

March 27, 2015

8313-03

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San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92112

Subject: Biological Resources Survey Report for the E Street Realignment in Chula Vista, Chula Vista Bayfront Master Plan, California

Dear Ms. Medel:

This biological resources survey report describes the existing biological conditions of the Sweetwater District parcel and the H-3 parcel within the Harbor District, located within the boundary of the Chula Vista Bayfront Master Plan (CVBMP) in Chula Vista, California. This report describes the results of vegetation mapping, rare plant survey, jurisdictional delineation, and focused surveys for burrowing owl (*Athene cunicularia*), coastal California gnatcatcher (*Polioptila californica californica*), northern harrier (*Circus cyaneus*), and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) and discusses survey methods, vegetation communities and special-status biological resources present on site. This report was also prepared in accordance with the Chula Vista Bayfront Development Policies. Specifically, this report identifies the relevant conditions and policies that will help guide the development of the Chula Vista Bayfront and determines consistency with those policies.

Since completion of the Final Environmental Impact Report (FEIR) for the CVBMP in 2010, site conditions and elements of the project have changed. This biological resources survey report addresses some of the site updates within the Sweetwater District and H-3 parcels relating to the realignment of E Street.

1 PROJECT LOCATION

The E Street Realignment study area is located west of Interstate 5, north of Lagoon Drive and Marina Parkway, and abuts the San Diego Bay in the City of Chula Vista, California (Figure 1). The CVBMP planning area incorporates three separate districts, but the E Street Realignment study area is restricted to the Sweetwater District and H-3 parcels within the Harbor District. Specifically, the study area is mapped in the northwest portion of Section 4 and the northeast portion of Section 5, Township 18 South, Range 2 West on the National City and Imperial Beach U.S. Geological Survey 7.5-minute quadrangle (Figure 2).

2 REGULATORY CONTEXT

This section describes the regulatory framework relevant for this project.

2.1 Federal

The federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration–National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under FESA, it is unlawful to take any listed species; “take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of an habitat conservation plan, USFWS can issue incidental take permits for listed species.

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged and/or fill material into waters of the United States. The term “wetlands” (a subset of waters) is defined in 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark, as defined in 33 CFR 328.3(e).

The Migratory Bird Treaty Act was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the “indiscriminate slaughter” of migratory birds by market hunters and others (16 U.S.C. 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds.

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The Migratory Bird Treaty Act protects over 800 species of birds. Two species of eagles that are native to the United States, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d) to prevent the species from becoming extinct.

2.2 State

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the state of California. Under CESA Section 86, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA Section 2053 stipulates that state agencies may not approve projects that will “jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.”

CESA defines an endangered species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” CESA defines a threatened species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the Commission as rare on or before January 1, 1985, is a threatened species.” A candidate species is defined as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list.” CESA does not list invertebrate species.

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and

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is consistent with state law. A Section 2081(b) permit may not authorize the take of “Fully Protected” species and “specified birds” (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

Pursuant to Section 1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required for impacts to jurisdictional wetlands in accordance with Section 1602 of the California Fish and Game Code.

Section 2835 of the California Fish and Game Code allows the Department to authorize incidental take in a natural communities conservation plan (NCCP). Take may be authorized for identified species whose conservation and management is provided for in the NCCP, whether or not the species is listed as threatened or endangered under FESA or CESA, provided that the NCCP complies with the conditions established in Section 2081 of the California Fish and Game Code. The NCCP provides the framework for the San Diego Multiple Species Conservation Program (MSCP) plans.

2.3 California Coastal Act

Under the California Coastal Act of 1976 (CCA), the California Coastal Commission (CCC) regulates the “coastal zone” and requires a coastal development permit for almost all development within this zone. The CCA also protects designated sensitive coastal areas by providing additional review and approvals for proposed actions in these areas. The CCA defines wetlands as “lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, swamps, mudflats, and fens” (California Public Resources Code, Section 30121). The CCA allows diking, filling, or dredging of wetlands for certain uses, such as restoration. The CCA also directs each city or county within the coastal zone to prepare a local coastal program for CCC certification (California Public Resources Code, Section 30500). Under this definition, the CCC takes jurisdiction over all wetlands (as defined by the presence of any one of the three ACOE criteria (i.e., using the Cowardin method)), and all land lower than the 4.5-foot contour.

2.4 Chula Vista MSCP Subarea Plan

Due to the number of endangered species in the region, the State of California enacted the Natural Communities Conservation Planning Act, which promotes the development of regional conservation plans to ensure adequate protection of special-status species to such a degree that

lead agencies participating under approved plans would not need to seek project-specific approval for pre-authorized take of listed species and/or their supporting habitats. Within southern San Diego County, a regional MSCP was developed in the mid-1990s that provided a framework for the development of individual subarea plans that would allow for participating municipalities and special districts to obtain take authorization through compliance with the MSCP. The H-3 parcels are located within the jurisdiction of the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003).

2.5 Chula Vista Bayfront Development Policies

As a condition of the Port Master Plan Amendment (PMPA) for the CVBMP, a series of development policies reflect “policies from adopted and approved plans, certified environmental documents, enforceable settlement agreements, required mitigation measures, and conditions included in the approval process” of the FEIR and PMPA (Port of San Diego 2012). The policy document “reflects all conditions and policies that will apply to and guide the development of the Bayfront” (Port of San Diego 2012). This biological resources survey report considers and reflects the relevant policies as described in the document.

2.6 CEQA

The California Environmental Quality Act (CEQA) requires identification of a project’s potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

2.6.1 Special-Status Plants and Wildlife

The CEQA Guidelines define endangered animals or plants as species or subspecies whose “survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors” (14 CCR 15380(b)(1)). A rare animal or plant is defined in CEQA Guideline 15380(b)(2) as a species that, although not currently threatened with extinction, exists “in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or ... [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered ‘threatened’ as that term is used in the federal Endangered Species Act.” Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guideline 15380(c).

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For purposes of this impact analysis, species are considered sensitive if they are (1) listed or proposed for listing by state or federal agencies as threatened or endangered (CDFW 2014a, 2014b); (2) plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) of 1A, 1B, 2A, or 2B (CNPS 2014); (3) included on the City of Chula Vista's MSCP Subarea Plan list of species evaluated for coverage or list of narrow endemic plant species (City of Chula Vista 2003) (for lands within the City's jurisdiction); or (4) considered rare, endangered, or threatened by the California Natural Diversity Database (CDFW 2014b).

Some mammals and birds are protected by the state as fully protected species, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. Fully protected species may not be taken or possessed without a permit from the California Fish and Game Commission, and no permit is available for the incidental take of a fully protected species. Species considered state candidates for listing as threatened or endangered are subject to the taking prohibitions and provisions under CESA as if the species were listed.

2.6.2 Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game¹ or the U.S. Fish and Wildlife Service." For the purposes of this analysis, native vegetation communities identified as requiring mitigation under the MSCP are considered special status due to having been identified in a local and regional conservation plan.

3 METHODS

Dudek conducted vegetation mapping, rare plant surveys, a jurisdictional delineation, and focused surveys for Belding's savannah sparrow, burrowing owl, and coastal California gnatcatcher for the E Street Realignment between March and June 2014. Surveys for the northern harrier were conducted in conjunction with other surveys, especially the surveys for the burrowing owl and Belding's savannah sparrow. Table 1 lists the dates, conditions, and survey focus for each survey performed.

¹ Effective January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife. In this document, references to guidance or documents prior to the official name change use CDFG, whereas references after the name change use CDFW. References in quoted material are not altered.

Table 1
Schedule of Surveys

Date	Hours	Personnel	Focus	Conditions
3/28/14	0710–1205	AMH	Belding’s savannah sparrow surveys	58°F–66°F, overcast–clear, 1–3 mph wind
4/1/14	0800–1540	SCG	Burrowing owl	57°F–65°F, 100%–30% cc, 1–5 mph wind
4/2/14	0810–1530	SCG	Burrowing owl	61°F–67°F, 35%–10% cc, 1–3 mph wind
4/4/14	0630–1030	JDP	Belding’s savannah sparrow surveys	49°F–68°F, 90% cc, 1–2 mph wind
4/14/14	0800–1630	VRJ, EAW	Vegetation mapping and jurisdictional delineation	64°F–68°F, 0% cc, 0–5 mph wind
4/18/14	0600–1130	JDP	Belding’s savannah sparrow surveys	53°F–70°F, 100%–90% cc, 1–5 mph wind
4/24/14	0630–1030	JDP	Coastal California gnatcatcher	58°F–67°F, 10% cc; 0–4 mph wind
4/25/14	0630–1100	JDP	Belding’s savannah sparrow surveys	57°F–64°F, 100% cc, 1–10 mph wind
4/29/14	0700–1100	EAW, SCG	Burrowing owl	67°F–76°F; 0% cc; 0–4 mph wind
4/29/14	0630–1030	JDP	Belding’s savannah sparrow surveys	65°F–78°F, 0% cc, 1–2 mph wind
5/9/14	0630–0930	JDP	Coastal California gnatcatcher	57°F–67°F, 10%–0% cc, 0–4 mph wind
5/16/14	0730–1030	JDP	Coastal California gnatcatcher	68°F–80°F, 30%–20% cc, 0–3 mph wind
5/22/14	NR	ACT, KM	Rare plant survey	60°F–70°F; 75% cc – clear; 0–4 mph wind
5/27/14	0900–1430	SCG	Burrowing owl	63°F–77°F; 10%–20% cc; 0–3 mph wind
6/16/14	0800–NR	SCG	Burrowing owl	66°F; 5% cc; 0–2mph wind

Notes: ACT = Andy C. Thomson; AMH = Anita M. Hayworth, PhD; EAW = Emily A. Wier; KM = Kyle Matthews; JDP = Jeffrey D. Priest; SCG = Scott C. Gressard; VRJ = Vipul R. Joshi.
°F = degrees Fahrenheit; mph = miles per hour; cc = cloud cover; NR = not recorded.

3.1 Vegetation Community and Land Cover Mapping

Plant communities were mapped in the field directly onto a 100-scale (1 inch = 100 feet) color digital orthographic map of the property. These boundaries and locations were digitized by Dudek geographic information system (GIS) technician Amna Javed using ArcGIS software.

Vegetation community classifications used in this report follow Holland (1986), as revised by Oberbauer et al. (2008).

3.2 Flora

All native and naturalized plant species encountered on the project site were identified and recorded. Latin and common names for plant species with a CRPR follow the California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants* (2013). 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 2013), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2013).

The potential for special-status plant and wildlife species to occur on the project site was evaluated based on site location, elevation, vegetation condition, vegetation/land covers, and soils present. Land covers on site were mapped in the field directly onto a 200-scale (1 inch = 200 feet) aerial base (Bing Maps 2014).

3.3 Fauna

Dudek biologists walked the study area to identify and record all wildlife species, as detected during field surveys by sight, calls, tracks, scat, or other signs. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. No trapping or focused surveys for nocturnal species was conducted. Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU 2012) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA 2001) or San Diego Natural History Museum (SDNHM 2012) for butterflies, and Moyle (2002) for fish.

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. Binoculars (10 mm × 40 mm) were used to aid in the identification of observed wildlife.

3.3.1 Belding's Savannah Sparrow

A total of five focused surveys for the Belding's savannah sparrow were conducted within suitable coastal salt marsh habitat within the Sweetwater District parcel according to the California Department of Fish and Game (CDFG) protocol (CDFG 2001). Any savannah sparrows observations were recorded and mapped and digitized using ArcGIS.

3.3.2 Burrowing Owl

Protocol-level surveys for burrowing owl, a CDFW Species of Special Concern (SSC), were conducted in potentially suitable habitat types (e.g., grasslands, fallow agricultural fields) located throughout the project area. The surveys were conducted according to the CDFG Staff Report on Burrowing Owl Mitigation (CDFG 2012), which provides guidance for conducting a habitat

assessment as well as breeding and non-breeding season surveys. A total of four survey visits were conducted according to the CDFG 2012 schedule: at least one site visit between February 15 and April 15 and a minimum of three survey visits, at least 3 weeks apart, between April 15 and July 15, with at least one visit after June 15.

3.3.3 Coastal California Gnatcatcher

Surveys for the federally threatened coastal California gnatcatcher (gnatcatcher) were conducted under the authorization of permit TE-840619 (permit-holder Jeff Priest) according to the schedule provided in Table 1. The survey followed the most current protocol established by the USFWS, *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol, July 28, 1997* (USFWS 1997).

Suitable habitat within the project, including suitable coastal sage scrub habitat, was surveyed three times for the gnatcatcher. The selected route ensured complete coverage of all suitable habitat within the study area. A topographic map of the site (scale: 1 inch = 100 feet) overlaid with vegetation polygons was used for the survey. Weather conditions during surveys are provided in Table 1, and were suitable for detecting gnatcatcher. Binoculars were used to aid in detecting and identifying bird species. Taped gnatcatcher vocalizations were played frequently to elicit a response from the species, if present. The tape was played approximately every 50 to 100 feet within suitable habitat. When a gnatcatcher was detected, playing of the tape ceased in order to avoid harassment and the gnatcatcher location was recorded on the site map. In addition, all species observed within the project site during the focused gnatcatcher surveys were recorded.

3.3.4 Northern Harrier

The surveys conducted for Belding's savannah sparrow and burrowing owl also included the detection of the nesting northern harrier (harrier) within the marshland habitats. There is currently no survey protocol for the harrier and the species is not listed by either the state or federal agencies; however, the agencies consider nesting of the species a rare occurrence. Nesting behavior was included, as were observation of a food pass from the male to the female; observations of territorial behavior, since the hunting females often search near the nest locations; and observations of young birds, which would indicate that a nest site is near. Breeding harriers are very aggressive and easily detected. Any nesting harriers observed were recorded and mapped.

3.4 Jurisdictional Delineation

A jurisdictional delineation was conducted within the project boundary to delineate areas under the jurisdiction of the CDFW, pursuant to Sections 1600–1603 of the California Fish and Game Code; under the jurisdiction of the ACOE, pursuant to Section 404 of the federal Clean Water Act; under jurisdiction of Regional Water Quality Control Board (RWQCB), pursuant to Clean Water Act Section 401 and the Porter-Cologne Water Quality Control Act; and under the jurisdiction of the CCC under the CCA. The delineation was further conducted consistent with Policies 2.2 and 2.3 of the Chula Vista Bayfront Development Policies guidance (Port of San Diego 2012). The ACOE-jurisdictional wetlands delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (ACOE 1987), the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008), and *Rapanos* guidance (ACOE and EPA 2008); hydrology, vegetation, and soils were examined at potential wetland sites and were recorded on wetland determination data forms.

A predominance of hydrophytic vegetation, where associated with a stream channel, was used to define CDFW-regulated riparian vegetation. The limits of areas under the jurisdiction of the RWQCB generally match those areas delineated as ACOE jurisdictional. However, stream channels with evidence of an ordinary high water mark that lack connectivity to waters of the United States may be considered to be under the jurisdiction of RWQCB and CDFW but not under the jurisdiction of ACOE. CCC jurisdiction was based on presence of any one of the three wetland criteria. ACOE jurisdiction over tidal wetlands, regardless of the presence/absence of indicators, extends to 18 inches above mean ordinary high tide elevation. Based on tide charts for the San Diego area, ordinary mean high tide was determined to be approximately 3 feet above mean sea level (amsl); therefore, ACOE's tidal wetlands jurisdiction extends to the 4.5-foot contour amsl (NOAA 2014). It is assumed that RWQCB and CCC also take jurisdiction over this tidal area. Additional wetlands jurisdiction may occur above the 4.5-foot contour, but would be based on presence of appropriate wetlands indicators. CDFW, under the Lake and Streambed Alteration program, does not regulate impacts to marine wetlands that are supported by tidal influences. The extent of wetland features was determined in the field by collecting data using a Global Positioning System (GPS) unit; the shapes were then transferred to a topographic base, and GIS coverage was created.

4 RESULTS

4.1 Site Description

Topography within the project area ranges from sea level in the western portion of the site to approximately 30 feet amsl in the easternmost portion of the site. Soils on site include tidal flat; made land; Huerhuero loam, 2% to 9% slopes; and Huerhuero–Urban land complex, 2% to 9% slopes (USDA 2014). There are no streams or waters located within the study area included in the National Hydrography Dataset. Much of the site was previously used for agriculture and therefore has been subjected to continual perturbation and is currently disturbed. North of the study area is the Sweetwater Marsh National Wildlife Refuge, to the east is Interstate 5 and commercial and industrial businesses, and to the south is a marina and industrial uses. To the west is San Diego Bay.

4.2 Vegetation Communities and Land Covers

Four upland vegetation communities (plus two disturbed forms), two wetland vegetation communities, and six land cover types are present within the study area. Upland vegetation communities include Diegan coastal sage scrub (plus its disturbed form), Diegan coastal sage scrub: broom baccharis dominated (plus its disturbed form), Menzies’ goldenbush scrub, and non-native grassland. Wetland vegetation communities include coastal salt marsh and mulefat scrub. Land cover types include beach, developed, disturbed land, eucalyptus woodland, ornamental, and open water. Acreages of vegetation communities and land covers are listed in Table 2 and their spatial distribution is depicted on Figures 3a and 3b.

Table 2
Acreeges of Vegetation Communities and Land Covers

Vegetation Community / Land Cover	Holland Code	Acreage
<i>Upland Vegetation Communities</i>		
Diegan coastal sage scrub	32510	10.6
Diegan coastal sage scrub: broom baccharis dominated	32530	2.5
Disturbed Diegan coastal sage scrub	32510	0.8
Disturbed Diegan coastal sage scrub: broom baccharis dominated	32530	13.1
Diegan coastal sage scrub: Isocoma dominated (Menzies’ goldenbush scrub)	32510	1.3
Non-native grassland	42200	1.0
	<i>Subtotal</i>	29.2
<i>Wetlands</i>		
Coastal salt marsh	52100	2.8

Table 2
Acresages of Vegetation Communities and Land Covers

Vegetation Community / Land Cover	Holland Code	Acreage
Mulefat scrub	63310	0.2
<i>Subtotal</i>		3.0
<i>Land Cover Types</i>		
Beach	64400	0.3
Developed	12000	51.6
Disturbed land	11300	95.6
Eucalyptus woodland	79100	1.0
Ornamental	12000	1.4
Open water	64110	0.3
<i>Subtotal</i>		150.4
Total		182.6^a

^a Total may not sum due to rounding.

4.2.1 Diegan Coastal Sage Scrub

According to Holland (1986), Diegan coastal sage scrub is composed of a variety of soft, low shrubs, characteristically dominated by drought-deciduous species such as California sagebrush (*Artemisia californica*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* sp.), with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). It typically develops on xeric (dry) slopes.

Diegan coastal sage scrub and all its variants generally are recognized as special-status plant communities by federal, state, and local resource agencies. It supports a diversity of special-status plants and animals, and has been reduced by 75% to 80% of its historical coverage throughout Southern California. It is the focus of the current California Natural Communities Conservation Planning Program. Diegan coastal sage scrub is an MSCP Tier II vegetation community (County of San Diego 2010).

Within the Sweetwater District parcel, a man-made berm is planted with coastal sage scrub species, dominated by California sagebrush and California brittlebush (*Encelia californica*) with scattered Eastern Mojave buckwheat. Coastal sage scrub is also mapped adjacent to several of the roadways, dominated by Australian saltbush (*Atriplex canescens*). Areas mapped as disturbed coastal sage scrub contain approximately 20% cover of non-native species, including sweet fennel (*Foeniculum vulgare*), black mustard (*Brassica nigra*), broom baccharis (*Baccharis sarothroides*), and horehound (*Marrubium vulgare*).

4.2.2 Diegan Coastal Sage Scrub: Broom Baccharis Dominated

Broom baccharis scrub is strongly dominated by broom baccharis, and supports other coastal scrub species, such as California sagebrush, Eastern Mojave buckwheat, and sages (Holland 1986). Broom baccharis scrub is an MSCP Tier II vegetation community (County of San Diego 2010). Within the study area, broom baccharis scrub is mostly a monotypic stand of broom baccharis, with scattered California brittlebush, Eastern Mojave buckwheat, and laurel sumac.

The disturbed form of broom baccharis scrub is characterized by more than 20% cover of non-native species, including Uruguayan pampas grass (*Cortaderia selloana*), black mustard, and sweet fennel.

4.2.3 Menzies' Goldenbush Scrub

Menzies' goldenbush scrub (Gray and Bramlet 1992) is a plant association that is dominated by coastal goldenbush (*Isocoma menziesii* var. *vernonioides*). It is not a plant community identified in Holland (1986) or Oberbauer et al. (2008) and would typically be included in the California sage scrub community for mapping purposes. It has been separated from California sage scrub in this report because it supports nearly monotypic patches of Menzies' goldenbush and appears most commonly alongside the edges of salt marsh habitat along the southern and northern boundaries of the project site.

Because this alliance is considered a sub-association of California sagebrush scrub, which is the obligate habitat type for the federally listed threatened coastal California gnatcatcher, it is considered a special-status vegetation community. Areas mapped as Menzies' goldenbush scrub within the study area are dominated by Menzies' goldenbush, along with scattered other species including sweet fennel and Australian saltbush. Menzies' goldenbush scrub is an MSCP Tier II vegetation community (County of San Diego 2010).

4.2.4 Non-Native Grassland

Non-native grassland is characterized by a mixture of weedy, introduced annuals, primarily grasses. It may occur where disturbance by maintenance (mowing, scraping, disking, spraying, etc.), repetitive fire, agriculture, or other mechanical disruptions have altered soils and removed native seed sources from areas formerly supporting native vegetation. Holland (1986) states that non-native grasslands have a sparse to dense cover of annual grasses that are typically 0.2–0.5 meter (0.7–1.6 feet) tall and can be up to 1 meter (3 feet) tall. Wildflowers are often associated with non-native grasslands, especially in years with favorable precipitation (Holland 1986).

According to Holland (1986), grasses that occur in non-native grasslands include oats (*Avena* spp.), bromes (*Bromus* spp.), fescue (*Vulpia* spp.), and Italian ryegrass (*Lolium perenne* ssp. *multiflorum*). Forbs that commonly occur with these grasses include California poppy (*Eschscholzia californica*), filaree (*Erodium* spp.), goldfields (*Lasthenia* spp.), phacelias (*Phacelia* spp.), gilias (*Gilia* spp.), and baby blue-eyes (*Nemophila menziesii*). Non-native grassland also includes land that is used as pasture for grazing purposes. Grasses such as barley (*Hordeum* spp.) and wild oats may grow in these areas. This land has very few native species. Non-native grassland is an MSCP Tier III vegetation community (County of San Diego 2010).

Within the study area, cover of non-native grasses present include slender oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), compact brome (*Bromus madritensis*), mouse barley (*Hordeum murinum*), and smilgrass (*Stipa miliacea* var. *miliacea*).

4.2.5 Coastal Salt Marsh

Southern coastal salt marsh is described by Oberbauer et al. (2008) as a coastal community dominated by highly productive salt-tolerant hydrophytes. This vegetation community has a long growing season in the summer, and is found in sheltered areas of bays, lagoons, and estuaries (Holland 1986). Characteristic species include California seablite (*Suaeda californica*), pickleweed (*Salicornia* spp.), alkali seaheath (*Frankenia salina*), turtleweed (*Batis maritima*), and dwarf coastweed (*Amblyopappus pusillus*).

Coastal salt marsh within the project site is found along the coastline and in a depression in the central part of the site. This vegetation community is dominated by Parish's glasswort (*Arthrocnemum subterminale*), marsh jaumea (*Jaumea carnosa*), turtleweed, and saltgrass (*Distichlis spicata*). Scattered alkali seaheath and Lindley's saltbush (*Atriplex lindleyi*) are also present in this vegetation community. Southern coastal salt marsh is an MSCP Tier I vegetation community (County of San Diego 2010).

4.2.6 Mulefat Scrub

Mulefat scrub is an herbaceous riparian scrub dominated by mulefat (*Baccharis salicifolia*) that typically occurs along intermittent stream channels with generally coarse substrate and a moderate depth to the water table (Holland 1986). Frequent flooding and/or scouring apparently maintain this community in an early successional state. Characteristic plant species in this community include mulefat, Santa Barbara sedge (*Carex barbarae*), willows (*Salix* spp.), and giant stinging nettle (*Urtica holosericea*).

Two small areas within the study area were mapped as mulefat scrub and are principally dominated by mulefat with other species, including tree tobacco (*Nicotiana glauca*) and broom baccharis, also present. Mulefat scrub is an MSCP Tier I vegetation community (County of San Diego 2010).

4.2.7 Beach

Beach habitat is described by Oberbauer et al. (2008) as sandy and/or cobbly habitats that line coastal strands, lagoons, lakes, or oceans. Beaches form from wave action, disturbance, and geologic processes. Most beaches are unvegetated, but may support sparse herbaceous species. Within the study area, beach habitat is mapped along the western boundary adjacent to the Pacific Ocean. Beach habitat is generally disturbed, and trash, debris, and concrete slabs are present. Beach habitat is not associated with an MSCP tier (County of San Diego 2010).

4.2.8 Developed Land

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. Developed land is an MSCP Tier IV vegetation community (County of San Diego 2010).

Developed land within the study area includes paved roads, old rail tracks, parking lots, and compacted dirt paths and trails that support no vegetation. Developed land is located within the Sweetwater District and H-3 parcels.

4.2.9 Disturbed Land

Disturbed land is not described by either Holland (1986) or Oberbauer et al. (2008) but is utilized in this report to describe much of the study area. Disturbed land supports nearly complete vegetative cover of primarily non-native and invasive species. This habitat covers much of the study area and has little biological value. Disturbed land is dominated by fennel, black mustard, crown daisy (*Glebionis coronaria*), Maltese star-thistle (*Centaurea melitensis*), Australian saltbush, horehound, and Uruguayan pampas grass. In particular, the site was determined to support a thick layer of thatch that would essentially exclude many special-status species, including burrowing owl or special-status plant species, from being found throughout the site.

Within this land cover type, there are scattered locations of native species, including broom baccharis and California brittlebush. However, these plants are found at too low a density (less than 10% cover) and over too small an area to be specifically incorporated into this habitat community as an identifying characteristic. Areas of dense native vegetation that were identified to provide greater biological value are specifically identified as a different habitat community in order to capture the varied biological makeup of the study area. Disturbed land is an MSCP Tier IV land cover type (County of San Diego 2010).

4.2.10 Eucalyptus Woodland

Although not recognized by Holland (1986) as a native plant community, eucalyptus woodland is a distinct “naturalized” vegetation type that is fairly widespread in Southern California and is considered a woodland habitat. It typically consists of monotypic stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either depauperate or absent owing to shade and the possible allelopathic (toxic) properties of the eucalyptus leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they frequently provide nesting and perching sites for several raptor species. Eucalyptus woodland is an MSCP Tier IV vegetation community, indicating its low value for covered species under the MSCP (County of San Diego 2010).

One area is mapped as eucalyptus woodland within the study area, in the southern region of the Sweetwater District parcel. The woodland is dominated by eucalyptus, but some non-native pine trees (*Pinus* sp.) and palms (*Washingtonia robusta*) are also present.

4.2.11 Ornamental

Areas in the study area mapped as ornamental principally refer to areas where Athel tamarisk (*Tamarix aphylla*) was planted adjacent to roads and the business park. These areas of tamarisk are not associated with any riparian habitat or drainage areas, but contain large (more than 30-foot-tall) planted trees in the form of a windbreak. “Ornamental” also describes areas where non-native pines and scattered sycamores are planted along Bay Boulevard. Ornamental is not formally listed with an MSCP tier, but is considered a Tier IV land cover type due to its similarity to other disturbed and developed land covers (County of San Diego 2010).

4.2.12 Floral Diversity

A total of 99 species of native or naturalized vascular plants, 52 native (50%) and 52 non-native (50%), was recorded on the site (see Appendix A). The high percentage of non-native species is likely due to past uses of the site for agriculture and that much of the site is mapped as disturbed land.

4.3 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” in this report and include endangered or threatened plant species recognized in the context of CESA and FESA (CDFW 2014a, 2014c), plant species with a CRPR 1 through 4 (CNPS 2014), and plant species covered under the Chula Vista MSCP Subarea Plan (City of Chula Vista 2003).

Special-status plant surveys were conducted within the study area to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.), as described in Section 3.2. Special-status plant species observed or with a high potential to occur within the study area are presented in Appendix B1. All species with a moderate or high potential to occur have been determined, through the focused survey, to be either present or absent. Special-status plant species known to occur in the surrounding region that are absent or with low potential to occur on site are presented in Appendix B2. The evaluation of each species’ potential to occur on site is based on the elevation, habitat, and soils present on site and Dudek’s knowledge of biological resources in the area and regional distribution of each species. A number of potentially occurring plant species are conspicuous (e.g., large, woody shrubs) and readily observed if present within an open and largely disturbed site. Due to low rainfall levels during the survey year, many annuals with potential to occur would likely not have bloomed. As a result, there are eight species that were considered to have a high potential to occur on site (but could likely be excluded from this list during a survey year with average rainfall or greater). Three special-status plant species were detected within the study area during the April 2014 survey: San Diego County viguiera (*Bahiopsis laciniata*), California box-thorn (*Lycium californicum*), and estuary seablite (*Suaeda esteroa*) (see Figure 3a).

4.3.1 Species Observed on Site

San Diego County viguiera (*Bahiopsis laciniata*)

San Diego County viguiera is a shrub in the Asteraceae family. This species is found in chaparral and coastal scrub habitats throughout Orange and San Diego Counties in California, and in Baja California and Sonora, Mexico. This species is locally common but threatened by continuing development within the region. It blooms from February through June, and is found at elevations from 60 to 750 meters (200 to 2,460 feet) amsl (CNPS 2014).

A total of 25 individuals were mapped within the project area at the eastern periphery of the Sweetwater District parcel in disturbed broom baccharis scrub and non-native grassland.

California box-thorn (*Lycium californicum*)

California box-thorn is a shrub in the Solanaceae family. This species has a CRPR of 4.2. This species is found in coastal bluff scrub and coastal scrub habitats throughout much of Southern California and the Channel Islands, as well as Arizona, and into Baja California and Sonora, Mexico. California box-thorn blooms from March to August, and is found at ranges from 5 to 150 meters (16 to 500 feet) amsl (CNPS 2014). This species is currently threatened by development, and potentially by foot traffic and trail maintenance.

A total of 10 individuals were mapped throughout the project area. California box-thorn was primarily mapped on the periphery of coastal salt marsh habitats.

Estuary seablite (*Suaeda esteroa*)

Estuary seablite is a perennial herb in the Chenopodiaceae family. This species has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere, and is fairly endangered in California as it is restricted to coastal environments. This coastal species is found in coastal salt marshes and swamps at elevations from sea level to 15 feet (5 meters) amsl. The range of this species extends south from Ventura County to Baja California (CNPS 2014). This species is currently threatened by development and recreation.

A total of 85 individuals were mapped within the project area in areas mapped as coastal salt marsh, disturbed land, and adjacent to beach habitat.

4.3.2 Species with High Potential to Occur

The following species were considered to have a high potential to occur within the study area based on the presence of suitable habitat, appropriate elevation, and favorable soil conditions. None of these species was observed during 2014 surveys. However, because these species are annuals that are reliant on seasonal rainfall for growth and there was very little rainfall during the 2013–2014 growing season, the absence of these species during the 2014 surveys cannot be considered conclusive. Considering this condition, the study area has been separated to evaluate these species' presence within different zones, including within the 100-foot buffer area and within the proposed redevelopment area. The study area includes a wide range of habitat quality, from disturbed land composed of non-native species to intact native vegetation communities. The areas where these species are considered to have a high potential to occur are along the western and northern boundaries of the study area, where there is some intact coastal salt marsh habitat. In contrast, they are expected to have a low to moderate potential to occur elsewhere

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within the study area (which would be impacted by realignment of E Street), where most of the land is disturbed.

Nuttall’s acmispon (*Acmispon prostratus*)

Nuttall’s acmispon is an annual herb in the Fabaceae family. This species is found in coastal dune and coastal scrub habitats, generally with sandy soils. There are records for this species primarily in coastal San Diego County and south into Baja California (CNPS 2014). Nuttall’s acmispon has a CRPR of 1B.1, indicating that it is rare, threatened, or endangered in California and elsewhere, and it is seriously endangered in California. CNPS (2014) lists threats to this species as development, encroachment by non-native plants, and naval operations at Silver Strand and Imperial Beaches. This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

Coastal dunes milk-vetch (*Astragalus tener* var. *titi*)

Coastal dunes milk-vetch is an annual herb in the Fabaceae family. This species is federally and state endangered, and has a CRPR of 1B.1. Coastal dunes milk-vetch is found in coastal habitats, including coastal bluff scrub, coastal dunes, and coastal prairie, often in areas of sandy soils or vernal mesic areas. There are fewer than 10 occurrences for this species, and it is threatened by urbanization, recreational activities, and non-native plants (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

South coast saltbush (*Atriplex pacifica*)

South coast saltbush is an annual herb in the Chenopodiaceae family. This species has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere, and it is fairly endangered in California. This species is found in coastal bluff scrub, coastal dunes, coastal scrub, and playa habitats along coastal California, south into Mexico, and even some occurrences in Arizona. However, this species is fairly rare throughout its range and many historical occurrences are likely extirpated (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a moderate potential to occur in the E Street Realignment area.

Orcutt’s pincushion (*Chaenactis glabriuscula* var. *orcuttiana*)

Orcutt’s pincushion is an annual herb in the Asteraceae family, and it has a CRPR of 1B.1. This species is found in coastal habitats south of Ventura County, and into Baja California. Orcutt’s

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pincushion is found in coastal bluff scrub and coastal dune habitats, and is threatened by development and recreation (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*)

Salt marsh bird's beak is an annual herb hemiparasite in the Orobanchaceae family. This species is federally and state listed as endangered, and has a CRPR of 1B.2. This species is found in coastal California south of San Luis Obispo County and into Baja California. The salt marsh bird's beak is found in coastal dunes and coastal salt marshes and swamps (CNPS 2014). It is threatened by loss of salt marsh habitat, invasion of non-native plants, and other types of development. This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)

Coulter's goldfields is an annual herb in the Asteraceae family, and it has a CRPR of 1B.1. This species is found throughout Southern California south of San Luis Obispo and Kern Counties, with some scattered records from the Central Valley (Tehama, Tulare, and Yolo Counties). Coulter's goldfields is found in coastal salt marshes and swamps, playas, and vernal pools. This species is threatened by urbanization, agricultural development, road maintenance, foot traffic, and drought (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)

Robinson's pepper-grass is an annual herb in the Brassicaceae family. This species has a CRPR of 4.3, indicating that it has a limited distribution (Watch List (WL)) but is not very endangered in California. Robinson's pepper-grass is found in coastal counties south of Santa Barbara County and into Baja California, as well as in Riverside and San Bernardino Counties, and on Santa Cruz Island. Robinson's pepper-grass is found in chaparral and coastal scrub habitats, and is threatened by development and possibly by invasion of non-native plants (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a moderate potential to occur in the E Street Realignment area.

Brand's phacelia (*Phacelia stellaris*)

Brand's phacelia is an annual herb in the Boraginaceae family, and it has a CRPR of 1B.1. It was previously listed as a candidate for federal listing, but has since been removed from candidacy. This species is found in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties, as well as in Baja California, Mexico. This species is found in coastal dunes and coastal scrub habitats, and is known from approximately 10 occurrences. Threats to Brand's phacelia include development and invasion of non-native plants (CNPS 2014). This species has a high potential to occur along the western and northern boundaries of the study area, but a low potential to occur in the E Street Realignment area.

4.4 Wildlife

A total of 75 wildlife species, including coastal or oceanic species, grassland and upland species, and some urban-adapted species, were recorded within the site (Appendix C). Due to the diversity of habitat types on site, there is relatively high species diversity. Most species observed were birds, which reflect the extent of focused bird surveys that were conducted within the study area.

Focused surveys for coastal California gnatcatcher and burrowing owl were negative. Belding's savannah sparrow and northern harrier (foraging only) were found within the study area.

4.4.1 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) endangered or threatened wildlife species recognized in the context of CESA and FESA (CDFW 2014d); (2) California Species of Special Concern (SSC) and WL species, as designated by the CDFG (2011); (3) mammals and birds that are fully protected (FP) species, as described in the California Fish and Game Code, Sections 4700 and 3511; (4) Birds of Conservation Concern (BCC), as designated by the USFWS (2008); and (5) wildlife species covered under the Chula Vista MSCP Subarea Plan (City of Chula Vista 2003).

Special-status wildlife species observed in the study area or with high potential to occur are presented in Appendix D1. Special-status wildlife species known to occur in the surrounding region but absent or with low to moderate potential to occur on site are presented in Appendix D2. For each species listed, a determination is made regarding the potential for the species to occur on site based on information gathered during the literature review and site visits, including the location of the site, vegetation communities or land covers present, current site conditions, and past and present land use.

Seven special-status wildlife species were detected within the project area: Belding's savannah sparrow, Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*), northern harrier, Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), brown pelican (*Pelecanus occidentalis*), and double-crested cormorant (*Phalacrocorax auritus*). These species are described in further detail under Species Observed on Site; locations of special-status wildlife species observations are provided on Figures 3a and 3b.

There is no USFWS-designated critical habitat located within the study area. There is critical habitat for western snowy plover (*Charadrius alexandrinus nivosus*) located north of the study area, within the Sweetwater Marsh Wildlife Refuge.

4.4.2 Species Observed on Site

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)

Belding's savannah sparrow is a state endangered, MSCP covered, and County Group 1 species found in coastal salt marshes dominated by pickleweed in coastal Southern California and northern Baja California. This subspecies is nonmigratory, and nests in dense marsh vegetation, including pickleweed, shoregrass (*Distichlis littoralis*), and turtleweed. Habitat loss and fragmentation are a serious threat to these species, as there is very little to no dispersal between populations separated by even 0.25 mile (Unitt 2004).

Within the project area, a total of three pairs and one individual Belding's savannah sparrow were observed during focused surveys for this species. Two of the pairs were observed with juveniles. All Belding's savannah sparrow locations were mapped within the Sweetwater District parcel (Figure 3a).

Brown pelican (*Pelecanus occidentalis californicus*)

Brown pelican is a federally and state delisted, CDFW fully protected, County Group 2, and MSCP covered species. This species occurs in estuarine, marine subtidal, and marine pelagic waters along coastal California. The brown pelican feeds primarily on fish, and will occasionally consume crustaceans, carrion, and young of conspecifics (Zeiner et al. 1990). This species nests on the ground, commonly on the Channel Islands. Roosting areas are chosen for inaccessibility, and include offshore or mainland rock outcrops, mudflats, beaches, wharfs, and jetties.

Brown pelicans were observed flying over the project site on several survey visits. However, no breeding or nesting was observed on site. This species is not included on Figure 3a or 3b.

California horned lark (*Eremophila alpestris actia*)

The California horned lark is a CDFW WL species, and is found in open arid habitats year-round in San Diego County. Common habitats include the coastal strand, arid grasslands, and sandy deserts where there is open ground for foraging for insects and seeds. This species' distribution in coastal San Diego County is patchy, due to the general lack of habitat and threats from urban-adapted predators. Horned larks nest on the ground, but dig a small depression such that the nest is slightly below ground level (Unitt 2004). This nonmigratory subspecies is generally concentrated throughout coastal San Diego County, in Warner Valley, and in the Anza Borrego desert.

Within the project area, two pairs were observed within the H-3 parcel (see Figure 3b). Individuals were observed during the breeding season for this species, and were exhibiting nesting behavior.

Cooper's hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW WL and County Group 1 species. This species is found throughout California in wooded areas. It inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawks use patchy woodlands and edges with snags for perching while they are hunting for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990).

One Cooper's hawk was observed foraging in the southwestern region of the Sweetwater District parcel (see Figure 3a). There are suitable nesting areas on site, including large eucalyptus trees.

Double-crested cormorant (*Phalacrocorax auritus*)

Double-crested cormorant is a CDFW WL species and County Group 2 species. This species can be found both in coastal and inland habitats, including along fresh, salt, and estuarine waters. It is most common in coastal California south of San Luis Obispo. This species feeds primarily on fish, and will roost near water on rocks, islands, steep cliffs, trees, wharfs, jetties, and transmission lines (Zeiner et al. 1990). Perches generally are lacking in vegetative cover. This species is a year-round resident of San Diego County.

Double-crested cormorant was observed flying over the project site on several survey visits. However, no breeding or nesting was observed on site. This species is not included on Figure 3a or 3b.

Osprey (*Pandion haliaetus*)

Osprey is a CDFW WL and County Group 1 species. This species suffered regional decline due to pesticide poisoning during the middle of the twentieth century, but it has since rebounded and nesting pairs are once again found within San Diego County. There are non-migratory residents, which breed in San Diego County, as well as migratory individuals that are found within the County during winter months. This species is found near large water bodies, including lakes, ocean, estuaries, rivers, and marsh habitats. Ospreys build large stick nests, often on man-made structures, often near water bodies. The primary source of food for this species is fish (Unitt 2004).

One breeding pair has maintained a nest located between the Sweetwater District and H-3 parcels (see Figure 3b). Individual ospreys were observed foraging along the coast of the project site on multiple survey visits.

Northern harrier (*Circus cyaneus*)

Northern harrier is a CDFW SSC, MSCP covered, and County Group 1 species. This species is widespread throughout North America, but is of regional concern in California and San Diego. Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, floodplains, and marshes. The species also forages over coastal sage scrub and other open scrub communities. Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland (Smith et al. 2011).

Breeding generally occurs from March to May. Nests are located on the ground in patches of dense and tall vegetation, particularly wetlands and grasslands. Clutch size ranges from four to nine eggs that are incubated for 30 to 32 days (Cripe 2000; Davis and Niemela 2008; Smith et al. 2011). Chicks typically fledge at 4 to 5 weeks by making brief flights near the nest (Smith et al. 2011). Northern harrier is primarily threatened by extensive loss of habitat (Cripe 2000), including freshwater and estuarine wetland breeding habitat and grasslands (Smith et al. 2011).

One pair of northern harriers was observed foraging on site at different times and on different survey days. However, no breeding or nesting was observed on site. Because the species was observed using various parts of the site for foraging and was determined to not be nesting on site, this species is not included on Figure 3a or 3b.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

Southern California rufous-crowned sparrow is a CDFW WL, County Group 1, and MSCP covered species. It is found in sparse, mixed chaparral and coastal scrub habitats in Southern California. Another subspecies is found in Northern California. The Northern California subspecies inhabits steep, often rocky hillsides with grass and forbs (Zeiner et al. 1990).

One Southern California rufous-crowned sparrow was observed in coastal sage scrub habitat in the southwestern region of the Sweetwater District parcel (Figure 3a).

4.4.3 Species with Potential to Occur on Site

4.4.3.1 Invertebrates

Senile tiger beetle (*Cicindela senilis frosti*)

Senile tiger beetle is a County Group 2 species. This species is found in coastal salt marshes, fresh and brackish lagoons, open patches of pickleweed, dried salt pans, and muddy alkali areas. There are few records of this species, but this species is found in Riverside, San Diego, Los Angeles, and Ventura Counties (CDFW 2014b). Populations were found at the San Dieguito River mouth in 1990, but it is unknown whether this population is extant (Kamoun 1996). This species has high potential to occur on site due to the presence of suitable salt marsh habitat, including open patches of pickleweed.

Wandering skipper (*Panoquina errans*)

Wandering skipper is a County Group 1 and MSCP covered species. Wandering skipper is exclusively coastal, and has been collected on ocean bluffs and other open areas near the ocean. The larval host plant is saltgrass (Orsak 1977). This species is found from Santa Barbara County south into Baja California and some parts of mainland Mexico (SBMNH n.d.).

This species has high potential to occur on site due to the presence of suitable salt marsh habitat, including the host plant saltgrass.

4.5 Jurisdictional Waters/Wetlands

Table 3 and Figure 3a present existing ACOE, RWQCB, and CCC-jurisdictional resources within the Sweetwater District and H-3 parcels. Due to changes in site conditions since jurisdictional delineations were performed for the FEIR (Dudek 2010), the jurisdictional resources within the study area have changed.

The results of the 2014 jurisdictional delineation, performed by Dudek, concluded that there are approximately 3.3 acres of jurisdictional wetlands and waters within the project site. This is composed of approximately 0.8 acre of ACOE, RWQCB, and CCC-jurisdictional wetlands; approximately 0.3 acre of ACOE, RWQCB, and CCC-jurisdictional waters; and 2.2 acres of wetlands under the jurisdiction of CCC only (see Table 3, Jurisdictional Wetland Delineation Summary). Since the project area is solely influenced by tides, with no lakes or streambeds running through the site, none of the wetlands or waters on site is under CDFW jurisdiction.

As described in Section 3.4, hydrology, vegetation, and soils were assessed at six data station locations (see Figure 3a) throughout the study area to determine the presence or absence of wetlands field indicators. Four soil mapping units were recorded within the project area; however, only one soil mapping unit is listed on the National Hydric Soils List for the San Diego County Area, California (USDA 2014): tidal flats.

Table 3
Jurisdictional Wetland Delineation Summary

Jurisdiction	Vegetation Community	Acreage
ACOE, RWQCB, CCC wetlands	Coastal salt marsh	0.8
<i>ACOE, RWQCB, CCC Subtotal</i>		<i>0.8</i>
ACOE, RWQCB, CCC waters	Open water	0.3
<i>ACOE, RWQCB, CCC Subtotal</i>		<i>0.3</i>
CCC only wetlands	Coastal salt marsh	2.0
	Mulefat scrub	0.2
<i>CCC Subtotal</i>		<i>2.2</i>
Total		3.3

Note: Total may not sum due to rounding.

Results from the six data stations (Table 4) document that only one data station exhibited all three wetland field indicators. The data collected at each data station are included in Appendix E, on the ACOE’s Wetland Determination Data Forms for the Arid West Region.

Table 4
Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Stream Association	Determination	Jurisdiction
	Vegetation	Hydric Soils	Hydrology			
1	✓	✓	✓	No	Wetland	ACOE, RWQCB, CCC
2	✓	None	None	No	Coastal wetland	CCC
3	✓	None	None	No	Coastal wetland	CCC

Table 4
Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Stream Association	Determination	Jurisdiction
	Vegetation	Hydric Soils	Hydrology			
4	✓	None	None	No	Coastal wetland	CCC
5	✓	None	None	No	Coastal wetland	CCC
6	✓	None	None	No	Coastal wetland	CCC

Data Station 1 is located in a depressional salt flat, which contained evidence of wetland hydrology including salt crusts and surface soil cracks, and supported hydrophytic vegetation dominated by Parish’s glasswort. Hydric soils, noted by the presence of a depleted matrix, were recorded. Based on the presence of all three hydrologic indicators, this area was mapped as a wetland under the jurisdiction of ACOE, RWQCB, and CCC. The depressional area is not associated with a lake, streambed, or other drainage course and is therefore not considered to be CDFW jurisdictional.

Data Stations 2, 3, and 4 are located in concentric rings of hydrophytic vegetation radiating outward from Data Station 1. Data Stations 2, 3, and 4 support hydrophytic vegetation: Data Station 2 supports chairmaker’s bulrush (*Schoenoplectus americanus*), Data Station 3 supports saltgrass and Parish’s glasswort, and Data Station 4 supports mulefat. However, neither wetland hydrology indicators nor hydric soils were recorded at these stations and therefore these areas are not ACOE/RWQCB wetlands. They are also not jurisdictional under CDFW regulations as they are not associated with a lake or stream channel. Therefore, the wetlands associated with Data Stations 2, 3, and 4 were mapped as wetlands under the jurisdiction of CCC only.

Data Stations 5 and 6 lack hydric soils and hydrology, but have hydrophytic vegetation present. Due to the lack of hydrology and hydric soils, these data points are not within an ACOE/RWQCB wetland or a water of the United States. They would not be jurisdictional under CDFW, as they are not associated with a lake or stream channel. Data Station 5 is located within mapped coastal salt marsh vegetation, and Data Station 6 is located within mulefat scrub; therefore, both are considered CCC wetland only.

Waters of the United States and wetlands are considered sensitive biological resources, and impacts to these resources are regulated by the ACOE, RWQCB, and CCC. In addition, wetlands within the City of Chula Vista’s planning boundary are regulated under the City of Chula Vista’s Wetlands Protection Program.

Hydrophytic Vegetation

Two vegetation communities within the study area support a predominance of hydrophytic vegetation: coastal salt marsh and mulefat scrub. These vegetation communities are described above.

Hydric Soils

Soil test pits were dug in association with data stations. Hydric soils were mapped in association with Data Station 1, and included redox features (chemical reactions in which atoms have their oxidation state changed).

Wetland Hydrology

A tidal channel is mapped adjacent to Marina Parkway at the southwestern edge of the Sweetwater District parcel. Waters flow in and out of the F and G Street Marsh and San Diego Bay. A salt pan, located in the middle of a coastal salt marsh vegetation community, exhibited wetland hydrology, including the presence of a salt crust and surface cracks.

Jurisdiction

ACOE Jurisdiction

As described earlier in this report, the ACOE has jurisdiction over waters of the United States including wetlands, as outlined in Section 404 of the Clean Water Act. The tidal channel located adjacent to Marina Parkway at the southwestern edge of the Sweetwater District parcel is classified as an ACOE-jurisdictional non-wetland water of the United States due to the presence of hydric soils and a defined channel, but lack of hydrophytic vegetation. Areas lower than the mean ordinary high tide line along the western edge of the project are considered waters of the United States (i.e., San Diego Bay). In addition, the coastal salt marsh associated with Data Station 1 is under the jurisdiction of the ACOE. ACOE-jurisdictional areas are shown on Figure 3a.

RWQCB Jurisdiction

The RWQCB's jurisdiction corresponds with wetland and non-wetland waters of the United States. The tidal channel is considered a federal non-wetland water, as it connects with navigable waters (San Diego Bay and the Pacific Ocean). In addition, the waters along the bay and the coastal salt marsh associated with Data Station 1 are under the jurisdiction of the RWQCB. RWQCB-jurisdictional areas are shown on Figure 3a.

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CDFW Jurisdiction

The CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of definable bed and banks and existing fish or wildlife resources. Due to the tidal nature of the study area and the lack of lakes or stream channels, there are no wetlands under the jurisdiction of CDFW within the study area.

CCC Jurisdiction

CCC-jurisdictional wetlands are defined by those areas that support at least one of the three wetland criteria. As such, all wetland vegetation communities (coastal salt marsh and mulefat scrub) are considered CCC-jurisdictional wetlands. In addition, the tidal channel (open water) and lands below the 4.5-foot contour along the bay are also considered CCC jurisdictional.

Chula Vista MSCP Subarea Plan Jurisdiction

In accordance with the Chula Vista MSCP Subarea Plan (City of Chula Vista 2003), impacts to wetlands must be avoided to the greatest extent practicable and minimized where impacts must occur. Wetlands mitigation ratios are provided in Table 5-6 of the MSCP Subarea Plan, and are proposed as mitigation for this project. For example, the mitigation ratio required for impacts to coastal salt marsh is 4:1.

4.6 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. 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.

The E Street Realignment study area is an important habitat linkage in southern San Diego County. This parcel connects with the Sweetwater River and Sweetwater National Wildlife Refuge (just north of the study area) and the mouth of the Otay River (south of the study area). The study area serves as a steppingstone between these two different rivers.

5 CONSISTENCY ANALYSIS WITH CHULA VISTA BAYFRONT DEVELOPMENT POLICIES

This section is written to ensure that the results of biological resources surveys and analysis comply with all development policies identified for the CVBMP.

Table 5
Consistency with Chula Vista Bayfront Development Policies

Policy Number	Policy Text	Consistency
2.2	<p>Wetlands shall be defined and delineated consistent with the Coastal Act and the Coastal Commission Regulations, and shall include, but not be limited to, lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. Any unmapped areas that meet these criteria are wetlands and shall be accorded all of the protections provided for wetlands in the PMP.</p> <p>Wetlands shall be further defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.</p>	<p>Wetlands delineations conducted for this report complied with Policy 2.2. For more information, refer to Section 4.6.</p>
2.3	<p>Where the required initial site inventory indicates the presence or potential for wetland species or other wetland indicators, the District shall require the submittal of a detailed biological study of the site, with the addition of a delineation of all wetland areas on the project site. Wetland delineations shall be based on the definitions contained in Section 13577(b) of Title 14 of the California Code of Regulations.</p>	<p>The wetlands delineation performed on April 14, 2014, and results presented in Section 4.6 ensure compliance with Policy 2.3.</p>
2.5	<p>Where wetland fill or development impacts are permitted in wetlands in accordance with the Coastal Act and any applicable PMP policies, mitigation measures shall include creation of wetlands of the same type lost. Adverse impacts will be mitigated at a ratio of 4:1 for all types of wetland, and 3:1 for non-wetland riparian areas.</p> <p>Replacement of wetlands on-site or adjacent to the project site, within the same wetland system, shall be given preference over replacement off-site or within a different system. Areas subjected to temporary wetland impacts shall be restored to the pre-project condition at a 1:1 ratio. Temporary impacts are disturbances that last less than 12 months and do not result in the physical disruption of the ground surface, death of significant vegetation within the development footprint, or negative alterations to wetland hydrology.</p>	<p>Mitigation measures for impacts to wetlands are not included in this report, as the extent of potential impacts is not currently known. However, compliance with required mitigation measures will be laid out in the subsequent biological resources letter report, as requested by the District, and will comply with Policy 2.5.</p>

Table 5
Consistency with Chula Vista Bayfront Development Policies

Policy Number	Policy Text	Consistency
2.6	Wherever wetlands are identified, a buffer of at least 100 feet in width from the upland edge of wetlands and at least 50 feet in width from the upland edge of riparian habitat shall be established. In some unusual cases, smaller buffers may be appropriate, when conditions of the site as demonstrated in a site-specific biological survey, the nature of the proposed development, etc. show that a smaller buffer would provide adequate protection. In such cases, the California Department of Fish and Game (CDFG) must be consulted and agree that a reduced buffer is appropriate and the District, or Commission on appeal, must find that the development could not be feasibly constructed without a reduced buffer. However, in no case shall the buffer be less than 50 feet.	Appropriate wetland and riparian buffers, which comply with Policy 2.6, will be implemented as part of the proposed development footprint. Compliance with this policy will be laid out in the subsequent biological resources letter report, as requested by the District.
5.2	Prohibit active recreation, construction of any road (whether paved or not), within No Touch Buffer Areas and "Transition Buffer Areas" as that term is defined and described in Exhibit 2, with the exception of existing or necessary access points for required maintenance.	The E Street Realignment Project will comply with this policy, and further information will be laid out in the subsequent biological resources letter report, as requested by the District.
5.9	<p>"Environmentally sensitive habitat area" (ESHA) means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The following areas shall be considered ESHA, unless there is compelling site-specific evidence to the contrary:</p> <ul style="list-style-type: none"> • Any habitat area that is rare or especially valuable from a local, regional, or statewide basis. • Areas that contribute to the viability of plant or animal species designated as rare, threatened, or endangered under State or Federal law. • Areas that contribute to the viability of species designated as Fully Protected or Species of Special Concern under State law or regulations. • Areas that contribute to the viability of plant species for which there is compelling evidence of rarity, for example, those designated by the California Native Plant Society (CNPS) as 1b (Rare or endangered in California and elsewhere), such as Nuttall's scrub oak or "2" (rare, threatened or endangered in California but more common elsewhere), such as wart-stemmed Ceanothus. 	Designation of ESHA within the E Street Realignment study area will comply with Policy 5.9. Compliance with this policy will be laid out in the subsequent biological resources letter report, as requested by the District.
5.10	New development shall be sited and designed to avoid impacts to ESHA. ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. These uses include enhancement/restoration work, passive recreational parks and public access or recreational facilities such as trails and bike paths integrated into the natural environment and sited and designed to preserve, and be compatible with, native habitat.	Realignment of E Street will be designed to avoid impacts to ESHA. Compliance with this will be outlined in the subsequent biological resources letter report, as requested by the District.

Table 5
Consistency with Chula Vista Bayfront Development Policies

Policy Number	Policy Text	Consistency
5.11	At the time of adoption of the Chula Vista Bayfront plan, the Coastal Sage Scrub on the berm in the S-1 and S-2 parcel areas and the non-native grasslands located in various locations within the Chula Vista Bayfront Master Plan were not identified as ESHA.	In accordance with Policy 5.11, the coastal sage scrub on the berm in the Sweetwater District parcel and the non-native grasslands will not be identified as ESHA.
5.12	In the 1-g parcel area, a pedestrian bridge is proposed to create a linkage over a tidal inlet associated with the F and G Street Marsh. Tidal habitats should be treated as ESHA and the bridge crossing must be designed to enhance the habitat values present and reduce erosion. This bridge span must be extended and the existing incised channel slope should be cut back, reducing the slope and then creating additional salt marsh habitat on the created floodplain. Site-specific studies to assess the extent and quality of natural resources at the site will be required at the time development is proposed.	Tidal habitats, including the tidal inlet, will be treated as ESHA, and the bridge crossing will be analyzed in further detail in the subsequent biological resources letter report, as requested by the District.
5.13	If located in or adjacent to ESHA, new development shall include an inventory conducted by a qualified biologist of the plant and animal species present on the project site. If the initial inventory indicates the presence or potential for sensitive species or habitat on the project site, a detailed biological study shall be required. Sensitive species are those listed in any of three categories: federally listed, state listed or designated species of special concern or fully protected species, and CNPS categories 1B and 2.	This survey report fulfills the requirement for a biological resources inventory for the proposed project area and lands adjacent to ESHA.
5.14	Development adjacent to ESHAs shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation buffer areas shall be provided around ESHAs to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect.	Development will comply with this policy to minimize impacts to ESHA, and further information will be laid out in the subsequent biological resources letter report, as requested by the District.
5.15	All buffers around (non-wetland) ESHA shall be a minimum of 100 feet in width, or a lesser width may be approved by the District if findings are made that a lesser buffer would adequately protect the resource. However, in no case can the buffer size be reduced to less than 50 feet.	Development will comply with this policy to minimize impacts to ESHA, and further information will be laid out in the subsequent biological resources letter report, as requested by the District.
5.16	Public access-ways and trails are considered resource dependent uses. New access-ways and trails located within or adjacent to ESHA shall be sited to minimize impacts to ESHA to the maximum extent feasible. Measures including, but not limited to, signage, placement of boardwalks, and limited fencing shall be implemented as necessary to protect ESHA.	Measures to protect ESHA will be laid out in the subsequent biological resources letter report, as requested by the District.

Table 5
Consistency with Chula Vista Bayfront Development Policies

Policy Number	Policy Text	Consistency
5.17	Modifications to required development standards that are not related to ESHA protection (street setbacks, height limits, etc.) shall be permitted where necessary to avoid or minimize impacts to ESHA.	Measures to protect ESHA will be laid out in the subsequent biological resources letter report, as requested by the District.
5.18	Protection of ESHA and public access shall take priority over other development standards and where there is any conflict between general development standards and ESHA and/or public access protection, the standards that are most protective of ESHA and public access shall have precedence.	Measures to protect ESHA will be laid out in the subsequent biological resources letter report, as requested by the District.
5.19	Impacts to native habitat that does not constitute ESHA that cannot be avoided through the implementation of siting and design alternatives shall be fully mitigated, with priority given to on-site mitigation. Off-site mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on-site or where off-site mitigation is more protective. Mitigation for impacts to native habitat shall be provided at a 3:1 ratio.	Mitigation for project impacts will be analyzed in the subsequent biological resources letter report, as requested by the District, and will comply with Policy 5.19.

6 POTENTIAL MITIGATION REQUIREMENTS FOR IMPACTS TO VEGETATION COMMUNITIES

Based on the mitigation ratios required for impacts to vegetation communities, as outlined in the MSCP, the mitigation requirements are summarized in Table 6. The vegetation communities that would require mitigation are also shown on Figures 4a and 4b. It should be noted that there are no sensitive vegetation communities that are present within the H-3 parcels, and thus, there is no mitigation required for impacts to the resources within these parcels.

Table 6
Mitigation Ratio

Vegetation Community/Land Cover	Holland Code	Based on Location of Mitigation as Inside Preserve/ Outside Preserve
<i>Upland Vegetation Communities</i>		
Diegan coastal sage scrub*	32510	1:1 / 1.5:1
Diegan coastal sage scrub: broom baccharis dominated*	32530	1:1 / 1.5:1
Disturbed Diegan coastal sage scrub*	32510	1:1 / 1.5:1
Disturbed Diegan coastal sage scrub: broom baccharis dominated*	32530	1:1 / 1.5:1

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Table 6
Mitigation Ratio

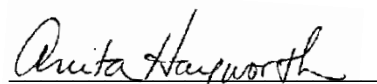
Vegetation Community/Land Cover	Holland Code	Based on Location of Mitigation as Inside Preserve/ Outside Preserve
Diegan coastal sage scrub: Isocoma dominated (Menzie's goldenbush scrub)*	32510	1:1 / 1.5:1
Non-native grassland*	42200	0.5:1 / 1:1
<i>Wetlands</i>		
Coastal salt marsh*	52100	4:1
Mulefat scrub*	63310	3:1
<i>Land Cover Types</i>		
Beach	64400	None
Developed	12000	None
Disturbed land	11300	None
Eucalyptus woodland	79100	None
Ornamental	12000	None
Open water*	64110	1:1

* Signifies special-status vegetation community requiring mitigation per the Chula Vista MSCP Subarea Plan.

All impacts are outside the preserve area of the MSCP; therefore, the mitigation ratios that apply to impact areas inside the preserve are not provided in the Table 6. The mitigation ratios are per the Chula Vista MSCP Subarea Plan. The MMRP does not list mitigation ratios; thus, mitigation ratios would be considered consistent with the MSCP.

If you have any questions regarding the contents of this report, please contact me at 760.479.4241.

Sincerely,



Anita M. Hayworth, PhD
Senior Project Manager/Senior Biologist

Att.: Figures 1–4b
Appendices A–E

cc: Carey Fernandes, Dudek
Emily Wier, Dudek

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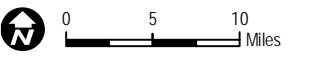
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Study Area

MEXICO

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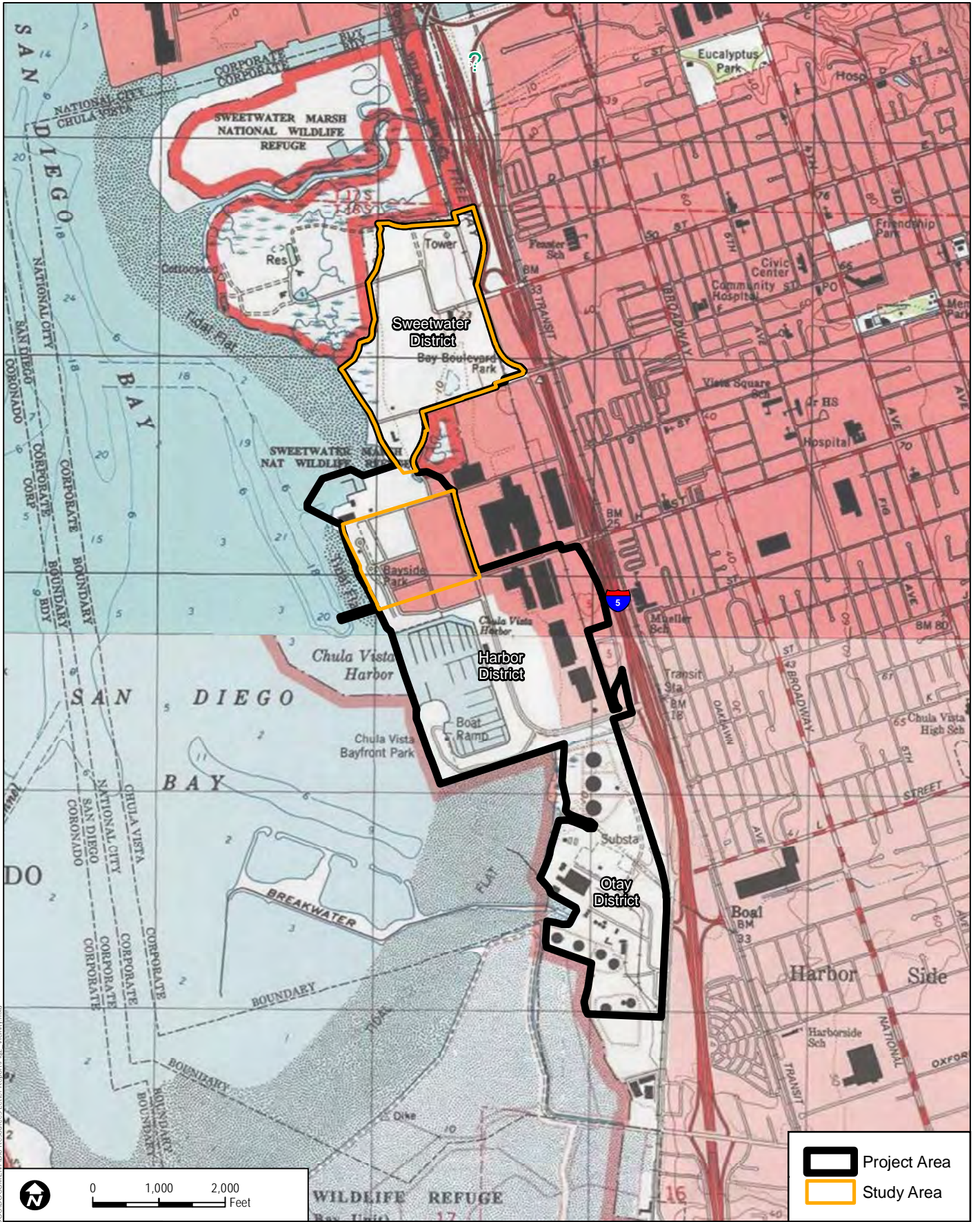
DUDEK

**FIGURE 1
Regional Map**

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BIOLOGICAL RESOURCES SURVEY REPORT FOR THE E STREET REALIGNMENT

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 Project Area
 Study Area

DUDEK

8313

SOURCE: USGS 7.5-Minute Series National City and Imperial Beach Quadrangle.

FIGURE 2
Vicinity Map

BIOLOGICAL RESOURCES SURVEY REPORT FOR THE E STREET REALIGNMENT

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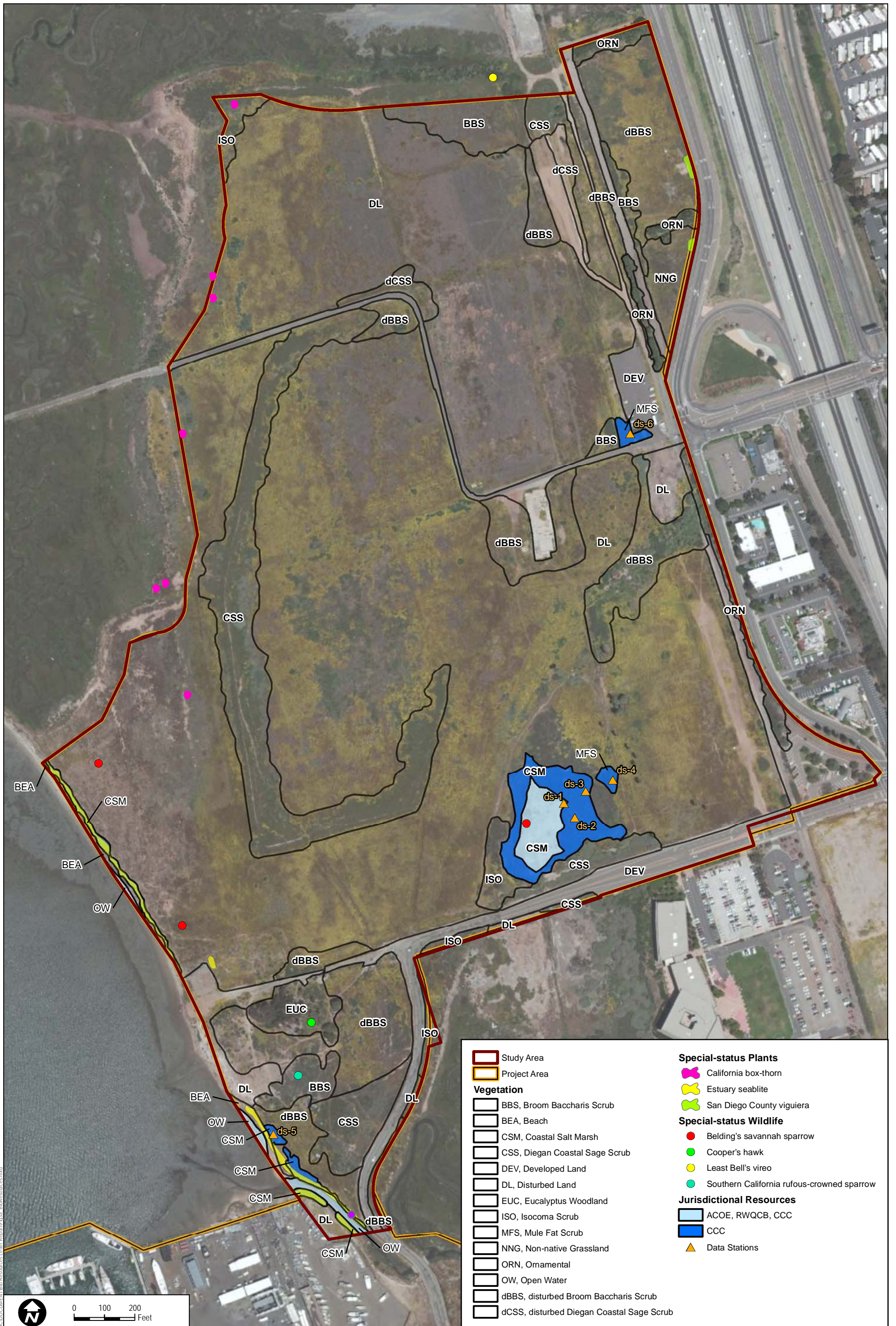


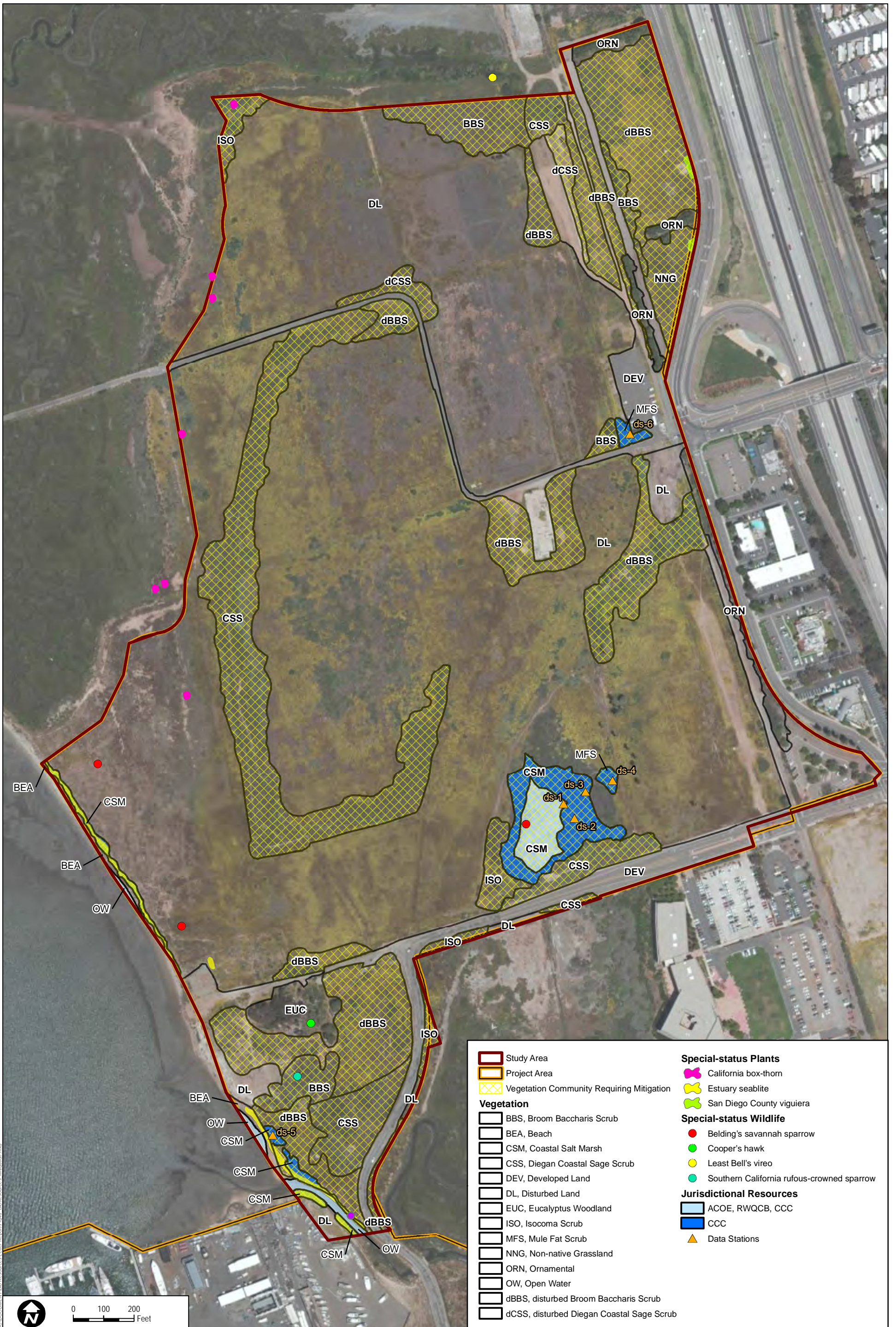
FIGURE 3a
 Biological Resources



Project Area
 Study Area
Vegetation
 DEV, Developed Land
 DL, Disturbed Land
Special-status Wildlife
● California horned lark
● Osprey (nest)

0 100 200
Feet

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Study Area
 Project Area
 Vegetation Community Requiring Mitigation (None on this Exhibit)

Special-status Wildlife

- California horned lark
- Osprey (nest)

Vegetation

- DEV, Developed Land
- DL, Disturbed Land

0 100 200
Feet

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APPENDIX A
Plant Compendium

APPENDIX A

Plant Compendium

VASCULAR SPECIES

DICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra—black elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

- * *Aptenia cordifolia*—heartleaf iceplant
- * *Mesembryanthemum crystallinum*—common iceplant
- * *Mesembryanthemum nodiflorum*—slenderleaf iceplant
- Sesuvium verrucosum*—verruccose seapurslane

AMARANTHACEAE—AMARANTH FAMILY

- * *Amaranthus albus*—prostrate pigweed

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

- Malosma laurina*—laurel sumac
- Rhus integrifolia*—lemonade sumac
- * *Schinus terebinthifolius*—Brazilian peppertree

APIACEAE—CARROT FAMILY

- Apiastrum angustifolium*—mock parsley
- * *Foeniculum vulgare*—sweet fennel

APOCYNACEAE—DOGBANE FAMILY

Asclepias fascicularis—Mexican whorled milkweed

ASTERACEAE—SUNFLOWER FAMILY

- Ambrosia psilostachya*—Cuman ragweed
- Artemisia californica*—coastal sagebrush
- Baccharis pilularis*—coyotebrush
- Baccharis salicifolia*—mulefat
- Baccharis sarothroides*—desertbroom
- Bahiopsis laciniata*—San Diego County viguiera
- * *Centaurea melitensis*—Maltese star-thistle
- Chaenactis macrantha*—bighead dustymaiden
- Encelia californica*—California brittlebush
- * *Glebionis coronaria*—crowndaisy
- * *Hedypnois cretica*—Cretanweed

APPENDIX A (Continued)

Isocoma menziesii var. *vernonioides*—Menzies' goldenbush

Jaumea carnosa—marsh jaumea

* *Lactuca serriola*—prickly lettuce

Pseudognaphalium canescens—Wright's cudweed

* *Silybum marianum*—blessed milkthistle

* *Sonchus asper* ssp. *asper*—spiny sowthistle

* *Sonchus oleraceus*—common sowthistle

Xanthium strumarium—rough cocklebur

BATACEAE—SALTWORT FAMILY

Batis maritima—turtleweed

BORAGINACEAE—BORAGE FAMILY

Heliotropium curassavicum—salt heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard

* *Cakile maritima*—European searocket

* *Hirschfeldia incana*—shortpod mustard

* *Raphanus sativus*—cultivated radish

* *Sisymbrium irio*—London rocket

CHENOPODIACEAE—GOOSEFOOT FAMILY

Arthrocnemum subterminale—Parish's glasswort

Atriplex canescens—fourwing saltbush

Atriplex lentiformis—big saltbush

* *Atriplex lindleyi*—Lindley's saltbush

* *Atriplex prostrata*—triangle orache

* *Atriplex semibaccata*—Australian saltbush

Atriplex watsonii—Watson's saltbush

* *Bassia hyssopifolia*—fivehorn smotherweed

* *Chenopodium album*—lambsquarters

* *Chenopodium murale*—nettleleaf goosefoot

Salicornia pacifica—Pacific swampfire

* *Salsola tragus*—prickly Russian thistle

Suaeda esteroa—estuary seablite

Suaeda nigra—Mojave seablite

CLEOMACEAE—CLEOME FAMILY

Isomeris arborea—bladderpod spiderflower

APPENDIX A (Continued)

CONVOLVULACEAE—MORNING-GLORY FAMILY

Cressa truxillensis—spreading alkaliweed

CUCURBITACEAE—GOURD FAMILY

Cucurbita foetidissima—Missouri gourd

FABACEAE—LEGUME FAMILY

- * *Acacia cyclops*—coastal wattle
- * *Acacia redolens*—bank catclaw
- Astragalus tricarinatus*—triple-ribbed milk-vetch
- * *Melilotus albus*—yellow sweetclover

FRANKENIACEAE—FRANKENIA FAMILY

Frankenia salina—alkali seaheath

GERANIACEAE—GERANIUM FAMILY

- * *Erodium botrys*—longbeak stork's bill
- * *Erodium cicutarium*—redstem stork's bill

LAMIACEAE—MINT FAMILY

- * *Marrubium vulgare*—horehound
- Salvia clevelandii*—fragrant sage
- Salvia mellifera*—black sage

MALVACEAE—MALLOW FAMILY

- Malacothamnus fasciculatus*—Mendocino bushmallow
- * *Malva neglecta*—common mallow

MYRTACEAE—MYRTLE FAMILY

- * *Eucalyptus* sp.—eucalyptus

OLEACEAE—OLIVE FAMILY

- * *Olea europaea*—olive

ONAGRACEAE—EVENING PRIMROSE FAMILY

Epilobium canum—hummingbird trumpet

PAPAVERACEAE—POPPY FAMILY

Canbya candida—white pygmy-poppy

PLUMBAGINACEAE—LEADWORT FAMILY

Limonium californicum—marsh rosemary

APPENDIX A (Continued)

POLYGONACEAE—BUCKWHEAT FAMILY

- Eriogonum fasciculatum*—Eastern Mojave buckwheat
* *Polygonum aviculare* ssp. *depressum*—prostrate knotweed
* *Rumex crispus*—curly dock

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon

SALICACEAE—WILLOW FAMILY

Salix lasiolepis—arroyo willow

SIMMONDSIACEAE—JOJOBA FAMILY

Simmondsia chinensis—jojoba

SOLANACEAE—NIGHTSHADE FAMILY

- Lycium andersonii*—water jacket
Lycium californicum—California box-thorn
* *Nicotiana glauca*—tree tobacco

TAMARICACEAE—TAMARISK FAMILY

- * *Tamarix aphylla*—Athel tamarisk
* *Tamarix ramosissima*—saltcedar

VERBENACEAE—VERVAIN FAMILY

Verbena lasiostachys—western vervain

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—PINE FAMILY

- * *Pinus* sp. —pine

MONOCOTS

AGAVACEAE—AGAVE FAMILY

Yucca gloriosa—Spanish dagger

ARECACEAE—PALM FAMILY

- * *Phoenix canariensis*—Canary Island date palm
* *Washingtonia robusta*—Washington fan palm

ASPARAGACEAE—ASPARAGUS FAMILY

- * *Asparagus asparagoides*—African asparagus fern

APPENDIX A (Continued)

CYPERACEAE—SEdge FAMILY

Schoenoplectus americanus—chairmaker's bulrush

POACEAE—GRASS FAMILY

- * *Arundo donax*—giant reed
- * *Avena barbata*—slender oat
- * *Bromus diandrus*—ripgut brome
- * *Bromus madritensis*—compact brome
- * *Cortaderia selloana*—Uruguayan pampas grass
- * *Cynodon dactylon*—Bermudagrass
- Distichlis littoralis*—shoregrass
- Distichlis spicata*—saltgrass
- Elymus triticoides*—beardless wildrye
- * *Hordeum murinum*—mouse barley
- * *Paspalum dilatatum*—dallisgrass
- Stipa lepida*—foothill needlegrass
- * *Stipa miliacea* var. *miliacea*—smilgrass

TYPHACEAE—CATTAIL FAMILY

Typha latifolia—broadleaf cattail

- * Signifies non-native species

APPENDIX A (Continued)

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APPENDIX B1

*Sensitive Plant Species Detected or Potentially
Occurring On the Project Site*

APPENDIX B1

Sensitive Plant Species Detected or Potentially Occurring On The Project Site

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Acmispon prostratus</i> Nuttall's acmispon	None/None / None	1B.1	Coastal dunes, coastal scrub; sandy/ annual herb/ March–June/ 0–30	No	High	Suitable coastal scrub habitat on site. Site is within this species' elevation range.
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk- vetch	FE/ SE/ MSCP	1B.1	Coastal bluff scrub, coastal dunes, coastal prairie; mesic, often vernally mesic/ annual herb/ March–May/ < 170	No	High	Suitable coastal habitats on site and mesic conditions. Site is within this species' elevation range.
<i>Atriplex pacifica</i> South Coast Saltbush	None/None /None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/ annual herb/ March–October/ < 500	No	High	Suitable coastal scrub habitats on site. Site is within this species' elevation range.
<i>Bahiopsis laciniata</i> San Diego County viguiera	None/None /None	4.2	Chaparral, coastal scrub/ shrub/ February–June/ 196–2,460	Yes	Present	A total of 25 individuals were mapped within the project area.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i> Orcutt's pincushion	None/None /None	1B.1	Coastal bluff scrub, coastal dunes/ annual herb/ January–August/ 10–330	No	High	Suitable coastal scrub habitat on site. Site is within species' elevation range.
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> Salt marsh bird's beak	FE/SE/ None	1B.2	Coastal dunes, marshes and swamps; coastal salt/ annual herb/ May–October/ 0–93	No	High	Suitable coastal salt marsh habitat on site. Site is within species' elevation range.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	None/None /None	1B.1	Saltwater marsh and swamps, playas, vernal pools/ annual herb/ February–June/ <4,000	No	High	Suitable saltwater marsh habitat on site. Site is within species' elevation range.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper- grass	None/None / None	4.3	Chaparral, coastal scrub/ annual herb/ January–July/ < 2,900	No	High	Suitable coastal scrub habitat on site. Site is within species' elevation range.
<i>Lycium californicum</i> California box-thorn	None/None / None	4.2	Coastal bluff scrub, coastal scrub/ shrub/March–August/ 15–450	Yes	Present	A total of 10 individuals were mapped within the project area.

APPENDIX B1 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Phacelia stellaris</i> Brand's phacelia	None/None / None	1B.1	Coastal dunes, coastal scrub/ annual herb/ March–June/ <1,300	No	High	Suitable coastal scrub habitat on site. Site is within species' elevation range.
<i>Suaeda esteroa</i> Estuary seablite	None/None / None	1B.2	Coastal salt marshes and swamps/ perennial herb/ May–October (January)/ < 20	Yes	Present	A total of 85 individuals were mapped within the project area.

Source: List based on a search of all plant species found in the CNDDDB and CNPS databases for the National City quadrangle and the seven surrounding U.S. Geological Service (USGS) quadrangles conducted in June 2013. All species are found within the Project sites bioregion or regions defined by the geographic subdivisions of California in the Jepson Flora Project (2013). The project site is located in the Peninsular Ranges within the California Floristic Province.

Notes: ft amsl = feet above mean sea level

Status Key

Federal:

FE: Federally listed as endangered

FT: Federally listed as threatened

State:

SE: State listed as endangered

ST: State listed as threatened

SR: State listed as rare

Other:

MSCP: MSCP covered species for the southwestern portion of San Diego County

CRPR: California Rare Plant Rank

1A (formerly List 1A): Plants Presumed Extinct in California

1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere

2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 (formerly List 3): Plants About Which We Need More Information – A Review List

4 (formerly List 4): Plants of Limited Distribution – A Watch List

0.1–Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

0.2–Fairly threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)

0.3–Not very threatened in California (<20% of occurrences threatened /low degree and immediacy of threat or no current threats known).

APPENDIX B2

*Sensitive Plant Species Not Expected to Occur on
the Project Site*

APPENDIX B2
Sensitive Plant Species Not Expected to Occur on the Project Site

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	FT/ SE/ MSCP	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ annual herb/ April–June/ 30–3,150	No	Not expected to occur	Suitable coastal scrub habitat on site but no suitable clay soils. Site is barely within this species' elevation range.
<i>Adolphia californica</i> California adolphia	None/None /None	2.1	Chaparral, coastal scrub, valley and foothill grassland; clay/ deciduous shrub/ December–May/ 150–2,430	No	Absent	Suitable coastal scrub habitat on site but no suitable clay soils. Site is below this species' elevation range. Would have been observed if present.
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	None/None /MSCP	2.1	Coastal bluff scrub, coastal scrub/ leaf succulent/ September–May/ 30–250	No	Absent	Suitable coastal scrub habitat on site. Site is barely within this species' elevation range. Would have been observed if present.
<i>Ambrosia chenopodiifolia</i> San Diego bur-sage	None/ None None	2.1	Coastal scrub/ shrub/ April–June/ 180–500	No	Absent	Suitable coastal scrub habitat on site. Site is below this species' elevation range. Would have been observed if present.
<i>Ambrosia monogyra</i> Singlewhorl burrobrush	None/None / None	2.2	Chaparral, Sonoran desert scrub; sandy/ shrub/ August–November/ 30–1,650	No	Absent	No suitable chaparral habitat on site. Site is barely within this species' elevation range. Would have been observed if present.
<i>Ambrosia pumila</i> Dwarf burr ambrosia	FE/ None/ MSCP	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; often disturbed, sometimes alkaline/ rhizomatous herb/ May–October/ 60–1,360	No	Low	Suitable coastal scrub habitat on site. Site is below species' elevation range.
<i>Aphanisma blitoides</i> Aphanisma	None/None /None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ annual herb/ March–June/ <1,000	No	Low	Suitable coastal scrub habitat on site but no sandy soils. Site is within this species' elevation range.
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> Del Mar manzanita	FE/ None/ MSCP	1B.1	Maritime chaparral; sandy/ evergreen shrub/ December–June/ < 1,200	No	Absent	No suitable maritime chaparral habitat or sandy soils. Site is within this species' elevation range. Would have been observed if present.
<i>Arctostaphylos otayensis</i> Otay manzanita	None/None /MSCP	1B.2	Chaparral, cismontane woodland; metavolcanic/ evergreen shrub/ January–March/ 900–5,600	No	Absent	No suitable chaparral habitat or metavolcanic soils on site. Site is below this species' elevation range. Would have been observed if present.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Artemisia palmeri</i> San Diego sagewort	None/None /None	4.2	Chaparral, coastal scrub, riparian forest, scrub, and woodland; sandy, mesic/ deciduous shrub/ May–September/ 50–3,000	No	Absent	Suitable coastal scrub habitat and mesic conditions found on site, but no sandy soils present. Site is below this species' elevation range. Would have been observed if present.
<i>Astragalus deanei</i> Dean's milk-vetch	None/None /None	1B.1	Chaparral, coastal scrub, riparian forest / perennial herb/ February–May/ 250–2,200	No	Low	Suitable coastal scrub habitat on site. Site is below this species' elevation range.
<i>Atriplex coulteri</i> Coulter's saltbush	None/None /None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/ perennial herb/ March–October/ 10– 1,500	No	Absent	Suitable coastal scrub habitats on site but no alkaline or clay soils present. Site is within this species' elevation range. Would have been observed if present.
<i>Bergerocactus emoryi</i> Golden-spined cereus	None/None /None	2.2	Closed-cone conifer forest, chaparral, coastal scrub; sandy/ shrub/ May–June/ 10–1,300	No	Absent	Suitable coastal scrub habitats on site but no sandy soils present. Site is within this species' elevation range. Would have been observed if present.
<i>Bloomeria clevelandii</i> San Diego goldenstar	None/None /MSCP	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ perennial bulbiferous herb/ April–May/ 164–1,526	No	Low	Suitable coastal scrub habitat on site but no clay soils. Site is below this species' elevation range.
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	None/None /MSCP	1B.1	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/ May–July/ 100–5,550	No	Absent	No suitable habitat on site and no suitable clay or serpentine soils present. Site is below this species' elevation range.
<i>California</i> (=Erodium) <i>macrophylla</i> Round-leaved filaree	None/None / None	1B.1	Cismontane woodland, valley and foothill grassland; clay / annual herb/ March–May/ 50–4,000	No	Low	No suitable woodland or grassland habitat on site and no suitable clay soils. Site is below this species' elevation range.
<i>Calochortus dunnii</i> Dunn's mariposa lily	None/ SR/ MSCP	1B.2	Closed-cone conifer forest, chaparral; gabbroic or metavolcanic/ bulbiferous herb/ April–June/ 1,250–6,000	No	Absent	No suitable forest or chaparral habitat on site and no suitable gabbroic or metavolcanic soils present. Site is below this species' elevation range.
<i>Camissoniopsis</i> [=Camissonia] <i>lewisii</i> Lewis's evening primrose	None/None / None	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ March–May (June)/ <1,000	No	Moderate	Suitable coastal scrub habitat on site but no sandy or clay soils present. Site is within this species' elevation range.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Ceanothus cyaneus</i> Lakeside ceanothus	None/None /MSCP	1B.2	Closed-cone conifer forest, chaparral/ evergreen shrub/ April–June/ 770–2,500	No	Absent	No suitable forest or chaparral habitat on site. Site is below this species' elevation range. Would have been observed if present.
<i>Ceanothus otayensis</i> Otay Mountain ceanothus	None/None /None	1B.2	Chaparral; metavolcanic or gabbroic/ evergreen shrub / January–April/ 2,000–3,600	No	Absent	No suitable chaparral habitat on site. Site is below this species' elevation range. Would have been observed if present.
<i>Ceanothus verrucosus</i> Wart-stemmed ceanothus	None/None /MSCP	2.2	Chaparral/ evergreen shrub/ December–May/ < 1,250	No	Absent	No suitable chaparral habitat on site. Site is within this species' elevation range. Would have been observed if present.
<i>Centromadia</i> [= <i>Hemizonia</i>] <i>pungens</i> <i>ssp. laevis</i> Smooth tarplant	None/None /None	1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/ annual herb/ April– September/ <1,580	No	Moderate	Suitable playa habitat found on site but no alkaline soils. Site is within this species' elevation range.
<i>Chorizanthe orcuttiana</i> Orcutt's chorizanthe	FE/ SE/ None	1B.1	Maritime chaparral, closed-cone conifer forest, coastal scrub/ annual herb/ March– May/ < 400	No	Moderate	Suitable coastal scrub habitat on site. Site is within species' elevation range.
<i>Chorizanthe</i> <i>polygonoides</i> var. <i>longispina</i> Long-spined spineflower	None/None /None	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland; often clay/ annual herb/ April–July/ 100–5,000	No	Low	Suitable coastal scrub habitat on site. Site is below species' elevation range
<i>Clarkia delicata</i> Delicate clarkia	None/None /None	1B.2	Chaparral, cismontane woodland/ annual herb/ April–June/ 770–3,300	No	Low	No suitable chaparral or woodland habitat on site. Site is below species' elevation range.
<i>Clinopodium chandleri</i> San Miguel savory	None/None /None	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic/ perennial shrub/ March–July/ 395–3,525	No	Absent	Suitable coastal scrub habitat on site but no suitable rocky, gabbroic or metavolcanic soils. Site is below species' elevation range. Would have been observed if present.
<i>Comarostaphylis</i> <i>diversifolia</i> ssp. <i>diversifolia</i> Summer-holly	None/None /None	1B.2	Chaparral, cismontane woodland/ evergreen shrub/ April–June/100–1,800	No	Absent	No suitable chaparral or woodland habitat on site. Site is below species' elevation range. Would have been observed if present.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Corethrogyne filaginifolia</i> var. <i>incana</i> San Diego sand aster	None/None /None	1B.1	Chaparral, coastal bluff scrub, coastal scrub/ perennial herb/ June–September/ 10–380	No	Moderate	Suitable coastal scrub habitat on site. Site is within species' elevation range. Would have been observed if present.
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> Del Mar Mesa sand aster	None/None /MSCP	1B.1	Coastal bluff scrub, maritime chaparral (openings), coastal scrub; sandy/ perennial herb/ May–September/ 10–380	No	Moderate	Suitable coastal scrub habitat on site but no sandy soils present. Site is within species' elevation range.
<i>Cylindropuntia californica</i> var. <i>californica</i> Snake cholla	None/None /MSCP	1B.1	Chaparral, coastal scrub/ perennial stem succulent/ April–May/ 100–490	No	Absent	Suitable coastal scrub habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Deinandra</i> [= <i>Hemizonia</i>] <i>conjugens</i> Otay tarplant	FT/ SE/ MSCP	1B.1	Coastal scrub, valley and foothill grassland; clay/ annual herb/ May–June/ 80–1,000	No	Low	Suitable coastal scrub habitat on site but no clay soils. Site is below species' elevation range.
<i>Dicranostegia orcuttiana</i> Orcutt's bird's-beak	None/None /None	2B.1	Coastal scrub/ annual herb/ April–July/ 30– 1,150	No	High	Suitable coastal scrub habitat on site. Site is barely within species' elevation range.
<i>Dudleya attenuata</i> ssp. <i>orcuttii</i> Orcutt's dudleya	None/None /None	2.1	Coastal bluff scrub, chaparral, coastal scrub; rocky or gravelly/ perennial herb/ May–July/ < 165	No	Moderate	Suitable coastal scrub habitat on site although no suitable rocky or gravelly soils are present. Site is within species' elevation range.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	None/None /None	1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/ perennial herb/ April–June/ 15–1,500	No	Low	Suitable coastal scrub habitat on site but no suitable clay/serpentinite soils on site. Site is within species' elevation range.
<i>Dudleya brevifolia</i> Short-leaved dudleya	None/ SE/ MSCP	1B.1	Maritime chaparral (openings), coastal scrub, Torrey sandstone/ perennial herb/ April/ 100–800	No	Low	Suitable coastal scrub on site but no sandstone soils. Site is below species' elevation range.
<i>Dudleya variegata</i> Variegated dudleya	None/None /MSCP	1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/ perennial herb/ April–June/ < 1,900	No	Low	Suitable coastal scrub habitat on site but no clay soils. Site is within species' elevation range.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Dudleya viscida</i> Sticky dudleya	None/None /MSCP	1B.2	Coastal bluff scrub, chaparral, coastal scrub; rocky/ perennial herb/ May–June/ 30–1,800	No	Low	Suitable coastal scrub habitat on site but no rocky soils. Site is barely within species' elevation range.
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's goldenbush	None/None /None	2.2	Chaparral, coastal scrub; mesic/ evergreen shrub/ (July) September–November/ 100– 2,000	No	Absent	Suitable coastal scrub habitat on site and mesic conditions are often present. Site is below species' elevation range. Would have been observed if present.
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button- celery	FE/ SE/ MSCP	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, mesic/annual-perennial herb/ April–June/ 60–2,000	No	Moderate	Suitable coastal scrub habitat on site and mesic conditions are often present. Site is below species' elevation range.
<i>Euphorbia misera</i> Cliff spurge	None/None /None	2.2	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/ shrub/ December– August/ 30–1,650	No	Absent	Suitable coastal scrub habitat on site but no rocky soils present. Site is barely within species' elevation range. Would have been observed if present.
<i>Ferocactus viridescens</i> San Diego barrel cactus	None/None /MSCP	2.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ perennial stem succulent/ May–June/ < 1,500	No	Absent	Suitable coastal scrub habitat on site. Site is within species' elevation range. Would have been observed if present.
<i>Frankenia palmeri</i> Palmer's frankenia	None/None /None	2.1	Coastal dunes, coastal saltwater marsh and swamps, playas/ perennial herb/ May–July/ < 30	No	Moderate	Suitable coastal saltwater marsh habitat present. Site is within species' elevation range. Would have been observed if present.
<i>Fremontodendron</i> <i>mexicanum</i> Mexican flannelbush	FE/ SR/ None	1B.1	Closed-cone conifer forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentintite/ evergreen shrub/ March–June/ 30–2,400	No	Absent	No suitable forest/woodland or chaparral habitat and no suitable soils. Site is barely within species' elevation range. Would have been observed if present.
<i>Galium proliferum</i> Desert bedstraw	None/None /None	2B.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; rocky, carbonate/ annual herb/ March–June/ 3,900–5,350	No	Absent	No suitable habitat on site and no suitable rocky/carbonate soils. Site is below species' elevation range.
<i>Geothallus tuberosus</i> Campbell's liverwort	None/None /None	1B.1	Coastal scrub (mesic), vernal pools; soil/ ephemeral liverwort/ NA/ 30–2,000	No	Moderate	Suitable coastal scrub and mesic conditions present. Site is barely within species' elevation range.
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i> Mission Canyon bluecup	None/None /None	3.1	Chaparral (mesic, disturbed areas)/ annual herb/ April–June/ 1,500–2,300	No	Low	No suitable chaparral habitat although mesic conditions present. Site is below species' elevation range.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None /None	4.2	Chaparral, coastal scrub, valley and foothill grassland; clay/ annual herb/ March–May/ 60–3,100	No	Moderate	Suitable coastal scrub habitats on site but no clay soils. Site is below species' elevation range.
<i>Hesperocyparis</i> [= <i>Cupressus</i>] <i>forbesii</i> Tecate cypress	None/None /None	1B.1	Closed-cone coniferous forest, chaparral; clay, gabbroic, or metavolcanic/ perennial evergreen tree/ 260–4,920	No	Absent	No suitable chaparral or forest habitats and no suitable soils. Site is below species' elevation range. Would have been observed if present.
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i> Beach goldenaster	None/None /None	1B.1	Coastal dunes, coastal scrub, coastal chaparral/ annual herb/ July–November/ < 35	No	Moderate	Suitable coastal scrub habitat on site. Site is within species' elevation range. Would have been observed if present.
<i>Horkelia truncata</i> Ramona horkelia	None/None /None	1B.3	Chaparral, cismontane woodland, clay, gabbroic/ perennial herb/ May–June/ 1,300– 4,300	No	Not expected to occur	No suitable habitat on site and no clay or gabbroic soils. Site is below species' elevation range.
<i>Hosackia crassifolia</i> var. <i>otayensis</i> Otay Mountain lotus	None/None /None	1B.1	Chaparral; metavolcanic, often in disturbed areas/ perennial herb/ May–August/ 1,250– 3,300	No	Low	No suitable habitat or soils on site. Site is below species' elevation range.
<i>Isocoma menziesii</i> var. <i>decumbens</i> Decumbent goldenbush	None/None /None	1B.2	Chaparral, coastal scrub (sandy, often disturbed areas)/ shrub/ April–November/ 30– 450	No	Absent	Suitable coastal scrub habitat on site but no sandy soils. Site is barely within species' elevation range. Would have been observed if present. Other common variety (<i>vernonioides</i>) present on site.
<i>Iva hayesiana</i> San Diego marsh-elder	None/None /None	2.2	Marshes and swamps, playas/ perennial herb/ April–November/ 30–1,650	No	Moderate	Suitable coastal marsh habitat on site. Site is barely within species' elevation range. Would have been observed if present.
<i>Lepechinia ganderi</i> Gander's pitcher sage	None/None /MSCP	1B.3	Closed-cone conifer forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic or metvolcanic/ shrub/ June–July/ 1,000–3,300	No	Low	Suitable coastal scrub habitat on site but no suitable soils present. Site is below species' elevation range.
<i>Leptosyne maritima</i> Sea dahlia	None/None /None	2.B2	Coastal bluff scrub, coastal scrub/ perennial herb/ March–May/ 15–450	No	Moderate	Suitable coastal scrub habitat on site. Site is within species' elevation range. Would have been observed if present.
<i>Mobergia calculiformis</i> Light gray lichen	None/None /None	3	Coastal scrub; cobbles/ lichen/ NA/ 20	No	Moderate	Suitable coastal scrub habitat on site. Site is within species' elevation range. Would be expected in intact, undisturbed habitats.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> Felt-leaved monardella	None/None /MSCP	1B.2	Chaparral, cismontane woodland/ rhizomatous herb/ June–August/ 1,000–3,600	No	Low	No suitable habitat on site. Site is below species' elevation range.
<i>Monardella stoneana</i> Jennifer's monardella	None/None /None	1B.2	Closed-cone coniferous forest, chaparral, coastal scrub, riparian scrub; usually rocky intermittent streambeds/ perennial herb/ June–September/ 30–2,600	No	Low	Suitable coastal scrub habitat on site but no rocky intermittent streambeds. Site is barely within species' elevation range.
<i>Monardella viminea</i> Willow monardella	FE/ SE/ MSCP	1B.1	Chaparral, coastal scrub, riparian forest, woodland, and scrub; alluvial ephemeral washes/ perennial herb/ June–August/ 160–750	No	Low	Suitable coastal scrub habitat on site, but no alluvial ephemeral washes. Site is below species' elevation range.
<i>Myosurus minimus</i> ssp. <i>apus</i> Little mousetail	None/None /None	3.1	Vernal pools, valley and foothill grassland; alkaline/ annual herb/ March–June/ 60–2,100	No	Low	No suitable habitat on site. Site is below species' elevation range.
<i>Nama stenocarpum</i> Mud nama	None/None /None	2.2	Marshes and swamps, lake margins, riverbanks/ annual–perennial herb/ January– July/ 15–1,650	No	Moderate	Suitable marsh habitat on site. Site is within species' elevation range.
<i>Navarretia fossalis</i> Spreading navarretia	FT/ None/ MSCP	1B.1	Chenopod scrub, shallow freshwater marshes and swamps, playas, vernal pools/ annual herb/ April–June/ 100–4,300	No	Low	Suitable marsh habitat on site, but no swamps, playas or vernal pools. Site is below species' elevation range.
<i>Navarretia prostrata</i> Prostrate navarretia	None/None /None	1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/ April–July/ 50–2,300	No	Low	Suitable coastal scrub habitat on site and mesic conditions are present, but no vernal pools. Site is below species' elevation range.
<i>Nemacaulis denudata</i> var. <i>denudata</i> Coast woolly-heads	None/None /None	1B.2	Coastal dunes/ annual herb/ April– September/ < 330	No	Moderate	No coastal dune habitat on site. Site is within species' elevation range.
<i>Nemacaulis denudata</i> var. <i>gracilis</i> Slender woolly-heads	None/None /None	2.2	Coastal dunes, desert dunes, Sonoran desert scrub/ annual herb/ (March)April–May/ 160– 1,300	No	Low	No suitable habitat on site. Site is below species' elevation range.
<i>Orcuttia californica</i> California Orcutt grass	FE/ SE/ MSCP	1B.1	Vernal pools/ annual herb/ April–August/ 50– 2,200	No	Low	No vernal pools on site. Site is below species' elevation range.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Ornithostaphylos oppositifolia</i> Baja California birdbush	None/ SE/ None	2.1	Chaparral/ evergreen shrub/ January– April/180–2,600	No	Absent	No chaparral habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Orobanche parishii</i> ssp. <i>brachyloba</i> Short-lobed broom-rape	None/None /None	4.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ perennial herb parasitic/ April– October/ <1,000	No	Low	Suitable coastal scrub habitat on site but no sandy soils present. Site is within species' elevation range.
<i>Pinus torreyana</i> spp. <i>torreyana</i> Torrey pine	None/None /MSCP	1B.2	Closed-cone conifer forest, chaparral; sandstone/ evergreen tree/ NA/ 250–550	No	Absent	No suitable habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Pogogyne abramsii</i> San Diego mesa mint	FE/ SE/ MSCP	1B.1	Vernal pools/ annual herb/ May–July/ 300– 650	No	Low	No vernal pools on site. Site is below species' elevation range.
<i>Pogogyne nudiuscula</i> Otay Mesa mint	FE/ SE/ MCSP	1B.1	Vernal pools/ annual herb/ May–July/ 300– 620	No	Low	No vernal pools on site. Site is below species' elevation range.
<i>Quercus dumosa</i> Nuttall's scrub oak	None/None /None	1B.1	Chaparral, coastal scrub, closed-cone coniferous forest; sandy, clay loam/ evergreen shrub/ February–April/ 50–1,300	No	Absent	Suitable coastal scrub habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Ribes viburnifolium</i> Santa Catalina Island currant	None/None /None	1B.2	Chaparral, cismontane woodland/ evergreen shrub/ February–April/ 100–1,000	No	Absent	No suitable habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Rosa minutifolia</i> Small-leaved rose	None/ SE/ MCSP	2.1	Chaparral, coastal scrub/ deciduous shrub/ January–June/ 490–525	No	Absent	Suitable coastal scrub habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Salvia munzii</i> Munz's sage	None/None /None	2.2	Chaparral, coastal scrub/ evergreen shrub/ February–April/ 400–3,500	No	Absent	Suitable coastal scrub habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Senecio aphanactis</i> Chaparral ragwort	None/None /None	2.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/ annual herb/ January–April/ 50–2,630	No	Moderate	Suitable coastal scrub habitat on site. Site is below species' elevation range.
<i>Sphaerocarpos drewei</i> Bottle liverwort	None/None / None	1B.1	Chaparral, coastal scrub; openings, soil/ ephemeral liverwort/ NA/ 300–1,970	No	Low	Suitable coastal scrub habitat on site. Site is below species' elevation range.

APPENDIX B2 (Continued)

Scientific Name Common Name	Status Federal/ State/ Other	CRPR	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (ft amsl)	Observed on Site?	Determi nation	Status on Site or Potential to Occur
<i>Stemodia durantifolia</i> Purple stemodia	None/None /None	2.1	Sonoran desert scrub; often mesic, sandy/ perennial herb / January–December/ 600– 1,000	No	Low	No suitable scrub habitat on site although mesic conditions present. Site is below species' elevation range.
<i>Stylocline citroleum</i> Oil neststraw	None/None /None	1B.1	Chenopod scrub, coastal scrub, valley and foothill grassland; clay/ annual herb/ March– April / 165–1,300	No	Low	Suitable coastal scrub habitat on site. Site is within species' elevation range.
<i>Suaeda californica</i> California seablite	None/ SE/ None	1B.1	Coastal salt marshes and swamps/ perennial evergreen shrub/ July–October/ 0–45	No	Moderate	Suitable coastal salt marsh habitat on site. Site is within species' elevation range. Would have been observed if present.
<i>Tetracoccus dioicus</i> Parry's tetracoccus	None/None /MSCP	1B.2	Chaparral, coastal scrub/ deciduous shrub/ April–May/ 550–3,300	No	Low	Suitable coastal scrub habitat on site. Site is below species' elevation range. Would have been observed if present.
<i>Texosporium sancti- jacobi</i> Woven-spored lichen	None/None / None	3	Chaparral openings; on soil, small mammal pellets, dead twigs, and on <i>Selaginella</i> / crustose lichen terrestrial/ 950–2,165	No	Low	No suitable chaparral habitat on site. Site is below species' elevation range.

Source: List based on a search of all plant species found in the CNDDB and CNPS databases for the National City quadrangle and the seven surrounding U.S. Geological Service (USGS) quadrangles conducted in June 2013. All species are found within the Project sites bioregion or regions defined by the geographic subdivisions of California in the Jepson Flora Project (2013). The project site is located in the Peninsular Ranges within the California Floristic Province.

Notes: ft amsl = feet above mean sea level; NA = not applicable

Status Key:

Federal:

FE: Federally listed as endangered

FT: Federally listed as threatened

State:

SE: State-listed as endangered

ST: State-listed as threatened

SR: State-listed as rare

Other:

MSCP: MSCP Plan covered species for the southwestern portion of San Diego County

CRPR: California Rare Plant Rank

1A (formerly List 1A): Plants Presumed Extinct in California

1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere

2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 (formerly List 3): Plants about Which We Need More Information – A Review List

APPENDIX B2 (Continued)

4 (formerly List 4): Plants of Limited Distribution – A Watch List

0.1–Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

0.2–Fairly threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

0.3–Not very threatened in California (<20% of occurrences threatened /low degree and immediacy of threat or no current threats known).

APPENDIX C
Wildlife Compendium

APPENDIX C Wildlife Compendium

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE—BLACKBIRDS

- Icterus bullockii*—Bullock's oriole
- Sturnella neglecta*—Western meadowlark
- Icterus cucullatus*—Hooded oriole

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

- Psaltriparus minimus*—Bushtit

CORMORANTS

PHALACROCORACIDAE—CORMORANTS

- Phalacrocorax auritus*—Double-crested cormorant

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

- Chondestes grammacus*—Lark sparrow
- Melospiza melodia*—Song sparrow
- Melospiza crissalis*—California towhee
- Passerculus sandwichensis beldingi*—Belding's savannah sparrow
- Zonotrichia leucophrys*—White-crowned sparrow
- Aimophila ruficeps canescens*—Southern California rufous-crowned sparrow

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

- Falco sparverius*—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

- Carpodacus mexicanus*—House finch
- Spinus psaltria*—Lesser goldfinch

APPENDIX C (Continued)

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

- Sayornis nigricans*—Black phoebe
- Sayornis saya*—Say’s phoebe
- Tyrannus verticalis*—Western kingbird
- Tyrannus vociferans*—Cassin’s kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

- Accipiter cooperii*—Cooper’s hawk
- Buteo jamaicensis*—Red-tailed hawk
- Buteo lineatus*—Red-shouldered hawk
- Circus cyaneus*—Northern harrier
- Pandion haliaetus*—Osprey

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

- Ardea alba*—Great egret
- Ardea herodias*—Great blue heron
- Egretta thula*—Snowy egret

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

- Calypte anna*—Anna’s hummingbird
- Calypte costae*—Costa’s hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

- Corvus brachyrhynchos*—American crow
- Corvus corax*—Common raven

LARKS

ALAUDIDAE—LARKS

- Eremophila alpestris*—Horned lark

APPENDIX C (Continued)

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—Northern mockingbird

PELICANS

PELECANIDAE—PELICANS

Pelecanus occidentalis—Brown pelican

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—Mourning dove

* *Columba livia*—Rock pigeon (rock dove)

SHOREBIRDS

RECURVIROSTRIDAE—STILTS AND AVOCETS

Recurvirostra americana—American avocet

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—Killdeer

SCOLOPACIDAE—SANDPIPERS, PHALAROPES, AND ALLIES

Calidris mauri—Western sandpiper

Calidris minutilla—Least sandpiper

Limnodromus scolopaceus—Long-billed dowitcher

Limosa fedoa—Marbled godwit

Numenius americanus—Long-billed curlew

Numenius phaeopus—Whimbrel

Tringa semipalmata—Willet

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—Barn swallow

APPENDIX C (Continued)

Petrochelidon pyrrhonota—Cliff swallow
Stelgidopteryx serripennis—Northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—White-throated swift

TERNs AND GULLS

LARIDAE—GULLS, TERNS, AND SKIMMERS

Larus sp.—Gull species
Larus californicus—California gull
Thalasseus elegans—Elegant tern
Hydroprogne caspia—Caspian tern

THRUSHES

TURDIDAE—THRUSHES

Sialia mexicana—Western bluebird

WATERFOWL

ANATIDAE—DUCKs, GEESE, AND SWANS

Anas americana—American wigeon
Anas platyrhynchos—Mallard
Branta bernicla—Brant
Oxyura jamaicensis—Ruddy duck

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—Common yellowthroat
Setophaga coronata—Yellow-rumped warbler

WRENS

TROGLODYTIDAE—WRENS

Cistothorus palustris—Marsh wren
Thryomanes bewickii—Bewick's wren

APPENDIX C (Continued)

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—Wrentit

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Strymon melinus—Gray hairstreak

Brephidium exile—Western pygmy-blue

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Danaus gilippus—Queen

Vanessa annabella—West coast lady

PIERIDAE—WHITES AND SULFURS

Pieris rapae—Cabbage white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—Coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—Brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

RATS AND MICE

MURIDAE—RATS AND MICE

* *Rattus norvegicus*—Brown rat

APPENDIX C (Continued)

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus(Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—Western fence lizard

Uta stansburiana—Common side-blotched lizard

* Signifies non-native species

APPENDIX D1

*Special-Status Wildlife Species Observed in Project
Area or with High Potential to Occur*

APPENDIX D1
Special-Status Wildlife Species Observed in Project Area or with High Potential to Occur

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
<i>Birds</i>					
<i>Accipiter cooperii</i> (nesting) Cooper's hawk	None/WL/ MSCP	Dense stands of live oak, riparian deciduous, forest habitats near water frequently used. Breeds in southern Sierra Nevada foothills, New York Mts., Owens Valley, other local areas in Southern California, 0–2,700 m amsl ⁽²⁾ .	Yes	High (nesting); Present (non-breeding)	Species detected onsite, although breeding status could not be confirmed. Suitable trees located within eucalyptus woodland, tamarisk groves, and sycamores onsite for nesting. Suitable foraging habitat over non-native grassland and coastal sage scrub habitats. Species found in the vicinity. The nearest CNDDDB record for this species is 6.2 miles southwest of the study area, within the Tijuana River Valley.
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	None/WL/ MSCP	Sparse mixed chaparral and coastal scrub habitats (especially coastal sage) in Southern California on slopes of Transverse and Coastal ranges, north to Los Angeles County, and northwestern Baja California. Found on steep, rocky hillsides with grass and forb patches, and grassy slopes with low shrub cover, if rock outcrops are present ^(2, 4) .	Yes	Present	Species detected within coastal scrub habitats in southern region of the northern parcel. Breeding could not be confirmed but would be presumed breeding due to detection during breeding bird season. Species found in the vicinity. The nearest CNDDDB record for this species is 6.2 miles southeast of the study area.
<i>Circus cyaneus</i> (nesting) Northern harrier	None/SSC/ MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Resident of northeastern plateau and coastal areas; less common resident in Central Valley. Breeds at marsh edge in shrubby vegetation in Central Valley and Sierra Nevada (0–1,700 m amsl), and northeastern California (up to 800 m amsl) ⁽²⁾ .	Yes	Present (nesting and non-breeding)	Pair observed foraging over the site on almost every site visit. Species found in the vicinity. Was not detected breeding during this nesting season. It has been detected onsite in past surveys within the site and was assumed that it could be nesting. The nearest CNDDDB record for this species is 6.2 miles southwest of the study area, within the Tijuana River Valley.

APPENDIX D1 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
<i>Eremophila alpestris actia</i> California horned lark	None/WL/None	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields south of Humboldt County in Coast Ranges, in San Joaquin Valley except extreme southern end ^(2, 4) .	Yes	Observed	Pairs observed nesting in the H-3 parcel. The species is relatively opportunistic for foraging. Species found in the vicinity. The nearest CNDDDB record for this species is 8.9 miles northeast of the study area.
<i>Pandion haliaetus</i> (nesting; rarely breeds in San Diego) Osprey	None/ WL/None	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats (primarily ponderosa pine through mixed conifer), but widely observed along the coast. Breeds from Cascade Ranges south to Lake Tahoe and along northwest coast. Uncommon breeder along southern Colorado River. Uncommon along coast of Southern California ⁽²⁾ .	Yes	Present (nesting, non-breeding)	Osprey pair nesting at southeast corner of Sandpiper Way and G Street. This nesting location has been documented in the past, and is located in the top of a utility pole. Osprey individuals also observed foraging over the project area. Species found in the vicinity. The nearest CNDDDB record for this species is 6.8 miles northwest of the study area in the San Diego Bay.
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	None/SE/ MSCP	Scattered southern coastal wetlands in southwestern California ⁽²⁾ .	Yes	Present (nesting and non-breeding)	Observed foraging and nesting within the site. Family groups were observed as well. Species found in the vicinity. The nearest CNDDDB record for this species is located within the study area, within the Sweetwater District parcel.
<i>Pelecanus occidentalis californicus</i> (nesting colony and communal roosts) Brown pelican (California)	(FD)/(SD), FP/ MSCP	Open sea, large water bodies, coastal bays and harbors, estuarine, marine subtidal, and marine pelagic waters along coast and breeds o(n Channel Islands ⁽²⁾ .	Yes	Low (nesting) Present (non-breeding)	Expected to forage within the San Diego Bay and to fly over the site. Not expected to nest within the study area. Species found in the vicinity. The nearest CNDDDB record for this species is 7.5 miles northwest of the study area in the San Diego Bay.
<i>Phalacrocorax auritus</i> (nesting colony) Double-crested cormorant	None/WL/None	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes. Resident along coast and inland waters. Common August to May at Salton Sea and Colorado River reservoirs, also found south of San Luis Obispo County and Central Valley ⁽²⁾ .	Yes	Low (nesting) Present (non-breeding)	Expected to forage within the San Diego Bay and observed flying over the site. Not expected to nest within the study area. Species found in the vicinity. The nearest CNDDDB record for this species is 8.9 miles northeast of the study area.

APPENDIX D1 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
<i>Invertebrates</i>					
<i>Cicindela senilis frosti</i> Senile tiger beetle	None/None/None	Coastal salt marshes; fresh/brackish lagoons, open patches of Salicornia, dried salt pans, muddy alkali area. Records in Riverside, San Diego, Los Angeles, Ventura Counties ^(4, 6)	No	High	Suitable salt marsh habitat onsite including open patches of Salicornia. Species found in the vicinity. The nearest CNDDDB record for this species is 6.9 miles southwest of the study area in the Tijuana River Valley.
<i>Panoquina errans</i> Wandering salt marsh skipper	None/None/ MSCP	Salt marsh from Los Angeles to Baja California, Mexico. Host plant <i>Distichlis spicata</i> in salt marshes or near beaches, mouths of rivers ⁽⁴⁾ .	No	High	Suitable salt marsh habitat and host plant found onsite. Species found in the vicinity. The nearest CNDDDB record for this species is 5.0 miles southwest of the study area along the coast.

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APPENDIX D1 (Continued)

¹⁶ Butterflies and Moths of North America. 2014. "Attributes of *Papilio multicaudata*." Accessed February 13, 2014. <http://www.butterfliesandmoths.org/species/Papilio-multicaudata>.

Notes: m amsl = meters above mean sea level

Status Key:

Federal Designations:

(FD) Federally delisted; monitored for 5 years

State Designations:

SSC California Special Concern Species

FP California Department of Fish and Wildlife Fully Protected Species

WL California Department of Fish and Wildlife Watch List Species

SE State Listed as Endangered

(SD) State Delisted

Other Designations:

MSCP Covered under the Chula Vista MSCP Subarea Plan.

^aFor the purposes of determination of potential to occur on site, vicinity = within 9-quad search of National City quadrangle.

APPENDIX D2

*Sensitive Wildlife Species Not Expected to Occur in
Project Area*

APPENDIX D2

Sensitive Wildlife Species Not Expected to Occur in Project Area

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Amphibians</i>					
<i>Anaxyrus californicus</i> Arroyo toad	FE/SSC/ MSCP	Washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks cottonwoods. Requires exposed sandy stream sides with stable terraces to burrow with scattered vegetation and calm pools with sandy/gravel bottoms for breeding. Found west of desert in coastal areas from upper Salinas River in San Luis Obispo Co. to northwestern Baja California; 0–900 m amsl ⁽¹⁾ .	No	Absent	No suitable creeks, streams or pools on site to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 9.8 miles northeast of the study area.
<i>Spea hammondi</i> Western spadefoot	None/SSC/None	Sandy/gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Breeds in rain pools that do not have bullfrogs, fish, or crayfish. Found throughout Great Valley and foothills south of Redding, throughout South Coast Ranges in Southern California south of Transverse Mountains and west of Peninsular Mountains; 0–1,365 m amsl ⁽¹⁾ .	No	Absent	No suitable creeks, streams or pools on site to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 6.2 miles southwest of the study area.
<i>Reptiles</i>					
<i>Anniella pulchra</i> (<i>pulchra</i>) Silvery legless lizard	None/SSC/None	Moist habitats. Loose soils with plant cover, beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, stream terraces with sycamores, cottonwoods, or oaks. Found under surface objects such as rocks, boards, driftwood, logs, leaf litter; 0–1,799 m amsl ⁽¹⁾ .	No	Low	Soils generally too compact and clayey for this species although beach habitat and corresponding sandy soils present. Species found in the vicinity. The nearest CNDDDB record for this species is 86.0 miles south of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Aspidoscelis hyperythra beldingi</i> Belding's orange-throated whiptail	None/SSC (for full species)/ MSCP	Coastal sage scrub, chamise-redshank chaparral, mixed chaparral, valley-foothill hardwood especially in areas with summer fog. Found from Santa Ana River (Orange County) and near Colton (San Bernardino County), west of Peninsular Ranges, south throughout Baja California; 0-610 m amsl ^(1, 2) .	No	Low	Moderately suitable coastal sage scrub on site. However, the coastal sage scrub on site was part of a restoration project and is fairly limited in acreage. Species found in the vicinity. The nearest CNDDDB record for this species is 2.5 miles northeast of the study area.
<i>Aspidoscelis tigris stejnegeri</i> Coastal western whiptail	None/None/None	Variety of habitats, primarily hot and dry open areas with sparse foliage – chaparral, woodland, riparian. Occurs in coastal Southern California, west of Peninsular Ranges and south of Transverse Ranges, north to Ventura County; 0-2,130 m amsl ⁽¹⁾ .	No	Low	Vegetation on site is generally too dense for this species. Moderately suitable coastal scrub habitat on site however it is limited in acreage. Species found in the vicinity. The nearest CNDDDB record for this species is 6.6 miles northeast of the study area.
<i>Chelonia mydas</i> Green sea turtle	FT/None/None	Reefs, bays, inlets, other shallow waters with marine grass and algae. Open beaches required for nesting ⁽⁴⁾ .	No	Low	High potential for this species to occur within San Diego Bay. However, would not be expected to nest within study area due to trash and concrete on beaches, and small amount of available beach habitat. Species found in the vicinity. The nearest CNDDDB record for this species is within San Diego Bay, less than 0.5 miles from the study area.
<i>Crotalus ruber ruber</i> Northern red diamond rattlesnake	None/SSC/None	Arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas, rocky areas, dense vegetation. Occurs along coastal San Diego County to the eastern slopes of the mountains and north through western Riverside County into southernmost San Bernardino County; 0-900 m amsl ^(1, 2) .	No	Low	No suitable arid scrub habitats located within study area. Species found in the vicinity. The nearest CNDDDB record for this species is 4.6 miles southeast of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Diadophis punctatus similis</i> San Diego ring-necked snake	None/None/None	Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmlands, grassland, chaparral, mixed coniferous forests, woodlands. Found mainly in San Diego County along the coast and into the Peninsular Range and into southwestern San Bernardino County ⁽¹⁾ .	No	Low	No suitable moist habitats on site. Site is generally too coastal to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 7.4 miles northeast of the study area.
<i>Lichanura trivirgata</i> Rosy boa	None/None/None	Arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, other rocky areas, riparian areas, desert and chaparral areas. Occurs throughout Southern California from the coast to the Mojave and Colorado Deserts. Prefer areas with moderate to dense vegetation and rocky cover ^(1, 2) .	No	Low	No suitable arid habitats on site. Site is generally too coastal to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 6.0 miles southeast of the study area.
<i>Phrynosoma blainvillii</i> Blainville's horned lizard	None/SSC/ MSCP	Areas of sandy soil and low vegetation in valleys, foothills, semiarid mountains, grasslands, chaparral, woodland, coniferous forest, sandy areas. Often found near ant hills and in lowlands along sandy washes with scattered shrubs and along dirt roads. Occurs along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland to Shasta Reservoir; 0–2,483 m amsl ⁽¹⁾ .	No	Low	No suitable sandy soils within study area with exception of sandy beaches. Site is generally too coastal to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 3.2 miles south of the study area.
<i>Plestiodon skiltonianus interparietalis</i> Coronado skink	None/SSC/None	Grassland, woodlands, pine forests, chaparral, especially open sunny areas (e.g., clearings, edges of creeks) and rocky areas near streams with lots of vegetation. Also found in areas away from water. Occurs in inland Southern California south through the north Pacific coast region of northern Baja California ⁽¹⁾ .	No	Low	No suitable habitat or streams on site for this species. Species found in the vicinity. The nearest CNDDDB record for this species is 5.0 miles south of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Salvadora hexalepis virgultea</i> Coast patch-nosed snake	None/SSC/None	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, plains from northern Carrizo Plains south through coastal zone, south and west of the deserts into coastal northern Baja California; below sea level to 2,130 m amsl ⁽¹⁾ .	No	Low	No suitable arid habitats or chaparral on site. Site is generally too coastal to support this species. Species found in the vicinity. The nearest CNDDDB record for this species is 12.9 miles southeast of the study area.
<i>Thamnophis hammondi</i> Two-striped garter snake	None/SSC/ None	Associated with permanent or semi-permanent bodies of water in a variety of habitats: rocky areas, oak woodland, chaparral, brushland, coniferous forest. Found on Diablo Range, South Coast and Transverse Ranges, and Santa Catalina Island; 0–2,400 m amsl ^(1,2) .	No	Low	No suitable water bodies located within the study area. One stream flows through site but has strong tidal influences that would exclude this species. Species found in the vicinity. The nearest CNDDDB record for this species is 5.6 miles south of the study area.
<i>Birds</i>					
<i>Agelaius tricolor</i> (colony) Tricolored Blackbird	BCC/SSC/ MSCP	Breeds in emergent wetland with tall, dense cattails or tules; willow, blackberry, tall herb thickets. Feeds in grassland and cropland habitats. Found throughout Central Valley and coastal areas south of Sonoma County ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable emergent wetland habitat found on site. Wetland habitat on site is dominated by <i>Atriplex</i> and <i>Distichlis</i> . Species found in the vicinity. The nearest CNDDDB record for this species is 8.9 miles northeast of the study area.
<i>Ammodramus savannarum</i> (nesting) Grasshopper sparrow	None/SSC/None	Dry, dense grasslands, especially with a variety of grasses and tall forbs, scattered shrubs for singing perches. Summer resident and breeder in foothills and lowlands west of Cascade–Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. In Southern California, occurs on hillsides and mesas in coastal areas, breeds up to 1,500 m amsl ⁽²⁾ .	No	Low (nesting and non-breeding)	No suitable dense grasslands on site. Species found in the vicinity. The nearest CNDDDB record for this species is 17.1 miles northeast of the study area.
<i>Artemisiospiza belli</i> Bell's sparrow (Includes nominate form of species [Amphispiza belli belli])	BCC/WL/None	Occurs in low, dense stands of shrubs; chaparral dominated by chamise, coastal scrub dominated by sage. Coast Ranges from Northern California to northwestern Baja California, western slope of Sierra Nevada ⁽²⁾ . Nominate form of species designated as special-status.	No	Moderate (nesting and non-breeding)	Limited amount of coastal scrub habitats found on site. Most habitat areas are very isolated and lack connectivity with larger habitat patches. Species found in the vicinity. The nearest CNDDDB record for this species is 9.1 miles northeast of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Athene cunicularia</i> burrow sites and some wintering sites) Burrowing owl	BCC/SSC/ MSCP	Open, dry grassland and desert habitats; grass, forb and open shrub stages of pinyon–juniper and ponderosa pine habitats throughout the state, 0–1,600 m amsl ⁽²⁾ .	No	Very low (burrowing sites or wintering sites)	Focused surveys per burrowing owl protocol were negative. Much of the site is dominated by non-native weedy species that limit burrowing and soils generally too clayey. Species found in the vicinity. Has been recorded in the southern portion of the Chula Vista Bayfront Master Plan area as an assumed breeding occurrence. The species has also been detected farther south as a wintering occurrence. The nearest CNDDDB record for this species is 2.3 miles north of the study area.
<i>Buteo swainsoni</i> (nesting) Swainson’s hawk	BCC/ST/ MCSP	Forages in grasslands or suitable grain or alfalfa fields or livestock pastures; breeds in stands with few trees in juniper–sage flats, riparian areas, and in oak savanna in Central Valley ⁽²⁾ .	No	Absent (nesting); Moderate (non-breeding)	No suitable habitat on site for this species. Grasslands on site are quite limited. Species found in the vicinity. The nearest CNDDDB record for this species is 6.6 miles northeast of the study area.
<i>Campylorhynchus brunneicapillus sandiegensis</i> Coastal cactus wren (San Diego & Orange Counties only)	BCC/SSC/ MSCP	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub. In arid parts of westward-draining slopes of Southern California ⁽²⁾ .	No	Low (nesting and non-breeding).	No suitable cactus patches found on site. Coastal sage scrub on site is generally limited. Species found in the vicinity. The nearest CNDDDB record for this species is 2.8 miles east of the study area.
<i>Charadrius alexandrinus nivosus</i> (nesting) Western snowy plover	FT (Pacific coastal population), BCC (non-listed subspecies)/SSC (coastal and interior populations)/ MSCP	Sandy marine and estuarine shores. Nests on these habitats and salt pond levees. Nesting areas in Salton Sea, Mono Lake, shores of alkali lakes of northeastern California, Central Valley, and southeastern deserts ⁽²⁾ .	No	Moderate (nesting and non-breeding)	Sandy beaches are present on site but are generally limited in width, and are covered in debris and concrete. Would be expected to nest elsewhere in the San Diego Bay. Species found in the vicinity. The nearest CNDDDB record for this species is less than 0.5 miles from the study area, located in the Sweetwater Marsh.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Coccyzus americanus occidentalis</i> (nesting) Western yellow billed cuckoo	FC, BCC/SE/None	Dense, wide riparian woodlands and forest with well-developed understories. Valley foothill and desert riparian habitats scattered throughout California – Colorado River, Sacramento and Owens Valleys, South Fork of the Kern River, Santa Ana River, and Amargosa River ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable riparian woodlands/forest found on site. The nearest CNDDDB record for this species is 4.4 miles east of the study area.
<i>Empidonax traillii extimus</i> (nesting) Southwestern willow flycatcher	FE/SE/ MSCP	Riparian obligate – Riparian woodlands along streams and rivers with mature, dense tree or shrub cover where surface water or soil moisture present; may nest in habitats variable in dominant plant species (both native and exotic). In California, breeding range includes southern California; from near sea level in California to more than 2,600 m amsl in Arizona/SW Colorado ⁽⁵⁾ .	No	Very low (nesting and non-breeding)	No suitable riparian woodlands/forest found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 8.9 miles northeast of the study area.
<i>Falco mexicanus</i> (nesting) Prairie falcon	BCC/WL/None	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs. Southeastern deserts northwest through Central Valley and along inner Coast Ranges and Sierra Nevada ⁽²⁾ .	No	Absent (nesting) Low (non-breeding)	Suitable open habitats and grassland habitat found on site. However, site may be too disturbed and urbanized to support this species. No suitable nesting substrates. Species found in the vicinity. The nearest CNDDDB record for this species is 12.4 miles north of the study area.
<i>Falco peregrinus anatum</i> (nesting) American peregrine falcon	(FD), BCC/(SD), FP/ MSCP	Nests in woodland, forest, coastal habitats along coast north of Santa Barbara and in Sierra Nevada, and other mountains of Northern California. Winters in Central Valley, and is found in other riparian areas and coastal/inland wetlands ⁽²⁾ .	No	Absent (nesting); Low (non-breeding)	No suitable nesting habitat found on site but may forage on site within open habitats and grassland habitat found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 6.7 miles northwest of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Icteria virens</i> (nesting) Yellow-breasted chat	None/SSC/None	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush. Coastal California, foothills of Sierra Nevada. Breeds locally on coast in Southern California and very locally inland, at elevations up to 1,450 m amsl in valley foothill riparian, and up to 2,050 m amsl east of Sierra Nevada in desert riparian habitats ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable riparian woodlands/forest found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 6.8 miles southeast of the study area.
<i>Ixobrychus exilis</i> (nesting) Least bittern	BCC/SSC/None	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water. Nests in emergent wetlands. Common summer resident at Salton Sea and Colorado River. Breeds locally in Owens Valley and Mojave Desert and uncommon in emergent wetlands of cattails and tules in San Diego County and Sacramento and San Joaquin Valleys ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable emergent wetland habitat found on site. Wetland habitat on site is dominated by <i>Atriplex</i> and <i>Distichlis</i> . Species found in the vicinity. The nearest CNDDDB record for this species is 16.5 miles northeast of the study area.
<i>Laterallus jamaicensis coturniculus</i> California black rail	BC/ST, FP/None	Saline, brackish, and fresh emergent wetlands mostly in central coastal California ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable emergent wetland habitat found on site. Wetland habitat on site is dominated by <i>Atriplex</i> and <i>Distichlis</i> . Species found in the vicinity. The nearest CNDDDB record for this species is less than 0.5 miles north of the study area in the Sweetwater Marsh.
<i>Polioptila californica californica</i> Coastal California gnatcatcher	FT/SSC/ MSCP	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer. Found from eastern Orange and southwestern Riverside Counties south through coastal foothills of San Diego County ⁽²⁾ .	No	Very low (nesting and non-breeding)	Focused surveys for this species were negative. Moderately suitable coastal sage scrub on site although limited in size and relatively isolated. Species found in the vicinity. The nearest CNDDDB record for this species is 4.0 miles east of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Rallus longirostris levipes</i> Light-footed clapper rail	FE/SE, FP/ MSCP	Coastal saline emergent wetlands along southern California from Santa Barbara County to San Diego County ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable emergent wetland habitat found on site. Wetland habitat on site is dominated by <i>Atriplex</i> and <i>Distichlis</i> . Species found in the vicinity. The species is known to occur within nearby areas where suitable habitat is present. The nearest CNDDDB record for this species is within marsh habitat surrounding the Sweetwater District parcel to the north and south.
<i>Setophaga petechia brewsteri</i> [Aestiva group] (nesting) Yellow warbler (California)	BCC/SSC/None	Nests in lowland and foothill riparian woodlands; montane chaparral, open ponderosa pine, mixed conifer habitats up to 2,500 m amsl; winters in a variety of habitats. Breeds from coast range in Del Norte County, east to Modoc Plateau, south to Santa Barbara and Ventura Counties, western slope of Sierra Nevada south to Kern County; also breeds in ranges in San Diego County ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable riparian woodlands/forest found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 8.9 miles northeast of the study area.
<i>Sternula antillarum browni</i> (nesting colony) California least tern	FE/SE, FP/ MSCP	Breeding colonies located in marine and estuarine shores in southern California, and in San Francisco Bay in abandoned salt ponds and estuarine shores. Feeds in nearby waters. Are migratory to California ⁽²⁾ .	No	Moderate (nesting and non-breeding)	Sandy beaches on site but are generally limited in width, and are covered in debris and concrete. Would be expected to nest elsewhere in the San Diego Bay. Species found in the vicinity. The nearest CNDDDB record for this species is less than 0.5 miles north of the Sweetwater District parcel in the Sweetwater Marsh. Additional CNDDDB records are from the Salt Works south of the site.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Vireo bellii pusillus</i> (nesting) Least Bell's vireo	FE/SE/, MSCP	Willows and low, dense valley foothill riparian habitat and lower portions of canyons; along western edge of deserts in desert riparian habitat, 0–600 m amsl. Found in San Benito and Monterey Counties and coastal Southern California from Santa Barbara County south ⁽²⁾ .	No	Very low (nesting and non-breeding)	No suitable riparian woodlands/forest found on site. Species found in the vicinity. One individual male was heard calling outside of the project area, in the northwestern corner near Sweetwater Marsh. The nearest CNDDDB record for this species is 1.8 miles northeast of the study area.
<i>Mammals</i>					
<i>Antrozous pallidus</i> Pallid bat	None/SSC/ WBWG:H	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting. Found throughout low elevations of California, except for high Sierra Nevada and northwestern corner of the state south to Mendocino County ⁽²⁾ .	No	No roosting potential; Moderate foraging potential	Moderately suitable open habitats for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 1.5 miles east of the study area.
<i>Chaetodipus californicus femoralis</i> Dulzura pocket mouse	None/SSC/None	Occurs in a variety of habitats including coastal scrub, chaparral, and grasslands. Micro habitat includes grass–chaparral edges ⁽⁶⁾ .	No	Very low	Limited coastal scrub habitat on site. Species found in the vicinity. The nearest CNDDDB record for this species is 13.8 miles north of the study area.
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	None/SSC (full species)/None	Occurs in coastal scrub, chaparral, grasslands, sagebrush, and similar habitats in western San Diego County. Micro habitat includes sandy, herbaceous areas, usually in association with rocks or coarse gravel ⁽⁶⁾ .	No	Very low	Limited coastal scrub habitat on site. Soil generally too clayey to support fossorial species. Species found in the vicinity. The nearest CNDDDB record for this species is 4.6 miles south of the study area.
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	None/SSC/ WBWG:M	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–uniper woodland. Roosts in caves, mines, and buildings. Summer resident in San Diego County ⁽²⁾ .	No	No roosting potential; Very low foraging potential	No suitable desert habitats on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 1.8 miles west of the study area near Silver Strand.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Corynorhinus townsendii pallescens</i> Townsend's big-eared bat	None/SSC/ WBWG:H	Mesic habitats, gleans from brush or trees or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California ⁽²⁾ .	No	No roosting potential; Moderate foraging potential	Moderately suitable open mesic habitats for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 11.1 miles northeast of the study area.
<i>Euderma maculatum</i> Spotted bat	None/SSC/ WBWG:H	Foothills, mountains, desert regions of Southern California including arid deserts, grasslands, mixed conifer forests. Roosts in rock crevices, cliffs. Feeds over water and along washes ⁽²⁾ .	No	No roosting potential; No foraging potential	No suitable habitat on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 18.2 miles northwest of the study area.
<i>Eumops perotis californicus</i> Greater western mastiff bat	None/SSC/ WBWG:H	Occurs in many open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, and more. Roosts in crevices in cliff faces, high buildings, trees, and tunnels ⁽⁶⁾ .	No	No roosting potential; Moderate foraging potential	Moderately suitable open habitats for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 3.5 miles south of the study area.
<i>Lasionycteris noctivagans</i> Silver haired bat	None/None/ WBWG:M	Coastal and montane coniferous forests, valley foothill woodland, pinyon-juniper woodland, and valley foothill and montane riparian habitat below 2,750 m amsl (9,000 ft amsl) ⁽²⁾ .	No	No roosting potential; No foraging potential	No suitable forest or riparian habitat on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 6.2 miles north of the study area.
<i>Lasiurus blossevillii</i> Western red bat	None/SSC/ WBWG:H	Prefers edges with trees for roosting and open areas for foraging. Roosts in woodlands and forests. Forages over grasslands, shrublands, woodlands, forests, and croplands. Found south of Shasta County to Mexican border, and west of the Sierra Nevada/Cascade crest. In winter, occupies coastal regions and lowlands south of San Francisco Bay ⁽²⁾ .	No	No roosting potential; Moderate foraging potential	Moderately suitable open habitats for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 8.1 miles northwest of the study area.
<i>Lasiurus cinereus</i> Hoary bat	None/SSC/ WBWG:M	Winters along coast and in Southern California, and breeds inland and north of winter range. Found in woodland and forest habitats with medium to large trees and dense foliage ⁽²⁾ .	No	No roosting potential; No foraging potential	No suitable forest or woodland habitat on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 3.8 miles south of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Lasiurus xanthinus</i> Western yellow bat	None/SSC/ WBWG:H	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats south of Los Angeles and San Bernardino Counties ⁽²⁾ .	No	No roosting potential; No foraging potential	No suitable riparian or desert habitat found on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 7.0 miles north of the study area.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	None/SSC/None	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands in Southern California ^(2,4) .	No	Low	No suitable open arid habitats on site. Grassland habitat is limited on site. Is known to occur within areas as the south end of the South Bay. Species found in the vicinity. The nearest CNDDDB record for this species is 5.6 miles northeast of the study area.
<i>Myotis ciliolabrum</i> Western small-footed myotis	None/None/ WBWG:M	Occurs in a wide variety of habitats, primarily in arid wooded and brushy uplands near water. In coastal California it occurs from Contra Costa County south to the Mexican border; occurs in the Sierra Nevada and Great Basin and desert habitats from Modoc to Kern and San Bernardino Counties. Found from sea level to at least 2,700 m amsl ⁽²⁾ .	No	No roosting potential; Low foraging potential	No suitable arid wooded or scrub upland habitats on site. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 10.5 miles southeast of the study area.
<i>Myotis evotis</i> Long-eared myotis	None/None/ WBWG:M	Roosts in buildings, crevices, under bark, and snags. Caves used as night roosts. Feeds along habitat edges, in open habitats, and over water. Occurs primarily along entire coast and in Sierra Nevada, Cascades, and Great Basin; at 0–2,700 m amsl ⁽²⁾ .	No	No roosting potential; Low foraging potential	Suitable open habitats on site but no freshwater habitats for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 10.5 miles northeast of the study area.
<i>Myotis yumanensis</i> Yuma myotis	None /None/ WBWG:LM	Closely tied to open water which is used for foraging; open forests and woodlands are optimal habitat throughout California, 0–3,300 m amsl ⁽²⁾ .	No	No roosting potential; Low foraging potential	No freshwater habitats, or open forests/woodlands on site for foraging. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 5.3 miles northeast of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	None/SSC/None	Joshua tree, pinyon–juniper, mixed and chamise–redshank chaparral, sagebrush, and most desert habitats. Found south of San Luis Obispo County to San Diego County and San Bernardino and Riverside Counties, 0–2,600 m amsl ^(2, 4) .	No	Absent	No suitable habitat on site. Site generally too coastal for this species. Species found in the vicinity. The nearest CNDDDB record for this species is 6.9 miles southeast of the study area.
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	None/SSC/ WBWG:M	Rocky desert areas with high cliffs or rock outcrops. Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oasis in Riverside, San Diego, Imperial Counties ⁽²⁾ .	No	No roosting potential; No foraging potential	No suitable desert habitat on site for this species. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 1.2 miles east of the study area.
<i>Nyctinomops macrotis</i> Big free-tailed bat	None/SSC/ WBWG:MH	Rugged, rocky canyons in Riverside, Los Angeles, and San Diego Counties, but scattered records across California to Oakland ^(2, 6) .	No	No roosting potential; No foraging potential	No suitable canyon habitat on site for this species. No suitable roosting areas identified on site. Species found in the vicinity. The nearest CNDDDB record for this species is 6.8 miles north of the study area.
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	FE/SSC/None	Coastal dunes, river alluvium, coastal sage scrub with firm sandy soils; along immediate coast in San Diego, Orange, and Los Angeles Counties ^(4, 6) .	No	Absent	Beach habitat on site is limited and likely does not provide firm sandy soils needed. Species found in the vicinity. The nearest CNDDDB record for this species is 5.6 miles southwest of the study area.
<i>Taxidea taxus</i> American badger	None/SSC/ MSCP	Dry, open treeless areas, grasslands, coastal sage scrub, especially with friable soils throughout California ⁽²⁾ .	No	Low	No suitable habitat on site for this species. Soils are generally not friable. Species found in the vicinity. The nearest CNDDDB record for this species is 6.5 miles southeast of the study area.
<i>Invertebrates</i>					
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	FE/None/ MSCP	Small, shallow vernal pools, occasionally ditches and road ruts in coastal mesa system of Southern California and Baja California ⁽⁴⁾ .	No	Absent	No vernal pools found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 3.5 miles southwest of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Callophrys [=Mitoura] thornei</i> Thorne's hairstreak butterfly	None/None/ MSCP	Tecate cypress on chaparral-covered dry rocky slopes, Otay Mountain ⁽⁴⁾ .	No	Absent	No suitable habitat or host plant found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 10.0 miles northeast of the study area.
<i>Cicindela gabbii</i> Western tidal flat tiger beetle	None/None/None	Estuaries and mudflats; generally on dark-colored mud; occasional on dry saline flats of estuaries or mouth of river, Orange and San Diego Counties ⁽⁶⁾ .	No	Absent	No estuary or mudflat habitat found on site. Species found in the vicinity. The nearest CNDDDB record for this species is 4.0 miles north of the study area.
<i>Cicindela hirticollis grvida</i> Hairy-necked tiger beetle	None/None/None	Clean, dry, light-colored sand in upper zone of the beach dunes, close to non-brackish water along coastal California ⁽⁶⁾ .	No	Low	Suitable beach habitat on site but no dunes. Beach is covered with debris and concrete which would likely exclude this species. Species found in the vicinity. The nearest CNDDDB record for this species is 2.2 miles west of the study area.
<i>Cicindela latesignata latesignata</i> Sandy beach tiger beetle	None/None/None	Inhabited the Southern California coastline, from La Jolla north to the Orange County line. Occupied saline mudflats and moist sandy spots in estuaries of small streams in the lower zone. Has not been observed in 20 years ⁽⁴⁾ .	No	Absent	Site is south of species' known range. No saline mudflats within the study area. Species found in the vicinity. The nearest CNDDDB record for this species is 2.6 miles north of the study area.
<i>Coelus globosus</i> Globose dune beetle	None/None/None	Fore dunes, sand hummocks, back dunes along immediate coast. Larvae, adults spend time under vegetation or debris from Santa Cruz south to Ventura County. Possibly extirpated in San Diego and other coastal counties ⁽⁴⁾ .	No	Low	Suitable beach habitat on site but no dunes. Beach is covered with debris and concrete which would likely exclude this species. Species found in the vicinity. The nearest CNDDDB record for this species is 4.2 miles northwest of the study area.
<i>Danaus plexippus</i> Monarch butterfly	None/None/None	Overwinters in eucalyptus groves from San Francisco south to northern Baja California ⁽⁴⁾ .	No	Moderate	Suitable eucalyptus woodland located in southwestern are of site although site has not been identified as a known overwintering location for monarch. Species found in the vicinity. The nearest CNDDDB record for this species is 1.1 miles northeast of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Euphydryas editha quino</i> Quino checkerspot butterfly	FE/None/ MSCP (Chula Vista Subarea)/XERCES:C I	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant <i>Plantago erecta</i> and nectar plants must be present, San Diego and Riverside Counties ⁽⁴⁾ .	No	Absent	No suitable habitat for this species on site. Host plant not observed. Species found in the vicinity. The nearest CNDDDB record for this species is 9.0 miles southeast of the study area.
<i>Helminthoglypta traskii coelata</i> (<i>Helminthoglypta coelata</i>) Peninsular Range shoulderband snail (Mesa shoulderband snail)	None/ None/None	Coastal San Diego County ⁽⁶⁾ .	No	Moderate	Site is located within range of this species. Not much is known about this species' habitat preferences. Species found in the vicinity. The nearest CNDDDB record for this species is 14.1 miles northwest of the study area.
<i>Lycaena hermes</i> Hermes copper	FC/None/None	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant <i>Rhamnus crocea</i> . Adults visit <i>Eriogonum fasciculatum</i> and <i>Helianthus gracilentus</i> . On well-drained hillsides and canyon bottoms, coastal San Diego County south to Santo Tomas, Baja California ⁽⁴⁾ .	No	Absent	Although host plant <i>Eriogonum fasciculatum</i> is found on site, no larval host plant <i>Rhamnus crocea</i> is found within coastal sage scrub habitat on site. The nearest CNDDDB record for this species is 9.1 miles northeast of the study area.
<i>Melitta californica</i> A melittid bee	None/None/None	Desert regions of SW Arizona, SE California, and Baja California, Mexico. Also collected from Torrey Pines, San Diego County ⁽⁶⁾ .	No	Low	Site is outside of species' known range. Species found in the vicinity. The nearest CNDDDB record for this species is 5.5 miles northwest of the study area.
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE/None/ MSCP	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids; in patches of grassland or agriculture interspersed in coastal sage scrub vegetation in Southern California ⁽⁴⁾ .	No	Absent	No suitable vernal pools on site. Species found in the vicinity. The nearest CNDDDB record for this species is 6.7 miles southeast of the study area.

APPENDIX D2 (Continued)

Scientific Name / Common Name	Status (Federal/ State/ Other)	Habitat Preferences / Requirements	Verified on Site (Direct/Indirect Evidence)	Potential to Occur on Site	Factual Basis For Determination ^(a)
<i>Tryonia imitator</i> (<i>Mimic tryonia</i>) California brackishwater snail	None/None/None	Coastal lagoons, herbaceous wetlands, brackish salt marshes; distributed among semi-continuous estuarine habitats along coast ⁽⁴⁾ .	No	Moderate	Suitable salt marsh habitat on site although water is likely ephemeral which may exclude this species. Species found in the vicinity. The nearest CNDDDB record for this species is 5.8 miles southwest of the study area.

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Notes: m amsl = meters above mean sea level; ft amsl = feet above mean sea level

Status Key:

Federal Designations:

- BCC U.S. Fish and Wildlife Service: Birds of Conservation Concern
- FC Candidate for federal listing as threatened or endangered
- (FD) Federally delisted; monitored for 5 years
- FE Federally listed endangered
- FT Federally listed as threatened

APPENDIX D2 (Continued)

FPT Federally proposed threatened

State Designations:

SSC California Special Concern Species
FP California Department of Fish and Wildlife Fully Protected Species
WL California Department of Fish and Wildlife Watch List Species
SE State listed as endangered
ST State listed as threatened
(SD) State delisted

Other Designations:

WBWG:H Western Bat Working Group: High Priority
WBWG:M Western Bat Working Group: Medium Priority
WBWG:MH Western Bat Working Group: Medium-High Priority
XERCES:CI Xerces Society – Critically Endangered
MSCP Covered under the Chula Vista MSCP Subarea Plan.

For the purposes of determination of potential to occur on site, vicinity = within 9-quad search of National City quadrangle.

APPENDIX E

Wetland Determination Data Form

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-1
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Convex Slope (%): 1%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Data Station located within a depressional area surrounded by concentric rings of hydrophytic vegetation.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Arthrocnemum subterminale</u>	70	Yes	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>70</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>30</u> %		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = 0
 FACW species 70 x 2 = 140
 FAC species _____ x 3 = 0
 FACU species _____ x 4 = 0
 UPL species _____ x 5 = 0
 Column Totals: 70 (A) 140 (B)
 Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks: Data station located in monotypic stand of Arthrocnemum subterminale near edge of salt pans.

SOIL

Sampling Point: DS-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10"	7.5YR 3/2	100					Clay loam	
10-18"	7.5YR 3/3	100					Silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: Depleted matrix present.	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No water present, but salt crust and surface soil cracks present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-2
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Convex Slope (%): <10%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data Station located within a depression area surrounded by concentric rings of hydrophytic vegetation.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)	
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <u>Schoenoplectus americanus</u>	<u>90</u>	<u>Yes</u>	<u>OBL</u>	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species <u>90</u> x 1 = <u>90</u>	
3. _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
4. _____	_____	_____	_____	FAC species _____ x 3 = <u>0</u>	
5. _____	_____	_____	_____	FACU species <u>1</u> x 4 = <u>4</u>	
Total Cover: <u>90 %</u>				UPL species _____ x 5 = <u>0</u>	
				Column Totals: <u>91</u> (A) <u>94</u> (B)	
				Prevalence Index = B/A = <u>1.03</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Heliotropium curassavicum</u>	<u>1</u>	<u>No</u>	<u>FACU</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: <u>1 %</u>					
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks: Data station located adjacent to Arthrocnemum subterminale and Atriplex canescens.

SOIL

Sampling Point: DS-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-18"	10YR 4/3	100				Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p>Indicators for Problematic Hydric Soils:⁴</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p>Restrictive Layer (if present):</p> Type: _____ Depth (inches): _____	<p>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>
Remarks: No hydric soils present.	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data station located on margin of salt flat within a depressional basin. Adjacent areas have cracked soils and salt crusts.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-3
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Distichlis spicata</i>	85	Yes	OBL	
2. <i>Arthrocnemum subterminale</i>	15	Yes	FACW	
3. <i>Foeniculum vulgare</i>	2	No		
4. <i>Sonchus asper</i>	1	No		
5. <i>Xanthium strumarium</i>	1	No		
6. _____				
7. _____				
8. _____				
Total Cover: 104%				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0 %** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	85	x 1 =	85	
FACW species	15	x 2 =	30	
FAC species		x 3 =	0	
FACU species		x 4 =	0	
UPL species		x 5 =	0	
Column Totals:	100	(A)	115	(B)
Prevalence Index = B/A =			1.15	

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: DS-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12"	7.5YR 4/3	100					Sandy clay loam	
12-18"	5YR 3/4	100					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)	
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators present. Data station is located adjacent to, and at higher elevation (approx 6-12 inches) than the salt flats (DS -1 and -2).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-4
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Margin of depression Local relief (concave, convex, none): Flat Slope (%): 1-2%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)	
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>Baccharis salicifolia</i>	100	Yes	FAC	Total % Cover of: _____	Multiply by: _____
2. <i>Foenicium vulgare</i>	10	No		OBL species _____ x 1 = <u>0</u>	
3. <i>Baccharis pilularis</i>	1	No		FACW species _____ x 2 = <u>0</u>	
4. _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>	
5. _____	_____	_____	_____	FACU species _____ x 4 = <u>0</u>	
Total Cover: <u>111 %</u>				UPL species _____ x 5 = <u>0</u>	
Herb Stratum				Column Totals: <u>100</u> (A) <u>300</u> (B)	
1. <i>Heliotropium curassavicum</i>	1	No		Prevalence Index = B/A = <u>3.00</u>	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: <u>1 %</u>					
Woody Vine Stratum				Hydrophytic Vegetation Indicators:	
1. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks:

SOIL

Sampling Point: DS-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12"	7.5YR 4/3	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p>Indicators for Problematic Hydric Soils:⁴</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<p>Restrictive Layer (if present):</p> Type: _____ Depth (inches): _____ Remarks: No hydric soils present.	<p>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>
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HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Upper margin of salt marsh (DS-1, -2, and -3) adjacent to open field with gentle slope toward the mulefat polygon.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-5
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): <10%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
Total Cover: _____ %				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	50 x 1 = 50
1. _____	_____	_____	_____	FACW species	50 x 2 = 100
2. _____	_____	_____	_____	FAC species	x 3 = 0
3. _____	_____	_____	_____	FACU species	x 4 = 0
4. _____	_____	_____	_____	UPL species	x 5 = 0
5. _____	_____	_____	_____	Column Totals:	100 (A) 150 (B)
Total Cover: _____ %				Prevalence Index = B/A = 1.50	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Arthrocnemum subterminale</i>	50	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Jaumea carnosa</i>	50	Yes	OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Batis maritima</i>	20			<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Chenopodium murale</i>	3			<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: 123%					
Woody Vine Stratum					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			

Remarks:

SOIL

Sampling Point: DS-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16"	10 YR 3/3	50					Sandy loam	
	10 YR 4/3	50					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)

Indicators for Problematic Hydric Soils:⁴

<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Trash located within soil profile, most likely trash from bay, indicating that the data station is located within the boundary of the ordinary mean high tide.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (2 or more required)

<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data station located approximately 2 feet above sea level in pickleweed (Arthrocnemum subterminale).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Chula Vista Bayfront Master Plan City/County: Chula Vista Sampling Date: 4-14-14
 Applicant/Owner: Port of San Diego State: CA Sampling Point: DS-6
 Investigator(s): Vipul R. Joshi, Emily A. Wier Section, Township, Range: Section 5, Township 18 South, Range 2 West
 Landform (hillslope, terrace, etc.): Downslope from parking lot Local relief (concave, convex, none): Concave Slope (%): 1%
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Mulefat scrub located adjacent to a paved parking lot. Site likely fed by runoff from parking lot.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	1 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum					
1. <i>Baccharis salicifolia</i>	100	Yes	FAC	Prevalence Index worksheet:	
2. <i>Baccharis pilularis</i>	20	No	_____	Total % Cover of:	Multiply by:
3. _____	_____	_____	_____	OBL species	x 1 = 0
4. _____	_____	_____	_____	FACW species	x 2 = 0
5. _____	_____	_____	_____	FAC species	100 x 3 = 300
Total Cover: 120%					
_____	_____	_____	_____	FACU species	x 4 = 0
_____	_____	_____	_____	UPL species	x 5 = 0
_____	_____	_____	_____	Column Totals:	100 (A) 300 (B)
_____	_____	_____	_____	Prevalence Index = B/A =	3.00
Herb Stratum					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
4. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: _____ %					
Woody Vine Stratum					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %				

Remarks: _____

SOIL

Sampling Point: DS-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12"	10 YR 3/3	95					Silty clay loam	
	10 YR 5/1	5					Silty clay loam	Found within 10-12" layer

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils:⁴
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Not sufficient percentage of redox features to be considered F8 (Redox Depressions)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	Secondary Indicators (2 or more required)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Water-Stained Leaves (B9)		

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators present.