Study Area.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Masticophis fuliginosus	Baja California coachwhip	None/SSC	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub. Open areas in grassland and coastal sage scrub.	Not expected to occur. Coastal scrub habitat is present within the Study Area but it is too limited to sustain a population of the species and it is isolated by development from open space areas to the east.
Phrynosoma blainvillii	coast horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. No suitable habitat is present within the Study Area.
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	Not expected to occur. No suitable habitat is present within the Study Area.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Not expected to occur. No suitable habitat is present within the Study Area.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable habitat is present within the Study Area.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species could be transient the in the Study Area during foraging.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to occur (nesting colony). No suitable nesting habitat is present within the Study Area
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Not expected to occur. No suitable habitat is present within the Study Area.
Artemisiospiza belli belli	Bell's sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Not expected to occur. No suitable habitat is present within the Study Area.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC, SCE	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur. No suitable habitat is present within the Study Area.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species may be transient in the Study Area during migration.
Campylorhynchus brunneicapillus sandiegensis (San Diego & Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species may be transient in the Study Area during foraging.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to nest. No suitable habitat is present within the Study Area.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Low potential to occur. Nesting habitat is present in the Study Area, outside of the Project limits, but the species only has one record from San Diego Bay and it is from 1905.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to nest. No suitable habitat is present within the Study Area.
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Not expected to occur. No suitable habitat is present within the Study Area. Marginal

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Falco peregrinus anatum (nesting)	American peregrine falcon	FD/SD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species may be transient in the Study Area during foraging.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays; needs water depths of about one inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Low potential to occur. Suitable habitat is present in the western portion of the Study Area, outside of the Project limits, but the species has only two records in the San Diego Bay from 1902 and 1954.
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to occur. No suitable habitat is present within the Study Area.
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species may be transient in the Study Area during foraging.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Observed. This species was seen foraging within the Study Area, outside of the Project Site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Pelecanus occidentalis californicus (nesting colonies & communal roosts)	California brown pelican	FD/SD	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands	Not expected to occur (nesting colonies & communal roosts). No suitable habitat is present within the Study Area. The species may be transient in the Study Area during foraging.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. No suitable habitat is present within the Study Area.
Rallus obsoletus levipes	light-footed Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	High potential to occur. Suitable habitat is present and there is a 2007 record less than a mile north of the western end of the Study Area.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to nest. No suitable habitat is present within the Study Area.
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur (nesting colony). No suitable habitat is present within the Study Area. The species may be transient in the Study Area during foraging

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. No suitable habitat is present within the Study Area.
Nannopterum auritum (nesting colony)	double-crested cormorant	None/WL	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas	Not expected to occur (nesting colony). No suitable habitat is present within the Study Area. The species may be transient in the Study Area during foraging
Anarhynchus nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur (nesting). No suitable habitat is present within the Study Area. The species may be transient in the Study Area during foraging
Fishes				
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/SCE	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to nest. No suitable habitat is present within the Study Area.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to occur. Manmade structures on site may be potential roosts.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Not expected to occur. No suitable habitat is present within the Study Area.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Dipodomys simulans	Dulzura kangaroo rat	None/None	Coastal scrub, chaparral, grassland at elevation <4,500 feet above mean sea level	Not expected to nest. No suitable habitat is present within the Study Area.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Not expected to nest. No suitable habitat is present within the Study Area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Not expected to nest. No suitable habitat is present within the Study Area.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to nest. No suitable habitat is present within the Study Area.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Not expected to occur. No suitable habitat is present within the Study Area.
Puma concolor	mountain Lion	None/SC	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	Not expected to occur. No suitable habitat is present within the Study Area.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. No suitable habitat is present within the Study Area.
Invertebrates				

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	Not expected to occur (nesting). No suitable nesting habitat is present within the Study Area. The species could be transient in the Study Area during foraging.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta, P. patagonica*, and *Antirrhinum coulterianum*, among others	Not expected to occur. No suitable habitat is present within the Study Area.
Lycaena hermes	Hermes copper	FT/None	Mixed woodlands, chaparral, and coastal scrub	Not expected to occur. No suitable habitat is present within the Study Area.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FPT/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur. No suitable overwintering habitat is present within the Study Area. The species could be transient in the Study Area during foraging.

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