

DRAFT

**Biological Resources Technical Report for the
SDSU Mission Valley Campus Master Plan Project**

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACOE	U.S. Army Corps of Engineers
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
FE	federally listed as endangered
FESA	federal Endangered Species Act
GIS	geographic information system
HCP	habitat conservation plan
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Area
MM	mitigation measure
MSCP	Multiple Species Conservation Plan
NCCP	natural community conservation plan
OHW	ordinary high water mark
River Park	San Diego River Park
RWQCB	Regional Water Quality Control Board
SDCCU Stadium	San Diego County Credit Union Stadium
SDMC	San Diego Municipal Code
SDSU	San Diego State University
SE	state listed as endangered
SSC	Species of Special Concern
USFWS	U.S. Fish and Wildlife Service

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Summary of Findings

The San Diego State University (SDSU) Mission Valley Campus Master Plan Project (proposed project) is located within the City of San Diego at 9449 Friars Road, and situated west of Interstate 15, north of the San Diego River, east of existing commercial development, and south of Friars Road. The proposed project includes the demolition of the existing San Diego County Credit Union Stadium (SDCCU Stadium), construction of a new stadium, construction of a San Diego River Park and Shared Parks and Open Space along the southern boundary of the project site, development of park and open space areas along the eastern edge of the site, and development of a western campus expansion, including residential and mixed-use development in compliance with San Diego Municipal Code Section 22.0908 (SDMC 22.0908).

The following report assesses the biological resources found within the 172-acre project site and the resulting impacts that would occur following project implementation. The report provides information to support the environmental impact report for the proposed project. The report first provides the local and regional setting, followed by a detailed description of the proposed project. The report then identifies the methodology used to assess the biological resources found on the project site. A discussion of the existing biological resources, including vegetation communities, flora and fauna, wetlands and jurisdictional resources, and wildlife corridors, follows the methodology section. The report then provides the significance thresholds, analysis, and results, and recommends mitigation measures where appropriate. The report concludes with a discussion of the level of significance after the proposed mitigation measures are implemented as part of the proposed project.

Dudek conducted vegetation mapping, focused botanical surveys, a jurisdictional delineation, and focused surveys for the coastal California gnatcatcher (*Poliioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). This report documents the results of Dudek's fieldwork completed to date, and provides an analysis of the direct and indirect impacts related to the proposed project.

Three land cover types were mapped within the project site, the majority of which is urban/developed (96.30% of the project site), and includes disturbed habitat, and non-vegetated channel. Based on species composition and general physiognomy, four native plant communities – Baccharis-dominated Diegan coastal sage scrub, Diegan coastal sage scrub, southern willow scrub, and southern cottonwood–willow riparian forest – were identified within the project site.

Dudek identified one drainage as falling within the jurisdiction of the U.S Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). There are approximately 1.99 acres of jurisdictional features on site, including 0.80 acres regulated by ACOE, RWQCB, and CDFW, and 1.20 acres regulated by CDFW only.

The SDSU Mission Valley Campus Master Plan Project would result in permanent direct impacts to approximately 164.20 acres on site, of which 163.80 acres are to existing developed and disturbed habitat areas. The remaining impacts to native vegetation communities or land covers include 0.04 acres of Baccharis-dominated Diegan coastal sage scrub, 0.01 acres of Diegan coastal sage scrub, and 0.35 acres of southern cottonwood–willow riparian forest. The proposed project would also result in permanent direct impacts to 0.07 acres of ACOE, RWQCB, and CDFW jurisdictional non-wetland waters, as well as 0.28 acres of CDFW riparian vegetation. There are permanent off-site impacts to 3.51 acres of existing developed and disturbed habitat areas.

The proposed project would also result in temporary impacts to 0.61 acres of developed or disturbed habitat areas, 0.06 acres of Baccharis-dominated Diegan coastal sage scrub, 0.11 acres of Diegan coastal sage scrub, and 0.11 acres

of southern cottonwood–willow riparian forest; 0.03 acres of ACOE, RWQCB, and CDFW jurisdictional non-wetland waters, as well as 0.08 acres of CDFW riparian vegetation. There are temporary off-site impacts to 0.04 acres of Diegan coastal sage scrub, 0.04 acres of southern cottonwood–willow riparian forest, 0.01 acres to ACOE, RWQCB, and CDFW wetland waters, and 0.03 acres of CDFW riparian vegetation.

Potentially significant impacts are limited to direct and/or indirect impacts to sensitive natural communities, jurisdictional features, San Diego sagewort (*Artemisia palmeri*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), San Diego marsh-elder (*Iva hayesiana*), and least Bell’s vireo; southwestern willow flycatcher; habitat for special-status wildlife species; and nesting birds protected under the Migratory Bird Treaty Act.

Mitigation to reduce this impact to a level less than significant includes habitat preservation in a mitigation bank and/or on site, avoidance of the breeding bird season or pre-construction surveys for nesting birds, and implementation of construction noise limitations/setbacks, if necessary. With implementation of the recommended mitigation measures, all potentially significant impacts would be reduced to less than significant.

1 Introduction

1.1 Regional and Local Setting

The proposed project is located within the City of San Diego, just west of Interstate (I) 15 and north of I-8, and is situated within the Mission Valley Community of San Diego. The 172-acre project site is bounded by Friars Road to the north, I-15 to the east, the San Diego River to the south, and commercial development to the west (Figure 1, Project Location). The San Diego River abuts the project site to the south; the City's Multi-Habitat Planning Area (MHPA) covers most of the San Diego River. Murphy Canyon Creek is a drainage on the east side of the project site and has been modified/channelized over the years.

The Mission Valley community is situated in the central portion of the San Diego metropolitan area. The community consists of approximately 2,418 acres and is composed of offices, hotels, retail, and a growing residential community connected by the San Diego Trolley. The proposed project is located in the northeastern portion of the Mission Valley community.

The project site encompasses the existing San Diego County Credit Union Stadium (SDCCU Stadium), located at 9449 Friars Road, and is bounded by Friars Road to the north, I-15 to the east, I-8 to the south, and the existing Fenton Marketplace shopping center to the west. The project site is approximately 5 miles from downtown San Diego and approximately 2.5 miles west of the existing San Diego State University (SDSU) main campus. The proposed project would implement the SDSU West Campus Research Center, Stadium, and River Park Initiative (Measure G), which was approved by the voters in 2018 and amended the San Diego Municipal Code (SDMC) to include Section 22.0908, Sale of Real Property to SDSU, for the purposes described below in Section 1.2, Project Description.

The proposed project includes various off-site improvement areas intended for roadway and utility improvements at multiple intersections and roadway segments. These off-site improvement areas are generally located along Friars Road, Ward Road, and Fairmont Avenue.

1.2 Project Description

The proposed project would implement SDMC Section 22.0908, Sale of Real Property to SDSU, which was adopted after City of San Diego voters approved the SDSU West Campus Research Center, Stadium, and River Park Initiative (Measure G) on November 6, 2018. Consistent with the provisions of SDMC Section 22.0908, the proposed project consists of three components:

1. SDSU Campus Master Plan prepared consistent with the content requirements of a Specific Plan pursuant to California Government Code Section 65641(a);
2. A Purchase and Sale Agreement between SDSU and the City of San Diego for SDSU to acquire approximately 132 acres of the 172-acre project site, and
3. Development of a 34-acre San Diego River Park (River Park).

As contemplated by SDMC Section 22.0908, the approximately 172-acre proposed project would include the demolition of the existing SDCCU Stadium and the construction of a new, multipurpose stadium as part of the

development of a western campus expansion for SDSU. In addition to a new stadium, the proposed project would also include residential and mixed-use development and the creation of the San Diego River Park (River Park) (Figure 2, Proposed Project Components).

Specifically, the proposed project would consist of the development of facilities to accommodate a new 35,000-capacity, multipurpose stadium; 1.6 million square feet for office, research and development, and academic uses in approximately 16 buildings; up to 4,600 new residential homes in 15 residential buildings; approximately 400 hotel rooms; approximately 95,000 square feet of commercial/retail space; approximately 84 acres of parks, recreation, and open space, including a 34-acre River Park; and more than four miles of pedestrian and bicycle trails. The 34-acre River Park is proposed along the southern edge of the project site, north of the San Diego River, and would provide passive and active recreational opportunities, as well as serve as a treatment source of stormwater runoff and act as a barrier to the San Diego River and sensitive habitat therein. Table 1 summarizes the acreages and land uses of the proposed project.

Table 1. Overall Land Use

Proposed Land Use	Footprint (acres)	# of Buildings	Stories	Units
Parks, Recreation, and Open Space ^a	86.1 ^b	—	—	—
Campus (Including Stadium)	28.6	17	3-6	—
Residential	24.6	16	3-24	4,600 hotel rooms
Hospitality	5.2	2	3-22	400 residential units
Circulation ^b	27.4	—	—	—
Total*	172.0	34^c	—	—

* Total may not sum due to rounding.

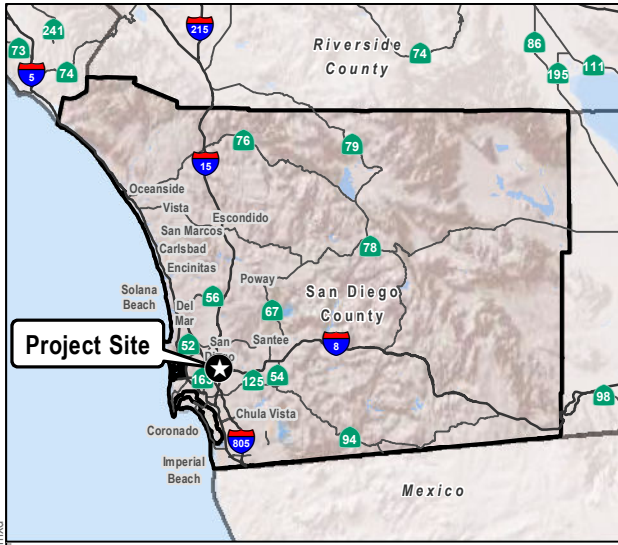
Source: Carrier Johnson 2019

Notes:

- ^a Includes trails.
- ^b Excludes 1.3-acre Metropolitan Transit System-owned land for San Diego Trolley Line; no development proposed within.
- ^c Hotel H1 includes both hotel and residential uses.

The proposed project includes off-site improvement areas intended for roadway improvements to multiple intersections and roadway segments. Additionally, the proposed project would include off-site areas planned for utility improvement and connections, including sewer, water, and storm drains. Off-site improvement areas are located at the Friars Road and I-15 interchange, Friars Road and northern terraced hills, the Ward Road bridge, as well as intersections along Fairmont Avenue.

The proposed project would be implemented in phases. The first phase would include construction of new 35,000-capacity, multipurpose stadium and associated grading, utility improvements, and parking and construction of the 34-acre River Park; the second phase would include demolition of the existing SDCCU Stadium; and the remaining phases would include grading, utility, and infrastructure improvements, additional shared parks and open space, and would provide for the development of the uses described above and in Table 1. Due to the large scale of the proposed project and the need to remain flexible toward changing market demands, phasing is nonsequential following completion of the new multipurpose stadium, with the exception that the 34-acre River Park shall be constructed within 7 years of the execution of a Purchase and Sale Agreement between SDSU and the City of San Diego, as provided for by SDMC Section 22.0908. The River Park improvements would be completed prior to any non-stadium vertical construction.



Document Path: Z:\Projects\1155501\MAPDOC\DOCUMENT NAME\Tech Reports\BIO\BIO 2019\07\BIO Figure1 - Project Location.mxd

SOURCE: USGS 7.5 MINUTE SERIES, LA JOLLA AND LA MESA QUADRANGLES
TOWNSHIP 16 SOUTH, RANGE 2 WEST, SECTION 17 AND 18



FIGURE 1
Project Location

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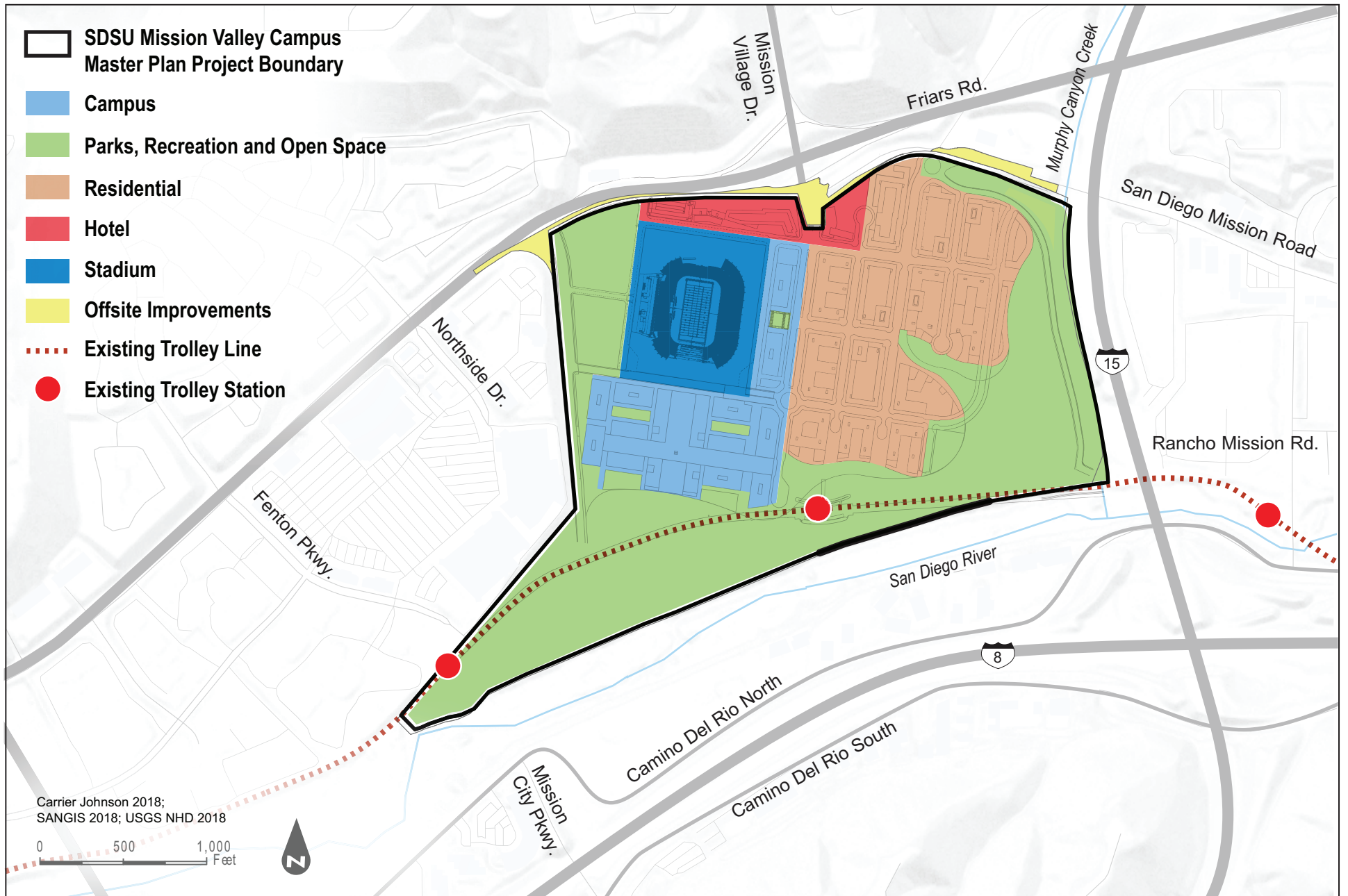


FIGURE 2

Proposed Project Components

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2 Methodology

2.1 Literature Review

The following data sources were reviewed to assist with the biological and jurisdiction efforts:

- Natural Resources Conservation Service Web Soil Survey (USDA 2019a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2019)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2019)
- U.S. Geological Survey National Hydrography Dataset (USGS 2019)
- U.S. Fish and Wildlife Service (USFWS) Species Occurrence Data (USFWS 2019)
- San Diego Natural History Museum San Diego County Bird Atlas (Unitt 2004)
- San Diego Natural History Museum San Diego County Mammal Atlas (Tremor et al. 2017)
- San Diego Geographic Information Source database (SanGIS 2019)
- *Focused Least Bell’s Vireo Survey Report for the Stadium Wetland Mitigation Project* (Dudek 2017)

Native plant community classifications used in this report follow *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) as modified by the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008).

2.2 Field Reconnaissance

Dudek conducted vegetation mapping and a jurisdictional delineation for the project site and off-site improvement areas in February 2019. The “study area” includes the project site, off-site site improvement areas, and a 100-foot buffer from the project area south into the San Diego River. Additional focused special-status wildlife species and focused botanical surveys were conducted in the spring and summer, and will be finalized in July 2019. Table 2 lists the dates, conditions, personnel, and focus for each survey performed.

Table 2. Survey Schedule

Date	Hours	Personnel	Focus	Conditions
2/12/2019	7:00 a.m. –2:00 p.m.	Kathleen Dayton, Mackenzie Forgey	Vegetation mapping, jurisdictional delineation	52°F–75°F; 0%–100% cloud cover; 0–2 mph wind
2019-04-12	6:23 a.m.–7:06 a.m.	Erin Bergman, Kathleen Dayton	California Gnatcatcher	Air Temp: 56°F–69°F; Ground Temp: 0°F–73°F; 0%–100% cloud cover; 0–2 mph wind
2019-04-12	7:06 a.m.–11:00 a.m.	Erin Bergman, Kathleen Dayton	Riparian Bird (least Bell’s vireo)	Air Temp: 56°F–69°F; Ground Temp: 0°F–73°F; 0%–100% cloud cover; 0–2 mph wind

Table 2. Survey Schedule

Date	Hours	Personnel	Focus	Conditions
2019-04-12	11:00 a.m.–3:00 p.m.	Erin Bergman, Kathleen Dayton	Rare Plants	Air Temp: 67 °F; Ground Temp: 69 °F–74 °F; 0%–100% cloud cover; 0 mph wind
2019-04-19	9:32 a.m.–11:36 a.m.	Erin Bergman	California Gnatcatcher	67 °F–70 °F; 50%–60% cloud cover; 0–3 mph wind
2019-04-22	7:48 a.m.–11:17 a.m.	Callie Amoaku	Riparian Bird (least Bell’s vireo)	61 °F–82 °F; 0%–10% cloud cover; 0–1 mph wind
2019-04-26	6:00 a.m.–6:56 a.m.	Erin Bergman	California Gnatcatcher	56 °F–59 °F; 100% cloud cover, 0 mph wind
2019-05-03	11:01 a.m.–12:00 p.m.	Erin Bergman	California Gnatcatcher	62 °F–65 °F; 70%–100% cloud cover; 0–3 mph wind
2019-05-03	6:00 a.m.–11:01 a.m.	Erin Bergman	Riparian Bird (least Bell’s vireo)	60 °F–62 °F; 100% cloud cover; 0–3 mph wind
2019-05-10	6:30 a.m.–7:30 a.m.	Paul Lemons	California Gnatcatcher	62 °F–63 °F; 100% cloud cover; 1–3 mph wind
2019-05-17	5:20 a.m.–7:58 a.m.	Anita Hayworth	Riparian Bird (southwestern willow flycatcher)	57 °F–60 °F; 40%–90% cloud cover; 1–3 mph wind
2019-05-17	8:02 a.m.–11:04 a.m.	Anita Hayworth	Riparian Bird (least Bell’s vireo)	60 °F–62 °F; 50%–90% cloud cover; 1–4 mph wind
2019-05-28	7:00 a.m.–10:04 a.m.	Callie Amoaku	Riparian Bird (least Bell’s vireo)	59 °F–76 °F; 20% cloud cover; 1–2 mph wind
2019-06-07	5:30 a.m.–8:05 a.m.	Anita Hayworth	Riparian Bird (southwestern willow flycatcher)	60 °F–61 °F; 80%–100% cloud cover; 0–3 mph wind
2019-06-07	8:08 a.m.–11:05 a.m.	Anita Hayworth	Riparian Bird (least Bell’s vireo)	61 °F–62 °F; 80%–100% cloud cover; 0–3 mph wind
2019-06-17	9:59 a.m. – 12:00 p.m.	Erin Bergman	California Gnatcatcher	57 °F; 80% cloud cover; 0–4 mph wind
2019-06-21	5:27 a.m.–7:38 a.m.	Anita Hayworth	Riparian Bird (Cancelled due to rain)	60 °F; 100% cloud cover; 0–3 mph wind
2019-06-23	6:24 a.m.–8:32 a.m.	Anita Hayworth	Riparian Bird (southwestern willow flycatcher)	61 °F–62 °F; 100% cloud cover; 0–3 mph wind
2019-06-23	8:35 a.m.–11:10 a.m.	Anita Hayworth	Riparian Bird (least Bell’s vireo)	62 °F–63 °F; 100% cloud cover; 0–3 mph wind
2019-07-03	5:31 a.m.–8:28 a.m.	Anita Hayworth	Riparian Bird (southwestern willow flycatcher)	63 °F–64 °F; 80%–100% cloud cover; 0–3 mph wind
2019-07-03	8:31 a.m.–11:19 a.m.	Anita Hayworth	Riparian Bird (least Bell’s vireo)	64 °F–66 °F; 70%–80% cloud cover; 1–4 mph wind
2019-07-15	5:36 a.m.–8:22 a.m.	Anita Hayworth	Riparian Bird (southwestern willow flycatcher)	63 °F–66 °F; 40%–100% cloud cover; 1–4 mph wind
2019-07-15	8:23 a.m.–11:12 a.m.	Anita Hayworth	Riparian Bird (least Bell’s vireo)	66 °F–68 °F; 0%–40% cloud cover; 1–5 mph wind

Table 2. Survey Schedule

Date	Hours	Personnel	Focus	Conditions
2019-07-22	8:20 a.m. - 11:10 a.m.	John Konecny	Bird Survey (structures)	65°F–69°F; 75% cloud cover; 3–5 mph wind
2019-07-29	8:23 a.m.–3:11 p.m.	Erin Bergman	Rare Plants	Air Temp: 67°F–88°F; 100%–10% cloud cover; 0–3 mph wind

2.3 Resource Mapping

Vegetation communities and land covers on and within 100 feet of the project site were mapped in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph–based field map of the project site (Bing 2019). Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a geographic information system (GIS) coverage was created by Senior GIS Analyst Lesley Terry. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined.

Vegetation community classifications used in this report follow Holland (1986) and Oberbauer et al. (2008), where feasible, with modifications to accommodate the lack of conformity of the observed communities to those of Holland (1986) or Oberbauer et al. (2008).

2.4 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 California Rare Plant Rank (CRPR) (formerly CNPS List) follow the CNPS Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2019). 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 2019), and common names follow the List of Vegetation Alliances and Associations (CDFW 2010) or the U.S. Department of Agriculture Plants Database (USDA 2019b). A preliminary list of plants observed during the site visit is included in Appendix A.

2.4.1 Rare Plant Surveys

Focused surveys for special-status plants were conducted in April 2019. A second pass was conducted on July 29, 2019 focused on the Diegan coastal sage scrub areas since the only plant with potential to occur that would not have been detected in April is graceful tarplant (*Holocarpha virgata* ssp. *elongata*), which could occur in the Diegan coastal sage scrub. This survey was conducted at the appropriate phenological stage (blooming and fruiting) to detect and identify target species. Prior to special-status plant surveys, Dudek evaluated plant records in the U.S. Geological Survey 7.5-minute La Mesa and La Jolla quadrangles and the surrounding Del Mar, Poway, San Vicente Reservoir, El Cajon, Point Loma, National City, and Jamul Mountains quadrangles (CDFW 2019; CNPS 2019; USFWS 2019) to determine target species. In addition, Dudek’s knowledge of biological resources and regional distribution of each species, as well as elevation, habitat, and soils present within the rare plant survey area were evaluated to determine the potential for various special-status plant species to occur. Field survey methods will conform to CNPS Botanical Survey Guidelines (CNPS 2001); Guidelines for Assessing the Effects of Proposed Projects on Rare,

Threatened, and Endangered Plants and Natural Communities (CDFG 2000); and General Rare Plant Survey Guidelines (Cypher 2002). Surveys were conducted by walking meandering transects throughout the project site to detect special-status species. Special-status plant observations were mapped in the field using the ESRI Collector mobile application to record the location and population number of special-status plant occurrences.

2.5 Fauna

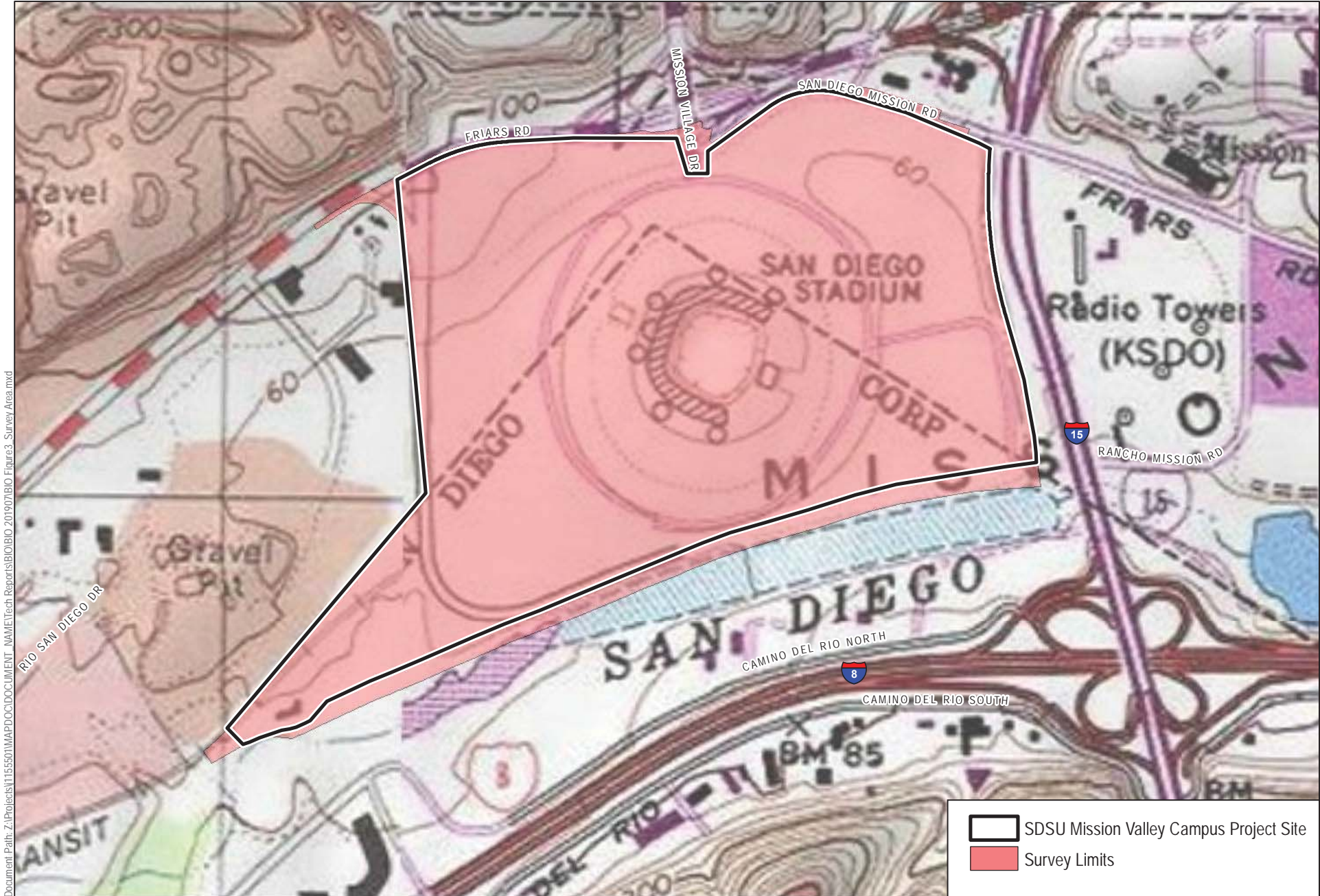
All wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10×40 magnification) were used to aid in the identification of observed wildlife. In addition to species actually detected, expected wildlife use of the project site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Society (AOS 2019) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA 2001) or San Diego Natural History Museum (SDNHM 2002) for butterflies.

2.5.1 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Surveys

Dudek conducted focused least Bell's vireo and southwestern willow flycatcher surveys in 2019. Suitable habitat for both of these species includes the southern cottonwood–willow riparian forest in the southwest portion of the project site and the portion of the San Diego River south of the project site (Figure 3, Survey Areas).

In concurrence with the accepted *Least Bell's Vireo Survey Guidelines* (USFWS 2001), qualified biologists from Dudek conducted eight focused surveys within all riparian areas and any other potential vireo habitats between April 10 and July 15, 2019. The site visits were conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Dudek did not use playback of vireo vocalizations during the surveys. Surveys were conducted between dawn and noon and not during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather.

The six surveys conducted for flycatcher will follow the currently accepted protocol—*A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* (Sogge et al. 2010), which states that a minimum of five survey visits is needed to evaluate a project's effects on flycatchers. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 25 and July 17) were separated by at least 5 days. Recorded flycatcher vocalizations were used approximately every 50 to 100 feet within suitable habitat to induce flycatcher responses.



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SOURCE: USGS 7.5 MINUTE SERIES, LA JOLLA AND LA MESA QUADRANGLES
TOWNSHIP 16 SOUTH, RANGE 2 WEST, SECTION 17 AND 18



FIGURE 3
Survey Areas

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2.5.2 Focused California Gnatcatcher Surveys

Focused coastal California gnatcatcher surveys were completed in April through June 2019. The surveys follow the current protocol established by the USFWS, *Coastal California Gnatcatcher* (*Polioptila californica californica*) *Presence/Absence Survey Protocol*, July 28, 1997 (USFWS 1997).

Per the USFWS protocol, Dudek surveyed suitable habitat within the project site six times for the coastal California gnatcatcher. Suitable habitat includes Baccharis-dominated Diegan coastal sage scrub located in the southwestern portion of the project site and Diegan coastal sage scrub along the southern edge of the project site, for a total survey acreage of approximately 1.09 acres. A map of the site (scale 1 inch = 100 feet) overlain with vegetation polygons was used for the survey. Binoculars were used to aid in detecting and identifying bird species. Gnatcatcher vocalizations are played frequently to elicit a response from the species, if present. The vocalizations were played approximately every 50 to 100 feet within suitable habitat.

2.6 Jurisdictional Wetlands Delineation

Dudek conducted a delineation of jurisdictional aquatic resources within the project site and off-site areas on February 12, 2019. The entire project site was surveyed on foot for the following types of features:

- Waters of the United States, including wetlands, under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), pursuant to Section 404 of the federal Clean Water Act
- Waters of the state under the jurisdiction of the California Regional Water Quality Control Board (RWQCB), pursuant to Section 401 of the federal Clean Water Act and the Porter–Cologne Water Quality Control Act as wetlands or drainages
- Streambeds under the jurisdiction of CDFW, pursuant to Section 1602 of the California Fish and Game Code

Wetland waters of the United States are delineated based on methodology described in the 1987 ACOE *Corps of Engineers Wetlands Delineation Manual* (ACOE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008). ACOE and RWQCB jurisdictional wetlands are determined based on the presence of all three wetlands criteria: hydrophytic vegetation, hydrology, and hydric soils.

Non-wetland waters of the United States are delineated based on the presence of an Ordinary High Water Mark (OHWM) as determined utilizing the methodology in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (ACOE and EPA 2008).

In accordance with California Fish and Game Code, streambeds are determined based on the presence of a definable bed and bank, and are delineated from top of bank to top of bank or the extent of associated riparian vegetation (CDFW jurisdiction). For shallow drainages and washes that do not support riparian vegetation, the top of bank measurement may be the same as the OHWM measurement.

The jurisdictional delineation performed within the project site included six data stations assessed at the locations shown on Figure 4, Biological Resources; Figure 4a, Biological Resources – Fenton Parkway Extension; and Figure 4b, Biological Resources – Off-Site Sewer and Storm Drain Connections. Data stations were collected in groups along a transect line with a data point located in the generally lower, more mesic area and another data point located upslope, or above the OHWM and where the three jurisdictional criteria would likely no longer be met (based on elevation, vegetation, soil, and or, hydrological indicators).

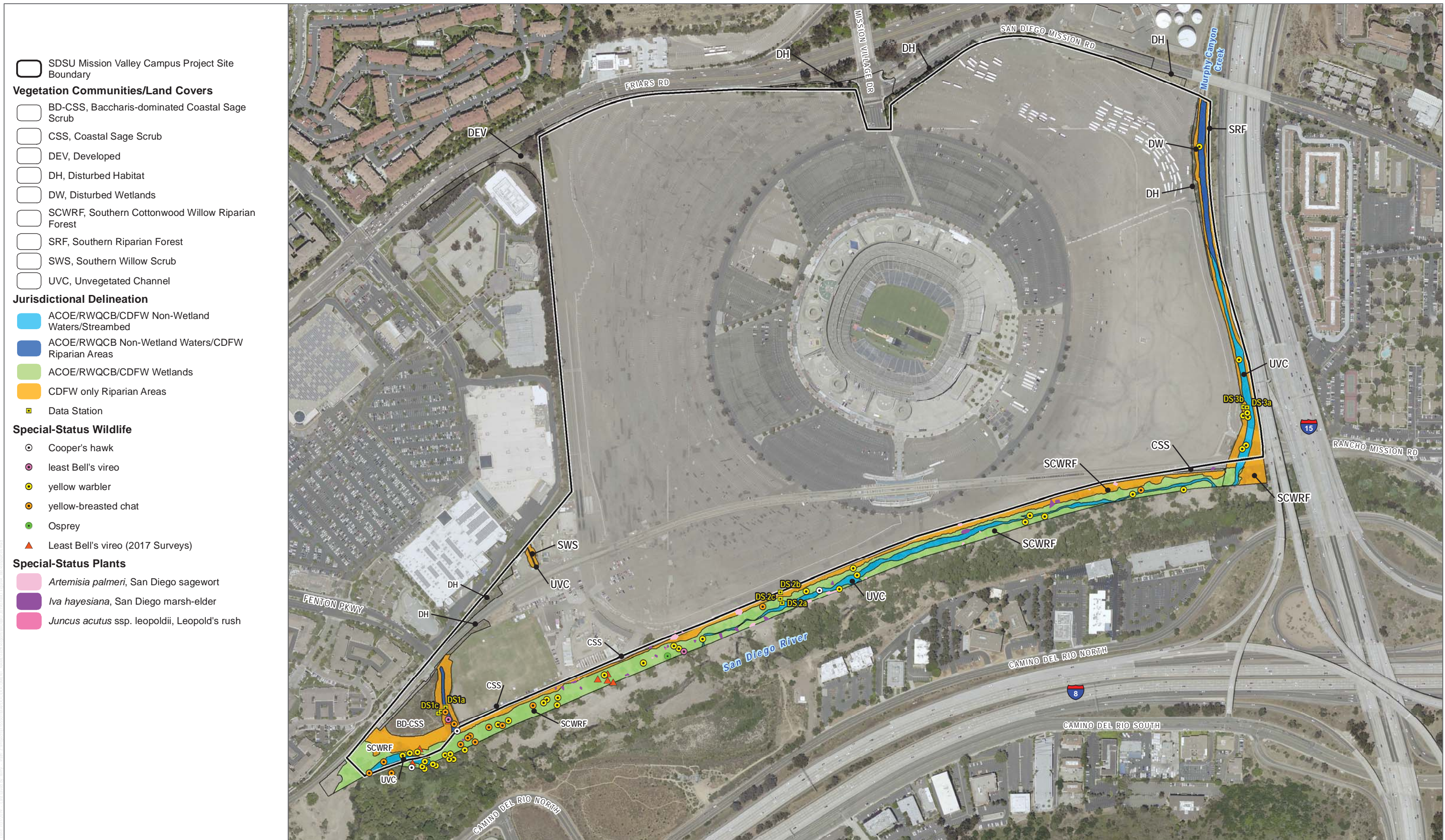
2.7 Survey Limitations

Focused surveys for potentially occurring special-status plant species were conducted for the proposed project in April July 2019. Almost all of the potentially occurring special-status plant species have blooming periods that overlap with the April survey pass, and all species are perennial, conspicuous shrubs would be identified during surveys if present.

Dudek did not conduct focused surveys for special-status wildlife species other than least Bell's vireo, southwestern willow flycatcher, and California gnatcatcher because no other listed species have high potential to occur on site or immediately adjacent to the site.

To account for survey limitations, biologists identified special-status plant and wildlife species that could occur in the project site and off-site improvement areas, based on pertinent literature on distribution and habitat preference, recorded off-site observations, and extensive local experience of the Dudek biologists. Special-status plant and wildlife species were analyzed based on their potential to occur, and adequate measures to avoid and minimize impacts to these species are provided in this report. Based on this, nocturnal surveys have not been conducted for the proposed project because birds represent the largest component of the vertebrate fauna, and most are active in the daytime; therefore, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals or bats, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects.

Since 2015/16, San Diego County has experienced above-average rainfall three of the past four years. Fluctuations in annual plant populations and rates of germination are associated with variations in rainfall and other climatic conditions. The nearest active weather station is located in San Diego Lindberg Field, southwest of the project site, and generally receives an average rainfall of approximately 9.86 inches per year (WRCC 2019). Average annual maximum temperatures are 67.55°F, and average minimum temperatures are 61.27°F. Precipitation amounts for the water year (i.e., July 1 to June 30) for San Diego Lindberg Field from 2015 to 2016 were recorded at 10.82 inches, from 2016 to 2017 were recorded at 12.97 inches, and from 2017 to 2018 were recorded at 3.40 inches. Rainfall from July 1, 2018, to February 21, 2019, was recorded at 10.44 inches (WRCC 2019).



SOURCE: AERIAL SANGIS 2017

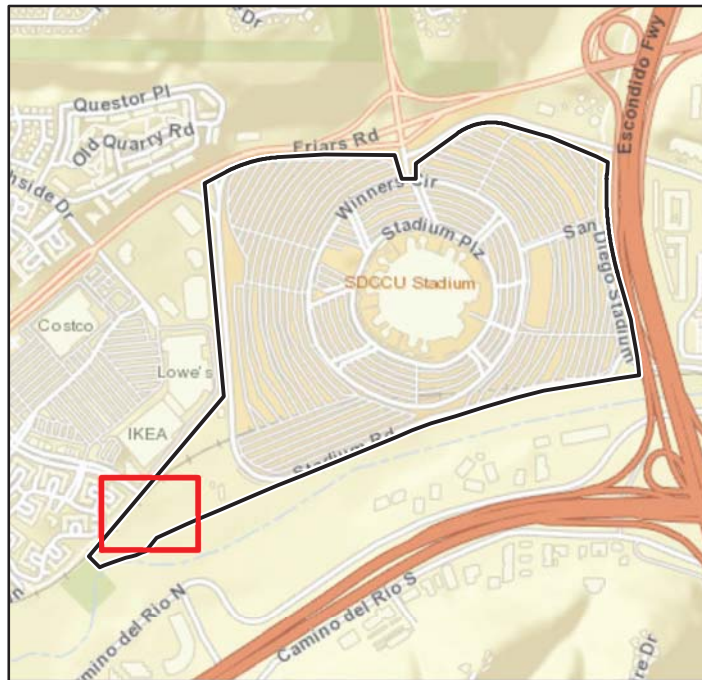


FIGURE 4

Biological Resources

SDSU Mission Valley Campus Master Plan Project Biological Technical Report

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SDSU Mission Valley Campus Project Site Boundary

Vegetation Communities/Land Covers

- BD-CSS, Baccharis-dominated Coastal Sage Scrub
- CSS, Coastal Sage Scrub
- DEV, Developed
- DH, Disturbed Habitat
- SCWRF, Southern Cottonwood Willow Riparian Forest

Jurisdiction Delineation

- ACOE/RWQCB Non-Wetland Waters/CDFW Riparian Areas
- ACOE/RWQCB/CDFW Wetlands
- CDFW only Riparian
- Data Station

Special-Status Wildlife

- Cooper's hawk
- least Bell's vireo
- yellow warbler
- yellow-breasted chat
- Least Bell's vireo (2017 Surveys)

Special-Status Plants

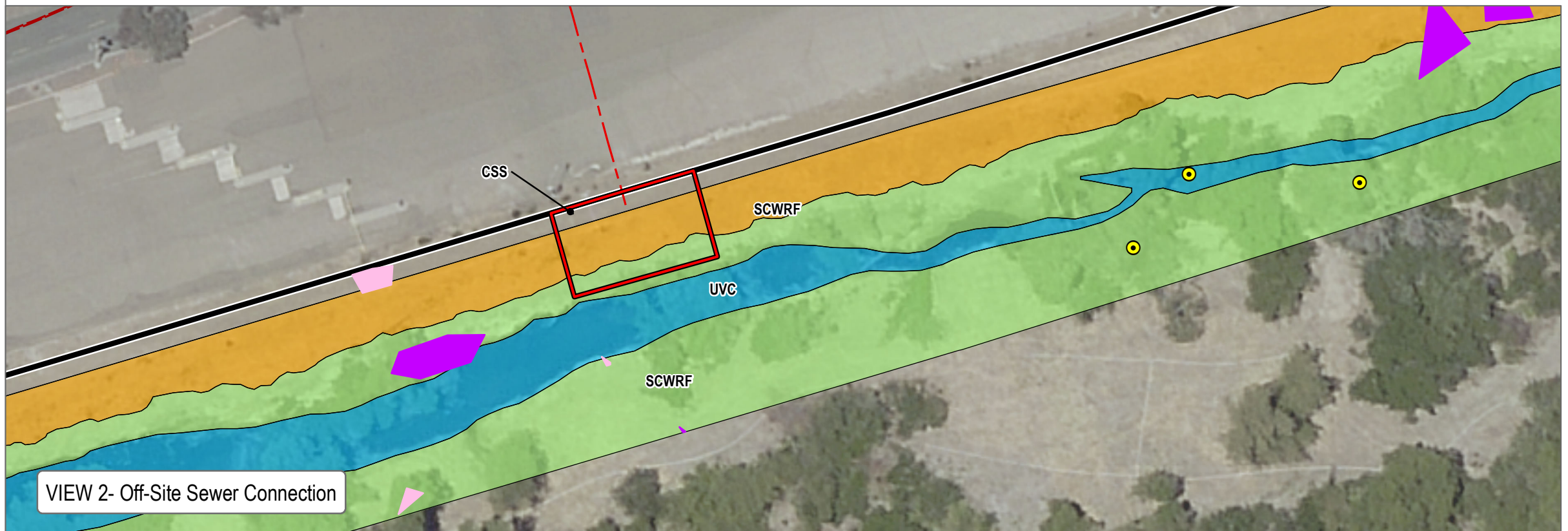
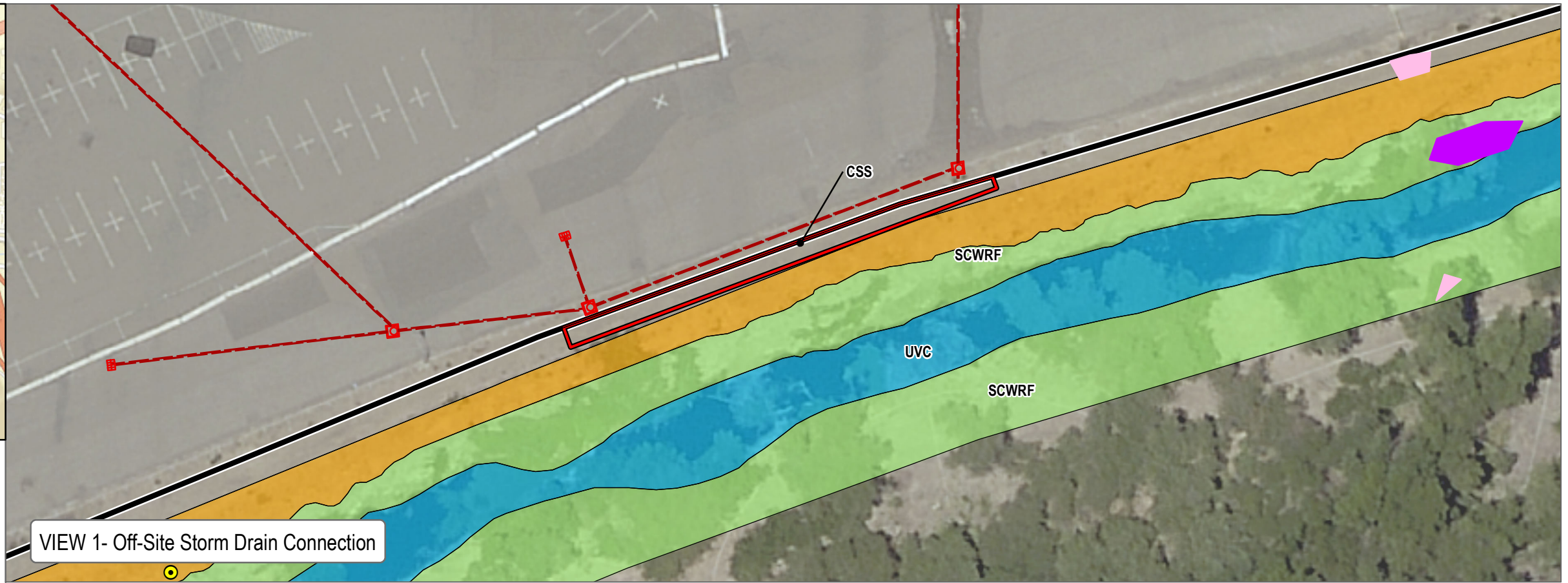
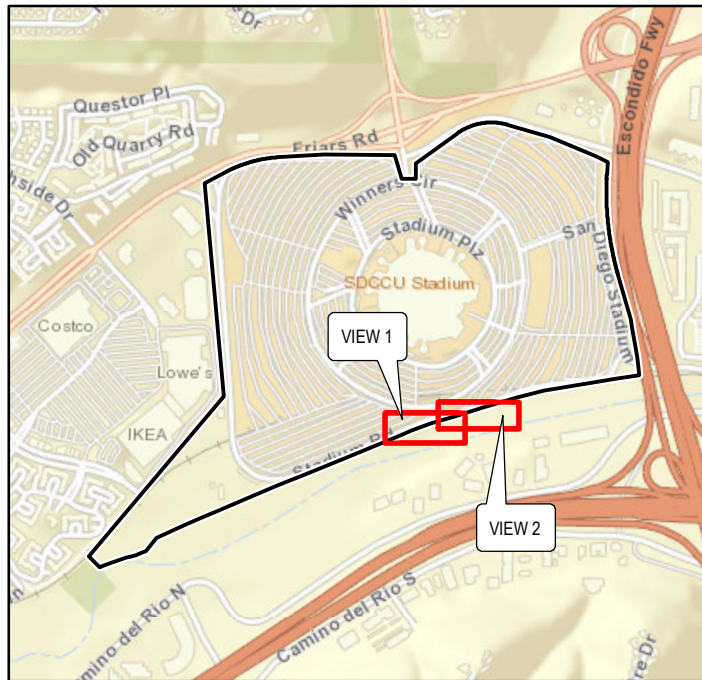
- Iva hayesiana*, San Diego marsh-elder

SOURCE: AERIAL-SANGIS 2017



FIGURE 4a

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- SDSU Mission Valley Campus Project Site Boundary
- Vegetation Communities/Land Covers**
- CSS, Coastal Sage Scrub
- DEV, Developed
- SCWRF, Southern Cottonwood Willow Riparian Forest
- UVC, Unvegetated Channel
- Temporary Construction Easement Area
- Jurisdiction Delineation**
- ACOE/RWQCB/CDFW Non-Wetland Waters/Streambed
- ACOE/RWQCB/CDFW Wetlands
- CDFW only Riparian
- Special-Status Wildlife**
- yellow warbler
- Special-Status Plants**
- Artemisia palmeri*, San Diego sagewort
- Iva hayesiana*, San Diego marsh-elder

SOURCE: AERIAL-SANGIS 2017



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3 Existing Conditions

The project site and off-site improvement areas are located within the Mission Valley Community Plan area in the City of San Diego (City of San Diego 2013). The Mission Valley Community Plan area comprises approximately 2,418 acres, which includes a variety of residential, retail, commercial, transportation, and open space land uses. The project site is accessible from the north by Friars Road via Stadium Way at the western boundary of the project site, and Mission Village Drive. Friars Road provides local access to I-15 and State Route 163. The project site is accessible from the east by San Diego Mission Road, an east–west roadway near the northern boundary of the project site, and Rancho Mission Road, an east–west roadway near the southern boundary of the project site.

The project site is located within the U.S. Geological Survey 7.5-minute La Mesa and La Jolla quadrangles, in Township 16 South, Range 2 West (Figure 1). The surrounding quadrangles include Del Mar, Poway, San Vicente Reservoir, El Cajon, Point Loma, National City, and Jamul Mountains. The approximate centroid of the project site is $-117^{\circ}11' 9.81\text{ W}$, $32^{\circ}78' 3.48\text{ N}$.

3.1 Existing Environmental Setting

The property comprising the project site includes three existing uses: (1) a multipurpose stadium (SDCCU Stadium) for football and other events, (2) an associated surface parking lot with approximately 18,870 parking spaces, and (3) the existing San Diego Trolley station. Murphy Canyon Creek is located along the eastern side of the site. Land uses adjacent to the project site consist of the San Diego River and MHPA, commercial development, and I-8 to the south; Friars Road, steep hillsides, and residential development to the north; retail/commercial development within Fenton Marketplace to the west; and I-15, and retail/residential development to the east.

The elevation ranges from approximately 35 feet above mean sea level to 300 feet above mean sea level. The project site is comprised of developed areas, disturbed habitat, and native habitat. The majority of the project site is relatively flat within the existing large parking area surrounding the Stadium structure, gently sloping from north to south for drainage purposes. Along the southern boundary of the project site there is a small berm beyond the parking lot, which descends into the lower floodplain of the San Diego River. In the western portion of the project site, there is a flat training field, and a storm drain outlet channel that conveys water down into the San Diego River floodplain. Native upland habitat occurs west of the storm drain outlet channel and has a flat grade until sloping down towards the San Diego River floodplain.

There are off-site improvement areas, including a road expansion in the northwest corner of Friars Road and the Stadium and one sewer connection within the San Diego River. The other off-site improvements are confined to existing urban/developed areas.

According to the Natural Resources Conservation Service (USDA 2019a), there are ten soil types found within the project site and off-site areas, which include predominantly made land, but also riverwash, terrace escarpments, Olivenhain cobbly loam (9% to 30% slopes), gravel pits, Olivenhain cobbly loam (2% to 9% slopes), Tujunga sand (0% to 5% slopes), Huerhuero-Urban land complex (2% to 9% slopes), Olivenhain–Urban land complex (2% to 9% slopes), and Salinas clay loam (2% to 9% slopes).

The Olivenhain series is a well-drained soil, with slow or medium runoff, and very slow permeability (USDA 2019a). These soils are found on gently sloping to strongly sloping hillsides, and on marine terraces. Olivenhain soils are generally very cobbly (USDA 2019a). The Tujunga Series consists of very deep, somewhat excessively drained soils

that formed in alluvium from granitic sources, and these soils occur on alluvial fans or floodplains as well as within urban areas (USDA 2019a). The Huerhuero series, which is now included within the Antioch series, drains moderately well to somewhat poorly, and occurs on nearly level to strongly sloping alluvial fans and terraces at elevations less than 1,100 feet (USDA 2019a). The Salinas series consists of deep, well drained soils that formed in alluvium weathered from sandstone and shale. It occurs on alluvial plains, fans and terraces with slopes between 0% and 9% at elevations of 50 to 2,000 feet (USDA 2019a).

3.1.1 Vegetation Communities

Dudek mapped nine vegetation communities/land covers were mapped within the project site. Native vegetation communities within the project site include Baccharis-dominated Diegan coastal sage scrub, Diegan coastal sage scrub, southern willow scrub, southern cottonwood-willow riparian forest, and southern riparian forest. Three non-native vegetation communities or land cover types—urban/developed, disturbed habitat and ornamental plantings, disturbed wetland, and unvegetated channel—occur within the project site. The vegetation communities and land cover types listed above are described as follows; their acreages are presented in Table 3; and their spatial distributions are presented on Figures 4, 4a, and 4b.

Table 3. Vegetation Communities/Land Cover Types on the Project Site and Off-Site Areas

Habitat Types/Vegetation Communities	Oberbauer Code	Project Site (acres)	% of Project Site	Off-Site Areas (acres)
Non-Native Vegetation Community/Land Cover Types				
Disturbed Habitat (DH)	11000	0.85	0.50%	0.84
Disturbed Wetland (DW)	11200	0.89	0.52	
Urban/Developed (DEV)	12000	165.77	96.30%	2.68
Non-vegetated Channel or Floodway (NVC)	64200	0.75	0.43%	—
<i>Subtotal</i>	—	168.26	97.75%	3.51
Native Vegetation Communities				
Baccharis-dominated Diegan Coastal Sage Scrub (BD-CSS)	32350	0.97	0.56%	—
Diegan Coastal Sage Scrub (CSS)	32500	0.12	0.07%	0.04
Southern Willow Scrub (SWS)	63320	0.08	0.05%	—
Southern Cottonwood-Willow Riparian Forest (SCWRF)	61330	2.59	1.51%	0.04
Southern Riparian Forest (SRF)	61300	0.10	0.06%	
<i>Subtotal</i>	—	3.87	2.25%	0.08
Total*	—	172.13	100%	3.60

Note:

* Acreages may not sum due to rounding.

Diegan Coastal Sage Scrub: Baccharis-Dominated (32530)

Diegan coastal sage scrub is the most widespread coastal sage scrub in coastal Southern California, extending from Los Angeles into Baja California (Oberbauer et al. 2008). The community mostly consists of drought-deciduous species such as California sagebrush (i.e., coastal sagebrush; *Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*). Diegan coastal sage scrub: Baccharis-dominated is similar to Diegan coastal sage scrub except that it is

dominated by *Baccharis* species including desertbroom (*Baccharis sarothroides*) and/or coyote brush (*Baccharis pilularis*) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils, and is often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys. This community is distributed along coastal and foothill areas in San Diego County.

Diegan coastal sage scrub and all its variants generally are recognized as sensitive plant communities by local, state, and federal resource agencies. It supports a diversity of sensitive plants and animals, and it is estimated that it has been reduced by 75% to 80% of its historical coverage throughout Southern California.

Diegan coastal sage scrub: *Baccharis*-dominated vegetation located within the southwestern portion of the project site totals 0.97 acres, and is dominated by coyote brush and desertbroom, with Menzies's golden bush (*Isocoma menziesii*) and California brittle bush (*Encelia californica*) (Figures 4 and 4a).

Diegan Coastal Sage Scrub (32500)

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, California buckwheat, and sages (*Salvia* spp.), with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*), and laurel sumac. It typically develops on xeric (dry) slopes.

Diegan coastal sage scrub and all its variants generally are recognized as sensitive plant communities by local, state, and federal resource agencies. It supports a diversity of sensitive plants and animals, and it is estimated that it has been reduced by 75% to 80% of its historical coverage throughout Southern California.

On site, the Diegan coastal sage scrub vegetation occurs along the berm at the southern edge of the project site. It is a restored Diegan coastal sage scrub area associated with off-site restoration work. The Diegan coastal sage scrub totals approximately 0.12 acres and is dominated by California brittle bush with California sagebrush, Menzies's golden bush, and black sage. This land cover is present within the off-site improvement area as well (Figures 4, 4a, and 4b).

Southern Willow Scrub (63320)

Southern willow scrub is a dense, broad-leafed, winter-deciduous riparian thicket dominated by several willow species (*Salix* spp.), sometimes with scattered emergent Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*). This community was formerly extensive along the major rivers of coastal Southern California, but is now much reduced (Oberbauer et al. 2008).

There is a very small patch of southern willow scrub mapped next to the Recycling Buyback Center southwest of the SDCCU Stadium totaling 0.08 acres (Figure 4). It is created by a storm drain that outlets runoff from the adjacent commercial areas. A review of historical aeriels show the storm drain was constructed in uplands and drains surface runoff from upland areas; therefore, it is not regulated by resource agencies. This small patch of vegetation is dominated by black willows (*Salix gooddingii*), with arroyo willow (*Salix lasiolepis*), smilgrass (*Stipa miliacea* var. *miliacea*), curly dock (*Rumex crispus*), Washington fan palm seedlings (*Washingtonia robusta*), fountain grass (*Pennisetum setaceum*), annual yellow sweetclover (*Melilotus indicus*), and petty spurge (*Euphorbia peplus*).

Southern Cottonwood–Willow Riparian Forest (61330)

Southern cottonwood–willow riparian forest generally consists of tall, open, broadleaved forests that are winter-deciduous. This community is typically dominated by cottonwood (*Populus fremontii*, *P. trichocarpa*) with several tree willows (*Salix* sp.) as well as shrubby willows dominating the understory. Dominant species require moist, bare mineral soils for germination and establishment, and are located on sub-irrigated or frequently overflowed lands along rivers and streams (Oberbauer et al. 2008).

There are 2.59 acres of southern cottonwood–willow riparian forest located in the southwestern portion of the project site associated with a storm drain outlet channel that discharges into the San Diego River (Figure 4a) and in Murphy Canyon Creek along the eastern side of the project site (Figure 4). This land cover is present within the off-site improvement areas as well (Figure 4b). Dominant species in this area are Fremont cottonwood and arroyo willow with an understory that is sparse but includes pampas grass (*Cortaderia selloana*).

Southern Riparian Forest (61300)

Southern riparian forest is typically dominated by sycamore (*Platanus racemosa*) and cottonwoods. This community occurs along streams and rivers (Oberbauer et al. 2008).

There are 0.10 acres of southern riparian forest along Murphy Canyon Creek in the eastern side of the project (Figure 4). On site, the southern riparian forest is dominated by an overstory of California sycamore with a grassy, disturbed understory.

Disturbed Habitat (11000)

Disturbed habitat is a land cover type characterized by a predominance of non-native species, often introduced and established through human action. Oberbauer et al. (2008) describes disturbed land as areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association but continues to retain a soil substrate. Typically, vegetation, if present, is nearly exclusively composed of non-native plant species such as ornamentals or ruderal exotic species (i.e., weeds).

Within the project site there is 0.85 acres of disturbed habitat that includes ornamental plantings along parking lot barriers and boundaries. This land cover is present within the off-site improvement areas as well (Figure 4).

Disturbed Wetland (11200)

Disturbed wetland is characterized by areas that are either permanently or periodically inundated by water and have been significantly modified by human activity. Disturbed wetlands are often underlain by artificial structures, such as concrete lining, barricades, rip-rap, piers, or gates. Disturbed wetland is often unvegetated, but may contain scattered native or non-native vegetation (Oberbauer et al. 2008).

There are 0.89 acres of disturbed wetland within Murphy Canyon Creek along the eastern side of the project site (Figure 4). This portion of Murphy Canyon Creek has been channelized and is concrete-lined.

Urban/Developed (12000)

Urban/developed 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).

Within the project site, urban/developed land dominates the overall land cover totaling 165.77 acres (98% of the project site), and includes paved roads, the large stadium parking lot, training field, and existing semi-permanent stadium structure. There is urban/developed land mapped within the off-site areas as well (Figure 4).

Non-Vegetated Channel or Floodway (64200)

According to Oberbauer et al. (2008), non-vegetated channel is the sandy, gravelly, or rocky fringe of waterways or flood channels that is unvegetated on a relatively permanent basis. Vegetation may be present but is usually less than 10% total cover and grows on the outer edge of the channel.

There is 0.75 acres of non-vegetated channel associated with a storm drain outlet located in the southwestern portion of the project site and the near the Recycling Buyback Center (Figures 4, 4a).

3.1.2 Flora

A total of 131 species of native or naturalized plants—66 native (50%) and 65 non-native (50%)—was recorded on the project site (see Appendix A).

3.1.3 Fauna

The project site supports habitat for common upland and riparian species. Scrub and ornamental habitats within the project site provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Due to the urbanization in the surrounding area, the fauna composition represents many urban-adapted species.

A total of 84 wildlife species have been recorded during the 2019 focused surveys (Appendix B).

3.1.4 Sensitive Plant Species

Endangered, rare, or threatened plant species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status plant species” in this report and include (1) endangered or threatened plant species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA) (CDFW 2018a), and (2) plant species with a CRPR 1 through 3 (CNPS 2019). This report also includes CRPR 4 plant species.

Special-status plant surveys were conducted within the project site to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guidelines Section 15380 (14 CCR 15000 et seq.). A list of potentially occurring plants was generated as part of the literature review (see Section 2). Each species’ potential to occur on site was evaluated 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. Special-status plant species observed within the project site are presented in Appendix C1.

Based on the above average rainfall in the winter of 2018/2019, surveys for special-status plants demonstrate the species presence or absence on site. San Diego sagewort (*Artemisia palmeri*; CRPR 4.2), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*; CRPR 4.2), San Diego marsh-elder (*Iva hayesiana*; CRPR 2B.2) were observed within the San Diego River portion of the study area. No other special-status plants (CRPR 1-4) were observed within the study area during the surveys. All of the target species typically bloom in April or July, and the surveys conducted on April 12, 2019, and July 29, 2019, coincide with the bloom periods for annual species; therefore, they would have been detected if they occurred on site.

Special-status plant species known to occur in the surrounding region that are not expected to occur on site are presented in Appendix C2.

Critical Habitat

There is no USFWS-designated critical habitat mapped for plant species within the project site or off-site areas. However, there is USFWS-designated critical habitat for one species located within 5 miles of the project site: spreading navarretia (*Navarretia fossalis*; federally threatened, CRPR 1B.1) (USFWS 2019).

3.1.5 Sensitive 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 2018b); (2) California Species of Special Concern (SSC) and Watch List (WL) species, as designated by the CDFW (2018c); (3) mammals and birds that are fully protected species, as described in the California Fish and Game Code, Sections 4700 and 3511; and (4) Birds of Conservation Concern, as designated by the USFWS (USFWS 2008).

Special-status wildlife species that were observed on site or have a moderate potential to occur are presented in Appendix D1. Special-status wildlife species known to occur in the surrounding region but were absent or have low potential to occur on site are presented in Appendix D2. For each species listed, Dudek determined whether the species had the potential to occur on site based on information gathered during the literature review and site visits, including the location of the project site, vegetation communities or land covers present, current site conditions, and past and present land use.

Critical Habitat

There is no USFWS-designated critical habitat for wildlife species mapped within the project site or off-site areas. However, there is USFWS-designated critical habitat for two species located within 5 miles of the project site: San Diego fairy shrimp (*Branchinecta sandiegonensis*; federally endangered (FE)) and least Bell’s vireo (FE, state endangered (SE)) (USFWS 2019).

Species Observed or with Potential to Occur On Site

Special-Status Amphibians and Reptiles

There is potential for southern California legless lizard (*Anniella stebbinsi*; SSC), orange-throated whiptail (*Aspidoscelis hyperythra*; WL), Coronado skink (*Plestiodon skiltonianus interparietalis*; WL), and western spadefoot toad (*Spea hammondi*; SSC) to occur within the riparian habitat associated with the channel in the southwestern portion of the project site and/or Murphy Canyon Creek. While the southern willow scrub area is approximately 500 feet away from suitable habitat, this area provides moderately suitable habitat for these species.

Special-Status Birds

Least Bell's vireo was observed in the San Diego River during the 2019 focused surveys. It was also detected in the riparian area that extends south of Fenton Parkway during a site visit on July 2, 2019, and was previously documented near the same location during focused surveys in 2017 for the Stadium Wetland Mitigation project (Dudek 2017). Figures 4 and 4a includes the 2017 and 2019 observations. Least Bell's vireo was not detected in the southern willow scrub located near the Recycling Buyback Center and given its marginal suitability, it is not considered suitable habitat for least Bell's vireo. Similarly, no least Bell's vireo were recorded in Murphy Canyon Creek during the 2019 focused surveys and there are no records in USFWS, CNDDDB, or eBird (USFWS 2019, CDFW 2019, Cornell Lab of Ornithology 2019). Murphy Canyon Creek is a narrow channel between the stadium parking lot and I-15, with intermittent riparian vegetation. Given the lack of records and the marginal habitat, it is not considered suitable habitat for least Bell's vireo.

Focused protocol surveys for southwestern willow flycatcher (FE, SE) in 2019 were negative. Surveys conducted in the San Diego River as part of the Stadium Wetland Mitigation project in 2017 were also negative for all willow flycatcher subspecies (Dudek 2017). There is one record of southwestern willow flycatcher in the San Diego River downstream of El Capitan Reservoir (approximately 20 miles from the project site) from June 22, 2009; one record in Chocolate Canyon just south of El Capitan Reservoir on July 8, 2010; and two pairs nesting at the north end of El Capitan Reservoir in 2001 (USFWS 2019; CDFW 2019). There are no other records of the southwestern willow flycatcher in the San Diego River (CDFW 2019, USFWS 2019, Cornell Lab of Ornithology 2019, Unitt 2004). There are willow flycatcher (*Empidonax traillii*) in the San Diego River. However, none of the records is during the "non-migrant" period (i.e., about June 15 to July 20); willow flycatchers detected only outside of this period are likely migrants (Sogge et al. 2010). Given the lack of possible breeding individuals (i.e., southwestern willow flycatchers) recorded since 2009 and the lack of any willow flycatchers detected during the 2019 focused protocol surveys, it is unlikely that southwestern willow flycatcher occurs within the study area. However, there is suitable habitat in the San Diego River for this species and thus it has the potential to occur on site in the future.

Cooper's hawk (*Accipiter cooperii*; WL), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL), yellow-breasted chat (*Icteria virens*; SSC), and yellow warbler (*Setophaga petechia*; BCC, SSC) were detected within the study area (Figures 4 and 4a).

Surveys for coastal California gnatcatcher (federally threatened; SSC) were negative. Given the small patch of Baccharis-dominated Diegan coastal sage scrub and the narrow Diegan coastal sage scrub area along the berm between the river and the stadium parking lot, the habitat is considered marginal for coastal California gnatcatcher. It is not expected to nest on site.

Special-Status Mammals

There is potential for Mexican long-tongued bat (*Choeronycteris mexicana*; SSC) and western red bat (*Lasiurus blossevillii*; SSC) to forage on site and roost in the riparian habitat associated with the channel in the southwestern portion of the project site. No special-status mammals have been observed on site.

3.1.6 Wetlands/Jurisdictional Resources

The project site was surveyed to determine the presence of an ordinary high water mark (OHWM) along two potential drainage channels, Murphy Canyon Creek, and a portion of the San Diego River directly south of the project site (“off-site”) (Table 4).

Table 4. Jurisdictional Aquatic Resources within the Project Site and Off-Site Areas

Jurisdictional Aquatic Resource	Project Site (acres)	Off-Site Areas (acres)
ACOE/RWQCB/CDFW Jurisdictional		
Non-wetland Waters – Ephemeral/Riparian Area	0.58	–
Non-wetland Water - Ephemeral	0.74	–
Wetland	0.53	0.01
<i>Subtotal</i>	1.85	0.01
CDFW only Jurisdictional		
Riparian Area	2.58	0.03
Total*	4.43	0.04

Note:

* Acreages may not sum due to rounding.

There are no National Hydrographic Database blue-line stream channels within the project site, but there is one blue-line stream channel associated with the San Diego River just south of the on-site storm drain outlet channel. This drainage is regulated by the ACOE, RWQCB, and CDFW. It supports hydrophytic vegetation and hydrology, but not hydric soils. Thus, it does not qualify as a wetland, but does support surrounding riparian habitat regulated by CDFW. The wetland determination data forms are included in Appendix E. Vegetation present along the drainage was predominantly cottonwood and arroyo willow, but included pampas grass among other sparse herbaceous vegetation. The drainage observed on site had a defined bed and bank, evidence of an OHWM, and a channel bed 12 feet wide and approximately 300 feet long; thus, it was determined to be a jurisdictional water. Flows within this drainage are directed south and connect with the San Diego River just outside the project boundary.

There is another feature located near the Recycling Buyback Center that conveys runoff from the surrounding developments into a defined channel with evidence of an OHWM, and a channel bed approximately 5 feet wide and 117 feet long. It then is directed into a culvert where it flows beneath the stadium parking lot and outlets into the San Diego River. This feature is regulated by ACOE, RWQCB, and CDFW and the surrounding riparian vegetation (southern willow scrub) is regulated by CDFW.

Murphy Canyon Creek is a narrow incised channel located along the eastern boundary of the site. The channel bottom is approximately 20 feet wide; the upstream portion is concrete-lined and becomes earthen-lined just south of San Diego Mission Road until it terminates into the San Diego River. The channel is a non-wetland waters of the U.S. and state. The adjacent steep slopes are comprised of native and non-native riparian habitat regulated by CDFW only.

A temporary impact is planned in the off-site portion of the San Diego River in southern cottonwood–willow riparian forest, of which a portion is a wetland waters of the U.S. and along the slope it is a riparian vegetation regulated by CDFW only.

3.1.7 Habitat Connectivity and Wildlife Corridors

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. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of wildlife from high-density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife corridors are considered sensitive by resource and conservation agencies.

Canyonlands in San Diego are disappearing and are largely the only habitat corridors that remain within urbanized areas of San Diego. There are no canyon lands within or adjacent to the project site. The largest open space areas within the vicinity of the project site are the San Diego River, located directly adjacent to the southern boundary of the project site; Murphy Canyon, located directly adjacent (to the east) and northeast of the project site; Marine Corps Air Station Miramar, located 5.2 miles north of the project site; and Mission Trails Regional Park, located 5.6 miles northeast of the project site.

The project site vicinity includes existing urban development to the west; existing urban development and I-15 to the east; the San Diego River and I-8 to the south; and steep hillsides and residential development to the north of the project site. Much of the project site is located within the existing development footprint of SDCCU Stadium. Due to the nearby urban areas, highways, and existing stadium, wildlife are not expected to utilize the project site as a wildlife corridor; however, there may be movement of urban adapted wildlife species through the existing area when not being used by people.

However, there are three features—Murphy Canyon Creek along the eastern boundary of the project site, the San Diego River which runs east to west along the southern boundary of the project site, and the storm drain outlet channel in the western portion of the project site—which likely support wildlife movement. The storm drain outlet channel is not considered a linkage within the area as it does not connect two parcels of native habitat, but is instead a small cul-de-sac feature for species that may use the San Diego River. Murphy Canyon Creek, however, does support a linkage function from Murphy Canyon to the San Diego River and would be considered suitable for smaller wildlife species, particularly birds and reptiles, to move in a north and south direction in the region. The San Diego River serves as habitat for both migratory birds and year-round birds, as well as foraging habitat, and movement for avian and terrestrial species both up and downstream.

3.2 Regulatory Setting

This section describes the applicable regulatory plans, policies, and ordinances for the proposed project.

3.2.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS, National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. 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. Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to “take” any listed species. “Take” is defined in Section 3(19) of FESA 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 (HCPs) on private property without any other federal agency involvement. Upon development of an HCP, USFWS can issue incidental take permits for listed species.

FESA provides for designation of Critical Habitat, defined in Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features “essential to the conservation of the species” are found and “which may require special management considerations or protection.” Critical Habitat may also include areas outside the current geographical area occupied by the species that are nonetheless “essential for the conservation of the species.”

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, “take” is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). In December 2017, Department of Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA to only prohibit intentional take. Unintentional or accidental take is not prohibited (DOI 2017). Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Clean Water Act (Section 404)

Pursuant to Section 404 of the Clean Water Act, 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 groundwater 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,” which is defined in 33 CFR 328.3(e).

Section 320.4(b)(2) of the ACOE General Regulatory Policies (33 CFR 320–330) list criteria for consideration when evaluating wetland functions and values. These include wildlife habitat (spawning, nesting, rearing, and resting), food chain productivity, water quality, ground water recharge, and areas for the protection from storm and floodwaters.

3.2.2 State

California Endangered Species Act

CDFW administers CESA (California Fish and Game Code, Section 2050 et seq.), 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 Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001).”

California Fish and Game Code

According to Sections 3511 and 4700 of the Fish and Game Code, which regulate birds and mammals, respectively, a “fully protected” species may not be taken or possessed without a permit from the Fish and Game Commission, and “incidental takes” of these species are not authorized.

According to Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Finally, Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

For the purposes of these state regulations, CDFW currently defines an active nest as one that is under construction or in use and includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it would be considered to be active and covered under these Fish and Game Code sections.

Pursuant to Section 1602 of the Fish and Game Code, the 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.

Porter-Cologne Water Quality Control Act

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by the ACOE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a Clean Water Act Section 401 certification.

California Environmental Quality Act

CEQA requires identification of a project’s potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines 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 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently 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 Guidelines Section 15380(c). CEQA also requires identification of a project’s potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

3.2.3 Regional

Natural Community Conservation Plan

Section 2835 of the Fish and Game Code allows CDFW to authorize incidental take in a natural community 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 Fish and Game Code. The NCCP provides the framework for the San Diego Multiple Species Conservation Program (MSCP) Plans (see discussion below).

Multiple Species Conservation Program

The MSCP, a comprehensive, regional long-term habitat conservation program designed to provide permit issuance authority for take of covered species to the local regulatory agencies. The MSCP addresses habitat and species conservation within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). It serves as an approved HCP pursuant to an approved NCCP in accordance with the state Natural Communities Conservation Planning Act (County of San Diego 1998).

The MSCP establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated as the MHPA. The City's MHPA is an area within which a "hard line" preserve will be established in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997).

The MSCP identifies 85 plants and animals to be "covered" under the plan ("Covered Species"). Many of these Covered Species are subject to one or more protective designations under state and/or federal law and some are endemic to San Diego. The MSCP seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species, while also allowing participating landowners "take" of Covered Species on lands located outside of the preserve. The purpose of the MSCP is to address species conservation on a regional level and thereby avoid project-by-project biological mitigation, which tends to fragment habitat.

Within the City of San Diego, the MSCP is implemented through the *City of San Diego MSCP Subarea Plan* (Subarea Plan) (City of San Diego 1997) as described below.

SDSU was not involved with the preparation of the MSCP program in the mid-1990s. SDSU is not signatory to the San Diego MSCP and is therefore not a "permittee" under this HCP. Because SDSU is not a Permittee of this HCP and because SDSU does not need to obtain any entitlements that would constitute a discretionary action by the City, adherence to the restrictions typically placed on land within the MHPA as per the City's Biological Resource Guidelines does not apply to SDSU or SDSU-owned land. SDSU also is not subject to the City's land use policies.

3.2.4 Local

City of San Diego Multiple Species Conservation Program Subarea Plan

The City of San Diego Subarea Plan (1997) encompasses 206,124 acres within the MSCP Subregional Plan area. The project site is located within an area designated as Urban in the Subarea Plan. Urban habitat areas within the MHPA include existing designated open space such as Mission Bay, Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, the southern slopes along Mission Valley, Carroll and Rattlesnake Canyons, Florida Canyon, Chollas Creek, and a variety of smaller canyon systems. The eastern area of the Subarea Plan includes East Elliott and Mission Trails Regional Park.

The MSCP Subarea Plan is characterized by urban land uses with approximately three-quarters either built out or retained as open space/park system. The City MHPA is an area within which a "hard line" preserve will be developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). The MHPA is considered an urban preserve that is constrained by existing or approved development, and is comprised of habitat linkages connecting several large core areas of habitat (Figure 1-3, Multi-Habitat Planning Area, and Figure 1-4, Core Areas and Habitat Linkages, in City of San Diego 1997). The criteria used to define core and linkage areas involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem will be maintained (City of San Diego 1997). Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75% of the habitat within identified linkages conserved (City of San Diego 1997).

As discussed above, SDSU was not involved with the preparation of the City's Subarea Plan and is therefore not a "permittee" under this HCP. Because SDSU is not a Permittee of this HCP and because SDSU does not need to obtain any entitlements that would constitute a discretionary action by the City, adherence to the restrictions typically placed on land within the MHPA as per the City's Biological Resource Guidelines does not apply to SDSU or SDSU-owned land. SDSU also is not subject to the City land use policies.

City of San Diego Biology Guidelines

The City of San Diego Development Services Department developed the Biology Guidelines presented in the Land Development Manual "to aid in the implementation and interpretation of the Environmentally Sensitive Lands Regulations (ESL), San Diego Land Development Code (LDC), Chapter 14, Division 1, Section 143.0101 et seq., and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section 131.0201 et seq." (City of San Diego 2012). The guidelines also provide standards for the determination of impact and mitigation under CEQA. The State of California as the lead agency is not subject to the City of San Diego's guidelines; however, this biological resources technical report includes the same level of detail and analysis that is required by the City for a report that is within the City's jurisdiction.

4 Thresholds of Significance

The following significance criteria included in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) assist in determining the significance of a biological impact. Impacts would result if the proposed project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
7. Result in a cumulative impact when considered with other present and probable future projects in the region.

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5 Impact Analysis

5.1 Threshold 1

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

5.1.1 Direct Impacts

Least Bell's Vireo

Least Bell's vireo is a federally and state-listed endangered species. Least Bell's vireo was recorded in the southern cottonwood–willow riparian forest habitat in the southwestern portion of the project site during a site visit on July 2, 2019 and in the San Diego River during the focused 2019 surveys. Least Bell's vireo was also observed during focused surveys in 2017 (Dudek 2017), which includes an observation within the project area (Figures 4 and 4a).

The project would result in permanent impacts (0.35 acres) and temporary impacts (0.15 acres) to southern cottonwood–willow riparian forest associated with the storm drain fed intermittent channel, which has potential to support this special-status species. The small patch of southern willow scrub is isolated and surrounded by development and human activity; therefore, it is not considered suitable for least Bell's vireo. Similarly, no least Bell's vireo were recorded in Murphy Canyon Creek during the 2019 focused surveys and there are no records in USFWS, CNDDDB, or eBird (USFWS 2019, CDFW 2019, Cornell Lab of Ornithology 2019). Murphy Canyon Creek is a narrow channel between the stadium parking lot and I-15, with intermittent riparian vegetation. Given the lack of records and the marginal habitat, it is not considered suitable habitat for least Bell's vireo. Further, there are no impacts to the southern willow scrub or Murphy Canyon Creek.

By impacting a portion of the southern cottonwood–willow riparian forest that is adjacent to the trolley tracks as part of the River Park design or the Fenton Parkway roadway extension, the proposed project would adversely affect suitable habitat for least Bell's vireo, which is federally and state listed endangered species. Given the presence of least Bell's vireo on site, this impact is considered **potentially significant** absent mitigation (Impact BIO-1).

Willow Flycatcher, Including Southwestern Willow Flycatcher

Willow flycatcher (*E. traillii*) consists of five subspecies, three of which – *E. t. brewsteri*, *E. t. adastus*, and *E. t. extimus* – are native to Southern California. All three are listed as endangered under CESA, but only *E. t. extimus*, more commonly known as the southwestern willow flycatcher, is also federally listed. In addition, only the southwestern willow flycatcher is known to breed and reside in San Diego County. The other two willow flycatcher subspecies, while occasionally observed in San Diego County, are considered migrants.

Southwestern willow flycatcher was not observed during focused protocol surveys in 2019. Surveys conducted in the San Diego River as part of the Stadium Wetland Mitigation project in 2017 were also negative for all willow flycatcher subspecies (Dudek 2017). There is one record of southwestern willow flycatcher in the San Diego River downstream of El Capitan Reservoir (approximately 20 miles from the project site) from June 22, 2009; one record in Chocolate Canyon just south of El Capitan Reservoir on July 8, 2010; and two pairs nesting at the north end of El

Capitan Reservoir in 2001 (USFWS 2019; CDFW 2019). There are no other records of the southwestern willow flycatcher in the San Diego River (CDFW 2019, USFWS 2019, Cornell Lab of Ornithology 2019, Unitt 2004). There are willow flycatcher (*Empidonax traillii*) in the San Diego River based on records in eBird (Cornell Lab of Ornithology 2019). However, none of the records is during the “non-migrant” period (i.e., about June 15 to July 20); willow flycatchers detected only outside of this period are likely migrants (Sogge et al. 2010). Given the lack of possible breeding individuals (i.e., southwestern willow flycatchers) recorded since 2009 and the lack of any willow flycatchers detected during the 2019 focused protocol surveys, it is unlikely that southwestern willow flycatcher occurs within the study area. However, there is suitable habitat in the San Diego River for this species and thus it has the potential to occur on site in the future.

The impacts associated with project implementation would result in permanent impacts (0.35 acres) and temporary impacts (0.15 acres) to southern cottonwood–willow riparian forest associated with the storm drain fed intermittent channel, which has potential to support this species. If southwestern willow flycatcher were to on site in the future, impacts to individuals of the species and/or occupied habitat would be considered **potentially significant** absent mitigation (Impact BIO-2).

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened species and a CDFW SSC. Focused surveys were conducted in 2019 to determine presence or absence within the Baccharis-dominated Diegan coastal sage scrub and Diegan coastal sage scrub on site. No coastal California gnatcatcher were observed.

The impacts associated with project implementation would result in permanent impacts (0.05 acres) and temporary impacts (0.21 acres) to Baccharis-dominated Diegan coastal sage scrub and Diegan coastal sage scrub. No coastal California gnatcatcher were detected during focused surveys to date; the habitat is marginal and patchy, and not expected to support this species. Therefore, there are **no direct impacts** to this species.

Other Special-Status Birds

Other special-status birds were detected within the study area during the focused riparian bird surveys, including: Cooper’s hawk, Southern California rufous-crowned sparrow, yellow-breasted chat and yellow warbler.

While most of these birds have been observed in the San Diego River portion of the study area, the project would result in permanent impacts (0.35 acres) and temporary impacts (0.15 acres) to southern cottonwood–willow riparian forest associated with the storm drain fed intermittent channel, which has potential to support these special-status species. Impacts to this habitat would be considered **potentially significant** absent mitigation (Impact BIO-3). There are no impacts to the southern willow scrub or Murphy Canyon Creek.

Special-Status Amphibians and Reptiles

The southern California legless lizard, orange-throated whiptail, Coronado skink, and western spadefoot toad have moderate potential to occur in the riparian vegetation in the southwestern portion of the site and/or Murphy Canyon Creek, as well as the small southern willow scrub near the Recycling Buyback Center. These species are not federally or state-listed as threatened or endangered, but are a CDFW WL or SSC.

The impacts associated with the proposed project would result in permanent impacts (0.35 acres) and temporary impacts (0.15 acres) to southern cottonwood–willow riparian forest and the associated storm drain fed intermittent channel, which has potential to support these special-status reptiles and amphibian. Impacts to this potentially

occupied habitat would be considered **potentially significant** absent mitigation (Impact BIO-4). There are no impacts to the southern willow scrub or Murphy Canyon Creek.

Special-Status Mammals

The Mexican long-tongued bat and western red bat have potential to forage over the project site. These species are not federally or state-listed as threatened or endangered, but are CDFW SSC. While there are minor impacts to potential suitable foraging habitat associated with the proposed project, impacts to foraging habitat would not have a substantially adverse effect on these species and would be considered **less than significant**. The riparian trees provide suitable roosting habitat for some bats species, including Mexican long-tongued bat and western red bat. Maternity roosts are protected under Fish and Game Code and can be considered a nursery site. Impacts to maternity roosts would be considered **potentially significant** absent mitigation (Impact BIO-5). There are no impacts to the southern willow scrub or Murphy Canyon Creek.

Birds Protected Under the Migratory Bird Treaty Act and Fish and Game Code

Construction activities are anticipated to occur during the bird nesting season (typically February 1 through September 15) in order to achieve the schedule required by SDMC Section 22.0908, subsections (i) which provides that “River Park improvements shall be made at no cost to the City General Fund and completed not later than seven years from the date of execution of the sales agreement,” and (j) which provides that the “construction of the Joint Use Stadium shall be completed not later than seven years from the date of execution of the sales agreement.” The proposed project is anticipated to begin construction in February 2020 and would be phased over approximately 17 years through buildout. There are numerous birds that could nest within or adjacent to the project site. Therefore, impacts to migratory birds or destruction of active migratory bird nests and/or eggs would be considered a **potentially significant** impact because they are protected under the MBTA and California Fish and Game Code (Impact BIO-6).

Special-Status Plants

Three special-status plants were observed within the study area: San Diego sagewort, southwestern spiny rush, and San Diego marsh-elder. Southwestern spiny rush and San Diego marsh-elder are located outside of the proposed impact area; therefore, there are **no direct impacts** to these species. One San Diego sagewort is mapped within the developed footprint. Impacts to one San Diego sagewort is **less than significant** because it is a fairly common plant with a low sensitivity status (CRPR 4).

5.1.2 Indirect Impacts

Short-Term Indirect Impacts to Special-Status Plants

Short-term or temporary indirect impacts to special-status plants adjacent to the development site could primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). Short-term indirect impacts associated with project implementation could affect the special-status plants if they occur adjacent to the project site described in detail as follows.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the limits of grading. Hydrologic alterations include changes in flow rates and patterns in drainages and dewatering, which may affect adjacent and downstream (off-site) aquatic, wetland, and riparian vegetation communities. Water-quality impacts include chemical-compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, and excessive sedimentation. Direct impacts, as described previously, can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into adjacent vegetation communities. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect special-status plants. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants.

Short-term indirect impacts to special-status plants associated with project implementation would be **potentially significant** absent mitigation (Impact BIO-7).

Long-Term Indirect Impacts to Special-Status Plants

Long-term (operation-related) or permanent indirect impacts could result from the proximity of the proposed development to special-status plants adjacent to the project site after construction. Permanent indirect impacts associated with project implementation that could affect special-status plants include habitat fragmentation, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, and alteration of the natural fire regime. Each of these potential indirect impacts is discussed as follows.

Chemical Pollutants. The effects of chemical pollutants on special-status plant species are described above. During landscaping activities, herbicides may be used to prevent certain types of vegetation from reoccurring around structures. However, weed control treatments shall include only legally permitted chemical, manual, and mechanical methods. Additionally, the herbicides used during landscaping activities will be contained within the project impact footprint.

Altered Hydrology. Water would be used for landscaping purposes that could alter the on-site hydrologic regime. Further, as explained above, topographic alterations may result in changes in flow rates and patterns in drainages and dewatering, which may affect adjacent and downstream (off-site) aquatic, wetland, and riparian vegetation communities. These hydrologic alterations may affect special-status plant communities. Altered hydrology can allow for the establishment of non-native plants and invasion by Argentine ants (*Linepithema humile*), which can compete with native ant species that could be seed dispersers or plant pollinators.

However, the proposed River Park along the border with the San Diego River and Murphy Canyon Creek will provide a natural buffer between the development and river/creek. The San Diego River serves as a natural outlet for stormwater runoff from the project site. Accordingly, the proposed project's grading plan and storm drain system

would collect and retain runoff and direct drainage to retention basins in compliance with Municipal Separate Storm Sewer System requirements. This will improve the current runoff conditions, which convey surface runoff from the Stadium parking lot into the outfall structures without basins to filter sediment and pollutants. Long-term indirect impacts associated with altered hydrology are expected to improve as a result of the proposed project. Accordingly, the water, and associated runoff, used during landscaping activities will be retained and treated within the project site, and long-term indirect impacts associated with altered hydrology are not expected.

Non-native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are well documented in Southern California and throughout the United States. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including, but not limited to, exotic plant competition for light, water, and nutrients and the formation of thatches that block sunlight from reaching smaller native plants.

The project site already contains invasive species (e.g., pampas grass). Exotic plant species may establish adjacent to the project site, and alter habitats and displace native species over time, leading to extirpation of native plant species and unique vegetation communities. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within vegetation communities and special-status plant populations.

Increased Human Activity. Increased human activity could result in the potential for trampling of vegetation outside of the impact footprint, as well as soil compaction, and could affect the viability of plant communities. Trampling can alter the ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, leading to soil erosion. Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion.

An increased human population increases the risk for damage to vegetation communities, special-status plants, and wildlife corridors.

Alteration of the Natural Fire Regime. The proposed project could potentially increase the risk of fire in the adjacent habitat, including, but not limited to, fire associated with potential BBQs in the River Park and the introduction of new construction.

Long-term indirect impacts to special-status plants associated with project implementation are considered **potentially significant** absent mitigation (Impact BIO-8).

Short-Term Indirect Impacts to Special-Status Wildlife Species

Short-term, construction-related, or temporary indirect impacts to special-status wildlife species that have moderate potential to occur (see Appendix D1) would primarily result from construction activities associated with project implementation. Potential temporary indirect impacts could occur as a result of generation of fugitive dust, noise, lighting, chemical pollutants, increased human activity, and non-native animal species.

Generation of Fugitive Dust. Dust and applications for fugitive dust control can impact vegetation surrounding the limits of grading, resulting in changes in the community structure and function. These changes could result in impacts to suitable habitat for special-status wildlife species.

Noise. Construction-related noise from equipment used during construction. Noise impacts can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing

from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, cited in Lovich and Ennen 2011). The existing measured noise levels within the San Diego River south of the project and near the riparian vegetation adjacent to Fenton Parkway ranged from 59 A-weighted decibels (dBA) hourly equivalent noise level (L_{eq-h}) to 64 dBA L_{eq} . (Dudek 2019a). These levels are generally higher than the 60 dBA L_{eq} threshold typically used for analyzing impacts to special-status species, like least Bell's vireo. During construction, the noise levels at a distance of 475 feet from the riparian area in the southwest corner (near noise monitoring location ST7) is 71 dBA L_{eq} . Noise levels at a distance of 200 feet from the San Diego River south of the project (near noise monitoring locations ST6, STR1, and STR2) is approximately 79 dBA L_{eq} (Dudek 2019a).

Lighting. Nighttime lighting will occur during portions of the construction phasing. The nighttime construction will be associated with utility improvements located in existing disturbed and developed areas; therefore, lighting is not expected to be an impact to adjacent native habitat.

Chemical Pollutants. Accidental spills of hazardous chemicals could contaminate nearby surface waters and groundwater and indirectly impact wildlife species through poisoning or altering suitable habitat.

Increased Human Activity. Construction activities adjacent to the San Diego River and Murphy Canyon Creek can deter wildlife from using already constrained habitat areas near the project site.

Non-native Animal Species. Trash from construction-related activities could attract invasive predators (e.g., ravens [*Corvus corvax*], coyotes [*Canis latrans*], rats [*Rattus* spp.], Virginia opossums [*Didelphis virginiana*], raccoons [*Procyon lotor*], American crows [*Corvus brachyrhynchos*], and gulls [*Larus* spp.]) that could impact the wildlife species in the project site or surrounding areas.

Short-term indirect impacts to special-status wildlife species associated with project implementation would be considered **potentially significant** absent mitigation (Impact BIO-9).

Long-Term Indirect Impacts to Special-Status Wildlife Species

Potential long-term or permanent indirect impacts associated with project implementation to special-status wildlife species that have moderate potential to occur (see Appendix D1) include non-native, invasive plant and animal species; lighting; increased human activity; alteration of the natural fire regime; and altered hydrology.

Non-native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are well-documented in Southern California and throughout the United States. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including, but not limited to, the fact that exotic plants compete for light, water, and nutrients, and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species and subsequently suitable habitat for special-status wildlife species. In addition, trash can attract invasive predators, such as ravens and coyotes, that could impact the wildlife species in the project site. Least bell's vireo, which have been documented in the San Diego River, are susceptible to nest parasitism from brown-headed cowbirds (*Molothrus ater*).

Noise. Operation-related noise can have the same type of impacts to wildlife described above under the short-term indirect impacts. As described above, the existing measured noise levels within the San Diego River south of the project and near the riparian vegetation adjacent to Fenton Parkway ranged from 59 dBA L_{eq} to 64 dBA L_{eq} . (Dudek 2019a). These levels are higher than the 60 dBA L_{eq} threshold typically used for analyzing impacts to

special-status species, like least Bell's vireo. The predicted operational noise levels range from 60 dBA L_{eq} to 65 dBA L_{eq} within the San Diego River south of the project and near the riparian vegetation adjacent to Fenton Parkway (Dudek 2019a). These noise changes (up to 1 dBA L_{eq}) are not enough to result in long-term impacts to special-status species.

Lighting. Lighting would be installed around the exterior of the new stadium. The design goal is to limit light spill illumination to surrounding areas to 0.5 foot-candles, approximately 200 feet from the Stadium's perimeter. In addition, all lighting sources would be directed downwards or otherwise shielded so as to keep light and glare confined to the project boundary.

Outside lighting will be installed around the commercial and residential buildings, parking areas, and interior roads; however, these structures are located away from the San Diego River and Murphy Canyon Creek.

Within the River Park and Shared Parks and Open Space, several lighted sports fields and courts are proposed. These sports fields include soccer and baseball fields, as well as basketball and tennis courts. These fields and courts would be set back a minimum of 100 feet from the San Diego River. With lighting design and shielding devices internal to the luminaire, there should be no light spillage into the River Corridor Area, and lighting should be directed away from sensitive areas to ensure compliance with the MSCP's Land Use Adjacency Guidelines. For security purposes, trails within the River Park would have nighttime lighting. Similar to the sports fields, lighting would be shielded, low lights with directional LEDs so there is very little light spill. The trail closest to the river is generally 100 feet from the river and at the closest point is approximately 86 feet. The installation of the River Park and Shared Parks and Open Space will provide a natural buffer between the Stadium, commercial, and residential buildings and the San Diego River and Murphy Canyon Creek. Lighting will be directed away from the San Diego River and Murphy Canyon Creek.

Increased Human Activity. The proposed project includes the replacement of the SDCCU Stadium and additional development of a mixed-use campus with office, retail, parks/recreation, hospitality and residential uses. A River Park and Shared Parks and Open Space is planned along the southern project border with the San Diego River. While the current use is an existing stadium that receives regular use by people, the proposed project would result in an increased population within the Mission Valley Community Plan area of approximately 8,510 residents and approximately 6,000 permanent employees (Dudek 2019b). Increased human activity could result in the potential for trampling of vegetation and soil compaction outside of the impact footprint, and could affect the viability and function of suitable habitat for wildlife species. An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the proposed project footprint, particularly if people go into the San Diego River or Murphy Canyon Creek.

Alteration of the Natural Fire Regime. The proposed project could potentially increase the risk of fire in the adjacent habitat, including, but not limited to, fire associated with human error. However, the current stadium allows tailgate barbeques that could result in accidental fires in adjacent habitat. The River Park and Shared Parks and Open Space would not allow open fires or barbeques, thus reducing the potential for fires in adjacent habitat areas.

Altered Hydrology. Water would be used for landscaping purposes that may alter the on-site hydrologic regime. Further, as explained above, topographic alterations may result in changes in flow rates and patterns in drainages and dewatering, which may affect adjacent and downstream (off-site) aquatic, wetland, and riparian vegetation communities. These hydrologic alterations may affect special-status wildlife species. Altered hydrology can allow for the establishment of non-native plants and invasion by Argentine ants, which can compete with native ant

species that could be seed dispersers or plant pollinators. Changes in plant composition could affect the native vegetation communities and wildlife habitat.

However, the proposed River Park and Shared Parks and Open Space along the border with the San Diego River and Murphy Canyon Creek will provide a natural buffer between the development and river/creek. The San Diego River serves as a natural outlet for stormwater runoff from the project site. Accordingly, the proposed project’s grading plan and storm drain system would collect and retain runoff and direct drainage to retention basins in compliance with Municipal Separate Storm Sewer System requirements. This will improve the current runoff conditions, which convey surface runoff from the Stadium parking lot into the outfall structures without basins to filter sediment and pollutants. Long-term indirect impacts associated with altered hydrology are expected to improve as a result of the proposed project. Accordingly, the water, and associated runoff, used during landscaping activities will be contained within the project impact footprint, and long-term indirect impacts associated with altered hydrology are not expected.

Long-term indirect impacts to special-status wildlife species associated with project implementation would be considered **potentially significant** absent mitigation (Impact BIO-10).

5.2 Threshold 2

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

5.2.1 Direct Impacts

Sensitive Natural Communities

As described in Section 3.1.1, the project site was surveyed for vegetation communities. The results of the surveys are provided in Table 3. A total of five vegetation communities were mapped on the project site, including the native vegetation communities of Baccharis-dominated Diegan coastal sage scrub, Diegan coastal sage scrub, southern willow scrub, southern cottonwood–willow riparian forest, and southern riparian forest; and four non-native vegetation communities—urban/developed, disturbed habitat and ornamental plantings, disturbed wetland, and unvegetated channel. Anticipated temporary and permanent impacts to these communities/land covers are shown in Tables 5 and 6 and on Figure 5, Impacts to Biological Resources; Figure 5a, Impacts to Biological Resources – Fenton Parkway Extension; and Figure 5b, Impacts to Biological Resources – Off-Site Sewer and Storm Drain Connections.

Table 5. Temporary On-Site and Off-Site Impacts to Vegetation Communities/Land Cover Types

Habitat Types/Vegetation Communities	Existing On-Site Acres	On-Site Impacts (acres)	Off-Site Impacts (acres)	Total Impacts (acres)
<i>Native Vegetation Communities</i>				
Baccharis-dominated Diegan Coastal Sage Scrub	0.97	0.06	—	0.06
Diegan Coastal Sage Scrub (Restored)	0.12	0.11	0.04	0.15
Southern Willow Scrub	0.08	—	—	—
Southern Cottonwood–Willow Riparian Forest	2.59	0.11	0.04	0.15

Table 5. Temporary On-Site and Off-Site Impacts to Vegetation Communities/Land Cover Types

Habitat Types/Vegetation Communities	Existing On-Site Acres	On-Site Impacts (acres)	Off-Site Impacts (acres)	Total Impacts (acres)
Southern Riparian Forest	0.10	—	—	—
<i>Subtotal</i>	3.87	0.28	0.08	0.36
<i>Non-Native Vegetation Community/Land Cover Types</i>				
Disturbed Habitat	0.85	0.10	—	0.10
Disturbed Wetland	0.89			
Urban/Developed	165.77	0.51	—	0.51
Non-Vegetated Channel or Floodway	0.75	—	—	—
<i>Subtotal</i>	168.26	0.61	—	0.61
Total*	172.13	0.89	0.08	0.97

Note:

* May not total due to rounding.

Table 6. Permanent On-Site and Off-Site Impacts to Vegetation Communities/Land Cover Types

Habitat Types/Vegetation Communities	Existing On-Site Acres	On-Site Impacts (acres)	Off-Site Impacts (acres)	Total Impacts (acres)
<i>Native Vegetation Communities</i>				
Baccharis-Dominated Diegan Coastal Sage Scrub	0.97	0.04	—	0.04
Diegan Coastal Sage Scrub (Restored)	0.12	0.01	—	0.01
Southern Willow Scrub	0.08	—	—	—
Southern Cottonwood–Willow Riparian Forest	2.59	0.35	—	0.35
Southern Riparian Forest	0.10			
<i>Subtotal</i>	3.87	0.40	0	0.40
<i>Non-Native Vegetation Community/Land Cover Types</i>				
Disturbed Habitat	0.85	0.04	0.84	0.88
Disturbed Wetland	0.89			
Urban/Developed	165.77	163.76	2.67	166.43
Non-Vegetated Channel or Floodway	0.75	—	—	—
<i>Subtotal</i>	168.26	163.80	3.51	167.31
Total*	172.13	164.20	3.51	167.71

Note:

* May not total due to rounding.

There are temporary impacts to 0.06 acres of Baccharis-dominated Diegan coastal sage scrub, 0.15 acres of restored Diegan coastal sage scrub, 0.10 acres of disturbed habitat, and 0.51 acres of urban/developed. Temporary impacts to Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub would be considered **potentially significant** absent mitigation (Impact BIO-11).

Southern cottonwood–willow riparian forest is regulated as riparian habitat by the California Fish and Game Code Section 1600. There are also temporary impacts associated with sewer improvements in the San Diego River (Figure 5b), which would result in temporary impacts to 0.15 acres of southern cottonwood–willow riparian forest.

Temporary impacts to these sensitive natural communities would be considered **potentially significant** absent mitigation (Impact BIO-11).

Project implementation would result in permanent impacts to Baccharis-dominated Diegan coastal sage scrub (0.04 acres), 0.01 acres of restored Diegan coastal sage scrub, 0.88 acres of disturbed habitat, and 166.43 acres of urban/developed. Permanent impacts to Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub are considered **potentially significant** absent mitigation (Impact BIO-12). Project implementation would permanently impact 0.35 acres of southern cottonwood-willow riparian forest. Permanent impacts to this sensitive natural community would be considered **potentially significant** absent mitigation (Impact BIO-12).

Jurisdictional Waters

Impacts to jurisdictional features are summarized in Tables 7 and 8. Temporary impacts total approximately 0.15 acres, which includes impacts to 0.01 acres of wetlands. Temporary impacts to jurisdictional features would be considered **potentially significant** absent mitigation (Impact BIO-13). Permanent impacts total approximately 0.07 acres to non-wetlands waters/CDFW riparian area and 0.28 acres of CDFW riparian area. Permanent impacts to jurisdictional features would be considered **potentially significant** absent mitigation (Impact BIO-14).

Table 7. Temporary On-Site and Off-Site Impacts to Jurisdictional Aquatic Resources

Habitat Types/Vegetation Communities	On-Site Impacts (acres)	Off-Site Impacts (acres)	Total Impacts (acres)
<i>ACOE/RWQCB/CDFW Jurisdictional</i>			
Non-Wetland Waters - Ephemeral/Riparian Area	0.03	—	0.03
Non-Wetland Water - Ephemeral	—	—	—
Wetland	—	0.01	0.01
<i>Subtotal</i>	<i>0.03</i>	<i>0.01</i>	<i>0.04</i>
<i>CDFW-Only Jurisdictional</i>			
Riparian Area	0.08	0.03	0.11
Total*	0.11	0.04	0.15

Note:

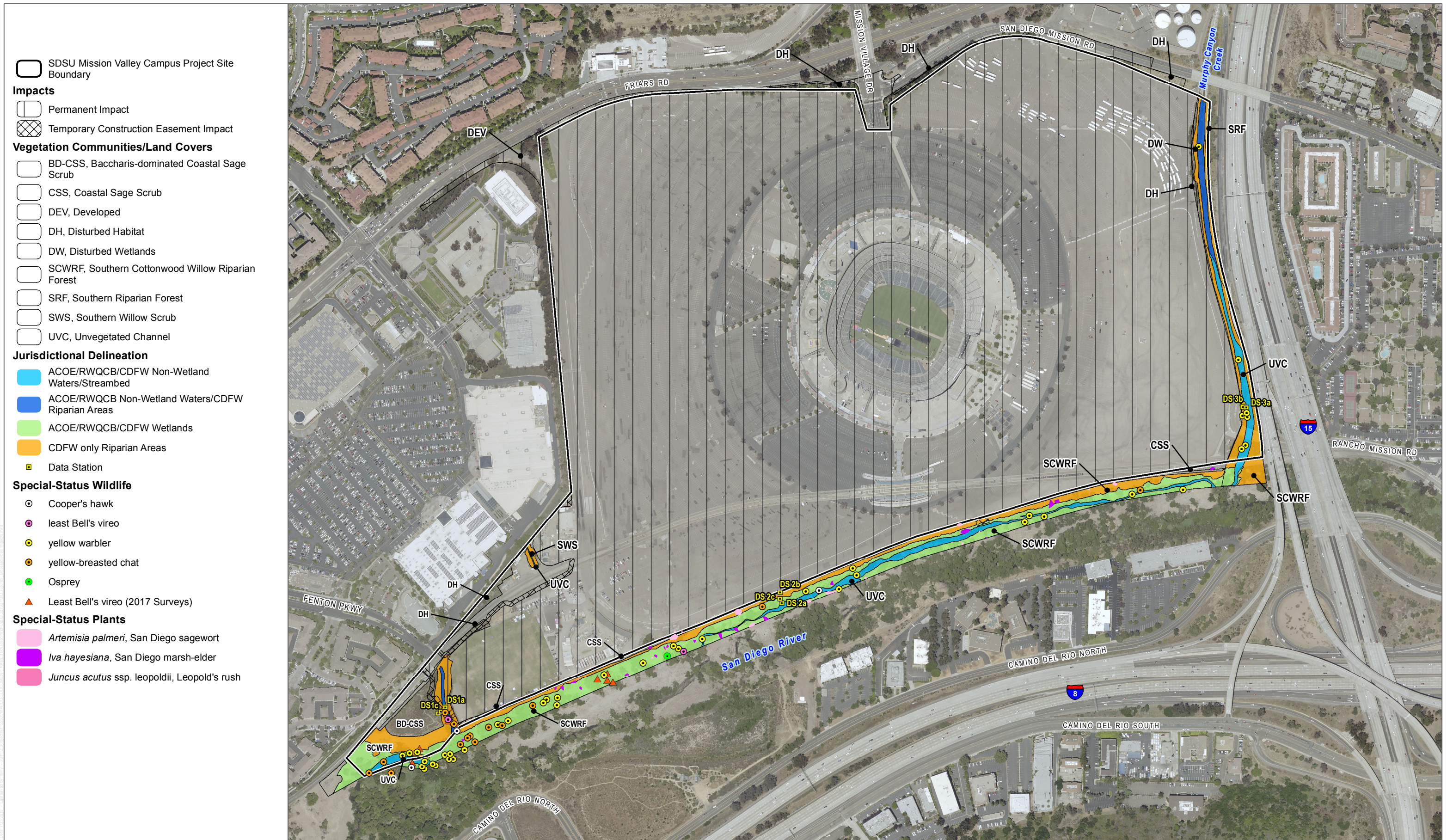
* May not total due to rounding.

Table 8. Permanent Impacts to Jurisdictional Aquatic Resources

Jurisdictional Aquatic Resource	Existing Project Site (acres)	Permanent On-Site Impacts (acres)
<i>ACOE/RWQCB/CDFW Jurisdictional</i>		
Non-Wetland Waters - Ephemeral/Riparian Area	0.12	0.07
Non-Wetland Water - Ephemeral	0.15	—
Wetland	0.53	—
<i>Subtotal</i>	<i>0.80</i>	<i>0.07</i>
<i>CDFW-Only Jurisdictional</i>		
Riparian Area	1.20	0.28
Total*	1.99	0.35

Note:

* May not total due to rounding.



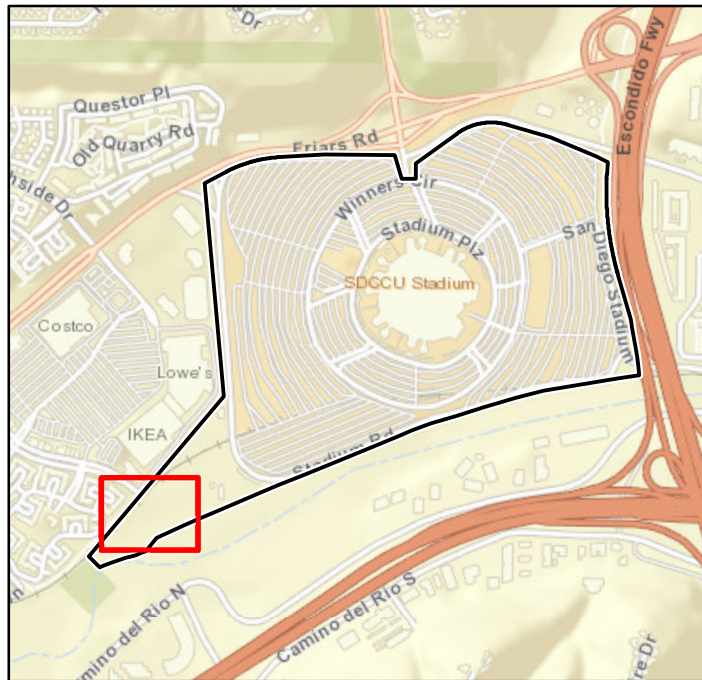
SOURCE: AERIAL SANGIS 2017



FIGURE 5

Impacts to Biological Resources

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SDSU Mission Valley Campus Project Site Boundary

Impacts

- Permanent Impact
- Temporary Construction Easement Impact

Vegetation Communities/Land Covers

- BD-CSS, Baccharis-dominated Coastal Sage Scrub
- CSS, Coastal Sage Scrub
- DEV, Developed
- DH, Disturbed Habitat
- SCWRF, Southern Cottonwood Willow Riparian Forest

Jurisdiction Delineation

- ACOE/RWQCB Non-Wetland Waters/CDFW Riparian Areas
- ACOE/RWQCB/CDFW Wetlands
- CDFW only Riparian
- Data Station

Special-Status Wildlife

- Cooper's hawk
- least Bell's vireo
- yellow warbler
- yellow-breasted chat
- Least Bell's vireo (2017 Surveys)

Special-Status Plants

- Iva hayesiana*, San Diego marsh-elder

SOURCE: AERIAL-SANGIS 2017

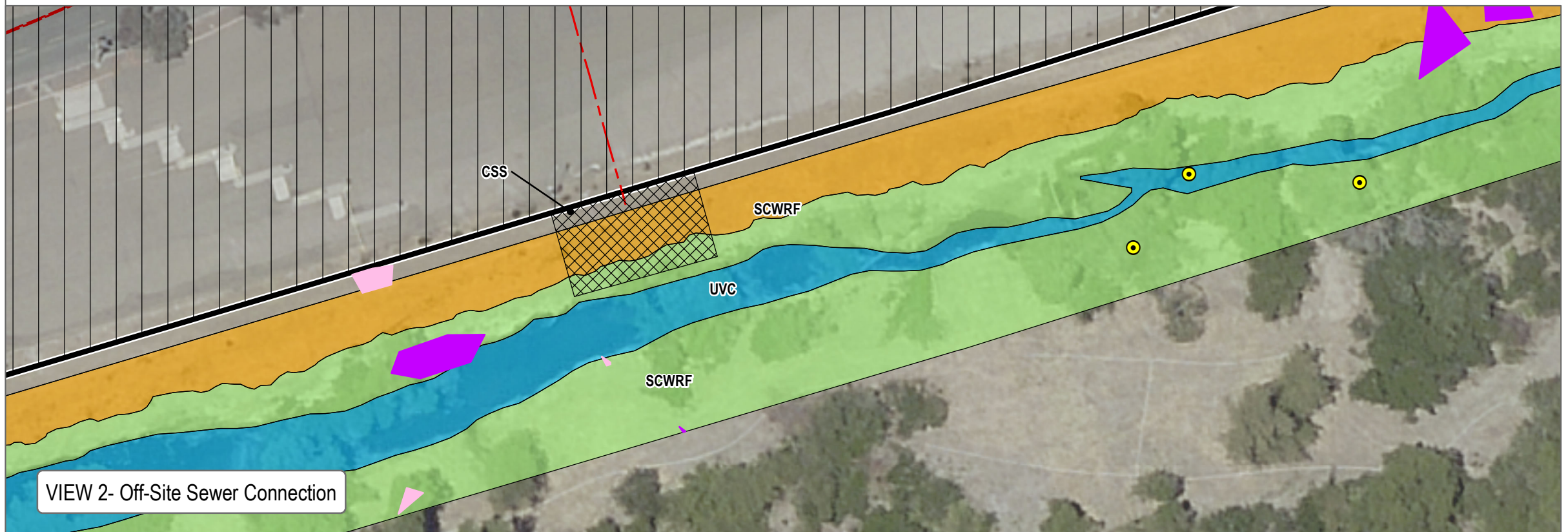
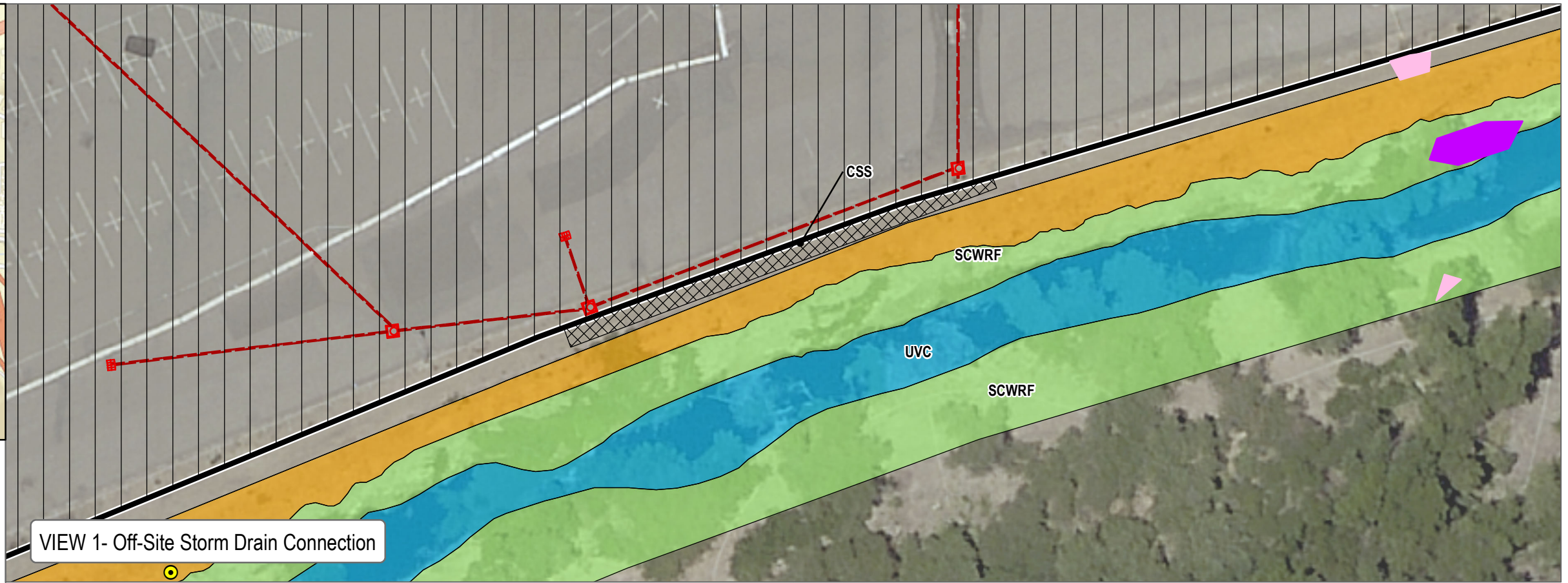
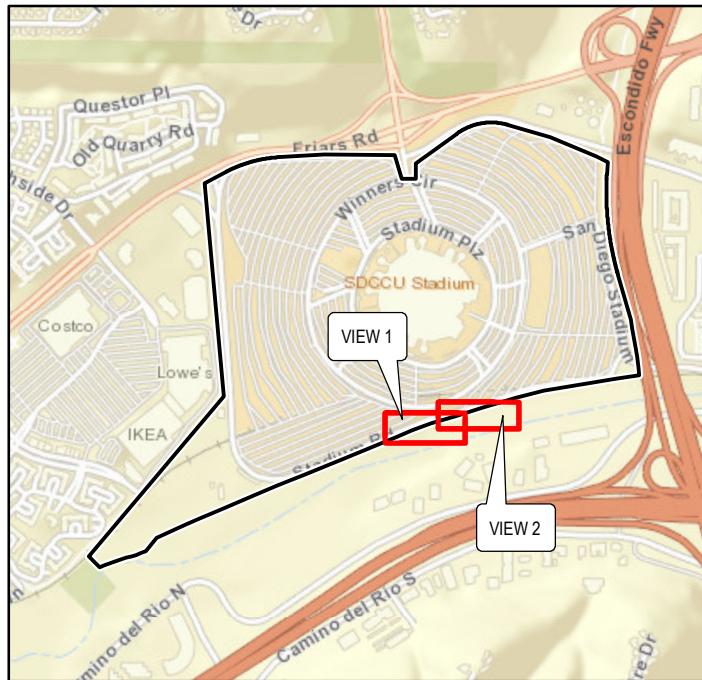


FIGURE 5a

Impacts to Biological Resources - Fenton Parkway Extension

SDSU Mission Valley Campus Master Plan Project Biological Technical Report

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SDSU Mission Valley Campus Project Site Boundary

Vegetation Communities/Land Covers

- CSS, Coastal Sage Scrub
- DEV, Developed
- SCWRF, Southern Cottonwood Willow Riparian Forest
- UVC, Unvegetated Channel

Impacts

- Permanent Impact
- Temporary Construction Easement Impact

Jurisdiction Delineation

- ACOE/RWQCB/CDFW Non-Wetland Waters/Streambed
- ACOE/RWQCB/CDFW Wetlands
- CDFW only Riparian

Special-Status Wildlife

- yellow warbler

Special-Status Plants

- Artemisia palmeri*, San Diego sagewort
- Iva hayesiana*, San Diego marsh-elder

SOURCE: AERIAL-SANGIS 2017



FIGURE 5b

Impacts to Biological Resources - Off-Site Sewer and Storm Drain Connectors

SDSU Mission Valley Campus Master Plan Project Biological Technical Report

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5.2.2 Indirect Impacts

Sensitive Natural Communities (Short-Term and Long-Term)

Potential short-term and long-term indirect impacts associated with project implementation would be the same as those described for special-status plants in Section 5.1.2. These impacts would be considered **potentially significant** absent mitigation (Impacts BIO-7 and BIO-8).

Jurisdictional Waters (Short-Term)

Potential short-term or temporary indirect impacts to jurisdictional waters and wetlands adjacent to or downstream from the project site would primarily result from construction activities, and include impacts related to or resulting from changes in hydrology resulting from construction, including sedimentation and erosion, and the introduction of chemical pollutants (including herbicides). Potential short-term indirect impacts associated with project implementation that could affect jurisdictional waters and wetlands of the San Diego River and/or Murphy Canyon Creek that occur adjacent to or downstream from the project site are described in detail as follows.

Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the construction area directly towards the San Diego River. The effects of changes in hydrology would be similar to those described in Section 5.1.2.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect jurisdictional waters. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants.

Short-term indirect impacts to jurisdictional waters associated with project implementation would be considered **potentially significant** absent mitigation (Impact BIO-15).

Jurisdictional Waters (Long-Term)

Long-term (operation-related) or permanent indirect impacts could result from the proximity of the proposed project to jurisdictional waters and wetlands of the San Diego River and/or Murphy Canyon Creek after construction, including impacts related to operation and maintenance. Operation and maintenance activities will occur within the project site. Permanent indirect impacts associated with project implementation that could affect jurisdictional waters and wetlands include generation of habitat fragmentation, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, and alteration of the natural fire regime. Each of these potential indirect impacts is discussed as follows.

Chemical Pollutants. The effects of chemical pollutants on jurisdictional waters and wetlands are described above.

Altered Hydrology. Water used for landscaping purposes may alter the on-site hydrologic regime. These hydrologic alterations may affect jurisdictional waters and wetlands. However, the water, and associated runoff, used during landscaping activities will be contained within the project impact footprint. The proposed River Park and Shared Parks and Open Space along the border with the San Diego River and Murphy Canyon Creek will provide a natural buffer between the development and river/creek. The San Diego River serves as a natural outlet for stormwater runoff from the project site. Accordingly, the proposed project's grading plan and storm drain system would collect

and retain runoff and direct drainage to retention basins in compliance with Municipal Separate Storm Sewer System requirements. This will improve the current runoff conditions, which convey surface runoff from the Stadium parking lot into the outfall structures without basins to filter sediment and pollutants. Long-term indirect impacts associated with altered hydrology are expected to improve as a result of the proposed project.

Non-native, Invasive Plant and Animal Species. The effects of chemical pollutants would be similar to those described in Section 5.1.2. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within jurisdictional waters and wetlands.

Increased Human Activity. The effects of increased human activity would be similar to those described in Section 5.1.2. An increased human population increases the risk for damage to jurisdictional waters and wetlands.

Long-term indirect impacts to jurisdictional waters associated with project implementation would be considered **potentially significant** absent mitigation (**Impact BIO-16**).

5.3 Threshold 3

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

The project would have no permanent impacts on federally protected wetlands; however, the project would result in temporary impacts to 0.01 acres of wetland waters of the United States (see Table 8). These impacts are associated with improvements to the sewer connection on the northern side of the San Diego River. Short-term temporary impacts to federally protected wetlands would be considered **potentially significant** absent mitigation (see **Impact BIO-13**).

The project also would have temporary impacts to 0.15 acres of CDFW riparian area and permanent impacts to approximately 0.35 acres of CDFW riparian area. These impacts would be considered **potentially significant** absent mitigation (see **Impacts BIO-13 and BIO-14**).

Short-term and long-term indirect impacts to state and federal wetlands would be considered **potentially significant** absent mitigation (see **Impacts BIO-15 and BIO-16**).

5.4 Threshold 4

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

5.4.1 Direct Impacts

The project site is 96% developed with the existing SDCCU Stadium, parking lot, and roads. Wildlife may use the small riparian area in the southwest corner for local movement between urban areas and the San Diego River, as well as Murphy Canyon Creek. More urban-adapted wildlife species may use the entire site to move through, particularly when the Stadium is not in use. However, none of the project site is considered a wildlife corridor.

Therefore, the proposed project would not have a substantially adverse effect on wildlife movement and would not be considered a significant impact.

Special-Status Bat Roosts

The impacts to the riparian forest could impact roosting bats (including maternity roosts). While specific surveys for bats were not done and bats were not observed during various biological resource surveys done on or adjacent to the project site, the riparian trees provide suitable roosting habitat for some bats species, including Mexican long-tongued bat and western red bat. Maternity roosts are protected under Fish and Game Code and can be considered a nursery site. Impacts to maternity roosts would be considered **potentially significant absent mitigation** (Impact BIO-5).

Migratory Birds

The San Diego River floodplain includes riparian vegetation that provides habitat for a variety of resident and migratory birds. Murphy Canyon Creek is a narrower channel, but provides foraging and nesting habitat for birds. The proposed project includes buildings ranging from 3 to 24 stories in height. While most buildings would be less than eight stories (or approximately 90 feet), the height of up to five buildings within the proposed project would be permitted up to approximately 230 feet.

The proposed project would entail construction of multiple buildings, including several buildings taller than the existing stadium. New buildings, and in particular reflective windows on these buildings, present a potential collision impact for birds flying through the area. The factors involved in potentially fatal bird strikes with buildings include migrant birds striking a lighted building at night at the elevation at which they are migrating; daytime migrant birds striking windows of a tall structure, most likely due to the reflection of the sky or nearby vegetation in the windows; and migrant or resident birds striking windows at lower elevations that reflect the surrounding vegetation, which they interpret to be vegetation in front of them. Birds migrating over terrestrial locations appear to migrate at higher altitudes, but do not frequently exceed 1,500 feet (Cooper and Ritchie 1995).

Daytime collisions or “strikes” occur at both tall buildings and low structures including residential homes. The daytime strikes at tall buildings can occur from daytime migrating birds or local resident birds striking reflective glass because birds cannot interpret that the images observed in glass are reflections, and; thus, they fly into windows that they think are trees or sky.

Collisions with lower height buildings or homes appear to be associated with birds using feeders, or resident and migrant birds colliding with windows that reflect the surrounding landscape (Klem 1990). These collisions are greatest at ground level and at heights above 10 feet (Klem 1989). Reflection of vegetation within windows provides a cue to birds that they can pass through the area. Gelb and Delacretaz (2009) stated that many of the collisions they detected occurred toward the lower parts of buildings where large glass exteriors reflected outdoor vegetation. This study indicates that this optical illusion is highly likely to have caused many of the subject bird strikes. The primary condition of concern with daytime collisions is caused by landscaping or other bird attractants that are located 30 feet or more from reflective glass surfaces (Klem et al. 2004). As the distance of the vegetation or other bird attract exceeds 30 feet from the windows, birds are able to obtain enough speed in flight to result in a fatal strike if they hit the window (Klem 1990). Bird strikes to windows on buildings increase with increasing amounts of vegetation and glass, especially reflective glass, opposite the vegetation (Gelb and Delacretaz 2006; Klem et al. (2009); and Borden et al. (2010)). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred where transparent windows revealed interior vegetation. Where reflective glass faces forested patches, there is a significant increase in bird strikes that can lead to several hundred collisions per year even for buildings

that are not within an especially well-documented migration corridor (O'Connell 2001). Such bird strikes include migrant birds as well as resident bird species, and occur during both daytime and nighttime periods.

Bird strikes associated with the construction of multiple new buildings, including several buildings that are taller than the existing stadium, would be considered **potentially significant** absent mitigation (**Impact BIO-17**).

5.4.2 Indirect Impacts

Short-Term

The project site itself is not considered important for wildlife movement; however, the San Diego River just south of the project site is an important habitat area for wildlife, particularly birds. Murphy Canyon Creek provides additional habitat for wildlife, particularly birds, traveling to and from the river especially because of the level of urban development and the opportunities for north-south movement across the San Diego River. Short-term indirect impacts to the San Diego River and Murphy Canyon Creek could result from increased human activity, lighting, and noise.

Increased Human Activity. Project construction would take place during the daytime and possibly at night. Daytime construction activities would not affect wildlife species such as mammals that are most active in evenings and nighttime; however, these could be affected if nighttime construction occurs near natural habitat areas. Wildlife species such as birds, rabbits, and lizards are active in the daytime. The nighttime construction would likely be limited to utility improvements. Because the project site is developed and subject to varying amounts of human activity, wildlife is expected to continue to use the adjacent habitat. Additionally, the construction activities will not occur within the San Diego River (with the exception of small temporary work around existing outfall structures).

Lighting. Nighttime lighting will occur during portions of the construction phasing. The nighttime construction will be associated with utility improvements located in existing disturbed and developed areas; therefore, lighting is not expected to be an impact to adjacent native habitat.

Noise. Construction-related noise could occur from equipment used during vegetation clearing. Noise impacts can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, as cited in Lovich and Ennen 2011). The existing measured noise levels within the San Diego River south of the project, and near the riparian vegetation adjacent to Fenton Parkway ranged from 59 dBA L_{eq} to 64 dBA L_{eq} . (Dudek 2019a). These levels are higher than the 60 dBA L_{eq} threshold typically used for analyzing impacts to special-status species, like least Bell's vireo. During construction, the noise levels at a distance of 475 feet from the riparian area in the southwest corner (near noise monitoring location ST7) is 71 dBA L_{eq} . Noise levels at a distance of 200 feet from the San Diego River south of the project (near noise monitoring locations ST6, STR1, and STR2) is approximately 79 dBA L_{eq} (Dudek 2019a).

Short-term indirect impacts to wildlife movement would be considered **potentially significant** absent mitigation (**Impact BIO-18**).

Long-Term

Long-term indirect impacts include noise, lighting, and increased human activity.

Noise. At any one location, the hourly average sound level associated with recreational noise is difficult to predict due to many variables, including the type of recreational activity, the number of participants and spectators, the location of people, and the amount and level of conversation and cheering. To determine the approximate noise levels that would be generated at ball fields and other recreational activities, and to predict potential noise impacts, noise measurements were conducted by Dudek staff at several existing recreational parks, including Stagecoach Park in Carlsbad, Cardiff Sports Park in Encinitas, and Vista National Little League in Vista. The proposed project may have similar ball fields as these facilities within the River Park and Shared Parks and Open Space areas. The results of these measurements indicate that ball field activities (including use of a public address system) generate a 1-hour average noise level of approximately 55–65 decibels (dB) at a distance of 50 feet from the stands and/or spectator areas.

Similarly, the River Park and Shared Parks and Open Space would generate a 1-hour average noise level of approximately 55–65 dB at a distance of 50 feet from the stands and/or spectator areas. The River Park and Shared Parks and Open Space would have the potential to exceed the daytime one-hour 60 A-weighted decibels (dBA) equivalent noise level (L_{eq}) limit if the loudest noise sources are placed within approximately 100 feet of sensitive habitat.

Regarding electronic amplification, such systems may be used in conjunction with active sport activities such as softball, soccer, and other court sports. Public events may also occur that required amplified noise. Activities that would include amplified noise or other temporary noise generating equipment would be required to obtain an event permit from the City of City of San Diego. If a permit is not obtained, Section 59.5.0502(b)(2) of the San Diego Municipal Code prohibits any park or recreation center user to operate a radio, television, stereo or any similar electronic or mechanical device capable of producing or emitting sound at a volume where the sound is audible at a distance greater than 50 feet from the point of emission. Activities that require permitted amplified noise would be limited to normal park operation hours. Additionally, amplified noise would not be a continuous source of noise. Activities would occur on various dates and times, and at varied locations. Permitted uses would still be subject to hourly exterior noise level limits. University Police and SDPD enforce the nuisance noise ordinance of the SDMC. Therefore, nuisance noise and permitted amplified noise from events at the River Park and Shared Parks and Open Space would result in a less than significant impact.

Scheduled maintenance by maintenance crews would occur at the site. Maintenance activities would include the use of gasoline-powered mowers, trimmers, blowers, and edgers resulting in intermittent short-term temporary noise increases. Maintenance activities are permitted uses and would be subject to the 1-hour L_{eq} noise limits of 60 dBA (or ambient noise levels if higher than 60 dBA). Additionally, maintenance equipment would not be operating at any one location for more than a few minutes, and all equipment would not be operating simultaneously. Due to the limited amount of time equipment would be operating in one location, operation of landscape equipment would generally not exceed the hourly noise level limit at a particular receptor. Therefore, landscape maintenance would result in a less than significant impact.

Lighting. Lighting would be installed around the exterior of the new Stadium. The design goal is to limit light spill illumination to surrounding areas to 0.5 foot-candles, approximately 200 feet from the Stadium's perimeter. In addition, all lighting sources would be directed downwards or otherwise shielded so as to keep light and glare confined to the project boundary.

Outside lighting will be installed around the commercial and residential buildings, parking areas, and interior roads; however, these structures are located away from the San Diego River and Murphy Canyon Creek.

Within the River Park and Shared Parks and Open Space, several lighted sports fields and courts are proposed. These sports fields include soccer and baseball fields, as well as basketball and tennis courts. These fields and courts would be set back a minimum of 100 feet from the San Diego River. With lighting design and shielding devices internal to the luminaire, there should be no light spillage into the River Corridor Area, and lighting should be directed away from sensitive areas to ensure compliance with the MSCP’s Land Use Adjacency Guidelines and to be in accordance with the Land Development Code Section 142.0740 (Outdoor Lighting Regulations). For security purposes, trails within the River Park would have nighttime lighting. Similar to the sports fields, lighting would be shielded, low lights with directional LEDs so there is very little light spill. The trail closest to the river is generally 100 feet from the river and at the closest point is approximately 86 feet. The installation of the River Park and Shared Parks and Open Space will provide a natural buffer between the Stadium, commercial, and residential buildings, and the San Diego River and Murphy Canyon Creek. Lighting will be directed away from the San Diego River and Murphy Canyon Creek.

Increased Human Activity. As described above, the project site is an existing developed area, but the proposed project will result in an increased population over time. Increased human activity could result in increased noise, potentially affecting the San Diego River and Murphy Canyon Creek and wildlife species that use these areas. An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the proposed project footprint. The River Park and Shared Parks and Open Space will provide a natural buffer along the San Diego River and Murphy Canyon Creek.

Long-term indirect impacts to wildlife movement would be considered **potentially significant** absent mitigation (Impact BIO-19).

5.5 Threshold 5

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

The lead agency, the State of California, is a state agency; therefore, it is not subject to the policies and ordinances set forth by local agencies such as the City or County of San Diego, which might maintain a local tree preservation policy or ordinance. Therefore, **no impact** would occur.

5.6 Threshold 6

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

5.6.1 Direct Impacts

The proposed project would not result in direct impacts to the MHPA, which covers the San Diego River. Additionally, SDSU is not a signatory to the San Diego MSCP and thus is not a “permittee” under this HCP. As such, SDSU is not subject to the MSCP and need not comply with its provisions. Because SDSU is not subject to the policies and ordinances set forth by the MSCP, there is **no impact** to the City of San Diego or other local agencies’ abilities to implement the MSCP.

5.6.2 Indirect Impacts

SDSU reviewed Chapter 1.4, Land Use Considerations, 1.4.2, General Planning and Design Guidelines, of the City of San Diego's MSCP Subarea Plan (City of San Diego 1997) to determine if construction of the proposed project adjacent to an area designated as MHPA, which is intended to support an element of the eventual MSCP preserve, would affect the City's ability to comply with the provisions of their Subarea Plan. There are no direct impacts to the MHPA.

Lighting. No lighting is proposed along the MHPA boundaries (i.e., San Diego River). Lighting would be installed around the exterior of the Stadium. The design goal is to limit light spill illumination to surrounding areas to 0.5 foot-candles, approximately 200 feet from the Stadium's perimeter. In addition, all lighting sources would be directed downwards or otherwise shielded so as to keep light and glare confined to the project boundary. Further, outside lighting will be installed around the commercial and residential buildings, parking areas, and interior roads; however, these structures are located away from the San Diego River and Murphy Canyon Creek. The installation of the River Park and Shared Parks and Open Space will provide a natural buffer between the Stadium, commercial, and residential buildings and the San Diego River and Murphy Canyon Creek. The sports fields would be lighted when in use; however, lighting will be directed away from the San Diego River. Lighting required along the trails in the River Park and Shared Parks and Open Space would be shielded from the river and Murphy Canyon Creek. As explained in Section 5.1, with the exception of the closest trail point at 86 feet away, lighting in the River Park would be a minimum of 100 feet from the San Diego River and MHPA, and would be directed downward and/or shielded.

Barriers. Visual barriers are proposed between the River Park and Shared Parks and Open Space and the San Diego River and Murphy Canyon Creek. For example, signs and landscaping would be installed to deter people from entering these areas. In addition, there are existing berms on the southern and western edge of the project site, which would be maintained and would further discourage intrusion into the San Diego River and Murphy Canyon Creek. Lastly, Murphy Canyon Road would be extended north along Murphy Canyon Creek from the southeast corner of the project site, where Rancho Mission Road currently enters the project site, to the northwest portion of site before turning west and serve as a barrier to people crossing into Murphy Canyon Creek. Therefore, the proposed project would avoid conflicts with the Subarea Plan's lighting and barriers adjacency guidelines.

Chemical Pollutants. SDSU would store and utilize all hazardous materials, chemicals, and substances (i.e., janitorial supplies) consistent with their use and storage recommendations; all such materials and substances would be stored within the building or appropriate enclosures consistent with OSHA and SDSU Environmental Health and Safety protocol. No storage of these chemicals and substances would occur within the MHPA; therefore, the proposed project would not be inconsistent with the Subarea Plan's guidelines regarding hazardous substance storage in sensitive habitat areas.

Mining or Extraction. The proposed project would not involve any type of mining or extraction activity, so no inconsistency with the Subarea Plan's mining and extraction policies would occur. While occurring outside of the MHPA, the installation of the River Park and Shared Parks and Open Space will provide a natural buffer between the development and river/creek. The San Diego River serves as a natural outlet for stormwater runoff from the project site. The proposed project's grading plan and storm drain system would collect and retain runoff and direct drainage to retention basins in compliance with Municipal Separate Storm Sewer System requirements. This will improve the current runoff conditions, which convey surface runoff from the Stadium parking lot into the outfall structures without basins to filter sediment and pollutants. Long-term indirect impacts associated with altered hydrology are expected to improve as a result of the proposed project.

Land Use Adjacency Guidelines. SDSU also reviewed Section 1.4.3, Land Use Adjacency Guidelines, of Chapter 1.4, Land Use Considerations of the City’s Subarea Plan. Similar to the guidelines above, Section 1.4.3 outlines the City’s policies related to eight land development considerations: drainage, toxics, lighting, noise, barriers, invasive species, brush management, and grading/land development. Although SDSU is not subject to these guidelines, an analysis of consistency with each provision is provided to ensure that the proposed project does not hinder the City’s ability to meet the requirements of their Subarea Plan.

Drainage. The proposed project’s drainage system would improve compared to existing conditions. The San Diego River serves as a natural outlet for stormwater runoff from the project site. The proposed project’s grading plan and storm drain system would collect and retain runoff and direct drainage to retention basins in compliance with Municipal Separate Storm Sewer System requirements. Therefore, the proposed project would not be inconsistent with the City’s drainage guidelines in Section 1.4.3 of the Subarea Plan.

Toxics. Any on-site landscaped areas would be treated with standard fertilizers as per SDSU’s typical landscaping protocols and schedules. Any runoff from these areas would be directed to the on-site drainage/filtration system, which would treat all runoff before it is directed to the existing storm drain system. Therefore, the proposed project would not be inconsistent with the City’s provision for use/filtration of landscape fertilizers and chemicals.

Lighting. As indicated above, lighting will be installed around the perimeter of the Stadium, commercial and residential buildings, interior roads, and in the sports fields. The exterior stadium lighting will illuminate up to 200 feet from the Stadium’s perimeter. The San Diego River and Murphy Canyon Creek are located approximately 1,500 feet and 2,000 feet, respectively, from the new stadium location. The sports fields would be lighted when in use; however, lighting will be directed away from the San Diego River. Lighting required along the trails in the River Park and Shared Parks and Open Space would be shielded from the river and Murphy Canyon Creek. As explained in Section 5.1, with the exception of the closest trail point at 86 feet away, lighting in the River Park and Shared Parks and Open Space would be a minimum of 100 feet from the San Diego River and MHPA, and would be directed downward and/or shielded.

Noise. The City requires uses adjacent to the MHPA be designed to minimize noise impacts. The MHPA is located in the San Diego River, south of the project site. The stadium, commercial and residential buildings are located further north from the San Diego River. The River Park and Shared Parks and Open Space is proposed along the border of the San Diego River to provide a buffer between the Stadium, commercial and residential areas, and the river. Recreational sports fields are located a minimum of 100 feet from the MHPA in order to minimize indirect impacts such as noise. Further, during construction, pre-construction surveys (see Section 6, Mitigation Measures), will be conducted in order to determine presence of sensitive wildlife. Construction will follow the guidelines outlined in these mitigation measures in order to minimize impacts to sensitive wildlife that may be in the riparian areas to a level below significance.

Barriers. The proposed construction site would be fenced to prevent wildlife intrusion into work areas and to prevent human intrusion into adjacent areas. Visual barriers are proposed between the River Park and Shared Parks and Open Space and the San Diego River and Murphy Canyon Creek. For example, signs and landscaping will be installed to deter people from entering these areas. In addition, there are existing berms on the southern and western edge of the project site,

which would be maintained and would further discourage intrusion into the San Diego River and Murphy Canyon Creek. Lastly, Murphy Canyon Road would be extended north along Murphy Canyon Creek from the southeast corner of the project site, where Rancho Mission Road currently enters the project site, to the northwest portion of site before turning west and serving as a barrier to people crossing into Murphy Canyon Creek.

Invasives. The proposed project would result in a passive, naturally landscaped area within the River Park and Shared Parks and Open Space to serve as a buffer to the river. All landscaping would consist of native plant species where possible and shall not include any plants included on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory for the project region. Therefore, the proposed project would be consistent with the Subarea Plan's objectives for invasive species avoidance.

Brush Management. The River Park and Shared Parks and Open Space will be provided as a buffer between the developed areas and the MHPA and will be maintained. No specific brush management is required since the project is located on existing urban/developed areas. Therefore, the proposed project would be consistent with this provision of the City's Subarea Plan.

Grading/Land Development. All grading and land development work that is necessary for the proposed project would be contained within the project impact footprint as described above in the impact evaluation for biological resources. Therefore, the proposed project would be consistent with this provision of the City's Subarea Plan.

Because SDSU is not subject to the policies and ordinances set forth by the MSCP, and the proposed project demonstrates consistency with the Land Use Considerations and Land Use Adjacency Guidelines, there is **no impact** to the City of San Diego or other local agencies' abilities to implement the MSCP.

5.7 Threshold 7

Would the project result in a cumulative impact when considered with other present and probable future projects in the region?

Sensitive Wildlife and Plant Resources

Cumulative projects associated with the development of the "Purple Line" by Metropolitan Transit System and any planned improvements to Caltrans owned/operated transportation infrastructure such as I-8, I-15, etc. may result in direct and indirect impacts to sensitive wildlife and plant resources and their habitats in and around Mission Valley. However, any impacts from these projects would need to be fully mitigated in order to avoid cumulative impacts. Any impacts to sensitive wildlife and plant resources and their habitat would be regulated by the US. Fish and Wildlife Service and/or California Department of Fish and Game which require full mitigation to offset such impacts. Any impacts to these resources as a result of San Diego County Water Authority projects would be off-set by the regional conservation planning framework outlined in their Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (adopted in 2011). All of the Water Authority's capital improvement projects and operations and maintenance activities must be consistent with their NCCP/HCP which, like the San Diego MSCP, provides a coordinated approach to avoiding and mitigating for impacts to sensitive plant and wildlife species and their habitats.

With the exception of projects proposed by state agencies such as Caltrans, special districts or other regional agencies such as the San Diego County Water Authority or Metropolitan Transit System, etc, all remaining cumulatively considerable projects listed in Table 3-1, Cumulative Projects, are reviewed and approved by the City of San Diego. During the City's entitlement review process, all projects are designed to be consistent with the City's regional habitat conservation plan which ensures that cumulative impacts to plant, wildlife and habitat resources as a result of development, are minimized. As outlined above, approximately 20 years ago, the San Diego MSCP was established as a regional habitat conservation program to help facilitate planned regional development while at the same time establishing a regional preserve system for the long-term benefit of the region's diverse plant and wildlife resources. In 1998, the City of San Diego adopted their MSCP Subarea Plan, which covers the Mission Valley Community Plan Area, including the stadium site. The City's Subarea Plan implements the regional MSCP and through the City's development review process, all projects, including all of those listed in Table 3-1, Cumulative Projects, must be consistent with and contribute to the establishment of this regional preserve system. The City enforces development siting restrictions, limits direct impacts to designated preserve areas, ensures compliance with adjacency and buffering techniques to reduce indirect impacts and provides for the long-term management of the established preserves. Because all projects must comply with the City's MSCP Subarea Plan, cumulative impacts to biological resources from other projects listed in Table 3-1, have been avoided.

As stated above, the proposed project is located in the San Diego MSCP and within the City's Subarea Plan Area. Although SDSU is a state agency and is not subject to the provisions of the MSCP or City's Subarea Plan, direct avoidance of potential sensitive habitat resources as well as avoidance and minimization measures and project design features that would reduce the potential for indirect impacts are consistent with the MSCP and City's Subarea Plan. Due to this consistency with these regional planning tools, the project would not result in cumulative impacts to plant and wildlife resources.

Sensitive Wetland and Riparian Resources

Included in the minor habitat and vegetation impacts described in Section 5.2, the proposed project would impact jurisdictional wetlands and waters of the United States, and thus, would be required to comply with wetlands mitigation requirements pursuant to Sections 401 of the State Clean Water Act, Section 404 of the Federal Clean Water Act, and Section 1600 of the California Fish and Game Code. These regulations are all designed to ensure the "no net loss" of wetlands and riparian resources. As outlined in MM-BIO-13, these impacts would be mitigated at a ratio of approximately 1:1 for creation and 2:1 for revegetation and enhancement, and would result in no net loss of habitat. Similarly, cumulative projects such as those listed in Table 3-1, Cumulative Projects, may impact wetlands and waters of the United States in and around the Mission Valley area and within the greater San Diego River watershed. That said, all of these resources are protected under Section 401 of the State Clean Water Act, Section 404 of the Federal Clean Water Act, and Section 1600 of the California Fish and Game Code. Any project or agency that must impact these resources would need to fully mitigate for impacts to these resources at similar ratios as the proposed project. Accordingly, there would be no net loss of wetland resources from cumulatively considerable projects, and such cumulative impacts would be less than significant.

In summary, the proposed project is primarily an infill project with very limited impacts to sensitive wildlife and plant resources and their habitat as well as wetland and riparian resources. All of the project's impacts would be fully mitigated pursuant to state and federal wetland regulations and would be consistent with the mitigation and avoidance and minimization measures spelled out in the City's Subarea Plan. When combined with existing and probable future projects within the cumulative study area, the proposed project **would not contribute to cumulatively considerable impacts** to sensitive biological resources.

6 Mitigation Measures

The following mitigation measure(s) would reduce the potential for direct and indirect impacts on special-status plant and wildlife species, sensitive natural communities, jurisdictional waters, and wildlife corridors by ensuring that special-status resources would be avoided to the extent possible and compensatory mitigation provided to address unavoidable significant impacts. Implementation of the following mitigation measures (MMs) would reduce impacts to a **less-than-significant** level.

MM-BIO-1 TAKE AUTHORIZATION. Based on observations of least Bell's vireo (*Vireo bellii pusillus*), riparian habitat on site is considered occupied. Southwestern willow flycatcher (*Empidonax traillii extimus*) is not currently occupying the proposed impact areas; however, there is suitable habitat within the San Diego River. Habitat impacts will be mitigated at a 3:1 mitigation ratio (see **MM-BIO-2**) or as determined through the consultation process. Take authorization may be obtained through the federal Section 7 Consultation or Section 10 and state 2080.1 incidental take permit requirements. California State University/San Diego State University or its designee shall comply with any and all conditions, including pre-construction surveys, that the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) may require for take of these species pursuant to the federal Endangered Species Act and/or California Endangered Species Act. If required as a permit condition, pre-construction surveys will be conducted in accordance with USFWS protocols unless the USFWS authorizes a deviation from those protocols.

MM-BIO-2 HABITAT MITIGATION. Temporary and permanent impacts to southern cottonwood–willow riparian forest will be mitigated at a 3:1 mitigation ratio, as determined during the permitting process (see **MM-BIO-13**). Additionally, temporary and permanent impacts to Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub shall be mitigated at a minimum of 1.5:1 mitigation ratio. Conservation of habitat shall be by on-site preservation, off-site creation and/or enhancement, and/or by purchase of appropriate credits at an approved mitigation bank in San Diego County. If required, any invasive removal shall be completed using hand equipment and removal will be completed outside of the nesting bird season. If invasive removal cannot be completed outside of the nesting bird season, pre-work surveys shall be conducted per the nesting bird survey noted in **MM-BIO-3**.

The mitigation habitat shall include appropriate habitat for special-status amphibians, reptiles, mammals, and birds with potential to occur on site.

MM-BIO-3 NESTING BIRD SURVEY. Construction activity that occurs during the breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species be conducted within the proposed impact area and a 500-foot buffer within 72 hours prior to construction. This survey is necessary to assure avoidance of impacts to nesting raptors (e.g., Cooper's hawk [*Accipiter cooperii*] and red-tailed hawk [*Buteo jamaicensis*]) and/or birds protected by the federal Migratory Bird Treaty Act and California Fish and Game Code, Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans. If occupied nests are found, then limits of construction (e.g., 250 to 500 feet) to avoid occupied nests shall be established by the project biologist in the field with flagging, fencing, or other appropriate barriers, and construction personnel shall be instructed on the sensitivity of nest areas. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot setback at his or her

discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). Once the nest is no longer occupied for the season, construction may proceed in the setback areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed impact area and a 500-foot buffer.

MM-BIO-4 **TEMPORARY INSTALLATION OF FENCING.** To prevent inadvertent disturbance to areas outside the limits of grading for each phase, the contractor shall install temporary fencing along the limits of grading.

MM-BIO-5 **CONSTRUCTION MONITORING AND REPORTING.** To prevent inadvertent disturbance to areas outside the limits of grading for each phase, all grading of native habitat shall be monitored by a biologist. The biological monitor shall be contracted to perform biological monitoring during all clearing and grubbing activities.

The project biologist also shall perform the following duties:

- a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to clearing and grubbing to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
- b. Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife prior to clearing and grubbing.
- c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to clearing and grubbing.
- d. Supervise and monitor vegetation clearing and grubbing weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.
- e. Flush special-status species (i.e., avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing activities.
- f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour during the daylight and 10 miles per hour during hours of darkness.
- g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.
- h. Keep monitoring notes for the duration of the proposed project for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of the biological resources.
- i. Prepare a monitoring report after the construction activities are completed, which describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

- MM-BIO-6 AIR QUALITY STANDARDS.** The following guidelines shall be adhered to:
1. No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.
 2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:
 - a. Be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and
 - b. Be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only coarse particulate matter (PM₁₀)-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.
- MM-BIO-7 SIGNAGE AND BARRIERS.** To prevent long-term inadvertent disturbance to sensitive vegetation and species adjacent to the project site, signage and visual barriers shall be installed along the River Park and Shared Parks and Open Space interface with the San Diego River and Murphy Canyon Creek. The signage shall state that these areas are native habitat areas, and no trespassing is allowed. Barriers shall be installed where appropriate to deter access into the river and creek.
- MM-BIO-8 INVASIVE SPECIES PROHIBITION.** The final landscape plans shall be reviewed by the project biologist to confirm they comply with the following: (1) no invasive plant species as included on the most recent version of the California Invasive Plant Council California Invasive Plant Inventory for the project region shall be included and (2) the plant palette shall be composed of species that do not require high irrigation rates. The project biologist shall periodically check landscape products for compliance with this requirement.
- MM-BIO-9 NOISE.** Pre-construction surveys shall be conducted for any work between February 1 and September 15. Prior to start of construction activities, a qualified biologist shall conduct a pre-construction survey for the least Bell's vireo (*Vireo bellii pusillus*) and, if needed, southwestern willow flycatcher (*Empidonax traillii extimus*) to document presence/absence and the extent of occupied habitat. The pre-construction survey area for these species shall encompass all suitable habitats within the impact area, as well as suitable habitat within a 300-foot buffer of the construction activities. If active nests for any of these species are detected, on-site noise reduction techniques shall be implemented to ensure that construction noise levels do not exceed 60 A-weighted decibels (dBA) hourly equivalent noise level (or the existing ambient noise level if already above 60 dBA during the breeding season) at the nest location.
- MM-BIO-10 INDIRECT EDGE EFFECTS.** The proposed project shall be designed so that any sports or recreational fields and courts shall be set back a minimum of 100 feet from the San Diego River.

MM-BIO-11 LIGHTING PLAN. Lighting shall be designed to minimize light pollution within native habitat areas, while enhancing safety, security, and functionality. All artificial outdoor light fixtures shall be installed so they are directed away from the San Diego River and Murphy Canyon Creek. The lighting in the River Park and Shared Parks and Open Space shall be designed so there is no light spillage into the River Corridor Area. Lighting should be directed away from sensitive areas to ensure compliance with the Multiple Species Conservation Program’s Land Use Adjacency Guidelines and to be consistent with the Land Development Code Section 142.0740 (Outdoor Lighting Regulations). Light fixtures shall be installed in conformance with the County Light Pollution Code, the Building Code, the Electrical Code, and any other related state and federal regulations such as California Title 24.

MM-BIO-12 RESTORE TEMPORARY IMPACTS. Temporary impacts to Diegan coastal sage scrub and southern cottonwood–willow riparian forest (federally and state-regulated wetlands) shall be restored to their original condition. California State University/San Diego State University or its designee shall prepare a conceptual restoration plan outlining the restoration of these communities and implement the restoration plan including monitoring and maintenance for a period of at least 3 years to ensure 80% coverage.

MM-BIO-13 WETLAND MITIGATION/FEDERAL AND STATE AGENCY PERMITS. The overall ratio of wetland/riparian habitat mitigation shall be 3:1. Impacts shall be mitigated at a 1:1 impact-to-creation ratio by either the creation, or purchase of credits for the creation, of jurisdictional habitat of similar functions and values. An additional 2:1 enhancement-to-impact ratio shall be required to meet the overall 3:1 impact-to-mitigation ratio for impacts to wetlands/riparian habitat. Impacts to unvegetated and ephemeral stream channels shall occur at a 1:1 or 2:1 mitigation ratio, with a 1:1 impact-to-creation ratio. Additional mitigation for unvegetated channels will occur through preservation. Mitigation may occur as on-site creation, off-site enhancement and restoration (e.g., at the San Diego State University-owned Adobe Falls property), and/or purchase of credits at an approved mitigation bank.

If mitigation is proposed outside of an approved mitigation bank, a Conceptual Wetlands Mitigation and Monitoring Plan shall be prepared and implemented. The Conceptual Wetlands Mitigation and Monitoring Plan shall, at a minimum, prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific criteria to determine successful revegetation.

Prior to impacts occurring to U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional aquatic resources, California State University/San Diego State University or its designee shall obtain the following permits: ACOE 404 permit, RWQCB 401 Water Quality Certification, and CDFW 1600 Streambed Alteration Agreement.

MM-BIO-14 BAT SURVEYS AND ROOST AVOIDANCE OR EXCLUSION. To determine if there is an active maternity roost within the buildings, a bat biologist shall conduct surveys prior to construction activities. If a maternity roost is present, the following measures shall be implemented to reduce the potential impact to special-status bat species to a less-than-significant level:

1. **Maternity Roosting Season Avoidance.** All proposed project-related activities, including bat roost exclusion, shall occur outside the general bat maternity roosting season of March through August.

Roost exclusion must only occur during the time when bats are most active (early spring or fall) to increase the potential to exclude all bats from trees and/or buildings and minimize the potential for a significant impact to occur by avoiding the maternity roosting season.

2. **Replacement Roost Installation.** One month prior to the exclusion of bats from the buildings, the consultant will procure and install two bat boxes from a reputable vendor, such as Bat Conservation and Management, to allow bats sufficient time to acclimate to a new potential roost location. The bat boxes shall be installed within close proximity to the trees and/or buildings and in an area that is within close proximity to suitable foraging habitat. Additionally, the bat boxes will be oriented to the south or southwest, and the area chosen for the bat boxes must receive sufficient sunlight (at least 6 hours) to allow the bat boxes to reach an optimum internal temperature (approximately 90° F) to mimic the existing bat roost. The bat boxes will be suitable to house crevice-roosting bat species, and large enough to contain a minimum of 50 bats (e.g., Four Chamber Premium Bat House or Bat Bunker Plus). The bat boxes shall be installed on the side of the adjacent structure that will be preserved by the proposed project, or installed on a 20-foot-tall steel pole.
3. **Roost Exclusion.** Approximately 1 month after bat boxes have been installed, exclusion of the existing roost within the trees and/or buildings will occur. The primary exit points for roosting bats will be identified, and all secondary ingress/egress locations on the trees and/or buildings will be covered with a tarp or wood planks to prevent bats from leaving from other locations. The primary exit point will remain uncovered to allow exclusion devices to be installed. Exclusion devices will consist of a screen (poly netting, window screen, or fiberglass screening) with mesh 1/6 of an inch or smaller, installed at the top and sealed along the sides of the window frame, covering the entire window and passing 2 feet below the bottom of the window. The exclusion devices will be installed at night to increase the potential that bats have already left the roost and are less likely to return. Exclusion devices will be left in place for a 1-week period to ensure that any remaining bats in the buildings are excluded. A passive acoustic monitoring detector will also be deployed during the exclusion period in order to verify excluded species and monitor if bat activity has decreased during the exclusion period. Periodic monitoring during the exclusion period should also be conducted to observe if any bats are still emerging from the trees and/or buildings, and an active monitoring survey conducted on the final night of exclusion to ensure that no bats are emerging from the trees and/or buildings and determine that exclusion has been successful. Any continued presence of roosting bats will require an adjustment to the exclusion devices and schedule.

MM-BIO-15 GLARE REDUCTION. Measures proposed to reduce the impact of bird strikes to windows at the proposed project's buildings include the following methods:

1. Create visual markers on the building glass surfaces. These markers function to indicate to birds that the surface is solid, thus preventing strikes to the object (City of Toronto 2007; Ocampo-Peñuela et al. 2016). Application to the lower portion of the buildings are most important and should match the average height of the surrounding landscaping or vegetation. These visual markers may include but are not limited to (City of Toronto 2007):
 - a) Patterned, fritted glass
 - b) Film that illustrates products or provides advertising
 - c) Patterns provided by decals

- d) Fenestration patterns that are provided structurally or by application of decals or etching of the glass
 - e) Decorative grilles or louvers
 - f) Artwork
2. Avoid use of reflective glass or application of reflective coatings on any window surface.

7 Level of Significance after Mitigation

Implementation of the above mitigation measures would reduce potential impacts to biological resources to **less-than-significant** levels.

Impacts BIO-1 and BIO-2: Least Bell's Vireo and Southwestern Willow Flycatcher

The direct impacts to suitable habitat for least Bell's vireo and southwestern willow flycatcher will be reduced to less than significant through implementation of **MM-BIO-1**, which requires habitat mitigation and take authorization from USFWS and/or CDFW, and **MM-BIO-2**, which requires habitat mitigation at a 3:1 mitigation ratio.

Impact BIO-3: Other Special-Status Birds

The direct impacts to suitable habitat for Cooper's hawk, Southern California rufous-crowned sparrow, yellow-breasted chat, and yellow warbler will be reduced to less than significant through implementation of **MM-BIO-2**, which requires habitat mitigation at a 3:1 mitigation ratio for impacts to southern cottonwood-willow riparian forest and 1.5:1 mitigation ratio for impacts to Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub.

Impact BIO-4: Special-Status Amphibians and Reptiles

The direct impacts to suitable habitat for southern California legless lizard, orange-throated whiptail, Coronado skink, and western spadefoot toad will be reduced to less than significant through implementation of **MM-BIO-2**, which requires habitat mitigation at a 3:1 mitigation ratio for impacts to southern cottonwood-willow riparian forest and 1.5:1 mitigation ratio for impacts to Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub.

Impact BIO-5: Bat Roosts

There are potential significant impacts to maternity bat roosts, if present, that could occur from the removal of suitable riparian trees on site. These impacts will be reduced to less than significant through implementation of **MM-BIO-14**, which requires bat surveys, maternity roost season avoidance, installation of replacement roost(s), and roost exclusion to ensure there are no direct impacts to a maternity roost.

Impact BIO-6: Migratory Birds

The significant direct impacts to nesting birds protected under the MBTA will be reduced to less than significant through implementation of **MM-BIO-3**, which requires nesting bird surveys when construction activities occur during the bird nesting season and avoidance buffers if active nests are found.

Impact BIO-7: Plants and Sensitive Natural Communities – Short-Term Indirect Impacts

The potential significant short-term indirect impacts to special-status plants and sensitive natural communities will be reduced to less than significant through implementation of **MM-BIO-4**, **MM-BIO-5**, and **MM-BIO-6**, which require temporary installation of construction fencing to delineate the limits of grading, biological monitoring, a monitoring report, and implementation of air quality standards.

Impact BIO-8: Plants and Sensitive Natural Communities – Long-Term Indirect Impacts

The potential significant long-term indirect impacts to special-status plants and sensitive natural communities will be reduced to less than significant through implementation of **MM-BIO-7**, which requires signage/barriers between the River Park and Shared Parks and Open Space and San Diego River/Murphy Canyon Creek interface, and **MM-BIO-8**, which imposes restrictions on landscape planting adjacent to the MHPA.

Impact BIO-9: Wildlife – Short-Term Indirect Impacts

The potential significant short-term indirect impacts to special-status wildlife species will be reduced to less than significant through implementation of **MM-BIO-4** and **MM-BIO-5**, which require temporary installation of construction fencing to delineate the limits of grading biological monitoring and a monitoring report; and **MM-BIO-9** which requires noise monitoring for least Bell's vireo, southwestern willow flycatcher, and/or coastal California gnatcatcher if present within 300 feet of the impact areas.

Impact BIO-10: Wildlife – Long-Term Indirect Impacts

The potential significant long-term indirect impacts to special-status wildlife species will be reduced to less than significant through implementation of **MM-BIO-7**, **MM-BIO-8**, **MM-BIO-10**, and **MM-BIO-11**, which require signage/barriers between the River Park and Shared Parks and Open Space and San Diego River/Murphy Canyon Creek interface, restrictions on landscape planting, compliance with the buffer setbacks, and a lighting plan.

Impact BIO-11: Sensitive Natural Communities – Temporary Direct Impacts

The proposed temporary direct impacts to southern cottonwood–willow riparian forest, Baccharis-dominated Diegan coastal sage scrub and restored Diegan coastal sage scrub will be reduced to less than significant through implementation of **MM-BIO-12**, which requires restoration of these impacts to pre-project condition.

Impact BIO-12: Sensitive Natural Communities – Permanent Direct Impacts

Permanent direct impacts to sensitive vegetation communities and land covers will be reduced to less than significant through implementation of **MM-BIO-2**, which requires habitat mitigation.

Impact BIO-13: Jurisdictional Waters– Temporary Direct Impacts

The proposed temporary impacts to federally and state-regulated wetlands/riparian areas will be reduced to less than significant through implementation of **MM-BIO-12**, which requires restoration of these impacts to pre-project conditions, and **MM-BIO-13**, which requires state and federal permits.

Impact BIO-14: Jurisdictional Waters – Permanent Direct Impacts

Permanent direct impacts to federally and state-regulated wetlands/riparian areas and non-wetland waters will be reduced to less than significant through implementation of **MM-BIO-2**, which requires habitat mitigation, and **MM-BIO-13**, which requires state and federal permits.

Impact BIO-15: Jurisdictional Waters – Short-Term Indirect Impacts

The potential significant short-term indirect impacts to sensitive vegetation communities will be reduced to less than significant through implementation of **MM-BIO-4**, **MM-BIO-5**, and **MM-BIO-6**, which require temporary installation of construction fencing to delineate the limits of grading, biological monitoring, a monitoring report, and implementation of air quality standards.

Impact BIO-16: Jurisdictional Waters – Long-Term Indirect Impacts

The potential significant long-term indirect impacts to sensitive vegetation communities will be reduced to less than significant through implementation of **MM-BIO-7**, which requires signage/barriers between the River Park and Shared Parks and Open Space and San Diego River/Murphy Canyon Creek interface, and **MM-BIO-8**, which imposes restrictions on landscape planting adjacent to the MHPA.

Impact BIO-17: Migratory Birds

There are potential significant impacts from bird strikes with the proposed buildings on site. These impacts will be reduced to less than significant through implementation of **MM-BIO-15**, which requires non-reflective coating on all windows as well as other methods to reduce bird strikes.

Impact BIO-18: Wildlife Movement – Short-Term Indirect Impacts

The potential significant short-term indirect impacts to the native habitat, including the San Diego River and Murphy Canyon Creek, will be reduced to less than significant through implementation of **MM-BIO-4** and **MM-BIO-5**, which require temporary installation of construction fencing to delineate the limits of grading biological monitoring and a monitoring report.

Impact BIO-19: Wildlife Movement – Long-Term Indirect Impacts

The potential significant long-term indirect impacts to the native habitat, including the San Diego River and Murphy Canyon Creek, will be reduced to less than significant through implementation of **MM-BIO-7**, **MM-BIO-8**, **MM-BIO-10**, and **MM-BIO-11**, which require signage/barriers between the River Park and Shared Parks and Open Space and San Diego River/Murphy Canyon Creek interface, restrictions on landscape planting, compliance with the buffer setbacks, and a lighting plan.

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8 References Cited

- 14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.
- 16 USC 1531–1544. Endangered Species Act, as amended.
- 16 USC 703–712. Migratory Bird Treaty Act, as amended.
- 33 CFR 328.1–328.5. Definition of Waters of the United States.
- 66 FR 3853–3856. Executive Order 13186 of January 10, 2001: “Responsibilities of Federal Agencies to Protect Migratory Birds.” Presidential Documents. January 17, 2001.
- ACOE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Wetlands Research Program Technical Report Y-87- 1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606.
- ACOE. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed March 2014. http://www.usace.army.mil/CECW/Pages/reg_supp.aspx.
- ACOE and EPA (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency). 2008. *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States*. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. August 2008. Accessed March 2019. <https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf>.
- AOS (American Ornithologists’ Union). 2019. “Check-List of North and Middle American Birds.” AOS, North American Classification Committee. Accessed February 2019. <http://checklist.aou.org/>.
- Beier, P., and S. Loe. 1992. “A Checklist for Evaluating Impacts to Wildlife Movement Corridors.” *Wildlife Society Bulletin* 20:434–440.
- Bing (Bing Aerial Imagery). 2019. “San Diego, California” [aerial photograph]. Redmond, Washington: Microsoft.
- Borden, W.C., O.M. Lockhart, A.W. Jones, and M.S. Lyons. 2010. “Seasonal, Taxonomic, and Local Habitat Components of Bird–Window Collisions on an Urban University Campus in Cleveland, OH.” *Ohio Journal of Science* 110:44–52.
- Bossard, C.C., J.M. Randall, and M.C. Hoshovsky. 2000. *Invasive Plants of California’s Wildlands*. Berkeley, California: University of California Press.
- California Fish and Game Code, Section 1602.
- California Fish and Game Code, Section 2050–2098. California Endangered Species Act.

- California Fish and Game Code, Section 3500–3516. Division 4: Birds and Mammals, Part 2: Birds, Chapter 1: General Provisions.
- California Fish and Game Code, Section 4700. Division 4: Birds and Mammals; Part 3: Mammals; Chapter 8: Fully Protected Mammals.
- Carrier Johnson. 2019.
- CDFG (California Department of Fish and Game). 2000. *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*.
- CDFW (California Department of Fish and Wildlife). 2018a. “State and Federally Listed Endangered, Threatened, and Rare Plants of California.” August 6, 2018.
- CDFW. 2018b. “State and Federally Listed Endangered and Threatened Animals of California.” August 6, 2018.
- CDFW. 2018c. Natural Diversity Database. Special Animals List. November 2018. 67 pp. Accessed December 11, 2018.
- CDFW. 2019. California Natural Diversity Database (CNDDDB) RareFind Version 5.2.14 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed February 13, 2019. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.
- City of San Diego. 1997. *City of San Diego Final MSCP Subarea Plan*. Prepared by the City of San Diego Community and Economic Development Department. March 1997.
- City of San Diego. 2012. *San Diego Municipal Code, Land Development Code—Biology Guidelines*. Amended April 23, 2012 by Resolution No. R-307376. https://www.sandiego.gov/sites/default/files/ldc_biology_guidelines_vphcp_wildlife-city_draft_july_2016.pdf.
- City of San Diego. 2013. *Mission Valley Community Plan*. As amended May 2013. Prepared by the City of San Diego Planning Department. Accessed February 18, 2018. https://www.sandiego.gov/sites/default/files/mission_valley_cp_060613_0.pdf.
- City of Toronto. 2007. *Bird-Friendly Development Guidelines*. City of Toronto Green Development Standard, Fatal Lights Awareness Program. March 2007.
- CNPS (California Native Plant Society). 2001. *Botanical Survey Guidelines*.
- CNPS (California Native Plant Society). 2019. *Inventory of Rare and Endangered Plants* (online edition, version 8-03 0.39). Sacramento, California: California Native Plant Society. Accessed February 2019. www.rareplants.cnps.org.
- Cooper, B.A., and R.J. Ritchie. 1995. “The Altitude of Bird Migration in East-Central Alaska: A Radar and Visual Study.” *Journal of Field Ornithology* 66(4): 590–608.
- Cornell Lab of Ornithology. 2019. eBird – Species Maps. Accessed July 2019. <https://ebird.org/explore>.

- County of San Diego. 1998. *Final Multiple Species Conservation Program MSCP Plan*. August 1998. Accessed December 18, 2018. <http://www.sdcounty.ca.gov/pds/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf>.
- Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*. edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular no. 39. August 2012. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.
- Cypher, E.A. 2002. "General Rare Plant Survey Guidelines." Bakersfield, California: California State University, Stanislaus, Endangered Species Recovery Program. Revised July 2002. http://www.fws.gov/sacramento/ES/Survey-Protocols-Guidelines/Documents/rare_plant_protocol.pdf.
- DOI (Department of the Interior). 2017. "The Migratory Bird Act Does Not Prevent Incidental Take." Memorandum M-37050. December 22, 2017. Accessed March 2019. <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>.
- Dudek. 2017. *Focused Least Bell's Vireo Survey Report for the Stadium Wetland Mitigation Project, San Diego, California*. Prepared for the City of San Diego Public Utilities Department. Encinitas, California: Dudek. July 19, 2017.
- Dudek. 2019a. *SDSU Mission Valley Campus Master Plan Project Noise Technical Report*. Prepared for San Diego State University. Encinitas, California: Dudek. July 2019.
- Dudek. 2019b. *Population and Housing Technical Report for the San Diego State University Mission Valley Campus Master Plan Project*. Prepared for San Diego State University. Encinitas, California: Dudek. February 2019.
- Gelb, Y., and N. Delacretaz. 2006. "Avian Window Strike Mortality at an Urban Office Building." *Kingbird* 56:190–198.
- Gelb, Y., and N. Delacretaz. 2009. "Windows and Vegetation: Primary Factors in Manhattan Bird Collisions." *Northeastern Naturalist* 16:455–470.
- Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game. October 1986.
- Jepson Flora Project. 2019. *Jepson eFlora*. Berkeley, California: University of California. Accessed February 2019. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl
- Klem, D. 1989. "Bird–Window Collisions." *Wilson Bulletin* 101(4): 606–620.
- Klem, D. 1990. "Bird Injuries, Cause of Death, and Recuperation from Collisions with Windows." *Field Ornithology* 61(1): 115–119.
- Klem, D., D.C. Keck, K.L. Marty, A.J. Miller Ball, E.E. Niciu, and C.T. Platt. 2004. "Effects of Window Angling, Feeder Placement, and Scavengers on Avian Mortality at Plate Glass." *Wilson Bulletin* 116:69–73.
- Klem, D., Jr. 2009. "Preventing Bird–Window Collisions." *Wilson Journal of Ornithology* 121:314–321.

- Lemm, J.M. 2006. *Field Guide to Amphibians and Reptiles of the San Diego Region*. Berkley, California: University of California Press.
- Lovich, J.E., and J.R. Ennen. 2011. "Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States." *BioScience* 61(12): 982–992.
- NABA (North American Butterfly Association). 2001. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed October 14, 2016. <http://www.naba.org/pubs/enames2.html>
- NatureServe. 2019. "Conservation Status Assessment, Identifying Threatened Species and Ecosystems." Accessed February 2019. <http://www.natureserve.org/conservation-tools/conservation-status-assessment>.
- Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed December 2016. http://www.sdcanyonlands.org/pdfs/veg_comm_sdcounty_2008_doc.pdf.
- Ocampo-Peñuela, N., R.S. Winton, C.J. Wu, E. Zambello, T.W. Wittig, and N.L. Cagle. 2016. "Patterns of Bird–Window Collisions Inform Mitigation on a University Campus." *PeerJ* 4:e1652; <https://doi.org/10.7717/peerj.1652>.
- O’Connell, T. 2001. "Avian Window Strike Mortality at a Suburban Office Park." *Raven* 72:141–149.
- SanGIS (San Diego Geographic Information Source). 2019. San Diego Geographic Information Source. Accessed December 2016. <http://www.sangis.org/>.
- SDNHM (San Diego Natural History Museum). 2002. "Butterflies of San Diego County." Revised September 2002. Accessed October 14, 2016. <http://www.sdnhm.org/archive/research/entomology/sdbutterflies.html>.
- Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher*. U.S. Geological Survey Techniques and Methods 2A-10.
- Tremor, S., D. Stokes, W. Spencer, J. Diffendorfer, H. Thomas, S. Chivers, and P. Unitt. 2017. *San Diego County Mammal Atlas*. San Diego Natural History Museum. December 2017.
- Unitt, P. 2004. *San Diego Bird Atlas*. San Diego Natural History Museum. October 2004.
- USDA (U.S. Department of Agriculture). 2019a. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- USDA. 2019b. "California." State PLANTS Checklist. Accessed February 2019. <https://plants.sc.egov.usda.gov/java/news#modernization>.
- USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol*. July 28, 1997.
- USFWS. 2001. *Least Bell’s Vireo Survey Guidelines*. January 19, 2001. Accessed 2019. https://www.fws.gov/ventura/docs/species/protocols/lbv/leastbellsvireo_survey-guidelines.pdf.

USFWS. 2008. *Birds of Conservation Concern 2008*. December 2008.

USFWS. 2019. "Critical Habitat and Occurrence Data" [map]. Accessed February 2019. <http://www.fws.gov/data>.

USGS (U.S. Geological Survey). 2019. National Hydrography Dataset (NHD). NHD flowline map. Accessed December 2019. <http://nhd.usgs.gov/data.html>

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

WRCC (Western Regional Climate Center). 2019. Historical Climate Information: San Diego Lindberg Field. Accessed February 2019: <http://www.wrcc.dri.edu>

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Appendix A

Plant Compendium

Vascular Species

Monocots

ARECACEAE—PALM FAMILY

- * *Washingtonia robusta*—Washington fan palm

ASPHODELACEAE—ASPHODEL FAMILY

- * *Asphodelus fistulosus*—onionweed

CYPERACEAE—SEDEGE FAMILY

- Carex aquatilis*—water sedge
- Cyperus eragrostis*—tall flatsedge
- Schoenoplectus californicus*—California bulrush

JUNCACEAE—RUSH FAMILY

- Juncus acutus* ssp. *leopoldii*—southwestern spiny rush
- Juncus bufonius*—toad rush

POACEAE—GRASS FAMILY

- * *Arundo donax*—giant reed
- * *Avena barbata*—slender oat
- * *Brachypodium distachyon*—purple false brome
- Bromus carinatus*—California brome
- * *Bromus diandrus*—ripgut brome
- * *Bromus madritensis* ssp. *rubens*—red brome
- * *Cortaderia selloana*—Uruguayan pampas grass
- * *Ehrharta erecta*—panic veldtgrass
- Elymus condensatus*—giant wild rye
- * *Festuca myuros*—rat-tail fescue
- Festuca octoflora*—sixweeks fescue
- * *Festuca perennis*—perennial rye grass
- * *Hordeum murinum*—mouse barley
- * *Poa annua*—annual bluegrass
- * *Polypogon monspeliensis*—annual rabbitsfoot grass
- * *Polypogon viridis*—beardless rabbitsfoot grass
- * *Schismus barbatus*—common Mediterranean grass
- * *Stipa miliacea* var. *miliacea*—smilgrass
- Stipa pulchra*—purple needlegrass

TYPHACEAE—CATTAIL FAMILY

- Typha domingensis*—southern cattail

Dicots

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Malosma laurina—laurel sumac

APIACEAE—CARROT FAMILY

Apiastrum angustifolium—mock parsley

* *Apium graveolens*—wild celery

* *Conium maculatum*—poison hemlock

Daucus pusillus—American wild carrot

* *Foeniculum vulgare*—fennel

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia psilostachya—western ragweed

Artemisia californica—California sagebrush

Artemisia douglasiana—Douglas' sagewort

Artemisia palmeri—San Diego sagewort

Baccharis pilularis—coyote brush

Baccharis salicifolia ssp. *salicifolia*—mulefat

Baccharis sarothroides—desertbroom

* *Bidens pilosa*—hairy beggarticks

* *Centaurea melitensis*—Maltese star-thistle

* *Cotula australis*—Australian waterbuttons

* *Cotula coronopifolia*—brass buttons

Encelia californica—California brittle bush

Erigeron canadensis—Canadian horseweed

Eriophyllum confertiflorum var. *confertiflorum*—golden-yarrow

* *Glebionis coronaria*—crowndaisy

* *Hedypnois rhagadioloides*—crete weed

* *Helminthotheca echioides*—bristly oxtongue

Heterotheca grandiflora—telegraphweed

* *Hypochaeris glabra*—smooth cat's ear

Isocoma menziesii var. *menziesii*—Menzies' goldenbush

Isocoma menziesii var. *vernonioides*—Menzies' goldenbush

Iva hayesiana—San Diego marsh-elder

* *Lactuca serriola*—prickly lettuce

* *Matricaria discoidea*—disc mayweed

Pluchea odorata—sweetscent

Pseudognaphalium beneolens—Wright's cudweed
Pseudognaphalium biolettii—two-color rabbit-tobacco
Pseudognaphalium canescens—Wright's cudweed
* *Senecio vulgaris*—old-man-in-the-Spring
* *Silybum marianum*—blessed milkthistle
* *Sonchus asper* ssp. *asper*—spiny sowthistle
* *Sonchus oleraceus*—common sowthistle
Xanthium strumarium—cocklebur

BORAGINACEAE—BORAGE FAMILY

Eucrypta chrysanthemifolia var. *chrysanthemifolia*—spotted hideseed
Heliotropium curassavicum var. *oculatum*—seaside heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
* *Hirschfeldia incana*—shortpod mustard
* *Lepidium didymum*—lesser swinecress
Lepidium lasiocarpum ssp. *lasiocarpum*—shaggyfruit pepperweed
* *Lobularia maritima*—sweet alyssum
Nasturtium officinale—watercress
* *Raphanus sativus*—cultivated radish
* *Sisymbrium altissimum*—tall tumbled mustard
* *Sisymbrium irio*—London rocket
* *Sisymbrium orientale*—Indian hedgemustard

CACTACEAE—CACTUS FAMILY

Cylindropuntia prolifera—coastal cholla
Opuntia littoralis—coast prickly pear

CARYOPHYLLACEAE—PINK FAMILY

* *Polycarpon tetraphyllum* var. *tetraphyllum*—fourleaf manyseed

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex lentiformis—quailbush
* *Chenopodium album*—lambsquarters
* *Dysphania ambrosioides*—Mexican tea
* *Salsola tragus*—prickly Russian thistle

CONVOLVULACEAE—MORNING-GLORY FAMILY

Calystegia macrostegia—island false bindweed

CRASSULACEAE—STONECROP FAMILY

Crassula connata—sand pygmyweed

EUPHORBIACEAE—SPURGE FAMILY

- * *Euphorbia maculata*—spotted sandmat
- * *Euphorbia peplus*—petty spurge
- * *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

- * *Acacia melanoxydon*—blackwood
- Acmispon americanus* var. *americanus*—American bird's-foot trefoil
- Acmispon glaber* var. *glaber*—common deerweed
- Lupinus hirsutissimus*—stinging annual lupine
- Lupinus succulentus*—hollowleaf annual lupine
- * *Melilotus albus*—yellow sweetclover
- * *Melilotus indicus*—annual yellow sweetclover
- * *Vachellia farnesiana*—sweet acacia

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak

GERANIACEAE—GERANIUM FAMILY

- * *Erodium cicutarium*—redstem stork's bill
- Geranium carolinianum*—Carolina geranium

LAMIACEAE—MINT FAMILY

Salvia apiana—white sage
Salvia mellifera—black sage

LYTHRACEAE—LOOSESTRIFE FAMILY

- * *Lythrum hyssopifolia*—hyssop loosestrife

MYRSINACEAE—MYRSINE FAMILY

- * *Lysimachia arvensis*—scarlet pimpernel

ONAGRACEAE—EVENING PRIMROSE FAMILY

Oenothera elata—Hooker's evening primrose

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

PHRYMACEAE—LOPSEED FAMILY

Erythranthe guttata—common monkey flower

PLANTAGINACEAE—PLANTAIN FAMILY

- * *Plantago coronopus*—buckhorn plantain
- Plantago erecta*—dwarf plantain
- * *Plantago lanceolata*—narrowleaf plantain
- * *Veronica anagallis-aquatica*—water speedwell

PLATANACEAE—PLANE TREE, SYCAMORE FAMILY

Platanus racemosa—California sycamore

POLYGONACEAE—BUCKWHEAT FAMILY

- * *Polygonum aviculare*—prostrate knotweed
- * *Rumex crispus*—curly dock

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon
Rosa californica—California rose

RUBIACEAE—MADDER FAMILY

Galium aparine—stickywilly

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. *fremontii*—Fremont cottonwood
Salix exigua var. *exigua*—narrowleaf willow
Salix gooddingii—black willow
Salix lasiolepis—arroyo willow

SOLANACEAE—NIGHTSHADE FAMILY

Datura wrightii—sacred thorn-apple
Solanum douglasii—greenspot nightshade

TAMARICACEAE—TAMARISK FAMILY

- * *Tamarix ramosissima*—tamarisk

TROPAEOLACEAE—NASTURTIUM FAMILY

- * *Tropaeolum majus*—nasturtium

ULMACEAE—ELM FAMILY

- * *Ulmus parvifolia*—Chinese elm

URTICACEAE—NETTLE FAMILY

Urtica dioica ssp. *holosericea*—stinging nettle

* *Urtica urens*—dwarf nettle

VERBENACEAE—VERVAIN FAMILY

Verbena menthifolia—mint vervain

* signifies introduced (non-native) species.

Appendix B

Wildlife Compendium

BIRD

BLACKBIRDS, ORIOLES, AND ALLIES

ICTERIDAE—BLACKBIRDS

Euphagus cyanocephalus—Brewer's blackbird

Icterus cucullatus—hooded oriole

* *Molothrus ater*—brown-headed cowbird

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

CARDINALS, GROSBEAKS, AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Contopus sordidulus—western wood-pewee

Empidonax difficilis—Pacific-slope flycatcher

Myiarchus cinerascens—ash-throated flycatcher

Sayornis nigricans—black phoebe

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Tyrannus vociferans—Cassin's kingbird

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

- Accipiter cooperii*—Cooper’s hawk
- Buteo jamaicensis*—red-tailed hawk
- Buteo lineatus*—red-shouldered hawk
- Pandion haliaetus*—osprey

HERONS AND BITTERNS

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

- Ardea alba*—great egret
- Ardea herodias*—great blue heron
- Butorides virescens*—green heron
- Nycticorax nycticorax*—black-crowned night-heron

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

- Calypte anna*—Anna’s hummingbird
- Selasphorus sasin*—Allen’s hummingbird

JAYS, MAGPIES, AND CROWS

CORVIDAE—CROWS AND JAYS

- Aphelocoma californica*—California scrub-jay
- Corvus brachyrhynchos*—American crow
- Corvus corax*—common raven

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

- Mimus polyglottos*—northern mockingbird

NEW WORLD VULTURES

CATHARTIDAE—NEW WORLD VULTURES

- Cathartes aura*—turkey vulture

OLD WORLD SPARROWS

PASSERIDAE—OLD WORLD SPARROWS

- * *Passer domesticus*—house sparrow

OWLS

TYTONIDAE—BARN OWLS

Tyto alba—barn owl

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

- * *Columba livia*—rock pigeon (rock dove)
- * *Streptopelia decaocto*—Eurasian collared-dove
- Zenaida macroura*—mourning dove

SHOREBIRDS

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

STARLINGS AND ALLIES

STURNIDAE—STARLINGS

- * *Sturnus vulgaris*—European starling

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
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 occidentalis—western gull

THRUSHES

TURDIDAE—THRUSHES

Catharus ustulatus—Swainson's thrush
Turdus migratorius—American robin

VIREOS

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

Vireo gilvus—warbling vireo

Vireo huttoni—Hutton's vireo

WATERFOWL

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Cardellina pusilla—Wilson's warbler

Geothlypis trichas—common yellowthroat

Oreothlypis celata—orange-crowned warbler

Setophaga coronata—yellow-rumped warbler

Setophaga petechia—yellow warbler

Setophaga townsendi—Townsend's warbler

WOODPECKERS

PICIDAE—WOODPECKERS AND ALLIES

Colaptes auratus—northern flicker

Melanerpes formicivorus—acorn woodpecker

Dryobates nuttallii—Nuttall's woodpecker

Dryobates pubescens—downy woodpecker

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

WAXBILLS

ESTRILDIDAE—WAXBILLS

- * *Lonchura punctulata*—scaly-breasted munia

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

- Aimophila ruficeps canescens*—Southern California rufous-crowned sparrow
Melospiza lincolnii—Lincoln's sparrow
Melospiza melodia—song sparrow
Melospiza crissalis—California towhee
Pipilo maculatus—spotted towhee
Zonotrichia leucophrys—white-crowned sparrow

YELLOW-BREASTED CHAT

ICTERIIDAE—YELLOW-BREASTED CHAT

- Icteria virens*—yellow-breasted chat

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

- Brephidium exile*—western pygmy-blue
Icaricia acmon acmon—Acmon blue
Leptotes marina—marine blue
Strymon melinus—gray hairstreak

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

- Adelpha bredowii*—California sister
Danaus plexippus—monarch
Nymphalis antiopa—mourning cloak
Vanessa cardui—painted lady

HESPERIIDAE—SKIPPERS

- Erynnis funeralis*—funereal duskywing

PAPILIONIDAE—SWALLOWTAILS

- Papilio rutulus*—western tiger swallowtail

PIERIDAE—WHITES AND SULFURS

Phoebis sennae—cloudless sulphur

Pieris rapae—cabbage white

Pontia protodice—checkered white

MAMMAL

RACCOONS

PROCYONIDAE—RACCOONS AND RELATIVES

Procyon lotor—raccoon

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus graciosus—common sagebrush lizard

* signifies introduced (non-native) species

Appendix C1

Special-Status Plants – Observed

APPENDIX C1

SPECIAL-STATUS PLANT SPECIES OBSERVED WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Artemisia palmeri</i>	San Diego sagewort	None/None/4.2	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; sandy, mesic/perennial deciduous shrub/ (Feb)May-Sep/45-3,000	Observed in the study area in the San Diego River during the 2019 plant surveys.
<i>Iva hayesiana</i>	San Diego marsh-elder	None/None/2B.2	Marshes and swamps, playas/ perennial herb/Apr-Oct/30-1,640	Observed in the study area in the San Diego River during the 2019 plant surveys.
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush	None/None/4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar)May-June/5-2,955	Observed in the study area in the San Diego River during the 2019 plant surveys.

Notes: amsl = above mean sea level.

¹ Regulatory status is based on the Special Plants List (November 2018) (CDFW 2018).

² "Vicinity" refers to species recorded in the USGS 7.5-minute La Mesa or La Jolla quadrangles (CDFW 2019; CNPS 2019).

CRPR:

California Rare Plant Rank (CRPR)

2B: Plants rare, threatened, or endangered in California but more common elsewhere

4: Watch List: Plants of limited distribution

Threat Ranks:

0.2: Fairly threatened in California (moderate degree/immediacy of threat)

References

- CDFW (California Department of Fish and Wildlife). 2018. "Special Vascular Plants, Bryophytes, and Lichens List." California Natural Diversity Database. November 2018. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline=1>.
- CDFW. 2019. California Natural Diversity Database (CNDDDB) RareFind. Version 5.2.14. Accessed February 13, 2019. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.
- CNPS (California Native Plant Society). 2019. *Inventory of Rare and Endangered Plants* (online ed., version 8-02). Sacramento, California: CNPS, Rare Plant Program. Accessed February 13, 2019. <http://www.rareplants.cnps.org/>.

Appendix C2

Special-Status Plants – Not Expected to Occur

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Abronia maritima</i>	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/0–330	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal dunes present.
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, openings/annual herb/Apr–June/30–3,150	Absent. Not observed during the 2019 rare plant surveys. This species is associated with heavy clay soils (USFWS 2009a). There is no suitable clay soil or vernal pool habitat present within the project area or off-site areas. This species is known to occur within the vicinity ² however, all known CNDDDB occurrences within a 3-mile radius are considered extirpated or possibly extirpated (CDFW 2019).
<i>Acmispon prostratus</i>	Nuttall's acmispon	None/None/ 1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar–June(July)/0–35	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal dune habitat is present, but marginally suitable Baccharis-dominated coastal sage scrub occurs in the western corner of the project area. The closest known CNDDDB occurrences are approximately 5.5 miles west of the project area within Mission Bay Park (CDFW 2019).
<i>Adolphia californica</i>	California adolphia	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec–May/30–2,430	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western corner of the project area; however, suitable clay soil is not present. The closest CNDDDB occurrence is located approximately 1.4 miles southeast of the project area (CDFW 2019).
<i>Agave shawii</i> var. <i>shawii</i>	Shaw's agave	None/None/ 2B.1	Coastal bluff scrub, Coastal scrub; Maritime succulent scrub/perennial leaf succulent/Sep–May/5–395	Absent. Not observed during the 2019 rare plant surveys. There is no suitable coastal bluff scrub present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 9.2 miles southwest of the project area (CDFW 2019). As stated by Reiser (2001), this species is almost extirpated within the U.S., and only occurs in a few documented areas.

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Ambrosia chenopodiifolia</i>	San Diego bur-sage	None/None/ 2B.1	Coastal scrub/perennial shrub/Apr–June/180–510	Absent. Not observed during the 2019 rare plant surveys. Although marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area, this species is not known to occur within the vicinity ² (CDFW 2019).
<i>Ambrosia monogyra</i>	singlewhorl burrobrush	None/None/ 2B.2	Chaparral, Sonoran desert scrub; sandy/perennial shrub/Aug–Nov/30–1,640	Absent. This species was observed further south within the San Diego River, but is absent from the project area. The closest CNDDDB occurrence is located only approximately 0.9 miles northwest of the project area (CDFW 2019), there is no suitable chaparral or desert vegetation present within the project area or off-site areas.
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr–Oct/65–1,360	Absent. Not observed during the 2019 rare plant surveys. This species primarily occurs within upper terraces of rivers or drainages, although it has been documented in a variety of other habitats as well (USFWS 2010a). Marginally suitable Baccharis-dominated coastal sage scrub next to a storm drain outlet channel and associated riparian strip is present in the western portion of the project area; however, the closest extant CNDDDB occurrence is located approximately 5 miles northeast of the site (CDFW 2019). This species has moderate potential to occur within the adjacent riparian habitat of the San Diego River.
<i>Aphanisma blitoides</i>	aphanisma	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy or gravelly/annual herb/Feb–June/0–1,000	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal bluff scrub is present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 8 miles northwest of the project area in the Pacific Beach/La Jolla area (CDFW 2019).

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec–June/0–1,200	Absent. Not observed during the 2019 rare plant surveys. No suitable chaparral vegetation is present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 5.4 miles northeast of the project area near Fortuna Mountain adjacent to MCAS Miramar (CDFW 2019).
<i>Arctostaphylos otayensis</i>	Otay manzanita	None/None/ 1B.2	Chaparral, Cismontane woodland; metavolcanic/perennial evergreen shrub/Jan–Apr/900–5,575	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Asplenium vespertinum</i>	western spleenwort	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial rhizomatous herb/Feb–June/590–3,280	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range.
<i>Astragalus deanei</i>	Dean's milk-vetch	None/None/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian forest/perennial herb/Feb–May/245–2,280	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present within the western portion of the project area; however, this species is not known to occur within the vicinity ² (CDFW 2019).
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE/SE/1B.1	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic); often vernal mesic areas/annual herb/Mar–May/0–165	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal bluff scrub vegetation present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Atriplex coulteri</i>	Coulter's saltbush	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/5–1,510	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub and Diegan coastal sage scrub is present in the western corner of the project area. The closest CNDDDB occurrence is located 1.2 miles northwest of the project area, within Lower Sandrock Canyon (CDFW 2019).

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Atriplex pacifica</i>	South Coast saltscale	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar-Oct/0-460	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western corner of the project area. The closest CNDDDB occurrence is located 4.7 miles northwest of the project area, within Tecolote Canyon (CDFW 2019).
<i>Baccharis vanessae</i>	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; sandstone/perennial deciduous shrub/Aug,Oct,Nov/195-2,360	Absent. Not observed during the 2019 rare plant surveys. No suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Berberis nevinii</i>	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; sandy or gravelly/perennial evergreen shrub/(Feb)Mar-June/225-2705	Absent. Not observed during the 2019 rare plant surveys. This species is only recorded in two locations in San Diego County—southwest of Palomar Mountain and Anza-Borrego—and may not be part of this species' native range as it is also cultivated (USFWS 2009b).
<i>Bergerocactus emoryi</i>	golden-spined cereus	None/None/ 2B.2	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy/perennial stem succulent/May-June/5-1,295	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western corner of the project area; however, only one CNDDDB occurrence is known to occur within the vicinity ² and is considered to be extirpated (CDFW 2019).
<i>Bloomeria clevelandii</i>	San Diego goldenstar	None/None/ 1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial bulbiferous herb/Apr-May/160-1,525	Absent. Not observed during the 2019 rare plant surveys. This species is commonly found on clay soils in the vicinity of vernal pools (Reiser 2001), which are not present within the marginally suitable Baccharis-dominated coastal sage scrub in the western corner of the project area. This closest CNDDDB occurrence is located approximately 0.6 miles northwest of the project area along the mesa south of Rhonda Ave (CDFW 2019).

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar-June/80-3,675	Absent. Not observed during the 2019 rare plant surveys. This species prefers grassland habitat and clay soils (Reiser 2001), which is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	None/None/ 1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools; mesic, clay/perennial bulbiferous herb/May-July/95-5,550	Absent. Not observed during the 2019 rare plant surveys. No clay soils, vernal pools, or otherwise suitable vegetation is present within the project area or off-site areas. The closest CNDDDB occurrence is located 1.3 miles northeast of the project area within Murphy Canyon (CDFW 2019).
<i>Calamagrostis koelerioides</i>	San Diego reed grass	None/None/ None	Chaparral, meadows and seeps; slopes, dry hills, ridges/perennial rhizomatous herb/June-Aug/0-7,546	Absent. Not observed during the 2019 rare plant surveys. No suitable vegetation present.
<i>Calandrinia breweri</i>	Brewer's calandrinia	None/None/4.2	Chaparral, Coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/(Jan)Mar-June/30-4,005	Absent. Not observed during the 2019 rare plant surveys.
<i>Calochortus dunnii</i>	Dunn's mariposa lily	None/SR/1B.2	Closed-cone coniferous forest, Chaparral, Valley and foothill grassland; gabbroic or metavolcanic, rocky/perennial bulbiferous herb/(Feb)Apr-June/605-6,005	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral, grassland, or coniferous forest vegetation present within the project area or off-site areas.
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	None/None/3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy or clay/annual herb/Mar-May(June)/0-985	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area. The closest known occurrence is located approximately 4.2 miles northeast of the project area (CCH 2019).

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Castilleja plagiotoma</i>	Mojave paintbrush	None/None/4.3	Great Basin scrub (alluvial), Joshua tree woodland, Lower montane coniferous forest, Pinyon and juniper woodland/perennial herb (hemiparasitic)/Apr-June/980-8,200	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Caulanthus heterophyllus</i>	California mustard	None/None/ None	Coastal scrub, chaparral; dry, open, generally after fire, disturbance/annual herb/Mar-May/1,400-4,593	Absent. Not observed during the 2019 rare plant surveys.
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	None/None/ 1B.2	Closed-cone coniferous forest, Chaparral/perennial evergreen shrub/Apr-June/770-2,475	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable coniferous forest or chaparral vegetation present within the project area or off-site areas.
<i>Ceanothus otayensis</i>	Otay Mountain ceanothus	None/None/ 1B.2	Chaparral (metavolcanic or gabbroic)/perennial evergreen shrub/Jan-Apr/1,965-3,610	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral vegetation present within the project area or off-site areas.
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus	None/None/ 2B.2	Chaparral/perennial evergreen shrub/Dec-May/0-1,245	Absent. Not observed during the 2019 rare plant surveys. No suitable chaparral vegetation present within the project area or off-site areas. The closest CNDDDB occurrence is located 0.5 miles southeast of the project area.
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	None/None/ 1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May-Nov/0-1,575	Absent. Not observed during the 2019 rare plant surveys. This species occurs within grasslands, vernal pools, and along the margins of marshes, none of which is present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None/None/ 1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2,100	Absent. Not observed during the 2019 rare plant surveys. This species prefers alkali meadow or alkali scrub habitat, which is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt’s pincushion	None/None/ 1B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal bluff or coastal dune vegetation present within the project area or off-site areas.
<i>Chamaebatia australis</i>	southern mountain misery	None/None/4.2	Chaparral (gabbroic or metavolcanic)/perennial evergreen shrub/Nov–May/980–3,345	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species’ known elevation range, and there is no suitable chaparral vegetation present within the project area or off-site areas.
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	salt marsh bird’s-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct(Nov)/0–100	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal marsh or coastal dune vegetation present within the project area or off-site areas.
<i>Chorizanthe leptotheca</i>	Peninsular spineflower	None/None/4.2	Chaparral, Coastal scrub, Lower montane coniferous forest; alluvial fan, granitic/annual herb/May–Aug/980–6,235	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species’ known elevation range.
<i>Chorizanthe orcuttiana</i>	Orcutt’s spineflower	FE/SE/1B.1	Closed-cone coniferous forest, Chaparral (maritime), Coastal scrub; sandy openings/annual herb/Mar–May/5–410	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present within the project area, although sandy soil is absent. This species is considered possibly extirpated within the vicinity ² (CDFW 2019).

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	None/None/ 1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr-July/95-5,020	Absent. Not observed during the 2019 rare plant surveys. This species prefers clay soils which are absent within the project area, although marginally suitable Baccharis-dominated coastal sage scrub is present. The closest CNDDDB occurrence is located approximately 3.8 miles north of the project area (CDFW 2019).
<i>Cistanthe maritima</i>	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; sandy/annual herb/(Feb)Mar-June(Aug)/15-985	Absent. Not observed during the 2019 rare plant surveys. This species generally occurs along the immediate coastline (CCH 2019).
<i>Clarkia delicata</i>	delicate clarkia	None/None/ 1B.2	Chaparral, Cismontane woodland; often gabbroic/annual herb/Apr-June/770-3,280	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas.
<i>Clinopodium chandleri</i>	San Miguel savory	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland; Rocky, gabbroic or metavolcanic/perennial shrub/Mar-July/390-3,525	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and it is not known to occur within the vicinity ² (CDFW 2019).
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr-June/95-2,590	Absent. Not observed during the 2019 rare plant surveys. No suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas.
<i>Convolvulus simulans</i>	small-flowered morning-glory	None/None/4.2	Chaparral (openings), Coastal scrub, Valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar-July/95-2,430	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Corethrogyne filaginifolia</i> var. <i>incana</i>	San Diego sand aster	None/None/ 1B.1	Coastal bluff scrub, Chaparral, Coastal scrub/perennial herb/June–Sep/5–375	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area. The closest CNDDDB occurrence is located approximately 7.6 miles east of the project area in the Pacific Beach area (CDFW 2019).
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Mesa sand aster	None/None/ 1B.1	Coastal bluff scrub, Chaparral (maritime, openings), Coastal scrub; sandy/perennial herb/May, July, Aug, Sep/45–490	Absent. Not observed during the 2019 rare plant surveys. This species prefers sandy openings within coastal mixed chaparral (Reiser 2001), which is not present within the project area or off-site areas. The species is not known to occur within the vicinity ² (CDFW 2019).
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla	None/None/ 1B.1	Chaparral, Coastal scrub/perennial stem succulent/Apr–May/95–490	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area, although this species typically prefers xeric hillsides of chaparral or coastal sage scrub (Reiser 2001). The species is not known to occur within the vicinity ² (CDFW 2019).
<i>Deinandra conjugens</i>	Otay tarplant	FT/SE/1B.1	Coastal scrub, Valley and foothill grassland; clay/annual herb/(Apr)May–June/80–985	Absent. Not observed during the 2019 rare plant surveys. This species prefers clay soils in grasslands or sparse coastal sage scrub, which is not present within the project area or off-site areas. The species is not known to occur within the vicinity ² (CDFW 2019).
<i>Deinandra paniculata</i>	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; usually vernal mesic, sometimes sandy/annual herb/(Mar)Apr–Nov(Dec)/80–3085	Absent. Not observed during the 2019 rare plant surveys. The upland habitat on site is not vernal mesic.

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Dichondra occidentalis</i>	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar-July/160-1640	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Dicranostegia orcuttiana</i>	Orcutt's bird's-beak	None/None/ 2B.1	Coastal scrub/annual herb (hemiparasitic)/(Mar)Apr-July(Sep)/30-1,150	Absent. Not observed during the 2019 rare plant surveys. This species is known to occur within seasonally dry channels and uplands adjacent to riparian habitat (Reiser 2001). Suitable Baccharis-dominated coastal sage scrub is present next to a storm drain outlet channel with an associated riparian corridor within the project area. However, this species is not known to occur within the vicinity ² (CDFW 2019), and its range appears to be restricted to the Otay River area. This species has a low potential to occur within the adjacent suitable riparian habitat of the San Diego River.
<i>Diplacus aridus</i>	low bush monkeyflower	None/None/4.3	Chaparral (rocky), Sonoran desert scrub/perennial evergreen shrub/Apr-July/2,460-3,935	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None/None/ 1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr-June/15-1,475	Absent. Not observed during the 2019 rare plant surveys. Rocky slopes or shallow clay soils preferred by this species are not present within the project area or off-site areas. The one CNDDDB occurrence within the vicinity ² recorded in 1949 is located approximately 8 miles northwest of the project area and is considered possibly extirpated (CDFW 2019).
<i>Dudleya brevifolia</i>	short-leaved dudleya	None/SE/1B.1	Chaparral (maritime, openings), Coastal scrub; Torrey sandstone/perennial herb/Apr-May/95-820	Absent. Not observed during the 2019 rare plant surveys. Torrey sandstone soils preferred by this species are not present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 8.6 miles northwest of the project area in the La Jolla hills area (CDFW 2019).

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Dudleya variegata</i>	variegated dudleya	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial herb/Apr-June/5-1,905	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area, although rocky or clay soils and vernal pool habitat preferred by this species are absent. The closest presumed extant CNDDDB occurrence is located approximately 3 miles southwest of the project area (CDFW 2019).
<i>Dudleya viscida</i>	sticky dudleya	None/None/ 1B.2	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial herb/May-June/30-1,805	Absent. Not observed during the 2019 rare plant surveys. Suitable rocky soils and steep hillsides preferred by this species (Reiser 2001) are not present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 7.8 miles east of the project area in the Ocean Beach area (CDFW 2019).
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush	None/None/ 1B.1	Chaparral, Coastal scrub; mesic/perennial evergreen shrub/(July)Sep-Nov/95-1,970	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area; however, this species prefers granitic soils and steep hillsides, which are not present within the project area or off-site areas. The closest CNDDDB occurrence is located 1.6 miles southeast of the project area within Mahogany Canyon (CDFW 2019).
<i>Eriodictyon sessilifolium</i>	sessile-leaved yerba stanta	None/None/ 2B.1	Coastal scrub; volcanic/perennial shrub/July/555-560	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and suitable volcanic soils are not present within the project area or off-site areas.

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; mesic/annual / perennial herb/Apr-June/65-2,035	Absent. Not observed during the 2019 rare plant surveys. This species is closely associated with vernal pool habitat and clay soils (USFWS 2010b), which are not present within the project area or off-site areas. The closest presumed extant CNDDDB occurrence is located approximately 2 miles north of the project area (CDFW 2019).
<i>Erysimum ammophilum</i>	sand-loving wallflower	None/None/ 1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; sandy, openings/perennial herb/Feb-June/0-195	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area, however sandy openings preferred by this species is absent in this area. The closest CNDDDB occurrence is located approximately 7.1 miles southwest of the project area in Collier Park (CDFW 2019).
<i>Erythranthe diffusa</i>	Palomar monkeyflower	None/None/4.3	Chaparral, Lower montane coniferous forest; sandy or gravelly/annual herb/Apr-June/4000-6005	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Euphorbia misera</i>	cliff spurge	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec-Aug(Oct)/30-1,640	Absent. Not observed during the 2019 rare plant surveys. This species is strongly associated with coastal rocky bluffs, which are not present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 9.5 miles northwest of the project area in the cliffs of La Jolla Bay (CDFW 2019).

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Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Ferocactus viridescens</i>	San Diego barrel cactus	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem succulent/May-June/5-1,475	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub and Diegan coastal sage scrub is present in the western portion of the project area, and this species has been recorded near disturbed slopes in the northern portion of the off-site areas. Specifically, this species has been recorded just north of the project area just southeast of Podell and Yolanda Avenue (CDFW 2019).
<i>Frankenia palmeri</i>	Palmer's frankenia	None/None/ 2B.1	Coastal dunes, Marshes and swamps (coastal salt), Playas/perennial herb/May-July/0-35	Absent. Not observed during the 2019 rare plant surveys. This species is closely associated with coastal saltmarsh and dune habitat, which is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Fremontodendron mexicanum</i>	Mexican flannelbush	FE/SR/1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland; gabbroic, metavolcanic, or serpentinite/perennial evergreen shrub/Mar-June/30-2,350	Absent. Not observed during the 2019 rare plant surveys. No suitable cismontane woodland, coniferous forest, or chaparral vegetation present within the project area or off-site areas.
<i>Galium proliferum</i>	desert bedstraw	None/None/ 2B.2	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland; rocky, carbonate (limestone)/annual herb/Mar-June/3,900-5,350	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable desert vegetation present within the project area or off-site areas.
<i>Geothallus tuberosus</i>	Campbell's liverwort	None/None/ 1B.1	Coastal scrub (mesic), Vernal pools; soil/ephemeral liverwort/N.A./30-1,970	Absent. Not observed during the 2019 rare plant surveys. This species prefers mesic conditions and is associated with vernal pools, which are absent within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 4 miles northwest of the project area in seasonally mesic soils just south of Highway 52 (CDFW 2019).

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<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	Mission Canyon bluecup	None/None/ 3.1	Chaparral (mesic, disturbed areas)/annual herb/Apr- June/1,475-2,295	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral vegetation present within the project area or off-site areas.
<i>Grindelia hallii</i>	San Diego gumplant	None/None/ 1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland/perennial herb/May- Oct/605-5,725	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral, meadow, grassland, or coniferous forest vegetation present within the project area or off-site areas.
<i>Harpagonella</i> <i>palmeri</i>	Palmer's grapplinghook	None/None/ 4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay; open grassy areas within shrubland/annual herb/Mar- May/65-3,135	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable <i>Baccharis</i> -dominated coastal sage scrub occurs in the western portion of the project area.
<i>Hesperocyparis</i> <i>forbesii</i>	Tecate cypress	None/None/ 1B.1	Closed-cone coniferous forest, Chaparral; clay, gabbroic or metavolcanic/perennial evergreen tree/N.A./260- 4,920	Absent. Not observed during the 2019 rare plant surveys. No suitable coniferous forest of chaparral vegetation present within the project area or off-site areas.
<i>Heterotheca</i> <i>sessiliflora</i> ssp. <i>sessiliflora</i>	beach goldenaster	None/None/ 1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar-Dec/0-4,020	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable <i>Baccharis</i> -dominated coastal sage scrub is present in the western portion of the project area; however, sandy soils preferred by this species is absent in this area. The closest CNDDDB occurrence is located approximately 3.9 miles southeast of the project area within Mission Valley near the Riverpark Golf Club (CDFW 2019).
<i>Holocarpha</i> <i>virgata</i> ssp. <i>elongata</i>	Graceful tarplant	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/annual herb/May-Nov/195-3,610	Absent. Suitable habitat is present and there are records in the vicinity; however, this annual plant was not observed during the July 2019 surveys which is its bloom period. Therefore, it is absent from the site.

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<i>Hordeum intercedens</i>	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland (saline flats and depressions), Vernal pools/annual herb/Mar-June/15-3,280	Absent. Not observed during the 2019 rare plant surveys. This species is strongly associated with vernal pools and depressions within grasslands (Reiser 2001), which are not present within the project area or off-site areas. The closest species occurrence is located approximately 4.2 miles north of the project area just northwest of the junction of Highway 52 and Highway 163 (CCH 2019).
<i>Horkelia truncata</i>	Ramona horkelia	None/None/ 1B.3	Chaparral, Cismontane woodland; clay, gabbroic/perennial herb/May-June/1,310-4,265	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	None/None/ 1B.2	Chaparral, Coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr-Nov/30-445	Absent. This perennial shrub was not observed during the 2019 rare plant surveys. Suitable Baccharis-dominated coastal sage scrub and Diegan coastal sage scrub is present in the western portion of the project area, although sandy soils are more abundant within the adjacent riparian habitat of the San Diego River. The closest occurrence is located 1.2 miles southwest of the project area in an upland area adjacent to the San Diego River (CCH 2019).
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None/None/ 1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb-June/0-4,005	Absent. Not observed during the 2019 rare plant surveys. There is no suitable salt marsh, playa, or vernal pool vegetation present within the project area or off-site areas.
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	None/None/ 1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr-July/1,705-4,495	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable coniferous forest, chaparral, or cismontane woodland vegetation present within the project area or off-site areas.

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<i>Lepechinia ganderi</i>	Gander's pitcher sage	None/None/ 1B.3	Closed-cone coniferous forest, Chaparral, Coastal scrub, Valley and foothill grassland; Gabbroic or metavolcanic/perennial shrub/June-July/1000-3295	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and suitable metavolcanic soils are not present within the project area or off-site areas.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/Jan-July/0-2,905	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Leptosyne maritima</i>	sea dahlia	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar-May/15-490	Absent. Not observed during the 2019 rare plant surveys. Although suitable coastal bluff scrub is absent, marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area. The closest CNDDDB occurrence is located approximately 4.2 miles west of the project area within Finger Canyon (CDFW 2019).
<i>Lycium californicum</i>	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/(Dec)Mar,June,July,Aug/15-490	Absent. This conspicuous shrub was not observed during the 2019 rare plant surveys.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	small-flowered microseris	None/None/4.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/annual herb/Mar-May/45-3,510	Absent. Not observed during the 2019 rare plant surveys. This species is typically associated with clay lenses within grasslands, the edges of vernal pools, or in large sage scrub openings (Reiser 2001), which all are not present within the project area or off-site areas. The closest occurrence is located 1.2 miles northeast of the project area associated with a vernal pool within Murphy Canyon (CCH 2019).
<i>Mobergia calculiformis</i>	light gray lichen	None/None/3.1	Coastal scrub (?); On rocks/crustose lichen (saxicolous)/N.A./30-35	Absent. Not observed during the 2019 rare plant surveys. Little is known about the life history and distribution of this species. This species is only known from one site in Baja and one historical occurrence in San Diego (CDFW 2019).

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<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	felt-leaved monardella	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/980–5,165	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral or cismontane woodland vegetation present within the project area or off-site areas.
<i>Monardella viminea</i>	willowy monardella	FE/SE/1B.1	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; alluvial ephemeral washes/perennial herb/June–Aug/160–740	Absent. Not observed during the 2019 rare plant surveys. This species occurs in sandy washes, benches, and floodplains of perennial and ephemeral streams; however, it requires riparian systems with semi-open canopies and flowing water only after seasonal rains (USFWS 2008). Suitable sandy stream habitat is present within the storm drain outlet channel in the western portion of the project area; however, this habitat has a closed canopy and likely does not exhibit regular flooding regimes typical of this species' preferred habitat. The closest CNDDDB occurrences are located approximately 3.6 miles north of the project area within Murphy and Elanus Canyons (CDFW 2019). This species has low potential to occur within adjacent riparian sandy bench and floodplain habitat present within the San Diego River as this system also has a closed canopy unsuitable for this species.
<i>Mucronea californica</i>	California spineflower	None/None/4.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy/annual herb/Mar–July(Aug)/0–4,595	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	None/None/3.1	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/Mar–June/65–2,100	Absent. Not observed during the 2019 rare plant surveys. No suitable grassland or vernal pool vegetation present within the project area or off-site areas.

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Nama stenocarpa</i>	mud nama	None/None/ 2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/15–1,640	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable riverbank habitat is present along the storm drain outlet channel in the western portion of the project area. However, this species is not known to occur within the vicinity ² (CCH 2019; CDFW 2019). This species has low potential to occur within the adjacent riverbank habitat of the San Luis Rey River.
<i>Navarretia fossalis</i>	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/95–2,150	Absent. Not observed during the 2019 rare plant surveys. This species is strongly associated with vernal pools, which are not present within the project area or off-site areas (USFWS 2009c). The closest CNDDDB occurrence is located approximately 2.3 miles north of the project area within Montgomery Field (CDFW 2019).
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	None/None/ 1B.1	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/5–3970	Absent. Not observed during the 2019 rare plant surveys r. This species is strongly associated with vernal pool habitat (Reiser 2001), which is absent within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 4.2 miles north of the project area within vernal pools near the junction of Highway 52 and Highway 163 (CDFW 2019).
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	None/None/ 1B.2	Coastal dunes/annual herb/Apr–Sep/0–330	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal dune vegetation is present within the project area or off-site areas.
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None/None/ 2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-160–1,310	Absent. Not observed during the 2019 rare plant surveys. No suitable dune or desert vegetation is present within the project area or off-site areas.

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Nolina interrata</i>	Dehesa nolina	None/SE/1B.1	Chaparral (gabbroic, metavolcanic, or serpentinite)/perennial herb/June–July/605–2,805	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Ophioglossum californicum</i>	California adder's-tongue	None/None/4.2	Chaparral, Valley and foothill grassland, Vernal pools (margins); mesic/perennial rhizomatous herb/(Dec)Jan–June/195–1720	Absent. Not observed during the 2019 rare plant surveys. No suitable vegetation present.
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/45–2,165	Absent. Not observed during the 2019 rare plant surveys. No suitable vernal pool vegetation present within the project area or off-site areas.
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	short-lobed broomrape	None/None/4.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy/perennial herb (parasitic)/Apr–Oct/5–1000	Absent. Not observed during the 2019 rare plant surveys. This subspecies is generally tied to the immediate coastline within San Diego County (CCH 2019).
<i>Packera ganderi</i>	Gander's ragwort	None/SR/1B.2	Chaparral (burns, gabbroic outcrops)/perennial herb/Apr–June/1,310–3,935	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable chaparral vegetation present within the project area or off-site areas.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i>	golden-rayed pentachaeta	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland, Valley and foothill grassland/annual herb/Mar–July/260–6,070	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Phacelia ramosissima</i> var. <i>australitoralis</i>	south coast branching phacelia	None/None/3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/15–985	Absent. Not observed during the 2019 rare plant surveys. This species typically occurs in sandy soils within coastal scrub and saltmarsh near the coast (Reiser 2001), which is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CCH 2019).

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Phacelia stellaris</i>	Brand's star phacelia	None/None/ 1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/0–1,310	Absent. Not observed during the 2019 rare plant surveys. This species is known to occur in sandy openings in coastal sage scrub located near the coast (Reiser 2001). Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area; however, sandy openings preferred by this species is absent in this area. The closest occurrence is located approximately 5 miles west of the project area within the San Diego Riverbed near Highway 5 (CCH 2019). This species has moderate potential to occur within the adjacent riparian habitat, as suitable sandy substrate is present and historical occurrences have been located within the San Diego Riverbed (Reiser 2001).
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	None/None/4.3	Chaparral; Gabbroic, granitic, clay/evergreen shrub/May–Aug/0–5,575	Absent. Not observed during the 2019 rare plant surveys. No suitable vegetation present.
<i>Pinus torreyana</i> ssp. <i>torreyana</i>	Torrey pine	None/None/ 1B.2	Closed-cone coniferous forest, Chaparral; Sandstone/perennial evergreen tree/N.A./95–525	Absent. Not observed during the 2019 rare plant surveys. No suitable coniferous forest or chaparral vegetation is present within the project area or off-site areas.
<i>Piperia cooperi</i>	chaparral rein orchid	None/None/4.2	Chaparral, Cismontane woodland, Valley and foothill grassland/perennial herb/Mar–June/45–5,200	Absent. Not observed during the 2019 rare plant surveys. No suitable vegetation present.
<i>Pogogyne abramsii</i>	San Diego mesa mint	FE/SE/1B.1	Vernal pools/annual herb/Mar–July/295–655	Absent. Not observed during the 2019 rare plant surveys. No suitable vernal pool vegetation is present within the project area or off-site areas.
<i>Pogogyne nudiuscula</i>	Otay Mesa mint	FE/SE/1B.1	Vernal pools/annual herb/May–July/295–820	Absent. Not observed during the 2019 rare plant surveys. No suitable vernal pool vegetation is present within the project area or off-site areas.

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly/perennial herb/(July)Aug–Nov(Dec)/0–6,890	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub and riparian habitat is present in the western corner of the project area; however, this species is not known to occur within the vicinity ² (CDFW 2019). This species has moderate potential to occur in the adjacent suitable sandy riparian woodland habitat of the San Diego River, and has been recorded as recently as 2011 within the San Diego Riverbed 9.7 miles northeast of the project area (CCH 2019).
<i>Quercus cedrosensis</i>	Cedros Island oak	None/None/ 2B.2	Closed-cone coniferous forest, Chaparral, Coastal scrub/perennial evergreen tree/Apr–May/835–3,150	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Quercus dumosa</i>	Nuttall's scrub oak	None/None/ 1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr(May–Aug)/45–1,310	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area. The closest CNDDDB occurrence is located approximately 1.4 miles southeast of the project area north of the intersection of Fairmont Avenue and Montezuma Road (CDFW 2019).
<i>Quercus engelmannii</i>	Engelmann oak	None/None/ 4.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/perennial deciduous tree/Mar–June/160–4,265	Absent. This conspicuous tree was observed during the 2019 rare plant surveys.
<i>Romneya coulteri</i>	Coulter's matilija poppy	None/None/4.2	Chaparral, Coastal scrub; Often in burns/perennial rhizomatous herb/Mar–July(Aug)/65–3,935	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Rosa minutifolia</i>	small-leaved rose	None/SE/2B.1	Chaparral, Coastal scrub/perennial deciduous shrub/Jan–June/490–525	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range.

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Salvia munzii</i>	Munz's sage	None/None/ 2B.2	Chaparral, Coastal scrub/perennial evergreen shrub/Feb–Apr/375–3,495	Absent. This perennial shrub was not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub and Diegan coastal sage scrub is present in the western corner of the project area. The closest CNDDDB occurrence is located approximately 1.3 miles northwest of the project area on the slopes on the east side of Taft Middle School (CDFW 2019).
<i>Selaginella cinerascens</i>	ashy spike-moss	None/None/4.1	Chaparral, Coastal scrub/perennial rhizomatous herb/N.A./65–2,100	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Senecio aphanactis</i>	chaparral ragwort	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/45–2,625	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area. The two closest CNDDDB occurrences date back to 1903 and 1935, and the remaining CNDDDB occurrences within the vicinity ² are considered possibly extirpated (CDFW 2019).
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	None/None/ 2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar–June/45–5,020	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area; however, this species prefers alkali spring and marsh habitat which is absent within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 8 miles northwest of the project area west of Miramar Naval Air Station (CDFW 2019).
<i>Solanum xanti</i>	Purple nightshade	None/None/ None	Coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest/perennial herb / perennial shrub/June–July/2,700–8,858	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Sphaerocarpos drewei</i>	bottle liverwort	None/None/ 1B.1	Chaparral, Coastal scrub; openings, soil/ephemeral liverwort/N.A./295–1,970	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present in the western portion of the project area. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Stemodia durantifolia</i>	purple stemodia	None/None/ 2B.1	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan)Apr, June, Aug, Sep, Oct, Dec/590–985	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range, and there is no suitable desert vegetation present within the project area or off-site areas.
<i>Stipa diegoensis</i>	San Diego County needle grass	None/None/4.2	Chaparral, Coastal scrub; rocky, often mesic/perennial herb/Feb–June/30–2,625	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	None/None/4.3	Chaparral, Lower montane coniferous forest/perennial herb/May–Aug/2,195–8,200	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Stylocline citroleum</i>	oil neststraw	None/None/ 1B.1	Chenopod scrub, Coastal scrub, Valley and foothill grassland; clay/annual herb/Mar–Apr/160–1 310	Absent. Not observed during the 2019 rare plant surveys occur. This species is reported primarily from the San Joaquin Valley in Kern County (Reiser 2001), and the only occurrence within the vicinity ² dates back to 1883 and states that location is within the general San Diego area (CDFW 2019).
<i>Suaeda esteroa</i>	estuary seablite	None/None/ 1B.2	Marshes and swamps (coastal salt)/perennial herb/(May)July–Oct(Jan)/0–15	Absent. Not observed during the 2019 rare plant surveys. No suitable salt marsh vegetation is present within the project area or off-site areas.
<i>Suaeda taxifolia</i>	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps (margins of coastal salt)/perennial evergreen shrub/Jan–Dec/0–165	Absent. Not observed during the 2019 rare plant surveys. No suitable coastal salt marsh habitat present.

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SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet amsl)	Potential to Occur
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	None/None/ 1B.2	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Texosporium sancti-jacobi</i>	woven-spored lichen	None/None/3	Chaparral (openings); On soil, small mammal pellets, dead twigs, and on <i>Selaginella</i> spp./crustose lichen (terricolous)/N.A./195–2,165	Absent. Not observed during the 2019 rare plant surveys. No suitable chaparral vegetation present within the project area or off-site areas.
<i>Triquetrella californica</i>	coastal triquetrella	None/None/ 1B.2	Coastal bluff scrub, Coastal scrub; soil/moss/N.A./30–330	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub is present within the western portion of the project area; however, this species is not known to occur within the vicinity ² (CDFW 2019).
<i>Viguiera laciniata</i>	San Diego County viguiera	None/None/4.3	Chaparral, Coastal scrub/perennial shrub/Feb–June(Aug)/195–2,460	Absent. Not observed during the 2019 rare plant surveys. Marginally suitable Baccharis-dominated coastal sage scrub occurs in the western portion of the project area.
<i>Xanthisma junceum</i>	rush-like bristleweed	None/None/4.3	Chaparral, Coastal scrub/perennial herb/May–Jan/785–3,280	Absent. Not observed during the 2019 rare plant surveys. The site is outside of the species' known elevation range.

Notes: amsl = above mean sea level.

¹ Regulatory status is based on the Special Plants List (November 2018) (CDFW 2018).

² "Vicinity" refers to species recorded in the USGS 7.5-minute La Mesa or La Jolla quadrangles (CDFW 2019; CNPS 2019).

Federal Designations:

FE: Species listed as endangered by USFWS

FT: Species listed as threatened by USFWS

State Designations:

SE: State endangered

SR: State rare

CRPR:

California Rare Plant Rank (CRPR)

1B: Plants rare, threatened, or endangered in California and elsewhere

2B: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants about which we need more information—a review list

APPENDIX C2

SPECIAL-STATUS PLANT SPECIES NOT EXPECTED TO OCCUR WITHIN THE PROJECT AREA

4: Watch List: Plants of limited distribution

Threat Ranks:

0.1: Seriously threatened in California (high degree/immediacy of threat)

0.2: Fairly threatened in California (moderate degree/immediacy of threat)

0.3: Not very threatened in California (low degree/immediacy of threats or no current threats known)

References

- CCH (Consortium of California Herbaria). 2019. Data provided by the participants of the Consortium of California Herbaria. Accessed February 13, 2019. <http://ucjeps.berkeley.edu/consortium>.
- CDFW (California Department of Fish and Wildlife). 2018. "Special Vascular Plants, Bryophytes, and Lichens List." California Natural Diversity Database. November 2018. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline=1>.
- CDFW. 2019. California Natural Diversity Database (CNDDDB) RareFind. Version 5.2.14. Accessed February 13, 2019. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.
- CNPS (California Native Plant Society). 2019. *Inventory of Rare and Endangered Plants* (online ed. version 8-02). Sacramento, California: CNPS, Rare Plant Program. Accessed February 13, 2019. <http://www.rareplants.cnps.org/>.
- Reiser, C.H. 2001. *Rare Plants of San Diego County*. Unpublished report. Aquafir Press.
- USFWS (U.S. Fish and Wildlife Service). 2008. "*Monardella linoidea* subsp. *viminea* (Willow Monardella) 5-Year Review: Summary and Evaluation." Carlsbad Fish and Wildlife Office. Carlsbad, California. March 2008. https://ecos.fws.gov/docs/five_year_review/doc1904.pdf.
- USFWS. 2009a. "*Acanthomintha ilicifolia* (San Diego thornmint) 5-Year Review: Summary and Evaluation." Carlsbad Fish and Wildlife Office. Carlsbad, California. August 14, 2009. https://www.fws.gov/carlsbad/SpeciesStatusList/5YR/20090812_5YR_ACIL.pdf.
- USFWS. 2009b. "*Berberis nevinii* (Nevin's barberry) 5-Year Review: Summary and Evaluation." Carlsbad Fish and Wildlife Office. Carlsbad, California. August 14, 2009. https://www.fws.gov/carlsbad/SpeciesStatusList/5YR/20090814_5YR_BENE.pdf.
- USFWS. 2009c. "*Navarretia fossalis* (Spreading navarretia) 5-Year Review: Summary and Evaluation." Carlsbad Fish and Wildlife Office. Carlsbad, California. August 10, 2009. https://ecos.fws.gov/docs/five_year_review/doc2574.pdf.
- USFWS. 2010a. "*Ambrosia pumila* (San Diego ambrosia) 5-Year Review: Summary and Evaluation." Carlsbad Fish and Wildlife Office. Carlsbad, California. July 15, 2010. https://ecos.fws.gov/docs/five_year_review/doc3557.pdf.
- USFWS. 2010b. "*Eryngium aristulatum* var. *parishii* (San Diego button celery) 5-Year Review: Summary and Evaluation." U.S. Fish and Wildlife Service Carlsbad Fish and Wildlife Office. Carlsbad, California. September 1, 2010. https://ecos.fws.gov/docs/five_year_review/doc3569.pdf.

Appendix D1

Special-Status Wildlife – Observed, High or
Moderate Potential to Occur

APPENDIX D1

SPECIAL-STATUS WILDLIFE SPECIES OBSERVED OR WITH MODERATE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
Amphibians				
<i>Spea hammondi</i>	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture	Moderate potential to occur. This species is associated with vernal pools or other ephemeral wetland systems, which are not present in the project area or within off-site areas. However, this species is known to occur approximately 0.68 miles from the project area along the mesa just south of Ronda Ave (CDFW 2019). This species can travel up to several meters on rainy nights, but extensive movements away from breeding ponds is rare (Zeiner et al 1990), however potential for this species to utilize the top of the slope in the northwest corner of the site remains moderate due to proximity to this presumably extant population.
Reptiles				
<i>Anniella stebbinsi</i>	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley-foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Moderate potential to occur. Riparian woodland habitat with moist sandy soils is present within the strip of riparian vegetation associated with a storm drain outlet in the southwestern portion of the project area. The closest CNDDB occurrence is located approximately 4.2 miles southwest of the project area near a ravine about 0.6 miles upslope of the San Diego River plain (CDFW 2019). This species has moderate potential to occur within the suitable adjacent sandy riparian habitat of the San Diego River as well.
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood.	Moderate potential to occur in the coastal sage scrub habitat and the sandy bottom portions of the San Diego River.

APPENDIX D1

SPECIAL-STATUS WILDLIFE SPECIES OBSERVED OR WITH MODERATE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Plestiodon skiltonianus interparietalis</i>	Coronado skink	None/WL	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water.	Moderate potential to occur in the San Diego River.
Birds				
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water.	A Cooper's hawk nest was observed in the study area, but outside of the project site. Potential to nest in the riparian forest in the southwestern portion of the site. While there is some denser riparian habitat in the southern portion of Murphy Canyon Creek, the frequent homeless activity likely precludes this species from nesting in this area. The remaining portions of Murphy Canyon Creek is narrow and not dense enough to support a nesting hawk.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches.	Observed. This species was observed in the Baccharis-dominated coastal sage scrub; however, its specific location was not mapped.
<i>Empidonax traillii brewsteri</i> (nesting)	little willow flycatcher	None/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration.	This subspecies does not nest locally but can occur during its migration. Marginally suitable riparian nesting habitat is present in the strip of riparian vegetation associated with the storm drain outlet channel in the southwestern portion of the site although it is not particularly dense. Suitable adjacent riparian habitat of the San Diego River is denser and larger than that of the habitat within the project area. Focused surveys for this species will be conducted in 2019.

APPENDIX D1

SPECIAL-STATUS WILDLIFE SPECIES OBSERVED OR WITH MODERATE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Empidonax traillii extimus</i> (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration.	Low potential to nest. Marginally suitable riparian nesting habitat is present in the strip of riparian vegetation associated with the storm drain outlet channel in the southwestern portion of the site although it is not particularly dense. This species is not known to nest within the vicinity ² (Unitt 2004), however has been recorded 2.5 miles southwest of the project area within the San Diego River (USFWS 2019). This subspecies has moderate potential to nest in the suitable adjacent riparian habitat of the San Diego River as it is denser and larger than that of the habitat within the project area. Focused surveys for this species are being conducted in 2019.
<i>Icteria virens</i> (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	Observed in the San Diego River portion of the study area during focused surveys for least Bell's vireo. Suitable riparian woodland is present within the southwestern portion of the project area, although only moderately dense. This species has high potential to nest in the adjacent denser and larger riparian habitat of the San Diego River.
<i>Pandion haliaetus</i> (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast.	Observed perched on top of a tree in the San Diego River portion of the study area. No osprey nests were observed within the study area during riparian bird surveys, and no osprey nests were observed during the survey on existing structures at the project site.

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SPECIAL-STATUS WILDLIFE SPECIES OBSERVED OR WITH MODERATE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Setophaga petechia</i> (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Observed in the San Diego River portion of the study area during focused surveys for least Bell's vireo. Suitable riparian woodland habitat is present within the southwestern portion of the project area. This species has high potential to nest within the adjacent riparian habitat of the San Diego River due to the larger swath of suitable riparian vegetation as compared to the riparian strip within the project area.
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Observed during the 2019 focused least Bell's vireo surveys. Also observed during 2017 focused surveys for the Stadium Wetland Mitigation project (Dudek 2017) and during other surveys (CDFW 2019; USFWS 2019). Suitable riparian habitat is present in the southwestern portion of the project area along the riparian corridor associated with a storm drain outlet channel.
Mammals				
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland; roosts in caves, mines, and buildings.	Moderate potential to occur. This species is known to occur in the area (Tremor et al. 2017). The SDCCU stadium is unlikely to provide roosting habitat due to the noise and human activity, but the riparian woodland in the southwestern corner may provide roosting habitat. The closest CNDDDB occurrence recorded in 1946 is located approximately 2.2 miles southwest of the project area south of I-8 (CDFW 2019).

APPENDIX D1

SPECIAL-STATUS WILDLIFE SPECIES OBSERVED OR WITH MODERATE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Lasiurus blossevillii</i>	western red bat	None/SSC	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy.	Moderate potential to occur. Suitable foraging and roosting habitat is present in the riparian strip within the southwestern portion of the project area. This species has been recorded in the San Diego River plain within the vicinity ² (Tremor et al. 2017). This species has moderate potential to occur in the adjacent riparian habitat of the San Diego River as well.

Notes:

¹ The federal and state status of species is based on the Special Animals List (November 2018) (CDFW 2018).

² "Vicinity" refers to species recorded in the USGS 7.5-minute La Mesa and La Jolla quadrangles (CDFW 2019). "Region" refers to species recorded within the seven quadrangles surrounding USGS 7.5-minute La Mesa and La Jolla quadrangles (CDFW 2019).

Federal Designations:

BCC: Fish and Wildlife Service: Birds of Conservation Concern.

FE: Federally listed as endangered.

State Designations:

SSC: California Species of Special Concern.

SE: State listed as endangered.

WL: Watch List.

References

- CDFW (California Department of Fish and Wildlife). 2018. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. November 2018. Accessed December 11, 2018. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1>.
- CDFW. 2019. California Natural Diversity Database (CNDDDB) RareFind. Version 3.1.0. Accessed February 13, 2019.
- Tremor, S., D. Stokes, W. Spencer, J. Diffendorfer, H. Thomas, S. Chivers, and P. Unitt. 2017. *San Diego County Mammal Atlas*. San Diego Natural History Museum. December 2017.
- Unitt, P. 2004. *San Diego Bird Atlas*. San Diego Natural History Museum. October 2004.
- USFWS (U.S. Fish and Wildlife Service). 2019. "Critical Habitat sand Occurrence Data" [map]. Accessed February 13, 2019. <http://www.fws.gov/data>.
- Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife*. Sacramento, California Department of Fish and Game.

Appendix D2

Special-Status Wildlife – Low Potential or
Not Expected to Occur

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
Amphibians				
<i>Anaxyrus californicus</i>	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering.	<p>Low potential to occur. Marginally suitable sandy riverine habitat is present in the strip of riparian vegetation in the southwestern portion of the project area; however, this species is not known to occur within the vicinity² (CDFW 2019).</p> <p>This species has low potential to occur within the suitable sandy riverine habitat present within the adjacent riparian habitat of the San Diego River as well. The 2002–2003 surveys within the San Diego River Watershed revealed that this species occurs within San Vicente Creek, but not at Mission Trails Regional Park and downstream (USFWS 2009). There are no records for arroyo toad in the San Diego River downstream of El Capitan Reservoir (USFWS 2019).</p>
Reptiles				
<i>Actinemys marmorata</i>	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	<p>Low potential to occur. Marginally suitable slow moving stream habitat is present in the storm drain outlet channel in the southwestern portion of the project area. This species is not known to occur within the vicinity² (CDFW 2019).</p> <p>This species has moderate potential to occur within the suitable adjacent stream habitat of the San Diego River because of the presence of some permanent open water, and it has been recorded within the San Diego River in Mission Trails.</p>

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Arizona elegans occidentalis</i>	California glossy snake	None/SSC	Commonly occurs in desert regions throughout Southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area; however, sandy soils are absent in this area. The closest CNDDDB occurrence recorded in 1937 is located approximately 1.7 miles east of the project area (CDFW 2019).
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Low potential to occur. Suitable hot, dry, and sparse riparian or chaparral habitat is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019). This species has low potential to occur within adjacent riparian habitat of the San Diego River, as the floodplain lacks particularly hot and dry areas required by this species.
<i>Chelonia mydas</i>	green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds.	Not expected to occur. Suitable shallow estuarine or marine habitat is not present within the project area or off-site areas.
<i>Coleonyx variegatus abbotti</i>	San Diego banded gecko	None/SSC	Rocky areas within coastal scrub and chaparral.	Low potential to occur. Suitable rocky areas within coastal sage scrub is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern corner of the project area; however, it lacks rocky areas preferred by this species and is isolated from additional upland habitat due to surrounding development. The closest CNDDDB occurrence is located approximately 5.7 miles north of the project area within Miramar MCAS (CDFW 2019).

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Masticophis fuliginosus</i>	Baja California coachwhip	None/SSC	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub. Open areas in grassland and coastal sage scrub.	Not expected to occur. The site is outside of the species' known geographic range, and there is no suitable grassland or sparse coastal sage scrub vegetation present.
<i>Phrynosoma blainvillii</i>	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern corner of the project area; however, it lacks connectivity to additional upland habitat due to surrounding development. The closest CNDDDB occurrence is located approximately 1.3 miles northeast of the project area within Murphy Canyon (CDFW 2019).
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern corner of the project area; however, it lacks connectivity to additional upland habitat due to surrounding development. The closest CNDDDB occurrence is located approximately 5.4 miles northeast of the project area within Mission Trails Regional Park (CDFW 2019).
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Low potential to occur. Marginally suitable stream habitat is present within the southwestern portion of the project area around the storm drain outlet channel and associated riparian corridor. This species typically requires permanent fresh water, and this storm drain channel is likely dry in the summer months. The closest CNDDDB occurrence is located approximately 4.9 miles northwest of the project area within Miramar MCAS (CDFW 2019). This species has moderate potential to occur within the adjacent riverine habitat of the San Diego River, since the source of freshwater is perennial.

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
Birds				
<i>Agelaius tricolor</i> (nesting colony)	tricolored blackbird	BCC/ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	Low potential to nest. Suitable emergent wetland habitat is not present within the riparian strip associated with a storm drain outlet channel in the southwestern portion of the project area. A nesting colony of this species has been documented as recently as 1997 in the San Diego River approximately 2.5 miles southwest of the project area (CDFW 2019). This species has a moderate potential to nest in the adjacent San Diego River riparian habitat in patches of emergent wetland; however, ongoing monitoring for this species as part of the tricolored blackbird statewide surveys has not recorded this species in this area.
<i>Ammodramus savannarum</i> (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.	Low potential to nest. This species primarily occurs in grassland, which is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Aquila chrysaetos</i> (nesting & wintering)	golden eagle	BCC/FP	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	Low potential to nest or winter. Suitable magnitudes of natural habitat and open space is not present within the project area or off-site areas. Large trees with adjacent suitable large open areas for foraging is absent within and around the entire project site. This species is not known to occur within the vicinity ² (CDFW 2019).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Artemisiospiza belli belli</i>	Bell's sparrow ¹	BCC/None	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter.	Low potential to occur. Suitable large and unfragmented patches of coastal scrub or chaparral is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Athene cunicularia</i> (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Low potential to burrow or winter. This species requires open grassland or sparse scrub habitat, which is not present in the Baccharis-dominated coastal sage scrub in the southwestern portion of the project area. The northernmost sections of the off-site areas appear to be adjacent to more open grassy and scrubby habitats, but are situated on steep hillsides, which would be unsuitable burrowing or wintering habitat for this species. The closest CNDDDB occurrence is located approximately 1.9 miles north of the project area within Montgomery Field (CDFW 2019).
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	Not expected to nest. Although suitable riparian nesting habitat is present in the southwestern portion of the site, the surrounding area lacks grassland or agricultural habitat required for foraging. This species is not known to occur within the vicinity ² (CDFW 2019). This species is not expected to nest within the adjacent riparian habitat of the San Diego River, since although suitable riparian nesting habitat is present, nearby foraging habitat is absent.

¹ Bell's sparrow is the common name per the split from sage sparrow into two species, Sagebrush sparrow (*Artemisiospiza nevadensis*) and Bell's sparrow (*A. belli*) (Pyle 2013).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego & Orange Counties only)	coastal cactus wren	BCC/SSC	Southern cactus scrub patches.	Not expected to occur. Suitable cactus scrub habitat is not present within the project area or off-site areas. The closest CNDDDB occurrence is located approximately 6.9 miles northeast of the project area just east of Mission Trails Regional Park (CDFW 2019).
<i>Charadrius alexandrinus nivosus</i> (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.	Not expected to nest. The site lacks bodies of water (e.g., ponds or lakes) for nesting. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Cistothorus palustris clarkae</i>	Clark's marsh wren	None/SSC	Nests and forages in freshwater and brackish marsh dominated by bulrushes and cattails.	Low potential to occur. Suitable marsh dominated by bulrush and cattail vegetation is not present in the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019); however, it is documented by Shuford and Gardali to occur in the San Diego River near Mission Valley (2008). This species has high potential to occur in the adjacent riparian habitat of the San Diego River as marsh vegetation is present in patches.
<i>Coccyzus americanus occidentalis</i> (nesting)	western yellow-billed cuckoo	FT, BCC/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories.	<p>Low potential to occur. Marginally suitable riparian nesting habitat is present in the strip of riparian vegetation associated with the storm drain outlet channel in the southwestern portion of the site although it is not particularly dense.</p> <p>This species has moderate potential to occur in the suitable adjacent riparian habitat of the San Diego River as it is denser and larger than that of the habitat within the project area.</p> <p>Focused riparian bird surveys will be conducted in 2019.</p>

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Elanus leucurus</i> (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	Low potential to nest. Although suitable riparian nesting habitat is present in the southwestern portion of the project area, only marginally suitable Baccharis-dominated coastal sage scrub is available for foraging habitat in the immediately surrounding area. This species is not known to occur within the vicinity ² (CDFW 2019). This species has moderate potential to nest within adjacent riparian habitat of the San Diego River due to the larger relative size of suitable habitat.
<i>Eremophila alpestris actia</i>	California horned lark	None/WL	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada.	Low potential to occur. The coastal sage scrub is too dense and no horned larks were observed during the focused California gnatcatcher surveys, which were completed in the only upland vegetation on site.
<i>Falco mexicanus</i> (nesting)	prairie falcon	BCC/None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	Not expected to nest. Suitable cliff or bluff nesting habitat with nearby foraging habitat is not present in the project area or off-site areas. This species occurs within the vicinity ² (CDFW 2018).
<i>Falco peregrinus anatum</i> (nesting)	American peregrine falcon	FD, BCC/FP, SD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present.	Not expected to nest. Suitable cliff nesting habitat is not present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Ixobrychus exilis</i> (nesting)	least bittern	BCC/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation.	Low potential to nest. Suitable emergent marsh vegetation is not present in the project area or off-site areas. This species is known to nest within the vicinity ² (Unitt 2004). This species has moderate potential to nest within the adjacent habitat of the San Diego River, as patches of emergent vegetation are present, and this species has been recorded nesting within the San Diego River (Unitt 2004).

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Laterallus jamaicensis coturniculus</i>	California black rail	BCC/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations.	Not expected to occur. This species has been extirpated from San Diego.
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (<i>Salicornia</i> spp.).	Not expected to occur. No suitable saltmarsh vegetation is present in the project area or off-site areas.
<i>Pelecanus occidentalis californicus</i> (nesting colonies & communal roosts)	California brown pelican	FD/FP, SD	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands.	Not expected to nest or roost. This species is largely restricted to coastal habitats away from the project area. This species is not known to occur within the vicinity ² (CDFW 2019).
<i>Phalacrocorax auritus</i> (nesting colony)	double-crested cormorant	None/WL	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	Potential to forage or flyover the San Diego River, but there are no nesting colonies in the study area.
<i>Plegadis chihi</i> (nesting colony)	white-faced ibis	None/WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries.	Not expected to occur. The site is outside of the species' known geographic range.

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.	Low potential to occur within the marginally suitable Baccharis-dominated coastal sage scrub in the southwestern portion of the project area. Although this habitat patch is isolated and not of high quality, this species is known to occur just southeast across the River from this habitat patch (Dudek observation 2017). Moderate potential to occur along the top of the terraced slope near the northwestern-most off-site area. According to CNDDDB, this species has been observed along the top of the slope above the northwestern most off-site area (CDFW 2019). This observation was recorded sometime in the 1990s, and the terraced slope has since degraded to disturbed habitat. However, this species has also been recorded in the area as recently as 2002 just north of the northwestern most off-site area (USFWS 2019), and may potentially utilize habitat near the off-site area for foraging. Focused surveys for this species will be performed within the Baccharis-dominated coastal sage scrub habitat in the southwestern portion of the project area. Surveys will not be conducted along the top of the terraced slope just north of the northwestern most off-site area, as this is not proposed to be impacted.
<i>Rallus obsoletus levipes</i>	Ridgway's rail	FE/SE, FP	Coastal wetlands, brackish areas, coastal saline emergent wetlands.	Low potential to occur. This species occurs in coastal wetland habitat which is not present in the project area or off-site areas. The closest CNDDDB occurrence is located approximately 5.4 miles southwest of the project area at the mouth of the San Diego River.

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Sternula antillarum browni</i> (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats.	Not expected to nest. This species establishes nesting colonies along coastal beach or estuarine habitats, which is not present in the project area or off-site areas. The closest CNDDDB occurrence is located approximately 5.6 miles west of the site on Fiesta Island (CDFW 2019).
<i>Thalasseus elegans</i> (nesting colony)	elegant tern	None/WL	Inshore coastal waters, bays, estuaries, and harbors; forages over open water.	Low potential to occur on site and no nesting habitat in the study area. This species is unlikely to occur since it is commonly found in open estuaries and coastal waters.
Mammals				
<i>Antrozous pallidus</i>	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Low potential to occur. Rocky outcrop roosting habitat is absent, although this species may utilize the stadium structure as roosting habitat. This species has not been recorded in urban areas near the coast since 1960 (Tremor et al. 2017), and is not known to occur within the vicinity ² (CDFW 2019).
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area, but is isolated from other upland habitats due to development. The closest CNDDDB occurrence is located approximately 4.9 miles northeast of the project area north of Mission Gorge (CDFW 2019).

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SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area, but is isolated from other upland habitats due to development. The closest CNDDDB occurrence is located approximately 4.4 miles northeast of the project area in Shepherd Canyon (CDFW 2019).
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels.	Low potential to occur. Suitable cavernous roosting habitat is not present, although suitable foraging habitat is present in the southwestern portion of the project area. However, this species is not known to occur within the vicinity ² (CDFW 2019).
<i>Euderma maculatum</i>	spotted bat	None/SSC	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes.	Low potential to occur. This species is rare within San Diego County (Tremor et al. 2017), and suitable arid, rocky habitat with suitable crevice or cliff roosting habitat is absent in the project area or off-site areas. The closest CNDDDB occurrence recorded in 1955 is located approximately 9.5 miles northwest of the project area near UCSD (CDFW 2019).
<i>Eumops perotis californicus</i>	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Low potential to roost on site. High potential to forage. Although suitable vertical cliff roosting habitat is absent, suitable riparian and scrub foraging habitat is present in the southwestern portion of the project area. This species was last detected in 1995 within the project area and is presumed to be extant (CDFW 2019). This species has high potential to forage within the adjacent riparian habitat of the San Diego River as this 1995 CNDDDB occurrence is presumably extant (CDFW 2019).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Lasiurus xanthinus</i>	western yellow bat	None/SSC	Valley-foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Low potential to occur. This species is strongly associated with roosting in palm trees, but has been known to roost in cottonwood trees and yucca (Tremor et al. 2017). Suitable riparian roosting and foraging habitat is present but marginal within the riparian strip in the southwestern portion of the project area. The closest CNDDDB occurrence is located approximately 5 miles southeast in the La Mesa area (CDFW 2019). This species has moderate potential to occur within the adjacent riparian habitat of the San Diego River, as the amount suitable riparian roosting and foraging habitat is larger and is better shielded from disturbance.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	None/SSC	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area, but is isolated from other upland habitats due to development. The closest CNDDDB occurrence is located approximately 6.3 miles northeast of the project area in Mission Trails Regional Park (CDFW 2019).
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area, but is isolated from other upland habitats due to development. The closest CNDDDB occurrence is located approximately 6.3 miles northeast of the project area in north of Mission Gorge (CDFW 2019).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None/SSC	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings.	Low potential to occur. This species is strongly associated with preferred rocky outcrop or cliff roosting habitat (Tremor et al. 2017), of which none is present in the project area or off-site areas. The closest CNDDDB occurrence recorded in 1987 is located approximately 3 miles west of the project area in the Linda Vista area (CDFW 2019).
<i>Nyctinomops macrotis</i>	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water.	Low potential to occur. This species is strongly associated with preferred rocky outcrop, cliff, or occasional tall structure roosting habitat (Tremor et al. 2017). The stadium structure could serve as potential roosting habitat. The closest CNDDDB occurrence is located approximately 3.7 miles northeast of the project area in Mission Gorge (CDFW 2019).
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE/SSC	Fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium.	Low potential to occur. Marginally suitable sandy alluvium is present in the storm drain outlet channel and associated riparian corridor in the southwestern portion of the project area. However, this species is not known to occur within the vicinity ² (CDFW 2019). There are very few records of this species in San Diego County and all are further along the coast than the project area (CDFW 2019). This species has low potential to occur in the adjacent riparian habitat of the San Diego River as well. Historical collections are spotty, and the only confirmed occurrences within San Diego County are located in San Onofre and the Tijuana River valley (Tremor et al. 2017).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Taxidea taxus</i>	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	Low potential to occur. Marginally suitable Baccharis-dominated coastal sage scrub is present in the southwestern portion of the project area, but is isolated from other upland habitats due to development. The closest CNDDDB occurrence is located approximately 6.3 miles northeast of the project area in north of Mission Gorge (CDFW 2019).
Invertebrates				
<i>Branchinecta lindahli</i>	versatile fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools.	Not expected to occur. No vernal pool habitat is present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019; USFWS 2019).
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools.	Not expected to occur. No vernal pool habitat is present within the project area or off-site areas although this species has been recorded only approximately 0.62 miles northwest of the project area along a mesa just south of Ronda Avenue (USFWS 2019).
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include <i>Plantago erecta</i> , <i>Antirrhinum coulterianum</i> , and <i>Plantago patagonica</i> (Silverado Occurrence Complex).	Not expected to occur. The Baccharis-dominated coastal sage scrub in the southwestern corner of the project area is unsuitably constrained by development lacking nearby open habitat, as well as lacks clay soils preferred by their host plant. The closest CNDDDB occurrence is located approximately 5 miles northeast of the project area within Mission Trails Regional Park (CDFW 2019).
<i>Lycaena hermes</i>	Hermes copper	FC/None	Mixed woodlands, chaparral, and coastal scrub.	Not expected to occur. The site is outside of the species' known geographic range as it occurs further east in San Diego County (CDFW 2019).

APPENDIX D2

SPECIAL-STATUS WILDLIFE SPECIES NOT EXPECTED TO OCCUR OR WITH LOW POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Scientific Name	Common Name	Status ¹ Federal/State	Habitat	Potential to Occur
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools.	Not expected to occur. No vernal pool habitat is present within the project area or off-site areas. This species is not known to occur within the vicinity ² (CDFW 2019).

Notes:

¹ The federal and state status of species is based on the Special Animals List (November 2018) (CDFW 2018).

² "Vicinity" refers to species recorded in the USGS 7.5-minute La Mesa and La Jolla quadrangles (CDFW 2019). "Region" refers to species recorded within the seven quadrangles surrounding USGS 7.5-minute La Mesa and La Jolla quadrangles (CDFW 2019).

Federal Designations:

BCC: Fish and Wildlife Service: Birds of Conservation Concern.

FD: Federally delisted; monitored for 5 years.

FE: Federally listed as endangered.

FT: Federally listed as threatened.

FC: Candidate for federal listing as threatened or endangered.

State Designations:

FP: California Department of Fish and Wildlife Protected and Fully Protected Species.

SD: State-delisted.

SE: State listed as endangered.

ST: State listed as threatened.

SSC: California Species of Special Concern.

WL: Watch List.

References

- CDFW (California Department of Fish and Wildlife). 2018. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. November 2018. Accessed December 11, 2018. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1>.
- CDFW. 2019. California Natural Diversity Database (CNDDDB) RareFind. Version 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed February 13, 2019. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.
- Pyle, P. 2013. "On Separating Sagebrush Sparrow (*Artemisiospiza nevadensis*) from Bell's Sparrow (*A. belli*) with Particular Reference to *A. b. cancrescens*." August 19, 2013.
- Shuford, W.D., and T. Gardali, eds. 2008. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*. <https://www.wildlife.ca.gov/Conservation/SSC/Birds>.
- Tremor, S., D. Stokes, W. Spencer, J. Diffendorfer, H. Thomas, S. Chivers, and P. Unitt. 2017. *San Diego County Mammal Atlas*. San Diego, California: San Diego Natural History Museum. December 2017.
- Unitt, P. 2004. *San Diego Bird Atlas*. San Diego, California: San Diego Natural History Museum. October 2004.
- USFWS (U.S. Fish and Wildlife Service). 2009. "Arroyo Toad *Bufo californicus* (=microscaphus). 5-Year Review: Summary and Evaluation." Ventura, California: USFWS Ventura Office. August 2009.
- USFWS. 2019. "Critical Habitat and Occurrence Data" [map]. Accessed February 13, 2019. <http://www.fws.gov/data>.

Appendix E

Data Station Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 1a
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Streambed Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.77812906820 Long: -117.12649082000 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: None

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 checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data station located within channel downstream of a storm drain outlet.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <i>Salix lasiolepis</i>	80	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. <i>Salix gooddingii</i>	20	No	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. <i>Populus fremontii</i>	10	No	UPL	Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4. _____					
Total Cover: 110%					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>Cortaderia selloana</i>	5	Yes	FACU	Total % Cover of: _____ Multiply by: _____	
2. _____				OBL species	x 1 = 0
3. _____				FACW species	100 x 2 = 200
4. _____				FAC species	x 3 = 0
5. _____				FACU species	5 x 4 = 20
Total Cover: 5 %				UPL species	10 x 5 = 50
				Column Totals:	115 (A) 270 (B)
				Prevalence Index = B/A = 2.35	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. _____				<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: _____ %					
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: Vegetation concentrated along banks of channel. Tree canopy completely covers channel.

SOIL

Sampling Point: 1a

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		
0-4	7.5 YR 4/3	85	10 YR 2/2	15	D	M	Loam	
4-8.5	10 YR 2/1	100					Sandy loam	
8.5-11	7.5 YR 4/3	100					Loam	
11-13	10 YR 2/2	100					Sandy loam	
13-15	10 YR 4/2	100					Sand	

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: _____

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" 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 checked="" 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 checked="" type="checkbox"/> Water Marks (B1) (Riverine) <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) <input checked="" 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 checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	4
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	13
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	

Wetland Hydrology Present? Yes No

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

Remarks: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 1b
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): none Slope (%): 0-6%
 Subregion (LRR): C - Mediterranean California Lat: 32.77804720520 Long: -117.12659674300 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: None

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 type="radio"/> No <input checked="" 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>Located on slope above low flow channel.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiolepis</i>	25	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3 %</u> (A/B)																																
2. <i>Salix gooddingii</i>	25	Yes	FACW																																	
3.																																				
4.																																				
Total Cover: <u>50 %</u>				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u> </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>50</u></td> <td align="center">x 2 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>5</u></td> <td align="center">x 3 =</td> <td align="center"><u>15</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>9</u></td> <td align="center">x 4 =</td> <td align="center"><u>36</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>27</u></td> <td align="center">x 5 =</td> <td align="center"><u>135</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>91</u></td> <td align="center">(A)</td> <td align="center"><u>286</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.14</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u> </u>	x 1 =	<u>0</u>	FACW species	<u>50</u>	x 2 =	<u>100</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>9</u>	x 4 =	<u>36</u>	UPL species	<u>27</u>	x 5 =	<u>135</u>	Column Totals:	<u>91</u>	(A)	<u>286</u> (B)	Prevalence Index = B/A = <u>3.14</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u> </u>	x 1 =	<u>0</u>																																	
FACW species	<u>50</u>	x 2 =	<u>100</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>9</u>	x 4 =	<u>36</u>																																	
UPL species	<u>27</u>	x 5 =	<u>135</u>																																	
Column Totals:	<u>91</u>	(A)	<u>286</u> (B)																																	
Prevalence Index = B/A = <u>3.14</u>																																				
Sapling/Shrub Stratum																																				
1. <i>Cortaderia selloana</i>	8	Yes	FACU																																	
2. <i>Baccharis pilularis</i>	10	Yes	UPL																																	
3. <i>Encelia californica</i>	2	No	UPL																																	
4. <i>Baccharis salicifolia</i>	3	No	FAC																																	
5.																																				
Total Cover: <u>23 %</u>																																				
Herb Stratum																																				
1. <i>Glebionis coronaria</i>	3	No	UPL																																	
2. <i>Rumex crispus</i>	1	No	FAC																																	
3. <i>Oxalis pes-caprae</i>	8	Yes	UPL																																	
4. <i>Galium aparine</i>	1	No	FACU																																	
5. <i>Bromus sp.</i>	4	Yes	UPL																																	
6. <i>Urtica urens</i>	1	No	FAC																																	
7.																																				
8.																																				
Total Cover: <u>18 %</u>																																				
Woody Vine Stratum																																				
1.																																				
2.																																				
Total Cover: <u> </u> %																																				
% Bare Ground in Herb Stratum <u> </u> %		% Cover of Biotic Crust <u> </u> %																																		

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: 1b

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		
0-7	7.5 YR 4/2	100					Sandy loam	
7-11	10 YR 5/4	99	2.5 YR 3/6	1	C	PL	Sandy 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 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: _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" 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 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)	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 type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 1c
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Top of slope Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.77807467000 Long: -117.12655504100 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: None

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 type="radio"/> No <input checked="" 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>Located on top of slope above low flow channel.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. <u>Tamarix ramosissima</u>	5	Yes	UPL	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)	
2. _____				Total Number of Dominant Species Across All Strata:	5 (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	20.0 % (A/B)	
4. _____						
Total Cover:	5 %					
Sapling/Shrub Stratum						
1. <u>Cortaderia selloana</u>	1	No	FACU	Prevalence Index worksheet:		
2. <u>Baccharis pilularis</u>	5	Yes	UPL	Total % Cover of:	Multiply by:	
3. <u>Encelia californica</u>	2	No	UPL	OBL species	x 1 = 0	
4. <u>Isocoma menziesii</u>	12	Yes	FAC	FACW species	x 2 = 0	
5. _____				FAC species	17 x 3 = 51	
Total Cover:	20 %	FACU species				1 x 4 = 4
Herb Stratum						
1. <u>Glebionis coronaria</u>	1	No	UPL	UPL species	69 x 5 = 345	
2. <u>Urtica dioica</u>	5	No	FAC	Column Totals:	87 (A) 400 (B)	
3. <u>Oxalis pes-caprae</u>	15	Yes	UPL	Prevalence Index = B/A =	4.60	
4. <u>Hirschfeldia incana</u>	1	No	UPL	Hydrophytic Vegetation Indicators:		
5. <u>Bromus sp.</u>	40	Yes	UPL	<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)		
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present.		
7. _____						
8. _____						
Total Cover:	62 %					
Woody Vine Stratum						
1. _____				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>		
2. _____						
Total Cover:	%					
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %					
Remarks:						

SOIL

Sampling Point: 1c

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		
0-4	7.5 YR 4/3	100					Sandy clay loam	
4-12	7.5 YR 4/2	98	5 YR 4/4	2	C	M	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"/> Sandy Redox (S5)
<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)	

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: Based on site conditions and lack of hydrophytic vegetation, hydrology, and other features indicating an aquatic feature, the concentrations are likely a relic of disturbance/foreign fill material. No evidence of hydrology in vicinity of pit.

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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 2a
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Streambed Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.77964869800 Long: -117.12139519500 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: Stream/River

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:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. <i>Salix lasiolepis</i>	10	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A) Total Number of Dominant Species Across All Strata: 4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)																								
2. <i>Salix gooddingii</i>	3	Yes	FACW																									
3.																												
4.																												
Total Cover:	13 %																											
Sapling/Shrub Stratum				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th colspan="2" style="width: 60%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="background-color: #e0e0e0; text-align: center;">8</td> <td style="text-align: center;">x 1 = 8</td> </tr> <tr> <td>FACW species</td> <td style="background-color: #e0e0e0; text-align: center;">13</td> <td style="text-align: center;">x 2 = 26</td> </tr> <tr> <td>FAC species</td> <td style="background-color: #e0e0e0; text-align: center;">5</td> <td style="text-align: center;">x 3 = 15</td> </tr> <tr> <td>FACU species</td> <td style="background-color: #e0e0e0; text-align: center;"></td> <td style="text-align: center;">x 4 = 0</td> </tr> <tr> <td>UPL species</td> <td style="background-color: #e0e0e0; text-align: center;"></td> <td style="text-align: center;">x 5 = 0</td> </tr> <tr> <td>Column Totals:</td> <td style="background-color: #e0e0e0; text-align: center;">26 (A)</td> <td style="text-align: center;">49 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A =</td> <td style="background-color: #e0e0e0; text-align: center;">1.88</td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:		OBL species	8	x 1 = 8	FACW species	13	x 2 = 26	FAC species	5	x 3 = 15	FACU species		x 4 = 0	UPL species		x 5 = 0	Column Totals:	26 (A)	49 (B)	Prevalence Index = B/A =		1.88
Total % Cover of:	Multiply by:																											
OBL species	8	x 1 = 8																										
FACW species	13	x 2 = 26																										
FAC species	5	x 3 = 15																										
FACU species		x 4 = 0																										
UPL species		x 5 = 0																										
Column Totals:	26 (A)	49 (B)																										
Prevalence Index = B/A =		1.88																										
1. <i>Baccharis salicifolia</i>	5	Yes	FAC																									
2.																												
3.																												
4.																												
5.																												
Total Cover:	5 %																											
Herb Stratum				Hydrophytic Vegetation Indicators: <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) ¹ Indicators of hydric soil and wetland hydrology must be present.																								
1. <i>Schoenoplectus californicus</i>	8	Yes	OBL																									
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
8.																												
Total Cover:	8 %																											
Woody Vine Stratum																												
1.																												
2.																												
Total Cover:	%																											
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																										

Remarks:

SOIL

Sampling Point: 2a

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		

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.

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

Hydric Soil Present? Yes No

Remarks: Assumed hydric soils. Inundated by riverine surface flow. No data pit dug.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input checked="" 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 checked="" 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 checked="" type="checkbox"/> Water Marks (B1) (Riverine) <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" 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 checked="" type="radio"/>	No <input type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Depth (inches): <u>Did not dig</u>
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Depth (inches): <u>Did not dig</u>

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 2b
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Top of slope Local relief (concave, convex, none): Convex Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.77950769670 Long: -117.12136694300 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: Stream/River

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 type="radio"/> No <input checked="" 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>Located on top of slope above low flow channel.</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>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0 %</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
Total Cover: _____ %				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	<u>0</u> x 1 = <u>0</u>
1. <i>Salvia mellifera</i>	<u>4</u>	<u>Yes</u>	<u>UPL</u>	FACW species	<u>1</u> x 2 = <u>2</u>
2. <i>Artemisia californica</i>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	FAC species	_____ x 3 = <u>0</u>
3. <i>Salix lasiolepis</i>	<u>1</u>	<u>No</u>	<u>FACW</u>	FACU species	<u>6</u> x 4 = <u>24</u>
4. <i>Acmispon strigosus</i>	<u>4</u>	<u>Yes</u>	<u>UPL</u>	UPL species	<u>18</u> x 5 = <u>90</u>
5. _____	_____	_____	_____	Column Totals:	<u>25</u> (A) <u>116</u> (B)
Total Cover: <u>19 %</u>				Prevalence Index = B/A = <u>4.64</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Ambrosia psilostachya</i>	<u>6</u>	<u>Yes</u>	<u>FACU</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Sonchus asper</i>	<u>1</u>	<u>No</u>	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Oxalis pes-caprae</i>	<u>2</u>	<u>Yes</u>	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Eriophyllum confertiflorum</i>	<u>1</u>	<u>No</u>	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Centaurea melitensis</i>	<u>2</u>	<u>No</u>	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: <u>12 %</u>					
Woody Vine Stratum					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			

Remarks: _____

SOIL

Sampling Point: 2b

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		
0-5	10 YR 2/2	100					loam	
5-8	7.5 YR 4/2	100					clay loam	Hit hard layer at 8", possibly c

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): Type: <u>possibly concrete</u> Depth (inches): <u>8"</u></p>	<p>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>Remarks:</p>	

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)
<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____</p> <p>Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____</p>	<p>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/></p>	
<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>		
<p>Remarks:</p>		

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 2c
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-4%
 Subregion (LRR): C - Mediterranean California Lat: 32.78208666720 Long: -117.11434847100 Datum: NAD83
 Soil Map Unit Name: Riverwash NWI classification: Stream/River

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>Located on terrace above low flow channel.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																		
1. <i>Salix gooddingii</i>	5	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																	
2.																																					
3.																																					
4.																																					
Total Cover:	<u>5 %</u>																																				
Sapling/Shrub Stratum																																					
1. <i>Baccharis salicifolia</i>	1	Yes	FAC	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>5</u></td> <td>x 1 =</td> <td align="center"><u>5</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>6</u></td> <td>x 2 =</td> <td align="center"><u>12</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>3</u></td> <td>x 3 =</td> <td align="center"><u>9</u></td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>9</u></td> <td align="center">(A)</td> <td align="center"><u>21</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A =</td> <td align="center"><u>2.33</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>5</u>	x 1 =	<u>5</u>	FACW species	<u>6</u>	x 2 =	<u>12</u>	FAC species	<u>3</u>	x 3 =	<u>9</u>	FACU species		x 4 =	<u>0</u>	UPL species		x 5 =	<u>0</u>	Column Totals:	<u>9</u>	(A)	<u>21</u> (B)	Prevalence Index = B/A =				<u>2.33</u>
Total % Cover of:		Multiply by:																																			
OBL species	<u>5</u>	x 1 =	<u>5</u>																																		
FACW species	<u>6</u>	x 2 =	<u>12</u>																																		
FAC species	<u>3</u>	x 3 =	<u>9</u>																																		
FACU species		x 4 =	<u>0</u>																																		
UPL species		x 5 =	<u>0</u>																																		
Column Totals:	<u>9</u>	(A)	<u>21</u> (B)																																		
Prevalence Index = B/A =				<u>2.33</u>																																	
2. <i>Salix lasiolepis</i>	1	Yes	FACW																																		
3.																																					
4.																																					
5.																																					
Total Cover:	<u>2 %</u>																																				
Herb Stratum																																					
1. <i>Sonchus asper</i>	1	Yes	FAC	Hydrophytic Vegetation Indicators: <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) ¹ Indicators of hydric soil and wetland hydrology must be present.																																	
2. <i>Carex sp.</i>	1	Yes	FAC																																		
3.																																					
4.																																					
5.																																					
6.																																					
7.																																					
8.																																					
Total Cover:	<u>2 %</u>																																				
Woody Vine Stratum																																					
1.				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																	
2.																																					
Total Cover:	<u> % </u>																																				
% Bare Ground in Herb Stratum <u> % </u>		% Cover of Biotic Crust <u> % </u>																																			

Remarks:

SOIL

Sampling Point: 2c

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		
0-6	10 YR 4/2	100					Loamy sand	
6-8.5	10 YR 3/2	100					Loam	
8.5-15	10 YR 4/2	100	7.5 YR 5/4	10	C	M	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.

<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 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)	<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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Remarks: _____

Hydric Soil Present? Yes No

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 checked="" 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 checked="" type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) <input checked="" 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 checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>15</u>
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>8</u>

Wetland Hydrology Present? Yes No

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

Remarks: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 3a
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Streambed Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.78208123140 Long: -117.11429518000 Datum: NAD83
 Soil Map Unit Name: Made Land NWI classification: Stream/River

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 type="radio"/> No <input checked="" 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 type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Located within inundated channel.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. _____				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> % (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Total Cover: _____ %				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center">Total % Cover of:</td> <td align="center">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> <tr> <td align="center" colspan="3">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)	Prevalence Index = B/A = _____		
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	<u>0</u>																										
FACW species	x 2 =	<u>0</u>																										
FAC species	x 3 =	<u>0</u>																										
FACU species	x 4 =	<u>0</u>																										
UPL species	x 5 =	<u>0</u>																										
Column Totals:	(A)	<u>0</u> (B)																										
Prevalence Index = B/A = _____																												
<u>Sapling/Shrub Stratum</u>																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
<u>Herb Stratum</u>																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
Total Cover: _____ %																												
<u>Woody Vine Stratum</u>																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %																											

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: Non-wetland water. No vegetation present within channel.

SOIL

Sampling Point: 3a

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		

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 checked="" 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 checked="" type="radio"/> No <input type="radio"/></p>
Remarks: Assumed hydric soils due to water inundation.	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" 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 checked="" type="checkbox"/> Water Marks (B1) (Riverine) <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" 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 checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____	<p>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SDSU Mission Valley City/County: San Diego/San Diego Sampling Date: Feb 12, 2019
 Applicant/Owner: San Diego State University State: CA Sampling Point: 3b
 Investigator(s): Kathleen Dayton, Mackenzie Forgey Section, Township, Range: Unsectioned, Township 16s, Range 2w
 Landform (hillslope, terrace, etc.): Upland terrace Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): C - Mediterranean California Lat: 32.77955908260 Long: -117.12139424900 Datum: NAD83
 Soil Map Unit Name: Made Land NWI classification: Stream/River

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 type="radio"/> No <input checked="" 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: Located on upland terrace on grade ~4 ft above low flow channel.	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiolepis</i>	40	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)																																
2. <i>Salix gooddingii</i>	10	Yes	FACW																																	
3. <i>Populus fremontii</i>	4	No	UPL																																	
4. _____																																				
Total Cover: <u>54 %</u>				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u> </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>50</u></td> <td align="center">x 2 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u> </u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>1</u></td> <td align="center">x 4 =</td> <td align="center"><u>4</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>34</u></td> <td align="center">x 5 =</td> <td align="center"><u>170</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>85</u></td> <td align="center">(A)</td> <td align="center"><u>274</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.22</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u> </u>	x 1 =	<u>0</u>	FACW species	<u>50</u>	x 2 =	<u>100</u>	FAC species	<u> </u>	x 3 =	<u>0</u>	FACU species	<u>1</u>	x 4 =	<u>4</u>	UPL species	<u>34</u>	x 5 =	<u>170</u>	Column Totals:	<u>85</u>	(A)	<u>274</u> (B)	Prevalence Index = B/A = <u>3.22</u>			
Total % Cover of:		Multiply by:																																		
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Column Totals:	<u>85</u>	(A)	<u>274</u> (B)																																	
Prevalence Index = B/A = <u>3.22</u>																																				
Sapling/Shrub Stratum																																				
1. <i>Baccharis sarothroides</i>	1	Yes	FACU																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>1 %</u>																																				
Herb Stratum																																				
1. <i>Cortaderia selloana</i>	5	No																																		
2. <i>Ricinus communis</i>	1	No																																		
3. <i>Stipa miliacea</i>	30	Yes	UPL																																	
4. <i>Oxalis pes-caprae</i>	2	No																																		
5. <i>Euphorbia peplus</i>	1	No																																		
6. <i>Sonchus asper</i>	<1	No																																		
7. <i>Conium maculatum</i>	<1	No																																		
8. _____																																				
Total Cover: <u>39 %</u>																																				
Woody Vine Stratum																																				
1. _____																																				
2. _____																																				
Total Cover: <u> </u> %																																				
% Bare Ground in Herb Stratum <u> </u> %		% Cover of Biotic Crust <u> </u> %																																		

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: 3b

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		
0-6	7.5 YR 5/3	100				Loamy sand	
6-9	7.5 YR 4/2	100				Sandy loam	
9-13	7.5 YR 5/2	100				Loamy sand	

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): _____ Remarks: _____	<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>Secondary Indicators (2 or more required)</p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" 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: Some bent over vegetation in drainage patterns, but not consistent.