

# Alvarado 2nd Pipeline Extension Project

## Biological Technical Report

July 2020 | KJC-29

*Prepared for:*

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## ACRONYMS AND ABBREVIATIONS

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AC	Asbestos Cement
AMSL	Above Mean Sea Level
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
City	City of San Diego
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
ESL	Environmentally Sensitive Lands
FESA	Federal Endangered Species Act
GPS	Global Positioning Unit
HCP	
HELIX	HELIX Environmental Planning, Inc.
HGL	Hydraulic Grade Line
I-	Interstate
LBVI	Least Bell's Vireo
LFRR	Light-footed Ridgway's Rail
LUAG	Land Use Adjacency Guidelines
MBTA	Migratory Bird Treaty Act
MHPA	Multiple Habitat Planning Area
MSCP	Multiple Species Conservation Plan
MTS	Metropolitan Transit System
NPPA	Native Plant Protection Act
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
Project	Alvarado 2nd Pipeline Extension Project
PRS	Pressure Regulating Station
RWQCB	Regional Water Quality Control Board

## ACRONYMS AND ABBREVIATIONS (cont.)

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SR	State Route
SWFL	Southwestern Willow Flycatcher
SWRCB	State Waters Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WS	waters of the State
WUS	waters of the U.S.

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

This report presents the results of a biological resources technical study completed by HELIX Environmental Planning, Inc. (HELIX) for the Alvarado 2nd Pipeline Extension Project (project), which is proposed by the City of San Diego Public Works Department (City). The study was completed to provide the City, responsible agencies, and the public with current biological data to satisfy review of the project pursuant to the California Environmental Quality Act (CEQA), the City of San Diego Land Development Code Biology Guidelines, and other pertinent federal, state, and local regulations. This report describes the project site's current biological conditions, vegetation communities, and plant and wildlife species observed or detected during surveys, and identifies those resources that are sensitive. It also identifies sensitive species with potential to occur within the project site. In addition, project impacts are assessed, and mitigation is proposed to offset potential significant impacts of the project on sensitive biological resources.

## 1.2 PROJECT LOCATION

The proposed project is located in the City of San Diego (City), San Diego County, California (Figure 1, *Regional Location*) and is situated within a larger, approximately 390-acre biological study area (BSA). It lies within unsectioned portions of Township 16 South, Ranges 2 and 3 West of the La Jolla U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2, *USGS Topography*). The project alignment is located north of Interstate (I-) 8 within Mission Valley between I-805 and West Mission Bay Drive, primarily along the northern boundary of the San Diego River valley (Figure 3, *Aerial Photograph*). The alignment is located within the paved City right-of-way along Friars Road and Sea World Drive. The proposed project occurs within the boundaries of the City's adopted Multiple Species Conservation Program (MSCP) Subarea Plan, and portions of the project are within the Multi-Habitat Planning Area (MHPA; Figure 4, *Regional Conservation Planning Context*).

## 1.3 PROJECT DESCRIPTION

The proposed project involves the extension of the existing Alvarado 2nd Pipeline through construction of a new 48-inch and 24-inch diameter transmission main along Friars Road and I-805 to West Mission Bay Drive and Sea World Drive (Figure 5, *Project Overview*). The new water pipeline alignment will occur along Friars Road from the east side of the I-805 continuing west where it will head south on Frazee Road. The alignment will turn west on Hazard Center Drive, pass under State Route (SR) 163, and continue onto Riverwalk Drive where it will meet Fashion Valley Road and head north to Friars Road. The pipeline will then continue west along Friars Road to the intersection with Sea World Drive where it will head southwest to West Mission Bay Drive. The 48-inch diameter pipeline will consist of a cement-mortar-lined and coated steel pipe running for approximately 4.2 miles between I-805 and Friars Road to Napa Street. The 24-inch diameter pipeline will also consist of a cement-mortar lined and coated steel pipe, and will run for approximately 2.2 miles from the intersection of Napa Street and Friars west to West Mission Bay Drive and Sea World Drive. Existing parallel 12-inch and 16-inch asbestos cement water pipes will be replaced parallel to the transmission main alignment where present.

A 536- to 390-foot hydraulic grade line (HGL) Pressure Regulating Station (PRS) will be built at the Friars Road and Napa Street intersection to regulate the pressure feeding the University Heights 390 Zone to

the west. An approximately 1,470-foot existing 12-inch diameter asbestos-cement (AC) pipe located northwest of the West Mission Bay Drive bridge will be relocated along Sea World Drive for approximately 2,241 feet where it will then connect into the existing Pacific Beach 390 to 307-foot HGL Pressure Regulation Station along West Mission Bay Drive. The existing 12-inch AC pipe will be abandoned in place and a new 12-inch PVC pipe will be constructed along Sea World Drive from Friars Road to a turn-off location approximately 1,700 feet north of the Friars Road and Sea World Drive Intersection. The 12-inch pipeline will be located parallel to the 24-inch Alvarado pipeline along Sea World Drive between West Mission Bay Drive and Friars Road (Figure 5).

The alignment is primarily located within heavily traveled public road right-of-ways. Exceptions to this include the section of the alignment within the Fashion Valley Mall parking lot between Fashion Valley Road and Riverwalk Drive, a section that crosses beneath SR-163, and a section along Friars Road between Mission Center Drive and Russel Parkway.

The project will incorporate open cut trench and trenchless construction methods. Trenchless construction methods will include tunneling the portion of the alignment that runs beneath SR-163 between Hazard Center Drive and a Fashion Valley parking lot. A section of the pipe that crosses under the Metropolitan Transit System (MTS) rail tracks at Napa Street will utilize an abandoned 66-inch sewer pipeline as a conductor casing. A total of nine laydown yards/staging areas may be used by the project, which will be located within existing parking lots or disturbed areas (Figure 5). Work areas will be restored to pre-project conditions following project completion.

## 2.0 SURVEY METHODS

### 2.1 LITERATURE REVIEW

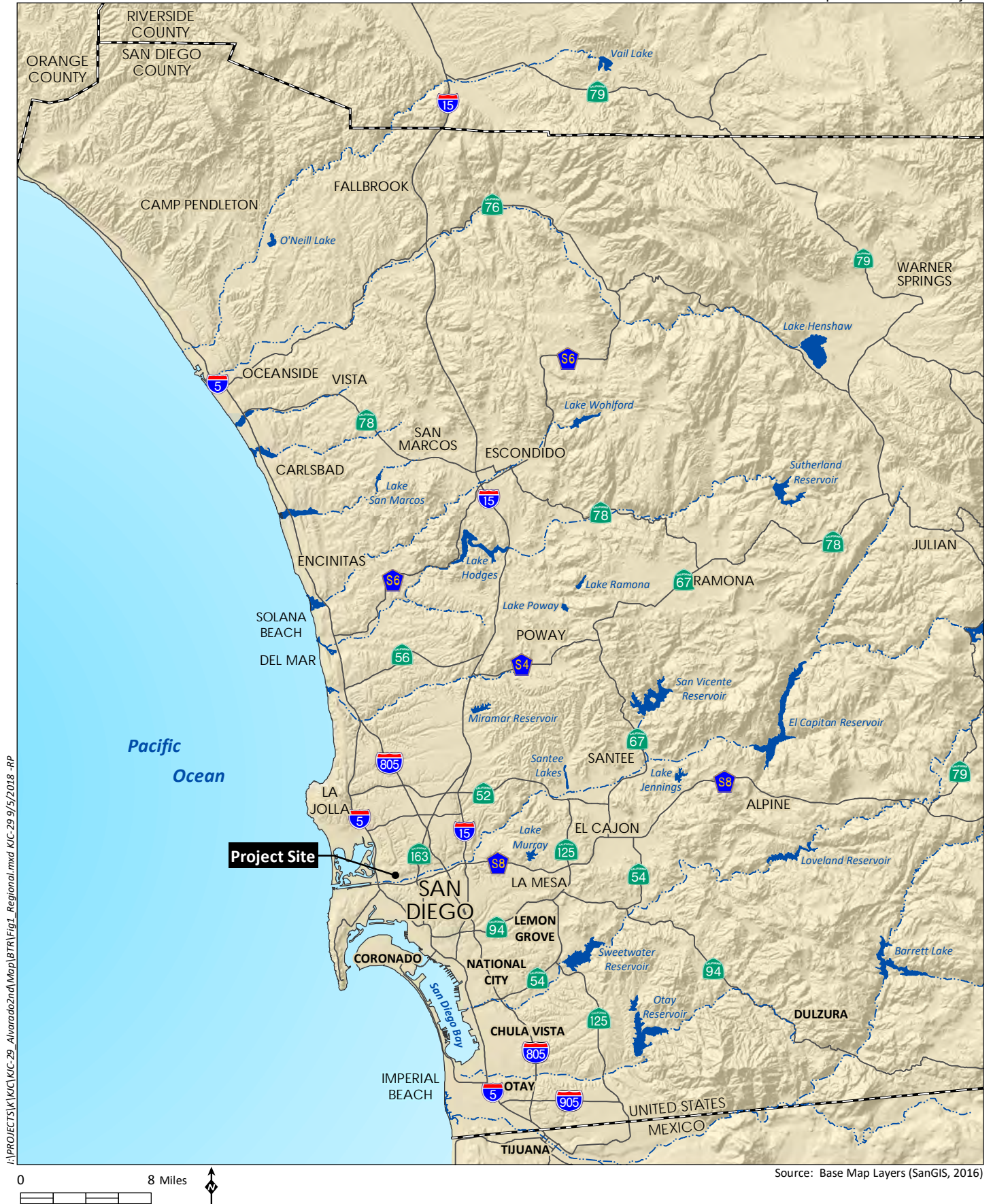
Prior to conducting field surveys, HELIX conducted a thorough review of relevant maps, databases, and literature pertaining to biological resources known to occur within the project vicinity. Recent and historical aerial imagery, USGS topographic maps, soils maps (U.S. Department of Agriculture [USDA] 2018), and other maps of the project site and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

In addition, a query of special status species and habitats databases was conducted, including the U.S. Fish and Wildlife Service (USFWS) species records (U.S. Fish and Wildlife Service [USFWS] 2018a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB; California Department of Fish and Wildlife [CDFW] 2018a), Calflora database (Calflora 2018), SanBIOS and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (California Native Plant Society [CNPS] 2018). The USFWS' National Wetlands Inventory (NWI) was also reviewed (USFWS 2018b). Any recorded locations of species, habitat types, wetlands, and other resources were mapped and overlain onto aerial imagery using Geographic Information Systems.

### 2.2 GENERAL BIOLOGICAL SURVEY

An initial general biological survey to confirm existing conditions and vegetation mapping of the BSA was conducted by HELIX biologist Erica Harris and Samantha Edgley on May 2 and 4, 2018, and Ms. Harris on January 31, 2019 (Table 1, *Survey Information*). An approximately 390-acre BSA was established for the project, which included all areas of potential effects and an approximately 100-foot adjacent buffer

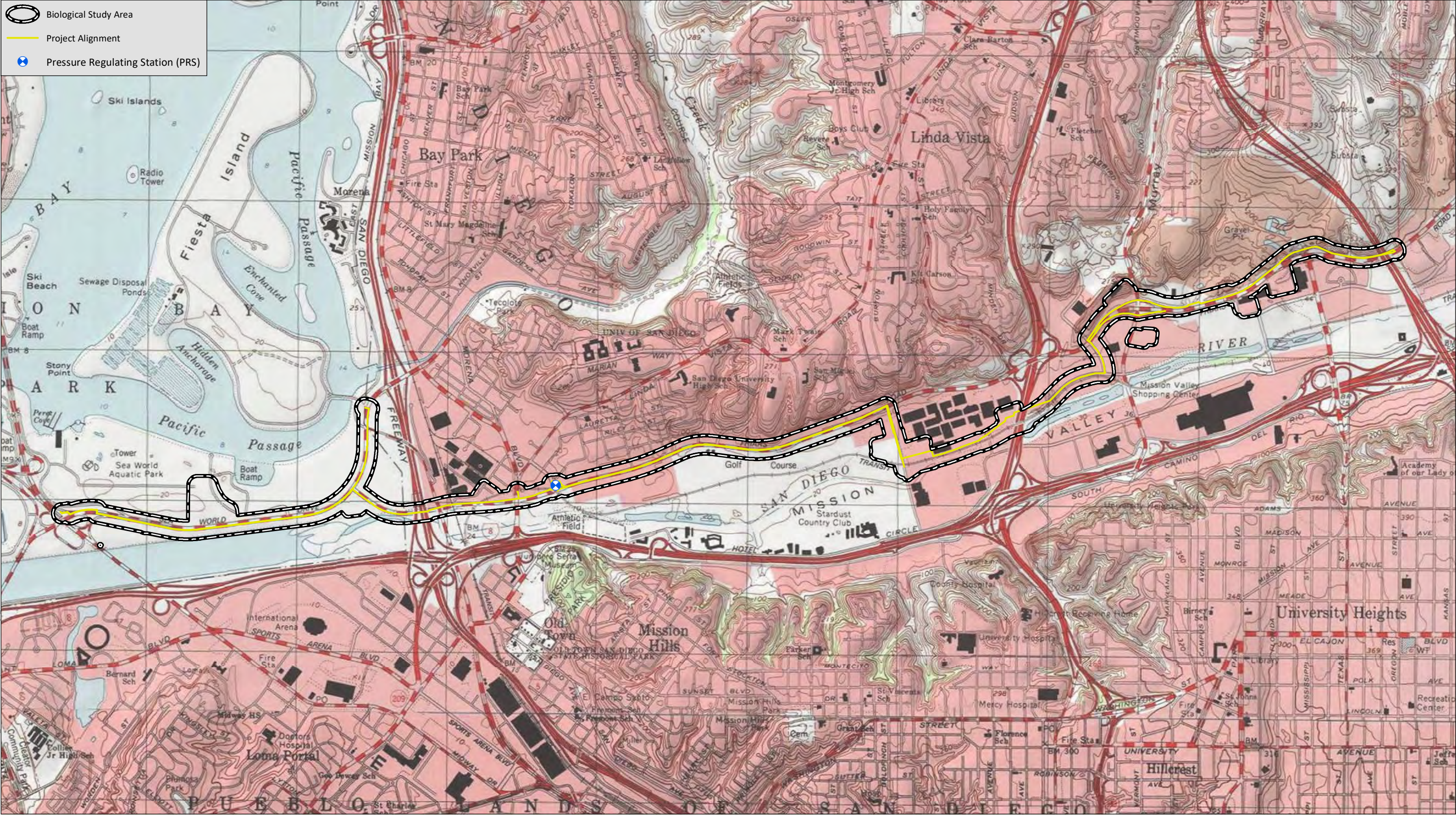




## Regional Location

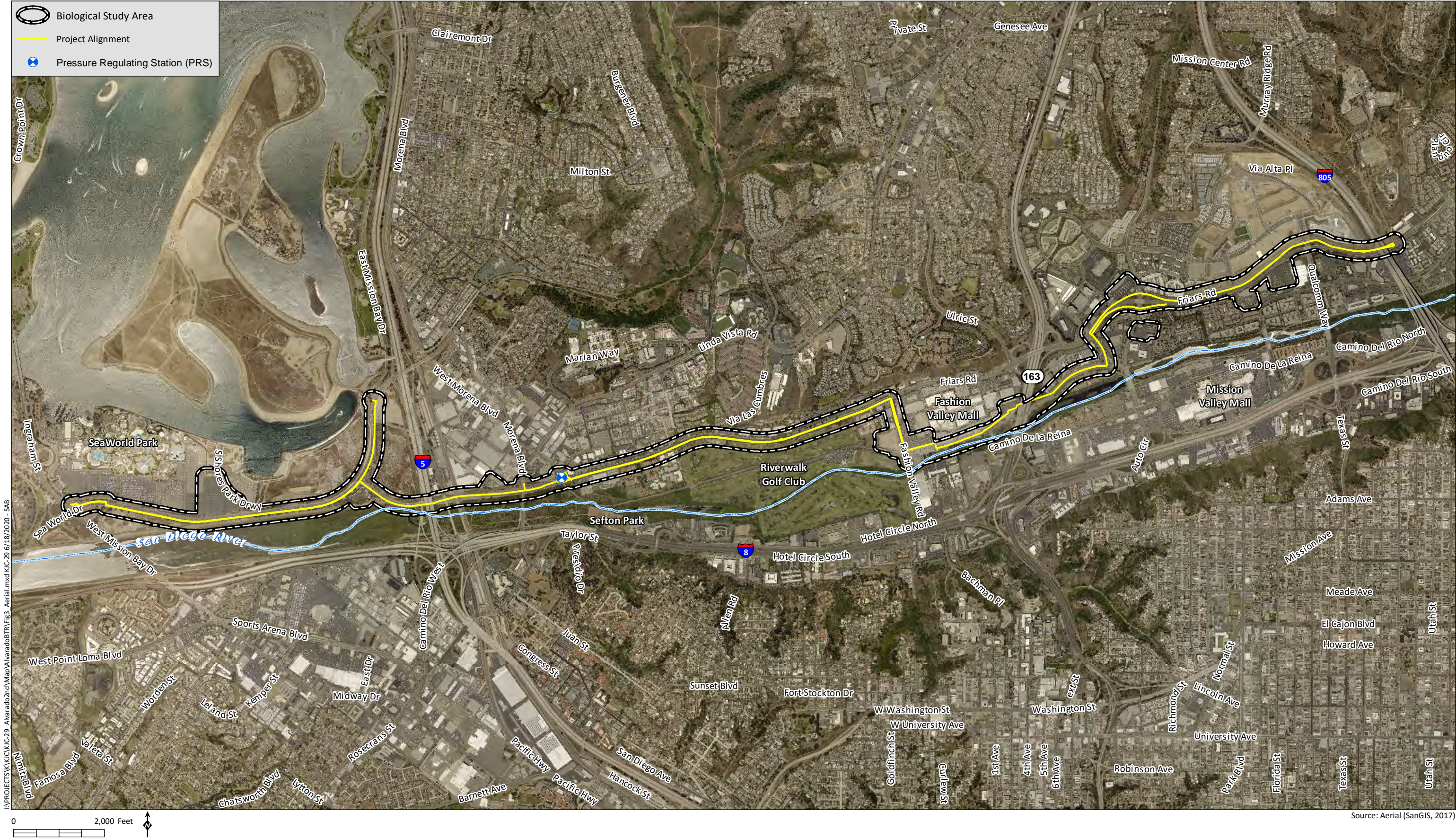
Figure 1



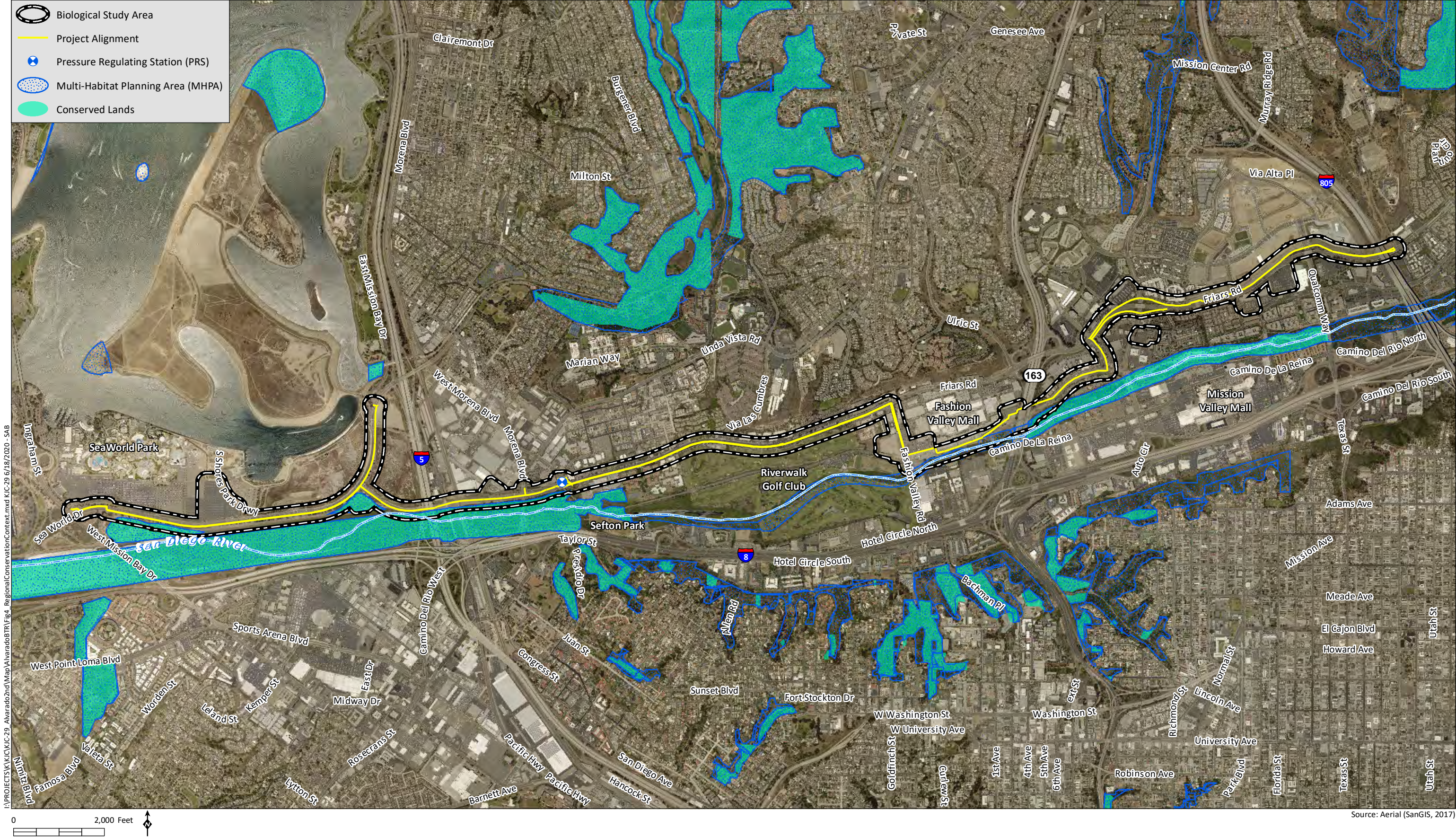


Source: La Jolla 7.5' Quad (USGS)















zone. Vegetation was mapped on a 1"=100' scale aerial of the site. A minimum mapping unit size of 0.10 acre was used when mapping upland habitat; 0.01 acre was used when mapping wetland and riparian habitat. The project site was surveyed on foot and with the aid of binoculars.

**Table 1**  
**SURVEY INFORMATION**

Date	Personnel	Survey Type
<b>2018</b>		
April 26, 2018	Amy Mattson, Krista Catelani	Rare Plant Survey (Spring) #1
April 30, 2018	Amy Mattson, Desiree Johnson	Rare Plant Survey (Spring) #2
May 2, 2018	Erica Harris, Samantha Edgley	General Biological Survey, Vegetation Mapping, Habitat Assessment
May 3, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #1
May 4, 2018	Erica Harris, Samantha Edgley	Least Bell's Vireo Survey #1; General Biological Survey, Vegetation Mapping, Habitat Assessment
May 7, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #2
May 11, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #3
May 16, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #4
May 18, 2018	Erica Harris <sup>2</sup> , Dane van Tamelen	Southwestern Willow Flycatcher Survey #1, Least Bell's Vireo Survey #2
May 21, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #5
May 29, 2018	John Konecny <sup>1</sup>	Light-footed Ridgway's Rail Survey #6
June 1, 2018	Erica Harris <sup>2</sup> , Samantha Edgley	Southwestern Willow Flycatcher Survey #2, Least Bell's Vireo Survey #3
June 19, 2018	Amy Mattson, Desiree Johnson	Rare Plant Survey (Summer)
June 14, 2018	Erica Harris <sup>2</sup> , Dane van Tamelen	Southwestern Willow Flycatcher Survey #3, Least Bell's Vireo Survey #4
June 26, 2018	Erica Harris <sup>2</sup> , Katie Bellon	Southwestern Willow Flycatcher Survey #4, Least Bell's Vireo Survey #5
July 6, 2018	John Konecny <sup>2</sup> , Samantha Edgley	Southwestern Willow Flycatcher Survey #5, Least Bell's Vireo Survey #6
July 16, 2018	Benjamin Rosenbaum, Samantha Edgley	Least Bell's Vireo Survey #7
July 27, 2018	Erica Harris, Dane van Tamelen	Least Bell's Vireo Survey #8
<b>2019</b>		
January 31, 2019	Erica Harris	General Biological Survey, Vegetation Mapping, Habitat Assessment
March 25, 2019	Larry Sward, Erica Harris	Jurisdictional Delineation

<sup>1</sup> USFWS Permit TE-837308-6

<sup>3</sup> USFWS Permit TE-778195-13

Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. The project site was examined for evidence of potential jurisdictional waters and wetlands, including vernal pools.

## 2.3 FOCUSED SPECIES SURVEYS

The following focused surveys were conducted for special status plant and animal species during the appropriate survey periods in 2018, in accordance with applicable protocols as detailed below.

### 2.3.1 Rare Plant Surveys

HELIX biologists surveyed portions of the BSA for rare plant species during the spring on April 26, 2018 and April 30, 2018. An additional survey for late-blooming species was conducted in the summer on June 19, 2018. The rare plant survey area included areas where proposed activities would occur outside of the road right-of-way. Special status plant species include species that are: listed as threatened or endangered by the USFWS or the CDFW; those with a Rare Plant Rank 1 through 4 designated by the CNPS; and those that are listed as narrow endemic under the City's Biological Guidelines (City of San Diego [City] 2018) and covered by the City MSCP Subarea Plan (City 1997). The surveys were conducted on foot and included 100 percent visual coverage of the study area. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph. HELIX also looked for special status plant species opportunistically during other surveys and recorded their numbers and locations when encountered.

### 2.3.2 Least Bell's Vireo

A focused survey for the least Bell's vireo (*Vireo bellii pusillus*; LBVI) was conducted in accordance with survey protocol (USFWS 2001). The survey consisted of eight site visits conducted by HELIX biologists Erica Harris, John Konecny, Benjamin Rosenbaum, Katie Bellon, Samantha Edgley, and Dane van Tamelen between May 4 and July 27, 2018 (Table 1). The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The LBVI survey area consisted of two areas along the San Diego River where suitable habitat that occurred adjacent to the proposed project alignment was not separated by existing development. This included an area within Fashion Valley located south of Hazard Center Drive and Riverwalk Drive between Mission Center Road and Fashion Valley Road, and an area located south of Friars Road and north of the I-8 to the east and west Morena Boulevard. The report of findings for the LBVI survey is included as Appendix A, *2018 Least Bell's Vireo Survey Report*.

A portion of the surveys were conducted on the same days as the protocol surveys for the southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL). A permitted SWFL biologist was present conducting the SWFL survey while another biologist conducted the LBVI survey (Table 1).

### 2.3.3 Southwestern Willow Flycatcher

A focused survey for the federally listed southwestern SWFL was conducted in accordance with the current USFWS approved survey protocol (Sogge et al. 2010). The survey consisted of five site visits conducted by Ms. Harris and Mr. Konecny (Table 1). The surveys were conducted by walking within and along the perimeter of suitable SWFL habitat. Surveys were conducted with binoculars to aid in bird detection. Recorded SWFL vocalizations were played every 20 to 30 meters followed by a one-minute silent period to listen for a response. The SWFL survey area consisted of the same two survey areas as described for the LBVI surveys. The report of findings for the SWFL survey is included as Appendix B, *2018 Southwestern Willow Flycatcher Survey Report*.

### 2.3.4 Light-Footed Ridgway's Rail

A focused survey for the light-footed Ridgway's rail (*Rallus obsoletus levipes*; LFRR) was conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). The survey consisted of six site visits conducted at least five days apart between May 3 and May 29, 2018 (Table 1). The survey schedule was compressed to complete the surveys in May. The surveys were conducted by walking along the pedestrian path at the edge of suitable habitat, stopping at areas where there was appropriate habitat, and listening for vocalizing LFRR's. If rails were not detected passively, a digital call-prompt of the light-footed clapper rail "dueting" was played at 30-second intervals. A response was listened for approximately 10 minutes before proceeding to the next survey station. The LFRR survey area consisted of three areas where suitable habitat that occurred adjacent to the proposed project alignment was not separated by existing development. Two of the areas included the same areas surveys for LBVI and SWFL. The third survey area was located along the San Diego River flood control channel to south of Sea World Drive between the I-5 and West Mission Bay Drive. The report of findings for the LFRR survey is included as Appendix C, *2018 Light-footed Ridgway's Rail Survey Report*.

## 2.4 JURISDICTIONAL DELINEATION

HELIX conducted a field-based jurisdictional delineation on March 25, 2019 (Table 1). The jurisdictional delineation survey area included only those areas where proposed activities were initially sited to occur outside of the road right-of-way. Prior to conducting fieldwork, aerial photographs (1"=100' scale), topographic maps (1"=100' scale), and NWI maps were reviewed to assist in determining the presence or absence of potential jurisdictional areas within the project site. The delineation was conducted to identify and map water and wetland resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code). The delineation was also conducted to determine the presence or absence of City Environmentally Sensitive Lands (ESL) wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

### 2.4.1 Waters of the U.S.

Potential USACE-jurisdictional waters of the U.S. (WUS) were delineated using three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008). Other references included the Clean Water Rule (USACE and Environmental Protection Agency [EPA] 2015).

Plants were identified according to Jepson eFlora (2018). Wetland affiliations of plant species follow the National Wetland Plant List (Lichvar et al. 2016). Soils information was taken from the USDA Web Soil Survey (2018). Soil samples were evaluated for hydric soil indicators (e.g., hydrogen sulfide [A4], sandy redox [S5], depleted matrix [F3], redox dark surface [F6], redox depressions [F8], and vernal pools [F9]). Soil chromas were identified according to Munsell's Soil Color Charts (Kollmorgen 1994).

Sampling points were inspected for primary (e.g., surface water [A1], saturation [A3], water marks [non-riverine, B1], sediment deposits [non-riverine, B2], drift deposits [non-riverine, B3], surface soil cracks [B6], inundation visible on aerial imagery [B7], salt crust [B11], aquatic invertebrates [B13], hydrogen



sulfide odor [C1], and oxidized rhizospheres along living roots [C3]) and were also inspected for secondary (e.g., water marks [riverine, B1], sediment deposits [riverine, B2], drift deposits [riverine, B3], drainage patterns in wetlands [B10], shallow aquitard [D3], and positive FAC neutral test [D5]) wetland hydrology indicators.

Areas were determined to be potential non-wetland WUS if there was evidence of regular surface flow (e.g., bed and bank) but either the vegetation or soils criterion was not met. Jurisdictional limits for these areas were defined by the ordinary high water mark (OHWM), which is defined in 33 CFR Section 329.11 as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas.” Guidance on the ordinary high water mark used for this report included Riley (2005) and Lichvar and McColley (2008).

Two sampling points were studied, and soil pits were excavated at each of these. Standard USACE wetland determination data forms were completed for each sampling point in the field, and are included in Appendix D, *Wetland Delineation Forms*. Photographs taken of the sampling points and study area are included in Appendix E, *Representative Site Photographs*. An overview of USACE wetlands and jurisdictional WUS definitions is presented in Appendix F, *Federal Jurisdictional Information*.

## 2.4.2 Waters of the State

Potential RWQCB-jurisdictional waters of the State (WS) were delineated in the same manner as potential WUS. All WUS were considered waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. Where features were determined to be geographically isolated, they were considered isolated waters of the State subject to RWQCB jurisdiction pursuant to Porter-Cologne.

## 2.4.3 Streambed and Riparian Habitat

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-slope to top-of-slope width for the features within the project site. Vegetated streambed includes all riparian shrub or tree canopy extending within or beyond the banks of features within the project site. Definitions of CDFW jurisdictional areas are presented in Appendix G, *State Jurisdictional Information*.

## 2.4.4 City Environmentally Sensitive Lands Wetlands

Potential ESL wetlands were determined based on the predominance of hydrophytic plant species. In addition, areas lacking naturally occurring wetland vegetation communities are still considered wetlands if hydric soil or wetland hydrology is present and past human activities have occurred to remove the historic vegetation. Areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands are considered a wetland under the ESL and regulated accordingly. However, seasonal drainage patterns that are sufficient enough to etch the

landscape would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities. Naturally occurring wetland vegetation communities include saltmarsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodland, riparian scrub, and vernal pools.

## 2.5 SURVEY LIMITATIONS

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

## 2.6 NOMENCLATURE

Nomenclature used in this report generally comes from the City MSCP Subarea Plan (City 1997), Holland (1986) and Oberbauer (2008) for vegetation; Jepson eFlora (2018) and Baldwin et al. (2012) for plants; Society for the Study of Amphibians and Reptiles (2018) for reptiles and amphibians; American Ornithological Society (2018) for birds; North American Butterfly Association (2018) for butterflies; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS's Rare Plant Inventory (CNPS 2018), CDFW (2018b), and City (2018). Animal species status is from the CDFW (2018c) and City (2018).

## 3.0 RESULTS

The approximately 390-acre BSA is located north of I-8 within Mission Valley primarily along the northern boundary of the San Diego River valley where native and non-native vegetation communities exist adjacent to multiple roadways. Portions of the BSA and project site occur within the City's MHPA, which is the City's portion of the MSCP preserve, further discussed in Section 5.0. Vegetation communities within the BSA and project site, as well as plant and animal species detected on site, are further discussed below.

### 3.1 REGIONAL CONTEXT

The BSA is generally located within the Central Coast ecological region of the City of San Diego (San Diego National History Museum 2014). Mean annual precipitation is approximately 15 inches, and the mean annual temperature is approximately 61 degrees Fahrenheit. The frost-free season is 220 to 280 days.

Important biological resources in the region generally include grasslands, coastal sage scrub, oak woodland, wetlands, and riparian habitats present within open space areas such as Mission Bay, Tecolote Canyon, Rose Canyon, San Diego River, and Chollas Creek including a variety of smaller canyons dispersed throughout more urban areas of the City (City 1997). These areas provide live-in habitat for native species, facilitate dispersal of species, and provide shelter and foraging habitat for migrating species, primarily birds. Several plant and animal species covered under the MSCP are found in these urban regions, including wart-stemmed ceanothus (*Ceanothus verrucosus*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Diego barrel cactus (*Ferocactus viridescens*), willow monardella (*Monardella viminea*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*),

coastal California gnatcatcher (*Poliophtila californica californica*), California least tern (*Sterna antillarum browni*), light-footed Ridgway's rail, and least Bell's vireo, among others.

In the context of the City's MSCP Subarea Plan, portions of the BSA, primarily areas along the San Diego River, occur within the MHPA (Figure 4). These areas consist primarily of wetlands and riparian habitat present along the San Diego River. Additional discussion of the MSCP Subarea Plan and MHPA is provided in Section 5.3.2 of this report.

## 3.2 GENERAL LAND USES

The BSA is located within the coastal region of San Diego County in the communities of Mission Valley and Mission Bay which have been heavily developed and urbanized. The project is generally confined to the existing roadways of Friars Road and Sea World Drive with small segments along Mission Center Road, Hazard Center Drive, Riverwalk Drive, and Fashion Valley Road. The BSA is largely characterized by disturbed habitat and developed lands associated with commercial and residential development, and riparian habitat bordering the San Diego River. Surrounding land uses include commercial development and shopping centers such as Mission Valley and Fashion Valley malls; recreational development such as Riverwalk Golf Club, Mission Bay Park, and Sefton Park; multi- and single-family residential development; and open space areas such as the City's Flood Control Channel Southern Wildlife Preserve along the San Diego River. Several major transportation corridors are present within the BSA and surrounding area including SR 163, and I-5, I-805, and I-8 freeways.

## 3.3 DISTURBANCE

The BSA is located within Mission Valley and Mission Bay which have been heavily modified and developed since the 1940s. Historical land uses within Mission Valley included dairy farming and other agricultural activities prior to commercial and residential development of the area such as construction of Mission Valley mall in the early 1960s. A large portion of the valley was previously subjected to sand and gravel extraction which has since been terminated and has been undergoing redevelopment for commercial and residential uses.

Mission Bay contains Mission Bay Park, which was developed in the late 1940s through dredging and filling of the previous tidal marsh present at the historic terminus of the San Diego River. Mission Bay Park is exposed to variety of public and commercial uses. Public recreational uses include parks, hiking and biking trails, fishing, and water sports such as kayaking, rowing, boating, and water and jet skiing. Commercial uses include hotels, marinas, and SeaWorld park.

The San Diego River flows east to west through the BSA terminating at the Pacific Ocean. The river originates in the Cuyamaca Mountains flowing eastwards to El Capitan Reservoir, through the cities of Santee and San Diego, through Mission Trails Regional Park and Mission Valley, and discharging into the Pacific Ocean. The river historically emptied into San Diego Bay and Mission Bay, changing courses between the bays in the early 1800s. The river was diverted through construction of levees and dams in the late 1800s to straighten channel, terminating it at the ocean, because of concerns that the river would silt up the San Diego Bay.

### 3.4 TOPOGRAPHY AND SOILS

The BSA is generally flat, gently sloping from east to west. Elevations within the BSA range from a high point of 85 feet above mean seal level (AMSL) at the eastern portion of the BSA to 6 feet ASML at the western portion near Mission Bay.

Fourteen soil types have been mapped within the study area (USDA 2018; Figure 6, *Soils*): Anderson very gravelly sandy loam, 9 to 45 percent slopes; Grangeville fine sandy loam, 0 to 2 percent slopes; Huerhuero-Urban land complex, 2 to 9 percent slopes; Huerhuero-Urban land complex, 9 to 30 percent slopes; Olivenhain cobbly loam, 9 to 30 percent slopes; Olivenhain cobbly loam, 30 to 50 percent slopes; Olivenhain-Urban land complex, 2 to 9 percent slopes; Tujunga sand, 0 to 5 percent slopes; gravel pits, lagoon water, made land, quarries, riverwash, and urban land.

### 3.5 VEGETATION COMMUNITIES/LAND COVER TYPES

A total of 13 vegetation communities/land cover types were mapped within the BSA (Figures 7a to 7g, *Vegetation and Sensitive Resources*): arundo-dominated riparian, coastal salt marsh, mud flat, non-native riparian, open water, saltgrass grassland, southern cottonwood-willow riparian forest, southern willow scrub, baccharis scrub (including disturbed), Diegan coastal sage scrub (including disturbed), non-native vegetation, disturbed habitat, and developed land (Table 2, *Existing Vegetation Communities/Land Cover Types*). The numeric codes in parentheses following each vegetation community/land cover type name are from the City's Land Development Code Biology Guidelines (City 2018a), with further guidance from the Holland classification system (Holland 1986) and as expanded by Oberbauer (2008). The communities/habitat types are presented in Table 2 in order by MSCP Tier.

**Table 2**  
**EXISTING VEGETATION COMMUNITIES/LAND COVER TYPES**

Vegetation Community/Land Cover Type <sup>1</sup>	MSCP Tier <sup>2</sup>	Acres <sup>3</sup>		
		Outside MHPA	Within MHPA	Total
Wetlands				
Arundo-dominated Riparian (65100)	N/A	--	0.23	0.23
Coastal Salt Marsh (52120)	N/A	4.85	2.39	7.24
Mudflat (64300)	N/A	0.14	0.01	0.15
Non-native Riparian (65000)	N/A	0.17	0.06	0.23
Open Water (64140)	N/A	1.12	2.23	3.35
Saltgrass Grassland (42130)	N/A	0.01	0.18	0.19
Southern Cottonwood-Willow Riparian Forest (61330)	N/A	2.53	10.76	13.29
Southern Willow Scrub (63320)	N/A	0.67	0.25	0.92
Subtotal		9.49	16.11	25.60
Uplands				
Baccharis Scrub (32530)	II	2.3	--	2.3
Baccharis Scrub – Disturbed (32530)	II	2.3	--	2.3
Diegan Coastal Sage Scrub (32500)	II	3.6	3.6	7.2
Diegan Coastal Sage Scrub – Disturbed (32500)	II	0.3	--	0.3
Non-native Vegetation (11000)	IV	7.6	0.8	8.4
Disturbed Habitat (11300)	IV	34.1	9.8	43.9
Developed (12000)	IV	293.5	5.1	298.6
Subtotal		343.7	19.3	363.0
TOTAL		353.19	35.41	388.60

<sup>1</sup> Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

<sup>2</sup> Tiers refer to City MSCP Subarea Plan habitat classification system.

<sup>3</sup> Acreages rounded to the nearest 0.1 acre for uplands and 0.01 acre for wetlands; total reflects rounding.

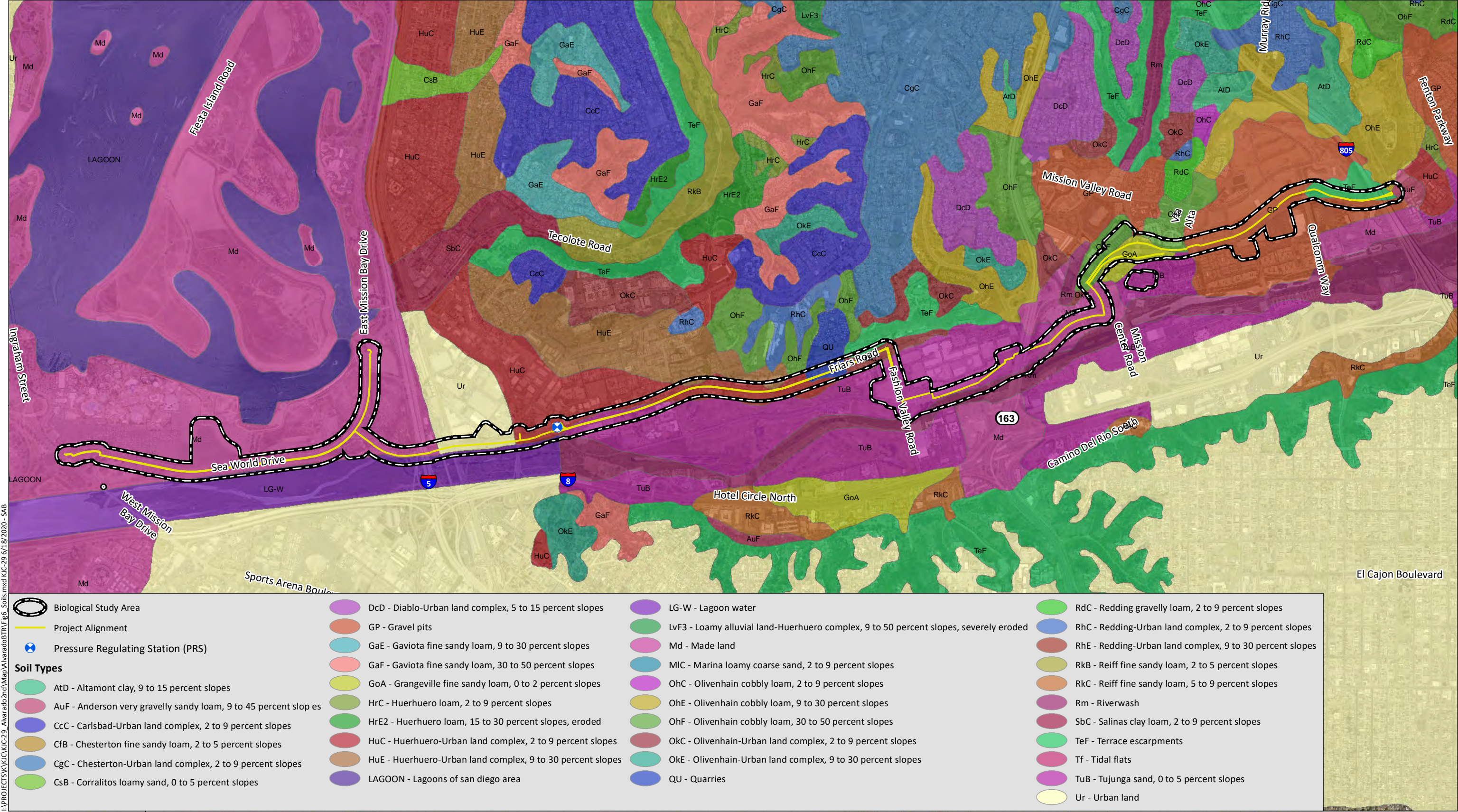
## Arundo-Dominated Riparian

Arundo-dominated riparian consists of densely vegetated riparian thickets dominated almost exclusively by giant reed (*Arundo donax*). It occurs along disturbed water courses. This community occurs in one location of the BSA to the west of Morena Boulevard along the San Diego River (Figure 7f). A total of 0.23 acre of arundo-dominated riparian is mapped within the BSA.

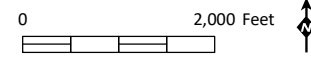
## Coastal Salt Marsh

Southern coastal salt marsh is a highly productive community composed of herbaceous and suffrutescent, salt-tolerant hydrophytes that form a dense cover of up to one meter tall. It is dominated by herbaceous plants such as alkali heath (*Frankenia salina*), California seablite (*Suaeda californica*), and pickleweed (*Salicornia pacifica*). This plant community is found along sheltered inland margins of bays, lagoons, and estuaries where the hydric soils are subjected to regular tidal inundation by salt water. Approximately 7.24 acres of southern coastal salt marsh occurs within the BSA to the west of Morena Boulevard along the San Diego River (Figures 7f and 7g). Dominant species include alkali heath, pickleweed, and Pacific cordgrass (*Spartina foliosa*).



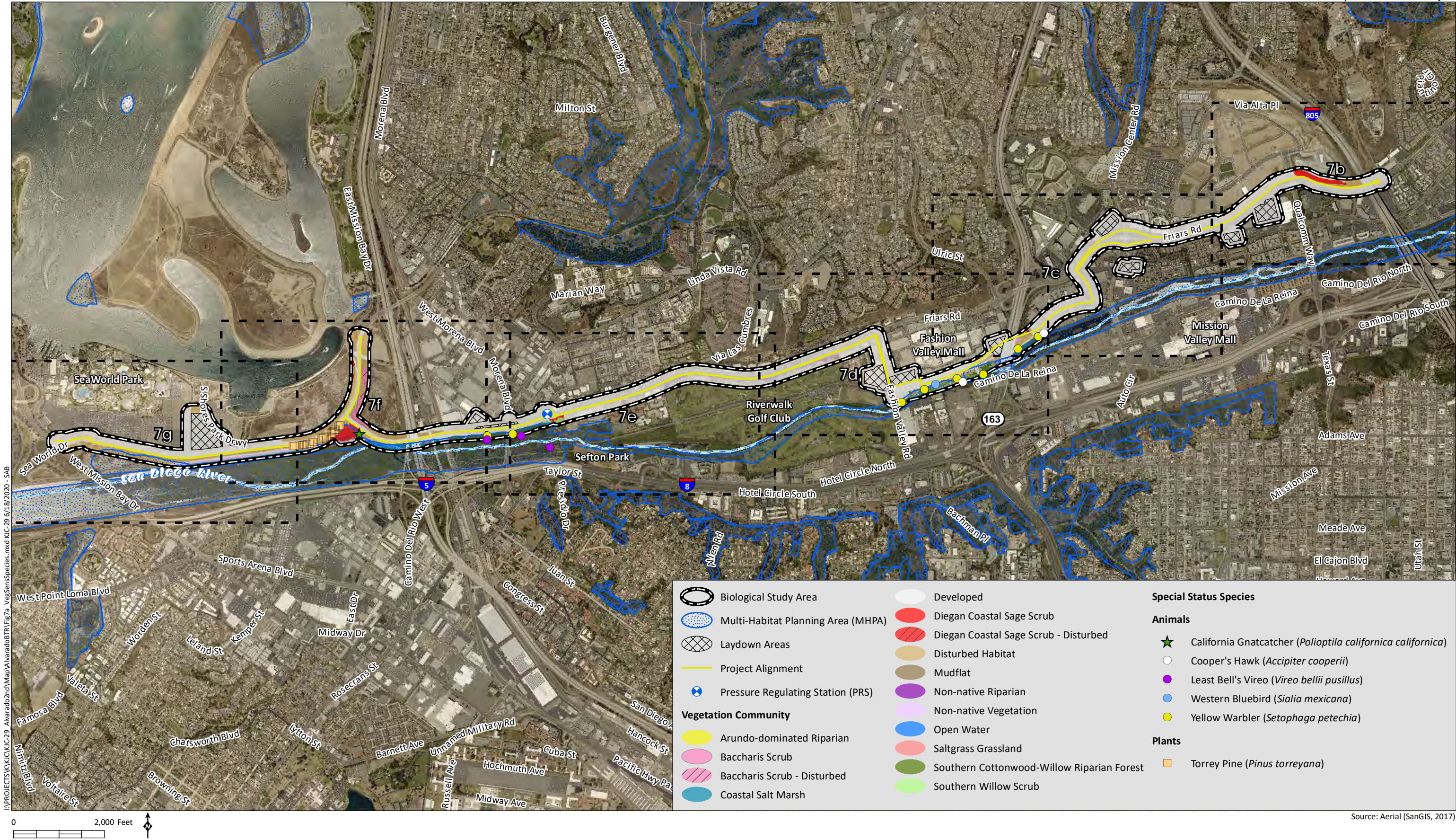


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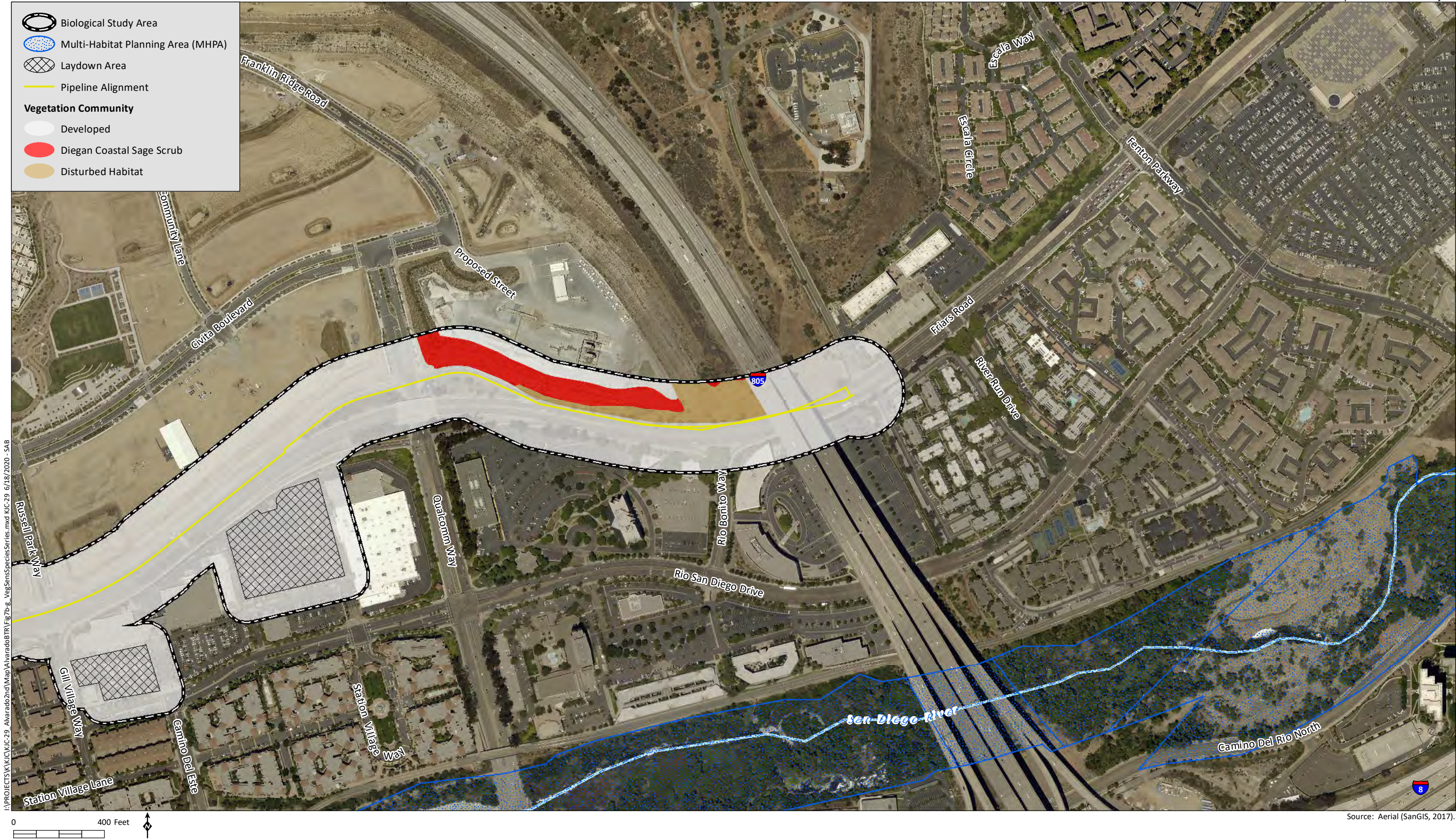


Source: Aerial (SanGIS, 2017)

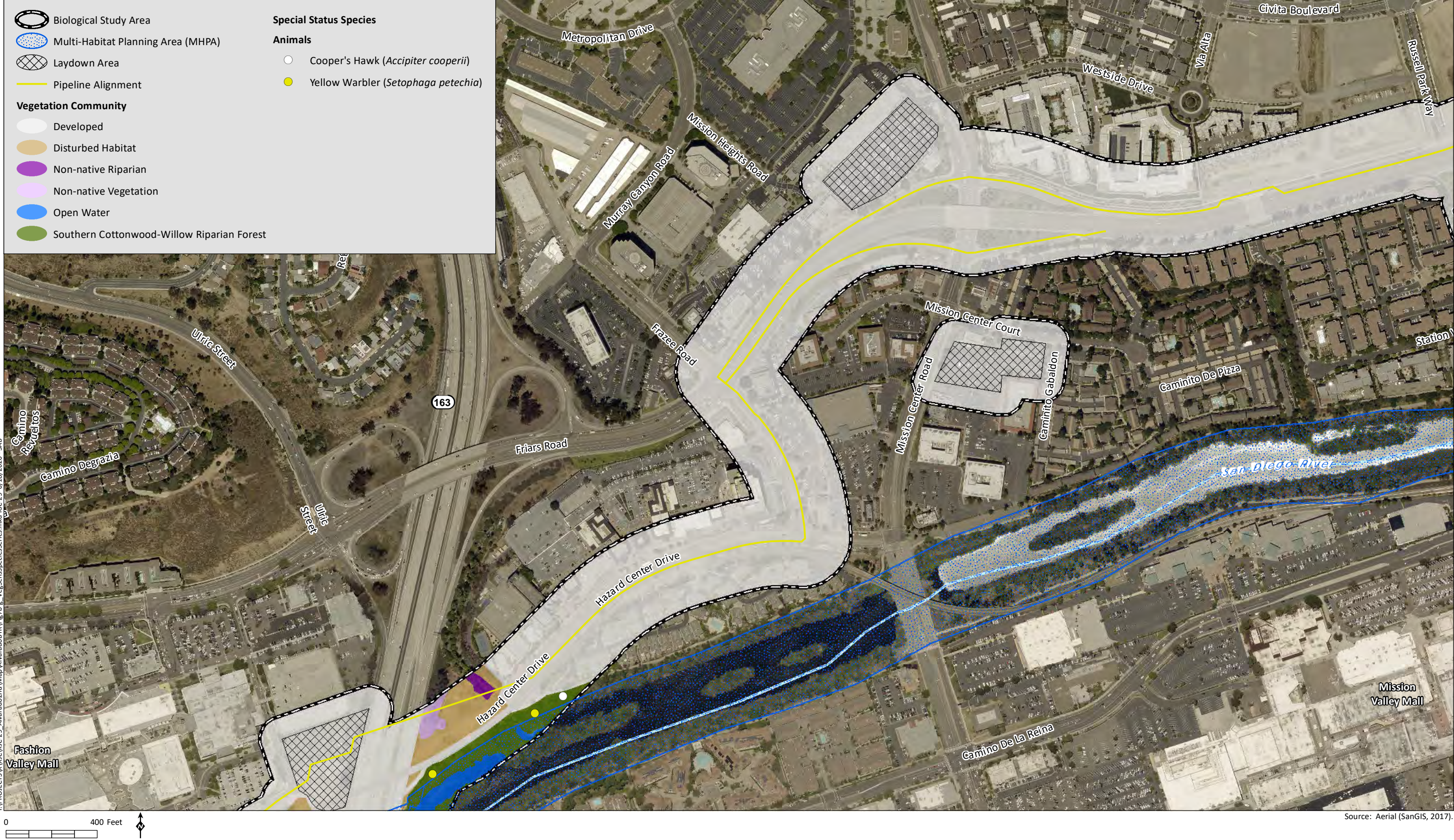












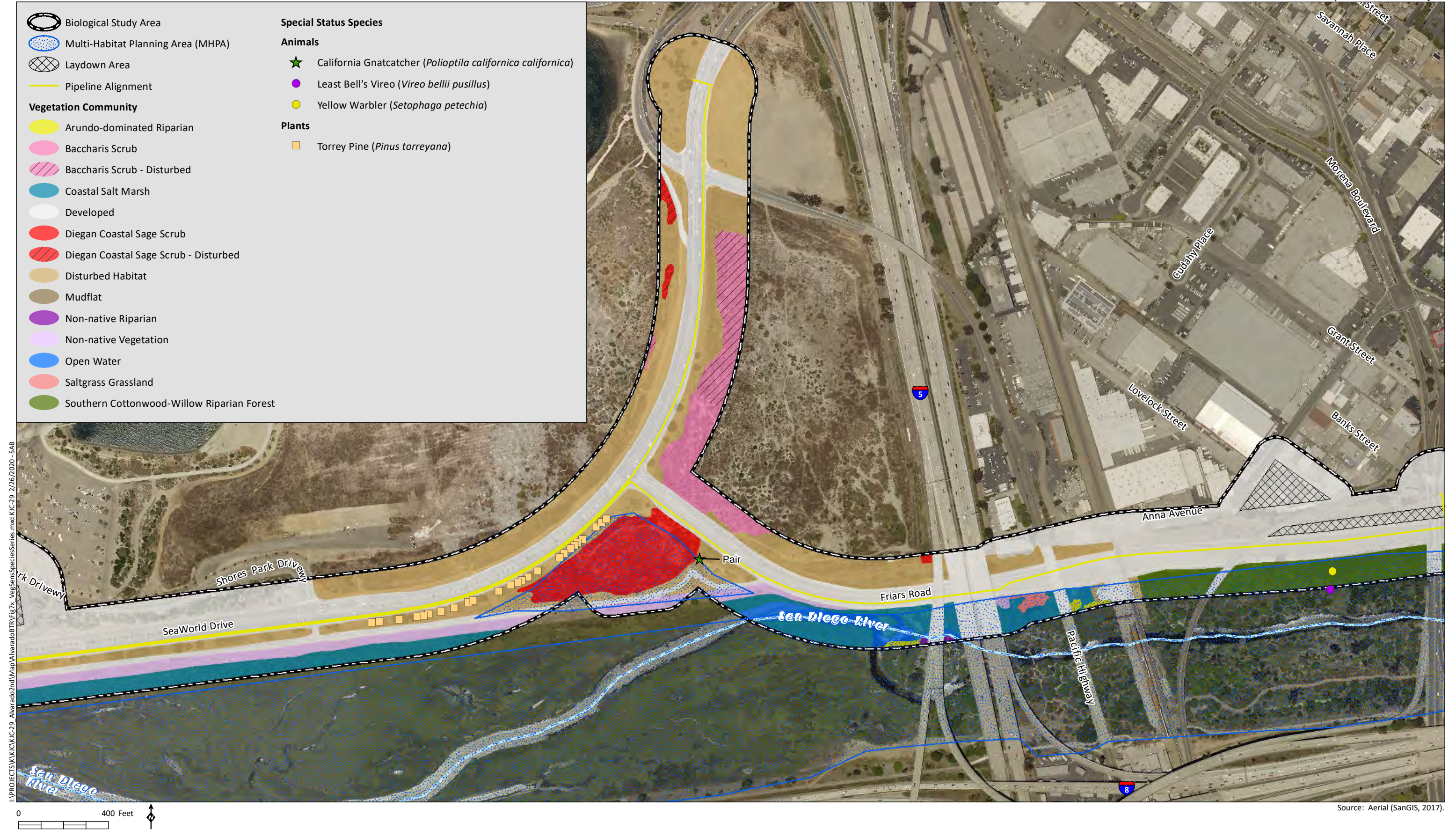


















## Mudflat

Mudflats are coastal wetlands that form when mud is deposited by the tides or rivers, commonly occurring in sheltered areas such as bays and estuaries. A total of 0.15 acre of mudflat occur within the BSA to the west of the I-5 and south of Sea World Drive at the mouth of the San Diego River (Figures 7f and 7g).

## Non-Native Riparian

Non-native riparian consists of densely vegetated riparian thickets dominated (greater than 50 percent) by non-native, invasive species such as giant reed, pampas grass (*Cortaderia* sp.), eucalyptus (*Eucalyptus* sp.), Canary Island date palm (*Phoenix canariensis*), castor bean (*Ricinus communis*), tamarisk (*Tamarix* sp.), and Mexican fan palm (*Washingtonia robusta*). It occurs in a variety of wetlands habitats, often where prior disturbances have occurred. This community occurs within the BSA along the San Diego River and an unnamed tributary located between Hazard Center Drive and Fashion Valley Road (Figures 7c, 7d, and 7f). Dominant species within the BSA include castor bean, eucalyptus, Canary Island date palm, Mexican fan palm, and Brazilian pepper tree (*Schinus terebinthifolius*). Approximately 0.23 acre of non-native riparian were mapped within the BSA.

## Open Water

Open water is made up of year-round bodies of fresh water (extremely low salinity) in the form of lakes, streams, ponds, or rivers. This includes those portions of water bodies that are usually covered by water and contain less than 10 percent vegetative cover. Open water within the BSA consists of unvegetated portions of the San Diego River totaling approximately 3.35 acres (Figures 7c, 7d, 7f and 7g).

## Saltgrass Grassland

Saltgrass grassland consists of areas dominated by saltgrass (*Distichlis spicata*). It usually occurs in poorly drained areas with alkaline soils, often co-occurring or intergrading with alkali meadows and various riparian habitats. Approximately 0.19 acres of saltgrass grassland occurs within the BSA along the San Diego River to the east of I-5 and west of Morena Boulevard (Figure 7f).

## Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter deciduous riparian species and is dominated by cottonwood species (e.g., *Populus* spp.), with willow species composing the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater number of cottonwoods and western sycamores (*Platanus racemosa*). Within the BSA, this community is found along the San Diego River totaling approximate 13.29 acres (Figures 7c through 7f). Typical species include mule fat, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), black willow (*Salix gooddingii*), western cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*).

## Southern Willow Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat and with scattered emergent cottonwood and western

sycamores. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

This habitat occurs within the BSA along San Diego River south of Friars Road and east of Morena Boulevard (Figures 7e). Dominant species include mule fat, arroyo willow, black willow, and sandbar willow (*Salix exigua*). A total of 0.92 acres of southern willow scrub occur within the BSA.

### Baccharis Scrub – including Disturbed

Baccharis scrub is a subtype of coastal sage scrub that is dominated by broom baccharis (*Baccharis sarothroides*) or coyote brush (*B. pilularis*). It often occurs on disturbed sites and areas with nutrient-poor soils, and on upper terraces of streams and in detention basins, where it may include goldenbush (*Isocoma menziesii*). Disturbed baccharis scrub is sparser and has a higher proportion of non-native, annual species. Baccharis scrub occurs in the western portion of the BSA, to the east of Sea World Drive (Figure 7f). Approximately 4.6 acres of disturbed baccharis scrub were mapped within the BSA.

### Diegan Coastal Sage Scrub – including Disturbed

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native, annual species.

A total of 7.5 acres of Diegan coastal sage scrub (including disturbed) occurs in the eastern and western portions of the BSA (Figures 7b, 7e, and 7f). The eastern portion includes a patch found north of Friars Road to the east of I-805. The western portion consists of a patch located east of Morena Boulevard and south of Friars Road, and scattered patches to the west of I-5 along Friars Road and Sea World Drive. Dominant species include broom baccharis, goldenbush, and California sunflower (*Encelia californica*). Disturbed portions of this community support a high percentage of non-native species such as star-thistle (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), and non-native grasses (*Bromus* spp.).

### Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. Within the BSA this habitat consists of eucalyptus, acacia, hottentot fig (*Carpobrotus edulis*), and fountain grass (*Pennisetum setaceum*). Approximately 8.4 acres of this community occurs within several areas of the BSA (Figures 7c through 7g).

## Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Within the BSA, disturbed habitat consists of dirt trails, bare ground, fountain grass, Russian thistle, and non-native grasses. It is found in several areas of the BSA, often along roadway edges, totaling 43.9 acres (Figures 7b through 7g).

## Developed

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land is the most prevalent land use within the BSA totaling 298.6 acres. It consists of roadways, commercial and residential development, landscaping, and parking lots (Figures 7b through 7g).

### 3.6 FLORA

A total of 144 plant species were observed within the study area, of which 54 (44 percent) were native species and 80 (56 percent) were non-native species (Appendix H, *Plant Species Observed*).

### 3.7 FAUNA

A total of 88 animal species were observed or detected within the project site during surveys conducted to date, including four butterfly, three reptile, 74 bird, and seven mammal species (Appendix I, *Animal Species Observed or Otherwise Detected*).

## 4.0 SENSITIVE BIOLOGICAL RESOURCES

### 4.1 SENSITIVE VEGETATION COMMUNITIES/HABITAT TYPES

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. The City defines sensitive habitat as ESL in their Land Development Code Biology Guidelines. In the context of the City's MSCP Subarea Plan, wetlands and Tier I through IIIB uplands are considered sensitive habitat types.

Sensitive vegetation communities/habitat types mapped within the BSA include arundo-dominated riparian, coastal salt marsh, non-native riparian, open water, saltgrass grassland, southern cottonwood-willow riparian forest, southern willow scrub, baccharis scrub (including disturbed), and Diegan coastal sage scrub (including disturbed). Impacts to sensitive habitats typically require mitigation.

Non-native vegetation, disturbed habitat, and developed lands do not meet the definition of sensitive habitat under CEQA. Impacts to these vegetation communities do not require mitigation.



## 4.2 SPECIAL STATUS PLANT SPECIES

Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the City (e.g., MSCP narrow endemic species) and may also be included in the CNPS Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be generally abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

### 4.2.1 Special Status Plant Species Observed

One special status plant species were observed in the BSA during project surveys: Torrey pine (*Pinus torreyana*), which is further discussed below. Torrey pine is not a federally and state listed species, or City narrow endemic plant species. A list of plant species observed is included as Appendix H. Appendix L, *Explanation of Status Codes for Plant and Animal Species*, includes explanations of sensitivity codes.

#### **Torrey pine (*Pinus torreyana* ssp. *torreyana*)**

**Listing:** --/--; CRPR 1B.2; California Endemic; MSCP Covered

**Distribution:** Although widely planted throughout coastal San Diego county, this species occurs naturally in only two locations: along the coast near Del Mar (*Pinus torreyana* ssp. *torreyana*) and on Santa Rosa Island (*P. t.* ssp. *insularis*)

**Habitat(s):** Torrey pine woodlands and southern maritime chaparral

**Presence within the BSA:** Several planted Torrey pines occur to the south of Sea World Drive, to the west of the Friars Road intersection (Figures 7f and 7g). Additional planted Torrey pines occur to the north and south of the Sea World Drive but are located outside of areas that would be disturbed as part of the project and, therefore, were not directly surveyed or mapped.

### 4.2.2 Special Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have potential to occur on site are listed in Appendix J, *Special Status Plant Species Observed or with Potential to Occur*. A total of five special status plant species were determined to have high potential to occur on site: Nuttall's lotus (*Acmispon prostratus*), San Diego sagewort (*Artemisia palmeri*), San Diego marsh elder (*Iva hayesiana*), estuary seablite (*Suaeda esteroa*), and woolly seablite (*Suaeda taxifolia*). These species are further discussed in Appendix J. No additional species have a high potential to occur primarily due to the lack of suitable conditions. The study area does not support the vegetation associations, soils, or hydrology required by many of the special status plants known to the region.

## 4.3 SPECIAL STATUS ANIMAL SPECIES

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

### 4.3.1 Special Status Animal Species Observed or Otherwise Detected

Six special status animal species were detected in BSA during project surveys: coastal California gnatcatcher, least Bell's vireo, Cooper's hawk (*Accipiter cooperii*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechia*), and western bluebird (*Sialia mexicana*). Each species is listed below in alphabetical order by scientific name, described, and shown on Figures 7a-7g. Status codes are defined in Appendix L.

#### **Cooper's hawk (*Accipiter cooperii*)**

**Status:** --/WL; MSCP Covered

**Distribution:** Year-round resident in California occurring from Siskiyou County south to San Diego County. Scattered nesting in interior valleys and woodlands of Coast Range from Humboldt County south, and in western foothills of the Sierra Nevada.

**Habitat(s):** Dense stands of oak woodlands, riparian habitat, and evergreen forests. Tolerant of human disturbance and habitat fragmentation, increasingly found breeding in suburban and urban areas.

**Presence within the BSA:** The species was observed flying over the BSA or heard calling from within riparian habitat associated with the San Diego River to the south of Hazard Center Drive, south of Riverwalk Drive, and east of Morena Boulevard (Figures 7c to 7e) on multiple occasions.

#### **Yellow-breasted chat (*Icteria virens*)**

**Status:** --/Species of Special Concern (SSC)

**Distribution:** Occurs as a migrant and summer resident breeding of California from the coastal regions of northern California east of the Cascades, and throughout the central and southern portions of the state.

**Habitat(s):** Early successional riparian habitats with a well-developed shrub layer and an open canopy. Nest sites often placed on the borders of streams, creeks, rivers, and marshes.

**Status on site:** The species was detected in several locations within, and outside of, the BSA in riparian habitat along San Diego River, including two locations east of SR 163 (Figure 7c), three locations east of Morena Boulevard (Figure 7e), and one location west of Morena Boulevard (Figure 7e).

#### **Coastal California gnatcatcher (*Polioptila californica californica*)**

**Status:** FT/SSC; MSCP Covered

**Distribution:** Year-round resident occurring from southern California south to northwest Baja California. In California, the species is found from Ventura County south to San Diego County and east to the western portions of San Bernardino and Riverside Counties.

**Habitat(s):** Arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. California sagebrush is typically present as a dominant or co-dominant species.

**Presence within the BSA:** A single gnatcatcher pair was detected in January 2019 within coastal sage scrub dominated by California sunflower located south of the Friars Road and Sea World Drive intersection (Figure 7f).

**Yellow warbler (*Setophaga petechia*)****Status:** BBC/SSC**Distribution:** Common to locally abundant migrant and summer resident breeding throughout California, excluding most of the Mojave Desert and all of the Colorado Desert.**Habitat(s):** Riparian areas dominated by willows near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests in higher elevation areas.**Presence within the BSA:** The species was detected in several locations within, and outside of, the BSA within riparian habitat along San Diego River, including five locations east of SR 163 (Figure 7c), four locations between SR 163 and Fashion Valley Road (Figure 7d), four locations east of Morena Boulevard (Figure 67), and four locations west of Morena Boulevard (Figure 7e).**Western bluebird (*Sialia mexicana*)****Status:** --/--; MSCP Covered**Distribution:** Common year-round resident throughout California but absent from the higher mountain regions and eastern deserts.**Habitat(s):** Breeds in open woodlands, riparian habitats, grasslands, and farmlands. Nests and roosts in cavities of trees and snags, often in holes previously created by woodpeckers, and nest boxes. Winters in a wide variety of habitats.**Presence within the BSA:** The species was detected perched on trees and foraging at the edge of riparian habitat located along the San Diego River between SR 163 and Fashion Valley Road (Figure 7d).**Least Bell's vireo (*Vireo bellii pusillus*)****Status:** FE/SE; MSCP Covered**Distribution:** Breeds in a few scattered areas of riparian habitat in southern California, primarily along the coast and the western edge of the Mojave Desert. Majority of birds occur in San Diego County but also have been found in Inyo, Santa Barbara, Ventura, Los Angeles, Riverside, Orange, and San Bernardino counties. Winters in southern Baja California, Mexico.**Habitat(s):** Early to mid-successional riparian habitat that supports a dense shrub cover and structurally diverse canopy, often where flowing water is present. Typically breeds in riparian forest dominated by cottonwoods and willows supporting a dense, shrubby understory of mule fat and other species. Oak woodland with a willow riparian understory is also used in some areas.**Presence within the BSA:** Three males were detected during the 2018 protocol-level surveys within riparian habitat along San Diego River. Two males were detected to the east of Morena Boulevard (Figure 7e) and one male was detected to the west of Morena Boulevard (Figure 7e).

### 4.3.2 Special Status Animal Species with Potential to Occur

Special status animal species present on site or with potential to occur within BSA are included in Appendix K, *Special Status Animal Species Observed or with Potential to Occur*. The species are grouped into invertebrates and vertebrates (fish, amphibians, reptiles, birds, and mammals) and alphabetized by scientific name. Seven additional special status animal species that were not observed on the project site were determined to have high potential to occur: wandering saltmarsh skipper (*Panoquina errans*), San Diegan legless lizard (*Anniella stebbinsi*), American peregrine falcon (*Falco peregrinus anatum*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), western red bat (*Lasiurus blossevillii*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and big free-tailed bat (*Nyctinomops macrotis*). These species are further discussed in Appendix K. No additional species have a high potential to occur primarily due to the lack of suitable habitat and dense urban and residential development in the area.

## 4.4 JURISDICTIONAL WATERS AND WETLANDS

The BSA supports waterways, wetlands, and riparian habitat that would be subject to USACE, RWQCB, and/or CDFW jurisdiction and would be considered City wetlands. Potential jurisdictional habitat within the BSA is primarily made up of the San Diego River and associated riparian habitat. As stated in Section 2.4, formal delineation of jurisdictional features was conducted only within areas of the BSA where the project alignment was initially sited to occur outside of the road right-of-way. Most of the proposed project alignment is contained within existing roadways and disturbed areas that lack potentially jurisdictional features. Therefore, though jurisdictional resources may be present within the wider BSA, areas located outside the project's potential area of effect were not formally delineated. The results of the delineation for WUS, WS, CDFW jurisdiction, and City wetlands are discussed below, and include the reach of the San Diego River from just east of SR 163 westward to Fashion Valley Road.

### 4.4.1 Waters of the U.S.

Potential USACE jurisdiction within the jurisdiction delineation survey area includes 3.63 acres of wetland WUS and 1.18 acres of non-wetland WUS, as summarized below in Table 3, *Waters of the U.S./State* and depicted on Figures 8a and 8b, *Waters of the U.S./State*.

**Table 3**  
**WATERS OF THE U.S./STATE**

Jurisdictional Resource	Area <sup>1</sup> (acres)
<b>Wetland Waters of the U.S./State</b>	
Riparian Forest	3.63
<b>Non-wetland Waters of the U.S./State</b>	
Streambed (San Diego River)	1.18
<b>TOTAL</b>	<b>4.81</b>

<sup>1</sup> Acres rounded to the nearest 0.01 and feet rounded to the nearest foot.

### 4.4.2 Waters of the State

Potential RWQCB-jurisdiction within the jurisdiction delineation survey area 3.63 acres of wetland WS and 1.18 acres of non-wetland WS, as summarized above in Table 3 and depicted on Figures 8a and 8b.

### 4.4.3 California Department of Fish and Wildlife Jurisdiction

Potential CDFW jurisdiction the jurisdiction delineation survey area includes 2.15 acres of unvegetated streambed and 5.17 acres of riparian-vegetated streambed made up entirely of southern cottonwood-willow riparian forest, as summarized below in Table 4, *California Department of Fish and Wildlife Jurisdiction and City of San Diego Wetlands*, and depicted on Figures 9a and 9b, *CDFW Jurisdictional Areas*.

**Table 4**  
**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION**  
**AND CITY OF SAN DIEGO WETLANDS**

Habitat Type	Acreage <sup>1</sup>
<b>Riparian-Vegetated Streambed</b>	
Southern Cottonwood-Willow Riparian Forest	5.17
<b>Subtotal</b>	<b>5.17</b>
<b>Unvegetated Streambed</b>	
Streambed	2.15
<b>Subtotal</b>	<b>2.15</b>
<b>TOTAL</b>	<b>7.32</b>

<sup>1</sup> Acres rounded to the nearest hundredth.

#### 4.4.4 City Environmentally Sensitive Lands Wetlands

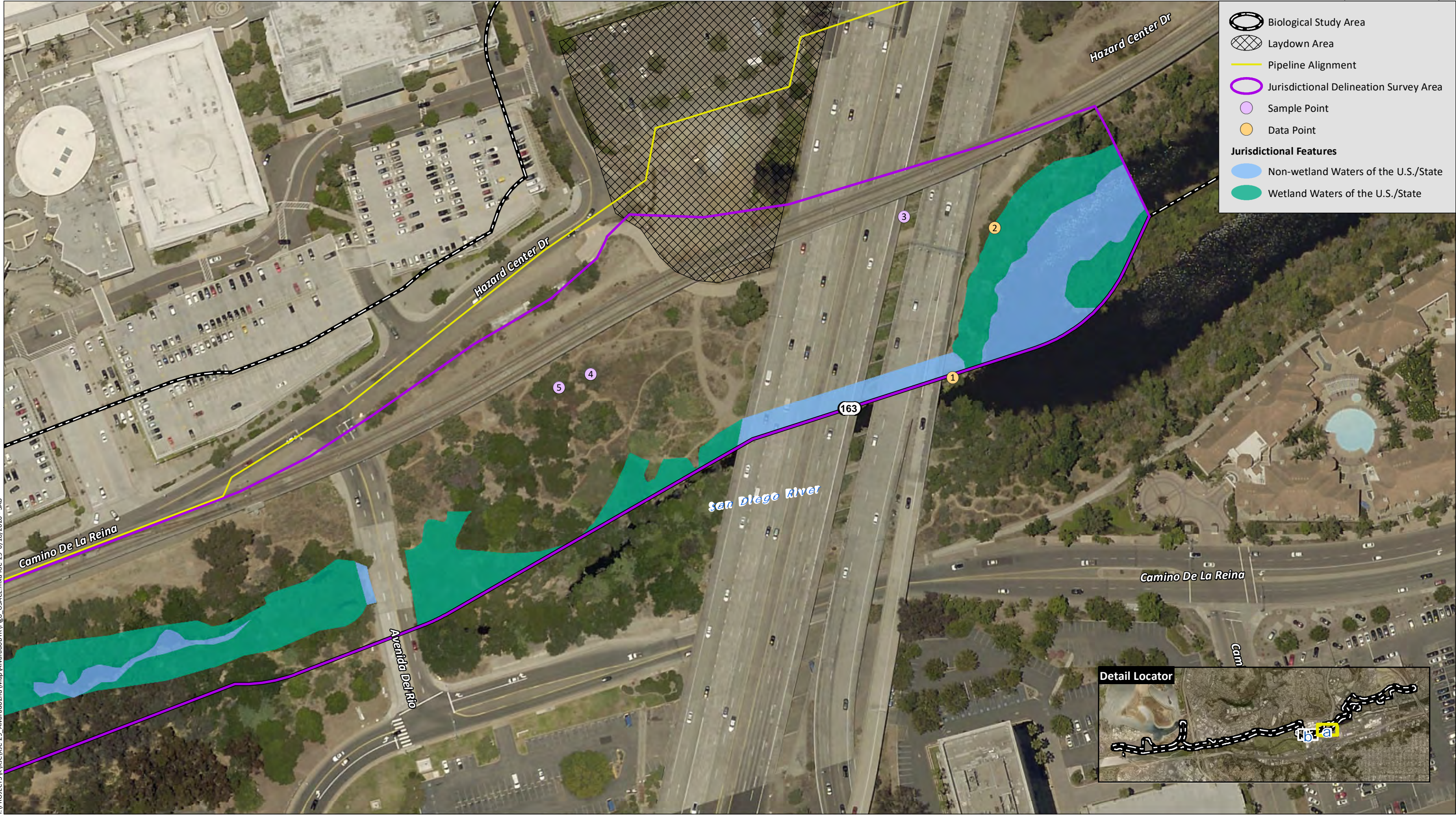
Potential City wetlands within the jurisdictional delineation survey area encompasses the same areas as CDFW jurisdiction (Table 4; Figures 10a and 10b, *City of San Diego Wetlands*).

### 4.5 HABITAT CONNECTIVITY AND WILDLIFE CORRIDORS

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

The San Diego River is located within the MHPA and is identified as a wildlife linkage in the MSCP (City 1997). It supports a permanent water resource and riparian habitat providing food and water resources and shelter for species known to the region. The river facilitates the movement and dispersal of wildlife between Mission Trails Regional Park and urban coastal areas. The linkage is constrained by the presence of dense suburban and urban development on both sides of the river. Common species adapted to urbanized settings, such as coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*), would be expected to utilize the riparian corridor along San Diego River for cover and foraging opportunities in addition to live-in habitat. However, larger mammals such as bobcat (*Lynx rufus*) and mule deer (*Odocoileus hemionus*) would generally be absent and discouraged from traveling west of Mission Trails Regional Park because of the lack of extensive habitat to support these species and surrounding moderate to dense urban development. Birds would be expected to move unobstructed between key habitat blocks of coastal sage scrub and riparian habitat providing important breeding, foraging and dispersal functions.





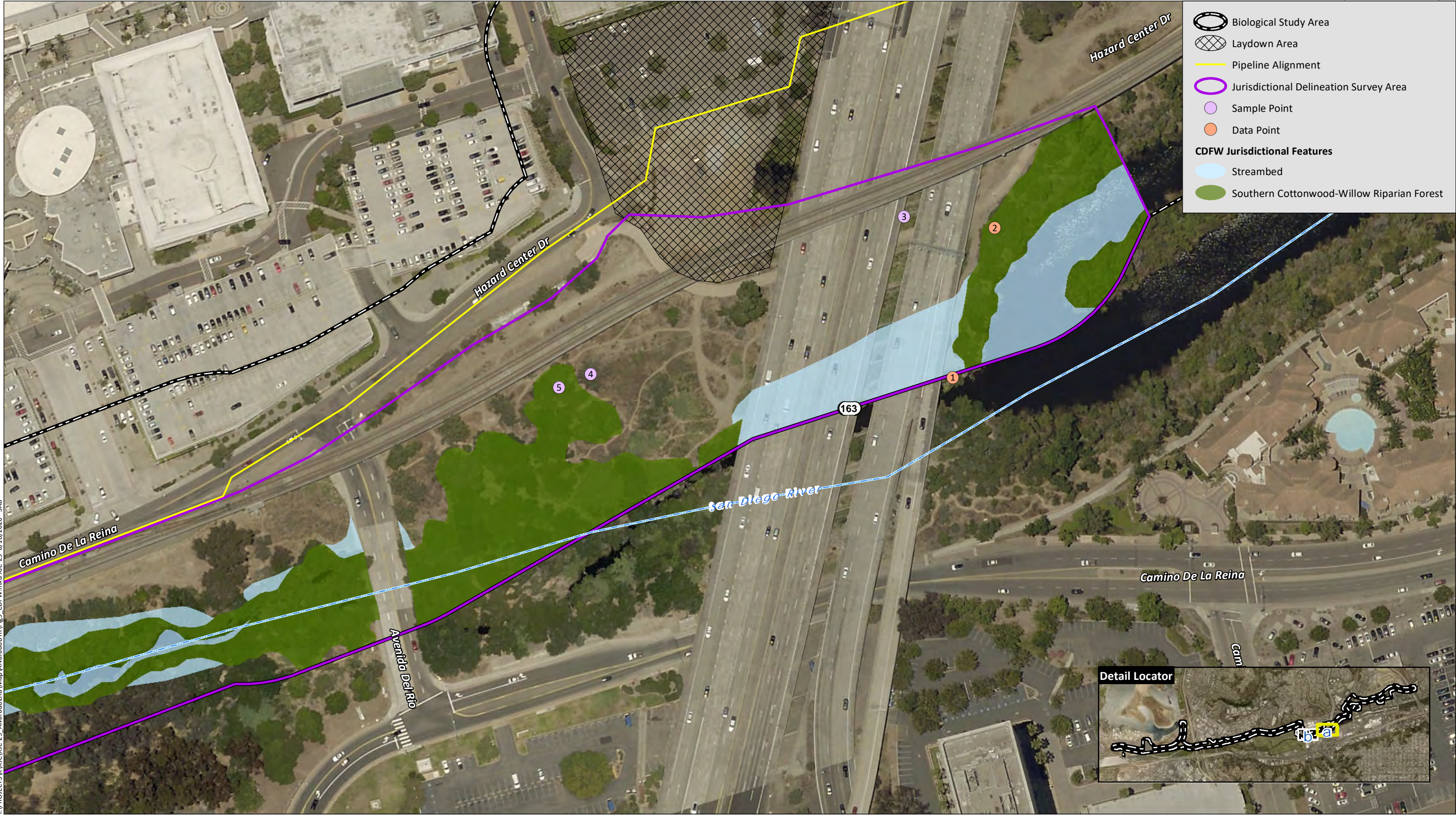




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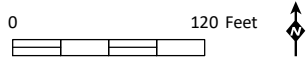






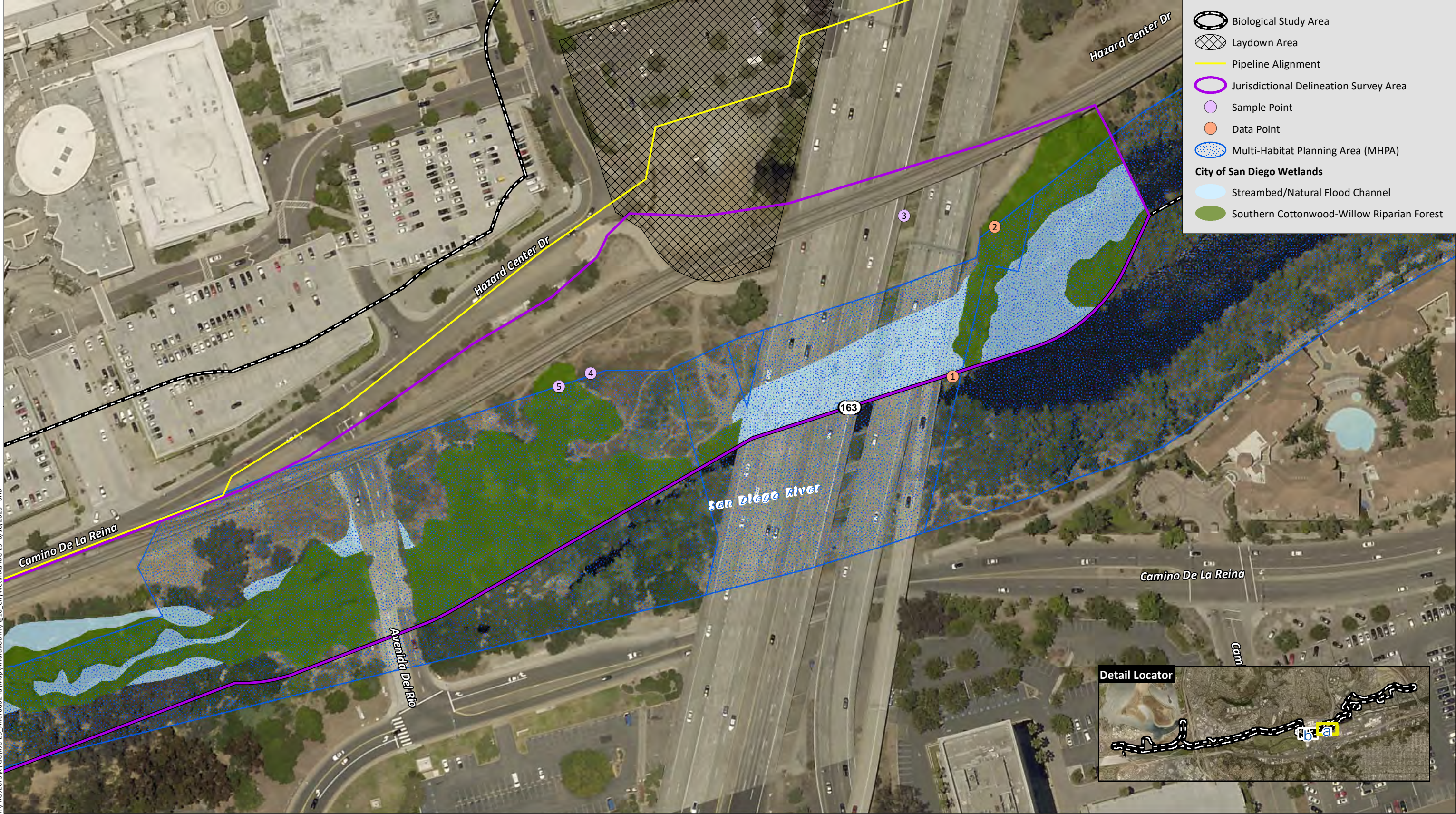


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Source: Aerial (SanGIS, 2017).





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Source: Aerial (SanGIS, 2017).



## 5.0 REGIONAL AND REGULATORY FRAMEWORK

Biological resources within the project site are subject to regulatory administration by the federal government, State of California, and City.

### 5.1 FEDERAL GOVERNMENT

#### 5.1.1 Federal Endangered Species Act

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

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

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 generally describes a process of federal interagency consultation and issuance of a biological opinion and incidental take statement when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species’ use of a site and there is an associated federal action for a proposed impact (e.g., the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term “incidental” applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species’ survival must be submitted for issuance of Section 10(a) permits. Pursuant to Section 10(a), the City was issued a take permit for federally listed species covered by its adopted MSCP Subarea Plan.

#### 5.1.2 Migratory Bird Treaty Act

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

disturbance of active bird nests during the nesting season. In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

### **5.1.3 Clean Water Act (Section 404)**

Under Section 404 of the CWA, the USACE is charged with regulating the discharge of dredge and fill materials into jurisdictional WUS. The terms “WUS” and “jurisdictional waters” have a broad meaning that includes special aquatic sites, such as wetlands. WUS, as defined by regulation and refined by case law include: (1) the territorial seas; (2) coastal and inland waters, lakes, rivers, and streams that are navigable WUS, including their adjacent wetlands; (3) tributaries to navigable WUS, including adjacent wetlands; and (4) interstate waters and their tributaries, including adjacent isolated wetlands and lakes, intermittent and ephemeral streams, prairie potholes, and other waters that are not a part of a tributary system to interstate waters or navigable WUS, the degradation or destruction of which could affect interstate commerce.

Section 401 of the CWA requires that any applicant for a federal license or permit to conduct any activity that may result in a discharge to WUS must obtain a Water Quality Certification, or a waiver thereof, from the state in which the discharge originates. In California, the RWQCB issues Water Quality Certifications.

## **5.2 STATE OF CALIFORNIA**

### **5.2.1 California Environmental Quality Act**

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

### **5.2.2 California Endangered Species Act**

The California Endangered Species Act (CESA) established that it is State policy to conserve, protect, restore, and enhance State endangered species and their habitats. Under State law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may “take” plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For State-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for State-listed threatened and endangered species if specific criteria are met. The City was issued a take permit for state listed species covered by its adopted MSCP Subarea Plan pursuant to Section 2081.

### **5.2.3 Native Plant Protection Act**

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in listed plants. The California ESA followed the NPPA and covers both plants and animals determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated rare under the California ESA.



## 5.2.4 California Fish and Game Code

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

The CFG Code provides specific protection and listing for several types of biological resources. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

## 5.2.5 Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) and RWQCB regulate the discharge of waste into waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code. The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

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

## 5.3 CITY OF SAN DIEGO

### 5.3.1 Environmentally Sensitive Lands

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

The ESL regulations require that impacts to wetlands be avoided unless the activities meet specific exemption criteria established in the ordinance. Impacts to City-defined wetlands require approval of



deviation findings as required by ESL regulations. Impacts to wetlands must be mitigated in accordance with Section III(B)(1)(a) of the Land Development Manual Biology Guidelines (City 2018a). The ESL regulations also require that buffers be maintained around all wetlands (as appropriate) to protect their functions and values. Buffer widths may either be increased or decreased as determined on a case-by-case basis, taking into consideration the size and type of project proposed, sensitivity of the wetland resource to detrimental edge effects, topography, specific functions and values of the wetland, as well as the need for transitional upland habitat.

In addition to restricting impacts to wetland habitats, the ESL regulations restrict development within the MHPA, including required impact avoidance areas around raptor nesting locations (specifically, Cooper's hawk, golden eagle [*Aquila chrysaetos*], burrowing owl [*Athene cunicularia*], and northern harrier [*Circus cyaneus*]), and known locations of coastal California gnatcatcher and southwestern pond turtle (*Actinemys pallida*). The ESL regulations also impose seasonal restrictions on grading where development may impact the following bird species: coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, tricolored blackbird (*Agelaius tricolor*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), western snowy plover (*Charadrius nivosus nivosus*), and California least tern (*Sternula antillarum browni*).

### 5.3.2 Multiple Species Conservation Program

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

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

The MSCP identifies a MHPA that is intended to link all core biological areas into a regional wildlife preserve. Land uses within the MHPA must be managed to ensure minimal MHPA impacts. Compatible land uses within the MHPA include utilities and roads in compliance with general planning policies and design guidelines for the MSCP (City 1997). Expansion of existing permitted uses within the MHPA must comply with applicable land use regulations and should provide measures to minimize impacts on the MHPA including lighting, noise, or uncontrolled access. Expansion of uses should be generally restricted to existing approved development areas. Development within the MHPA should be directed to areas of lower quality habitat and/or areas considered less important to long-term viability of the MHPA.

### General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP Subarea Plan)

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



Subarea Plan are considered conditionally compatible with the biological objectives of the MSCP and are thus allowed within the City's MHPA.

The project's conformance with the applicable policies and guidelines from Section 1.4.2 of the MSCP are discussed below:

- *All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.*

The proposed project has been designed to avoid and minimize intrusion into the MHPA by locating project features and alignment paths within existing disturbed areas and existing road right-of-ways. Construction activities will occur within the MHPA at only one location, within the existing roadway along Riverwalk Drive (Figure 11d). Activities would be limited to existing developed land and would minimize intrusion into the MHPA. No sensitive habitat would be impacted by the proposed project.

- *All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.*

The project has been planned, designed, and located to minimize environmental impacts; it will be constructed in a manner that also minimizes environmental impacts. The project would extend the existing Alvarado 2nd Pipeline through construction of a new 48-inch and 24-inch diameter transmission main. It will also involve the replacement of an existing water main. The new water mains will be located outside of the MHPA within existing disturbed areas and City road rights-of-way. Construction activities will occur within the MHPA at only one location, within the existing roadway along Riverwalk Drive (Figure 11d). Activities would be limited to existing developed land and would minimize intrusion into the MHPA. The activities would avoid disturbing habitat of MSCP covered species and wetlands.

- *Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.*

All of the project laydown/staging areas will occur within existing developed areas, primarily parking lots, located outside of the MHPA. The proposed project primarily occurs within existing City road right-of-ways along Friars Road, Riverwalk Drive, Napa Street, and Sea World Drive. No sensitive habitat would be impacted by the proposed project and impacts within the MHPA are limited to 0.1 acre of existing developed land along Riverwalk Drive. No restoration or mitigation would be required.



- *Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.*

The San Diego River is an existing wildlife habitat linkage and movement corridor. The proposed project would occur within existing disturbed and developed areas located outside and adjacent to the San Diego River. With the incorporation of required avoidance and minimization measures consistent with the LUAGs, project activities would result in no significant disruption of the San Diego River corridor usage.

- *Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.*

Project laydown and staging areas are outside of the MHPA and the project would therefore not store materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA. The project would conform to Best Management Practices regarding chemical and equipment storage.

## General Management Directives (Section 1.5.2 of the MSCP Subarea Plan)

The following general management directives apply to the project, as outlined in Section 1.5.2 of the City's MSCP Subarea Plan. The project will comply with these general management directives as outlined below:

### Mitigation

- *Mitigation, when required as part of project approvals, shall be performed in accordance with the City's ESL Ordinance and Biology Guidelines.*

The proposed project is located within existing disturbed and developed areas and has been specifically designed to avoid sensitive habitat areas and the MHPA; therefore, no mitigation is required.

### Restoration

- *Restoration or revegetation undertaken in the MHPA shall be performed in a manner acceptable to the City. Where covered species status identifies the need for reintroduction and/or increasing the population, the covered species will be included in restoration/revegetation plans, as appropriate. Restoration or revegetation proposals will be required to prepare a plan that includes elements addressing financial responsibility, site preparation, planting specifications, maintenance, monitoring and success criteria, and remediation and contingency measures. Wetland restoration/revegetation proposals are subject to permit authorization by federal and state agencies.*



No sensitive habitat would be impacted by the proposed project; therefore, no on-site restoration or revegetation within the MHPA is required. All temporarily impacted areas will be restored to pre-project conditions following completion of construction.

### **Specific Management Policies and Directives for Urban Habitat Lands (Section 1.5.7 of the MSCP Subarea Plan)**

Portions of the BSA and project site that are within the MHPA are located in the San Diego River portion of the Urban Areas pursuant to Figure 4 of the MSCP Subarea Plan. Pursuant to Section 1.5.7 of the Subarea Plan, the major issues that require consideration for management of the MHPA in the Urban Habitat Lands area are, in order of priority (City 1997):

1. Intense land uses and activities adjacent to and in covered species habitat;
2. Dumping, litter, and vandalism;
3. Itinerant living quarters;
4. Utility, facility and road repair, construction, and maintenance activities;
5. Exotic (non-native) and invasive plants and animals; and
6. Urban runoff and water quality.

The MSCP Subarea Plan does not include any specific management policies and directives that pertain to the proposed project.

### **MSCP Covered Species**

One MSCP-covered plant species were observed within the BSA: Torrey pine. Four MSCP-covered animal species have been observed in or near the BSA: coastal California gnatcatcher, Cooper's hawk, western bluebird, and least Bell's vireo. The MSCP does not contain area-specific management directives for Torrey pine or western bluebird since appropriate habitat has been conserved. Area-specific management directives for the other three species are detailed below.

#### *Coastal California Gnatcatcher*

Area-specific management directives for the coastal California gnatcatcher must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to improve habitat quality including vegetation structure. Furthermore, no clearing of occupied habitat within the City's MHPA may occur between March 1 and August 15.

#### *Cooper's Hawk*

Area-specific management directives for Cooper's hawk must include 300-foot-wide impact avoidance areas around active nests, and minimization of disturbance in oak woodlands and oak riparian forests.

#### *Least Bell's Vireo*

Area-specific management directives for LBVI must include measures to provide appropriate successional habitat, upland buffers for all known populations, cowbird control, and specific measures



to protect against detrimental edge effects to this species. Any clearing of occupied habitat must occur between September 15 and March 15 (i.e., outside of the nesting period).

## MHPA Adjacency Guidelines

The City's MSCP Subarea Plan addresses indirect impacts to preserve areas from adjacent development in Section 1.4.3, Land Use Adjacency Guidelines (City 1997). The Land Use Adjacency Guidelines provide requirements for land uses adjacent to the habitat preserve in order to minimize indirect impacts from drainage, toxics, lighting, noise, barriers, invasive species, brush management, and grading to the sensitive resources contained therein. The project's compliance with the City's LUAGs is summarized below:

### Drainage

- *All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA.*

The proposed project would primarily occur within the existing road right-of-way and disturbed areas that would be returned to pre-project conditions following completion of construction activities. The project would not result in a substantial increase in impervious surface area and would have negligible effects on drainage. The project would not result in new or proposed parking lots or developed areas that drain directly into the MHPA.

- *All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA.*

Best Management Practices (BMPs) would be implemented during project construction to control runoff, erosion, and contaminants, as necessary, in order to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might be contained within stormwater. The BMP program will meet applicable requirements of the State Water Resources Control Board and the City's Municipal Code and Storm Water Standards Manual (City 2018b). Furthermore, the project would strictly prohibit and would not introduce exotic plant materials into any revegetation or landscaped area that could drain into the MHPA. With the incorporation of BMPs and restrictions, the project would not degrade or harm the natural environment or ecosystem processed within the MHPA.

### Toxins

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

The proposed project does not involve agriculture or creation of recreational areas such as playing fields or any other uses that would introduce toxins, chemicals, or by-products.



### Lighting

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

No new lighting resources would be installed as part of the project. If artificial lighting is used adjacent to the MHPA during construction, it will be directed away from the MHPA and shielded to protect resources in the MHPA from artificial night lighting.

### Noise

- *Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife use of the MHPA.*

The project site is characterized by existing roadways and is bisected by several heavily trafficked highways (I-5, I-805, and SR-163). The existing ambient noise from regular vehicle traffic is constant and relatively high from these uses. The proposed project would not introduce new uses adjacent to the MHPA, and therefore, would not result in an adverse noise impact on wildlife use of the MHPA area.

- *Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species.*

If unmitigated and implemented during certain times of the year, temporary noise generated from such sources as grubbing, earthwork, and construction could adversely and temporarily impact local wildlife potentially present within the adjacent MHPA. Such impacts could occur the coastal California gnatcatcher and least Bell's vireo if the activities are implemented during the species' breeding season (which is defined by the City as March 1 to August 15 for gnatcatchers and March 15 through September 15 for vireo). To comply with the City's LUAGs and avoid potential indirect impacts to these species in the MHPA, construction activities adjacent to the MHPA will be implemented outside of the gnatcatcher and vireo breeding seasons.

If construction activities adjacent to the MHPA are unable to be avoided the breeding season for coastal California gnatcatcher and least Bell's vireo, USFWS protocol surveys would be conducted in suitable habitat prior to the construction implementation to determine species presence/absence. If protocol surveys are not conducted, presence of the species would be assumed, and the implementation of noise attenuation and biological monitoring would be required during the gnatcatcher and vireo breeding seasons if construction would generate noise levels higher than 60dBA or ambient (whichever is higher).

### Barriers

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



The project does not propose new development within the MHPA and barriers along the MHPA boundaries directing public access are not proposed or required by the project.

#### *Invasive Plant Species*

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

The proposed project would not result in indirect impacts from introduction of non-native species into native habitats. BMPs during construction would include measures to avoid introduction of invasive plants into construction areas by equipment. No landscaping is proposed that would introduce non-native invasive species to the area. Any revegetation activities within or adjacent to the MHPA would not include invasive species (Cal-IPC 2018).

#### *Brush Management*

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

No brush management is proposed by the project.

#### *Grading/Land Development*

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

The proposed project would primarily occur within the existing road right-of-way and disturbed areas that would be returned to pre-project conditions following completion of construction activities and does not involve the new development or construction of manufactured slopes within the MHPA.

## **6.0 ANALYSIS OF PROJECT IMPACTS**

This section describes potential direct and indirect impacts associated with implementation of the proposed project, as well as outlining the criteria used for determining significance of impacts. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including drainage and toxins (water quality), lighting, noise, and invasive plant species.

### **6.1 CRITERIA FOR DETERMINING SIGNIFICANCE**

The following guidance (Appendix I, City Biology Guidelines 2018) is used to determine potential significance of impacts on biological resources pursuant to the City's Significance Determination Thresholds (City 2018a). A project would result in a significant or potentially significant biological resources impact if it would result in:



- A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP, VPHCP, or other local or regional plans, policies, or regulations, or by the USFWS or CDFW;
- A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through the direct removal, filling, hydrological interruption, or other means;
- Substantial interference with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, VPHCP, or impediment of the use of native wildlife nursery sites;
- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan, either within the MSCP or VPHCP plan area or in the surrounding region;
- An introduction of land use within an area adjacent to the MHPA that would result in adverse edge effects;
- A conflict with any local policies or ordinances protecting biological resources; or
- An introduction of invasive plant species into a natural open space area.

## 6.2 SPECIAL STATUS SPECIES

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

Several special status plant and animal species were observed in the study area during biological surveys. The proposed project would occur within existing road right-of-ways and disturbed habitat that do not support special status species (Figures 11a through 11g, *Impacts to Vegetation and Sensitive Resources*). However, work activities would occur immediately adjacent to areas where species status species were found or have high potential to occur. Potential project effects on special status plant and animal species are described below.

### Special Status Plant Species

One special status plant species was observed in the BSA during biological surveys: Torrey pine. Additionally, one plant species has high potential to occur within portions of the study area located immediately adjacent to the project's proposed impact footprint: Nuttall's lotus. Neither of these are federally or State listed species, or City narrow endemic plant species. Torrey Pine has a CRPR of 1B.2 and is covered under the MSCP. Nuttall's lotus has a CRPR of 1B.1 and is covered under the MSCP.



The project is not anticipated to result in impacts to special status plant species, as further discussed below.

Torrey pine is covered under the MSCP and has a CRPR of 1B.2. Several planted Torrey pine trees are located along Sea World Drive (Figures 11f and 11g). However, the project does not propose to remove these individuals and will leave them in place. Therefore, no impact would occur.

Nuttall's lotus was not observed during the project's rare plant surveys but has been previously documented within the study area to the west of the Friars Road and Sea World Drive intersection. Nuttall's lotus was documented between 100 and 350 feet west of Friars Road between 2010 and 2017 (observation data provided by the City). The project's impact footprint is contained within the existing road right-of-way along Friars Road and Sea World Drive, or in disturbed habitat immediately adjacent to the road. Though the species has been documented adjacent to the project's proposed impact footprint and has high potential to occur within the project area, the species was not observed during the 2018 rare plant surveys and was not observed within the proposed impact footprint in previous years. Therefore, no impacts to Nuttall's lotus are anticipated to occur.

Generally, impacts to plant species with a CRPR of 1 or 2 are considered potentially significant. CRPR 3 and 4 species are relatively widespread and impacts to such species that would not substantially reduce their populations in the region and long-term survival are not typically considered significant. As the project is not expected to impact special status plant species, no significant impact would occur.

## Special Status Animal Species

Six special status animal species were detected within the BSA during biological surveys: Cooper's hawk, yellow-breasted chat, coastal California gnatcatcher, yellow warbler, western bluebird, and least Bell's vireo. The potential effects of the project on these species are discussed below.

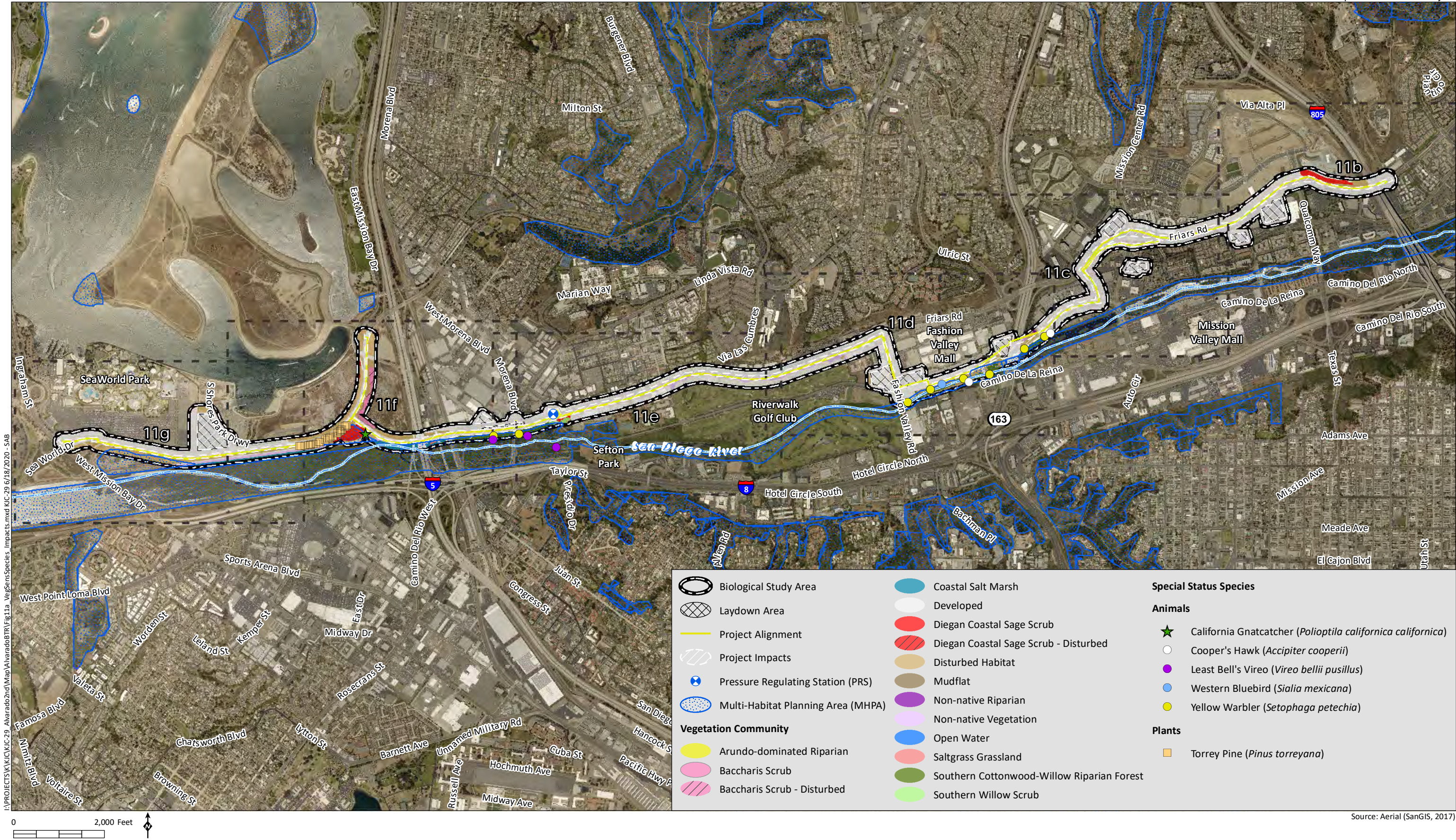
### *Cooper's Hawk*

Cooper's hawk is a CDFW Watch List species and covered under the MSCP. The species was observed in multiple locations along the San Diego River in 2018 (Figures 11c through 11f). Project activities would occur within, or immediately adjacent to, the existing roadway and would not impact existing riparian habitat along the San Diego River. Therefore, no direct impacts to the species would occur. However, indirect impacts to Cooper's hawk nesting within 300 feet of construction areas would be considered significant. Implementation of avoidance and minimization measure **BIO-1** would ensure that no significant and adverse indirect noise impacts on breeding Cooper's hawk within the MHPA occur (see Section 7.0).

### *Yellow-Breasted Chat*

Yellow-breasted chat, a CDFW SSC, was detected in several locations within riparian habitat along the San Diego River (Figures 11c through 11f). Project activities would occur within, or immediately adjacent to, the existing roadway and would not impact existing riparian habitat along the San Diego River. Therefore, no direct impacts to the species would occur.





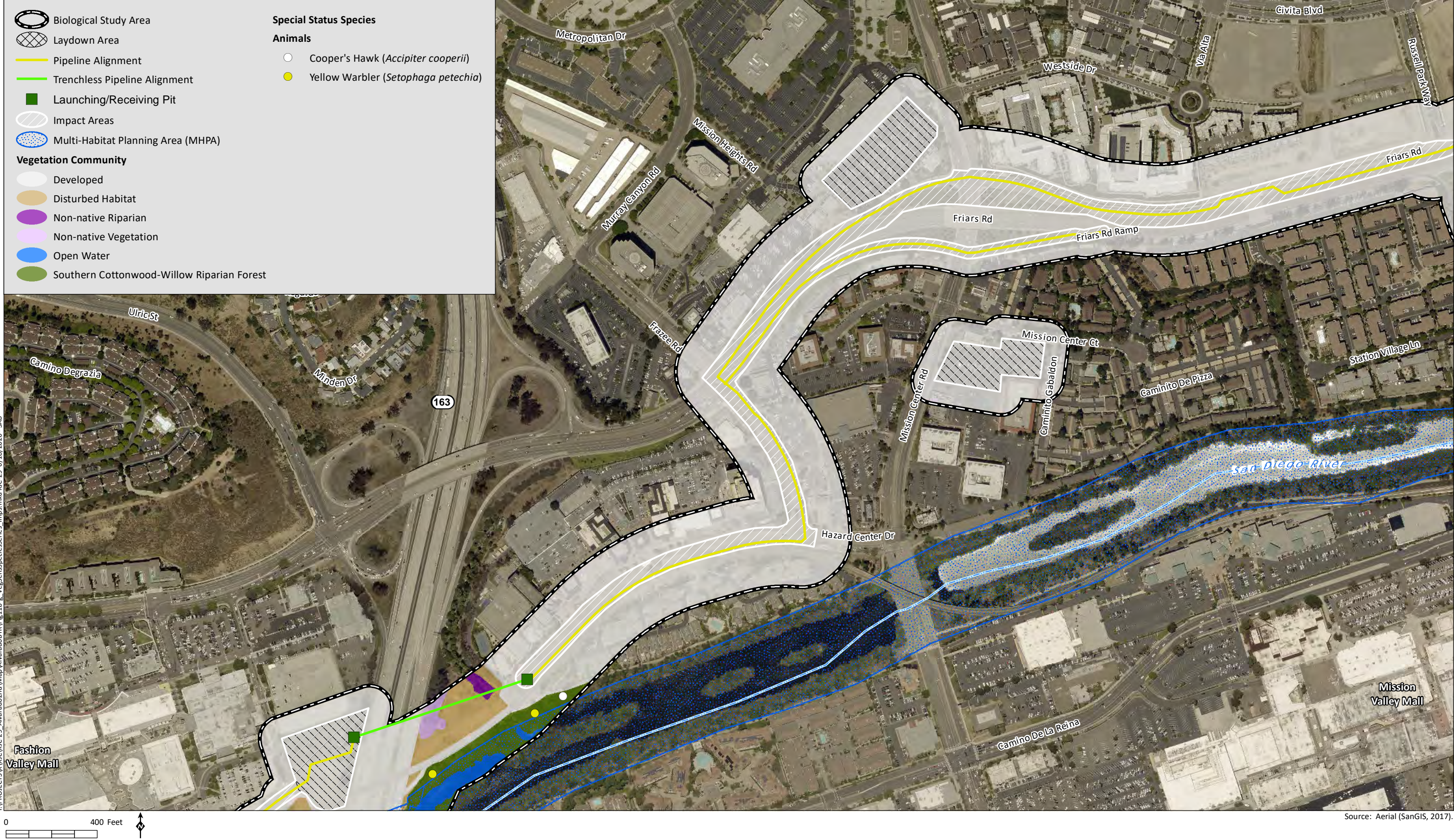
0 2,000 Feet

Source: Aerial (SanGIS, 2017)





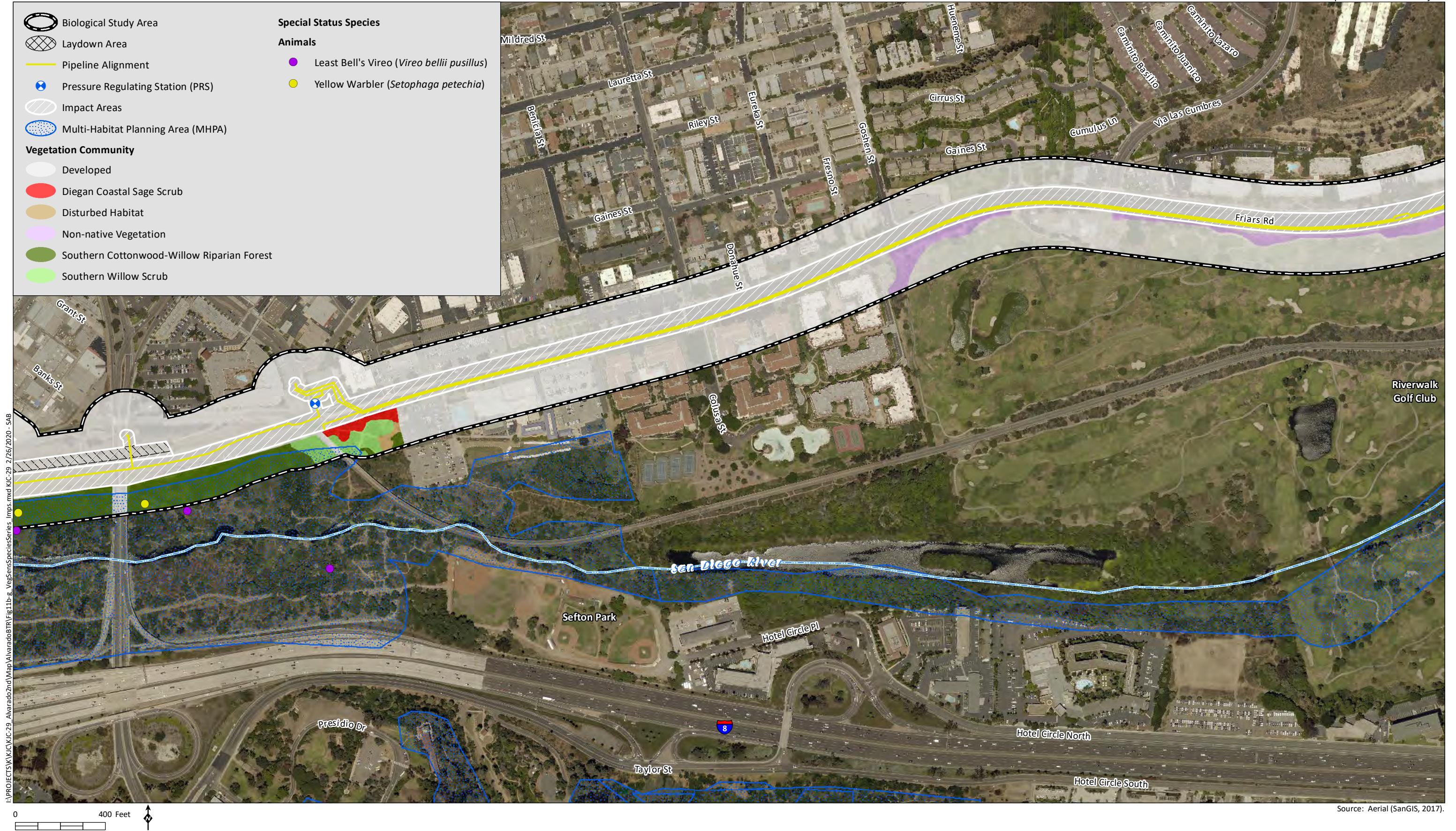




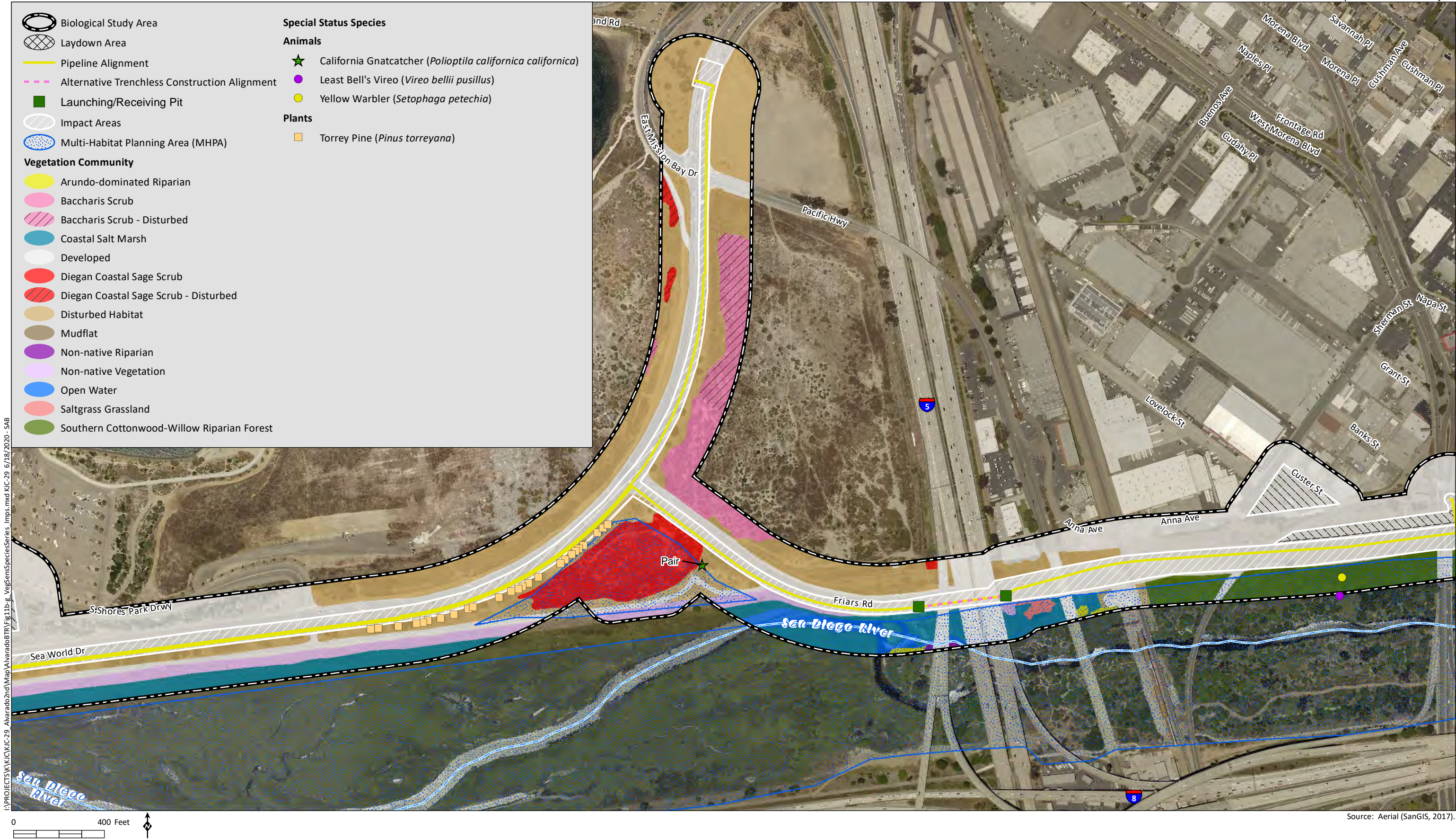


















*Coastal California Gnatcatcher*

The coastal California gnatcatcher is a federally- and State-listed endangered species and covered under the MSCP. A gnatcatcher pair was observed foraging within coastal sage scrub present to the south of the Friars Road and Sea World Drive intersection in January 2019 (Figure 11f). The gnatcatchers were observed utilizing habitat both within and immediately adjacent to the MHPA. The project would avoid impacts to Diegan coastal sage scrub; therefore, no direct significant impact would occur to the coastal California gnatcatcher. However, construction-generated noise levels exceeding 60 decibels (dBA) hourly average ( $L_{EQ}$ ), or exceeding ambient noise levels if greater than 60 dBA, could cause a significant impact on coastal California gnatcatcher in the MHPA if construction activities were to occur during the gnatcatcher breeding season (March 1 and August 15). A noise study conducted by HELIX found that current ambient noise levels along the project's alignment exceeded 60 dBA  $L_{EQ}$ . Ambient noise levels ranged from 65 to 73 dBA  $L_{EQ}$  along the alignment and were measured at 70 dBA  $L_{EQ}$  at the Sea World Drive and Friars Road intersection adjacent to the small patch of the MHPA where CAGN was observed (HELIX 2020). Construction noise levels at locations adjacent to occupied and potential CAGN habitat within the MHPA are estimated to exceed 70 dBA  $L_{EQ}$ . Anticipated construction noise levels would range from 75.6 to 82.6 dBA  $L_{EQ}$  at the edge of the MHPA which could be potentially significant. Implementation of avoidance and minimization measure **BIO-2** would ensure that no significant and adverse indirect noise impacts on breeding coastal California gnatcatcher within the MHPA occur (see Section 7.0).

*Western Bluebird*

Western bluebird is covered under the MSCP. The species was observed at the edge of riparian habitat along the San Diego River to the south of Fashion Valley Mall (Figure 11d). Project activities would occur just south of the existing roadway within disturbed habitat and would not impact existing habitat along the San Diego River. Therefore, no direct impacts to the species would occur.

*Yellow Warbler*

Yellow warbler, a USFWS BCC and CDFW SSC, was detected in multiple locations within riparian habitat along the San Diego River (Figures 11c through 11f). Project activities would occur within, or immediately adjacent to, the existing roadway and would not impact existing riparian habitat along the San Diego River. Therefore, no direct impacts to the species would occur.

*Least Bell's Vireo*

Least Bell's vireo is a federally- and State-listed endangered species and is covered under the MSCP. The species was observed within riparian habitat along the San Diego River to the east of west of Morena Boulevard (Figure 11e) and suitable habitat for the species occurs along the San Diego River. Project activities would occur within, or immediately adjacent to, the existing roadway and would not impact existing riparian habitat along the San Diego River. Therefore, no direct impacts to the species would occur. However, construction-generated noise levels exceeding 60 decibels (dBA) hourly average ( $L_{EQ}$ ), or exceeding ambient noise levels if greater than 60 dBA, could cause a significant impact on least Bell's vireo in the MHPA if construction activities were to occur during the vireo breeding season (March 15 to September 15). A noise study conducted by HELIX found that current ambient noise levels along the project's alignment exceeded 60 dBA  $L_{EQ}$ . Ambient noise levels ranged from 65 to 73 dBA  $L_{EQ}$  along the alignment and were measured at 66 dBA  $L_{EQ}$  along Friars Road adjacent to Morena Boulevard where LBVI was detected, 72 dBA  $L_{EQ}$  along Riverwalk Drive between Fashion Valley Road and SR-163 where



the San Diego River and associated riparian habitat are present south of Riverwalk Drive, and 72 dBA  $L_{EQ}$  between SR-163 and Hazard Center Drive where the San Diego River and associated riparian habitat are present south of the paved pedestrian and bike access path. Construction noise levels at locations adjacent to occupied and potential LBVI habitat within the MHPA are estimated to exceed the current ambient noise levels. Anticipated construction noise levels would range from 75.6 to 90.6 dBA  $L_{EQ}$  at the edge of the MHPA which could be potentially significant. Implementation of avoidance and minimization measure **BIO-2** would ensure that no significant and adverse indirect noise impacts on breeding least Bell's vireo within the MHPA occur (see Section 7.0).

## Nesting Birds

The project site contains trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code. Significant impacts could occur to nesting birds if suitable nesting habitat is removed during the general bird breeding season (February 15 to August 31). As a regulatory requirement, the project must comply with the regulations and guidelines of the MBTA and CFG Code.

## 6.3 RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

***Would the project have a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?***

The proposed project would result in direct impacts 93.3 acres of non-sensitive habitat comprised of 92.4 acres of developed land and 0.9 acres of disturbed habitat. However, project construction would occur immediately adjacent to sensitive riparian habitat and Tier II Diegan coastal sage scrub habitat. Inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel could result in additional impacts. Implementation of avoidance and minimization measure **BIO-1** would ensure that inadvertent impacts to sensitive habitats located immediately adjacent to construction work areas are avoided (Section 7.0).

Project impacts on sensitive natural communities are depicted on Figures 11a through 11g and summarized below within Table 5, *Vegetation Communities/Land Cover Type Impacts*.



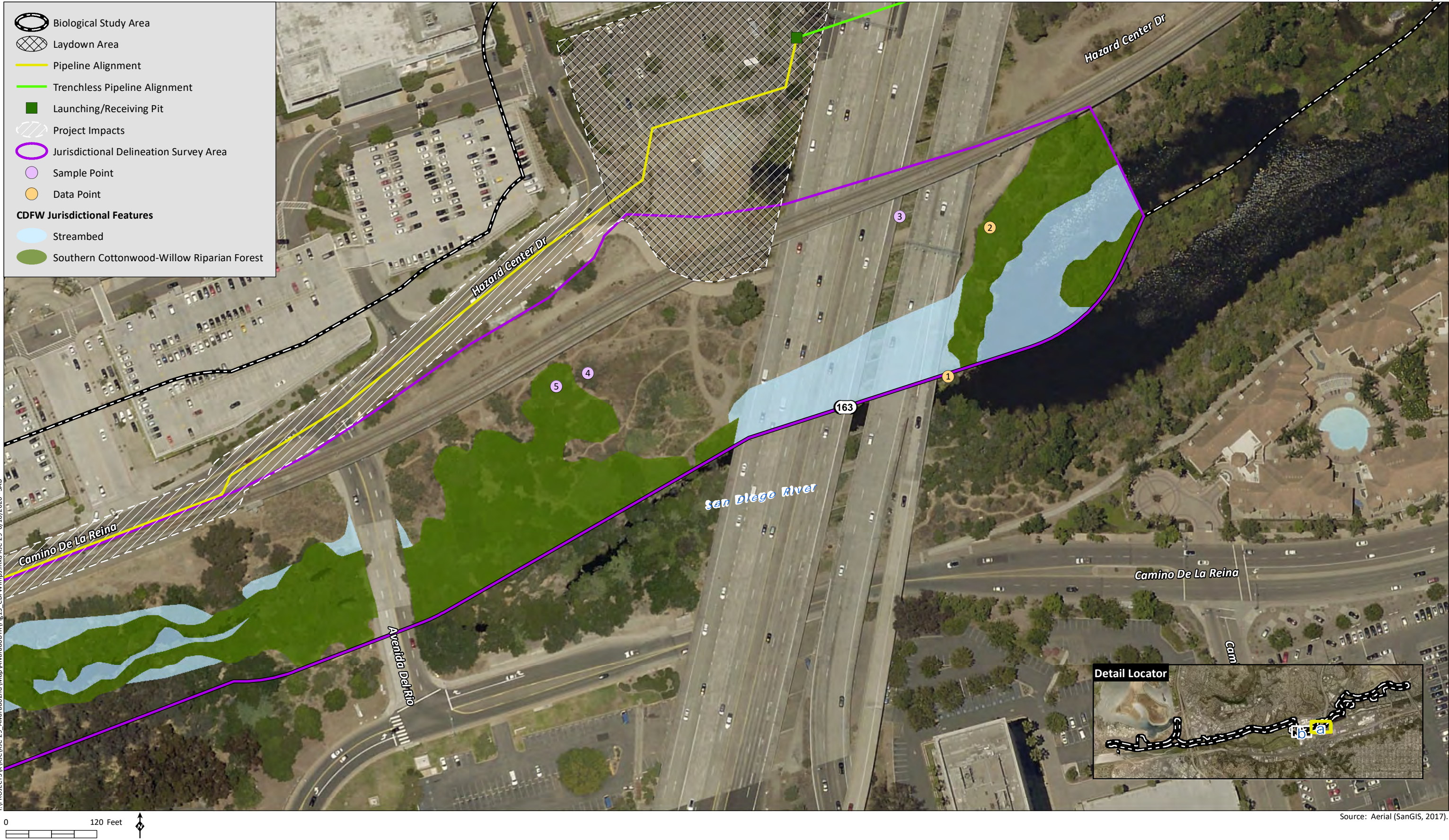




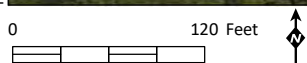


Source: Aerial (SanGIS, 2017).

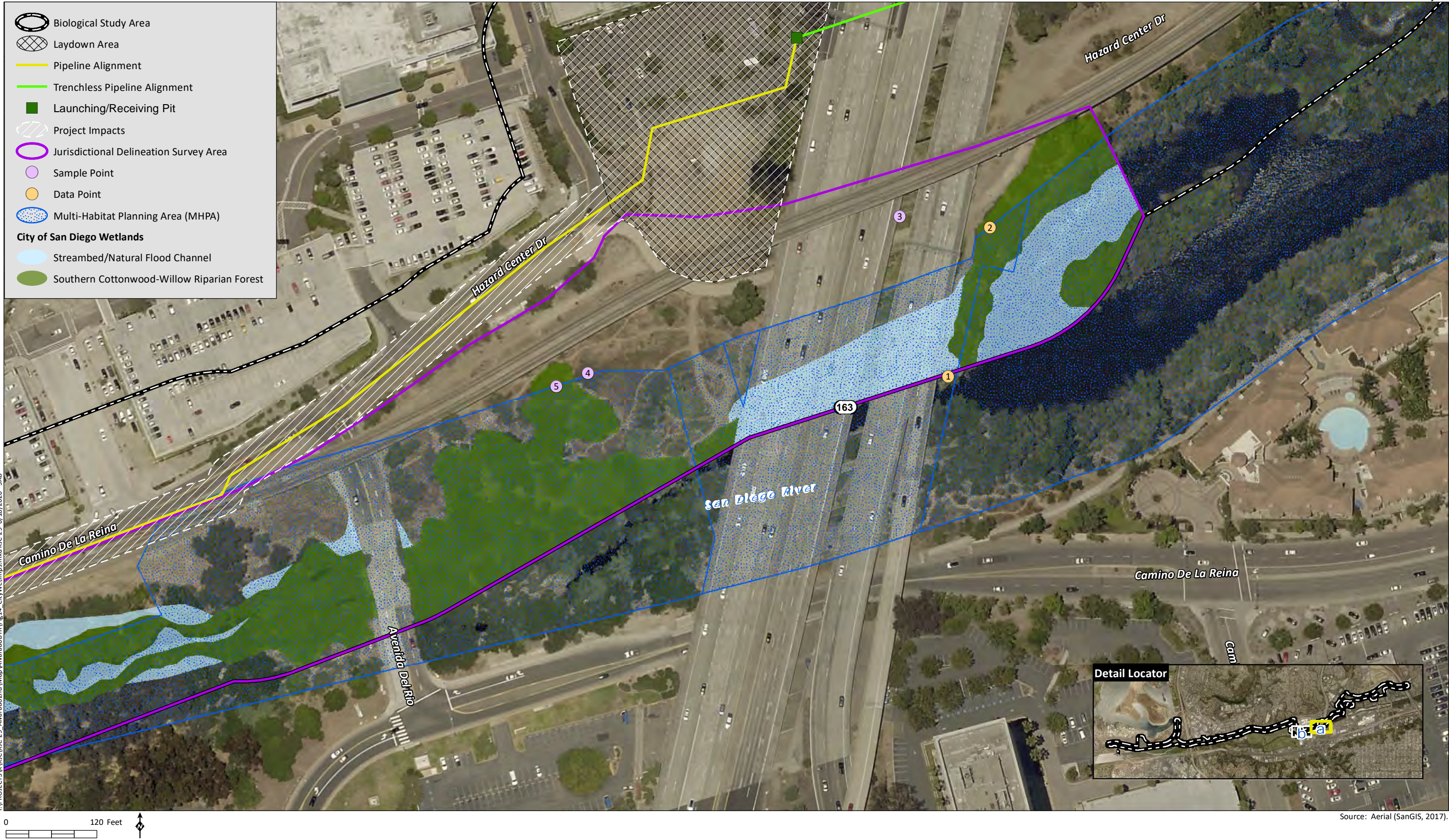


















**Table 5**  
**VEGETATION COMMUNITIES/LAND COVER TYPE IMPACTS**

Vegetation Community/Land Cover Type <sup>1</sup>	MSCP Tier <sup>2</sup>	Acres <sup>3</sup>		
		Inside MHPA	Outside MHPA	Total
<b>Wetlands</b>				
Arundo-dominated Riparian (65100)	N/A	--	--	--
Coastal Salt Marsh (52120)	N/A	--	--	--
Mudflat (64300)	N/A	--	--	--
Mule Fat Scrub (63310)	N/A	--	--	--
Non-native Riparian (65000)	N/A	--	--	--
Open Water (64140)	N/A	--	--	--
Saltgrass Grassland (42130)	N/A	--	--	--
Southern Cottonwood-Willow Riparian Forest (61330)	N/A	--	--	--
Southern Willow Scrub (63320)	N/A	--	--	--
Southern Willow Scrub – Disturbed (63320)	N/A	--	--	--
<b>Subtotal</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Uplands</b>				
Baccharis Scrub	II	--	--	--
Baccharis Scrub – Disturbed (32530)	II	--	--	--
Diegan Coastal Sage Scrub (32500)	II	--	--	--
Diegan Coastal Sage Scrub – Disturbed (32500)	II	--	--	--
Eucalyptus Woodland (79100)	IV	--	--	--
Non-native Vegetation (11000)	IV	--	--	--
Disturbed Habitat (11300)	IV	--	0.9	0.9
Developed (12000)	IV	0.1	92.3	92.4
<b>Subtotal</b>		<b>0.1</b>	<b>93.2</b>	<b>93.3</b>
<b>TOTAL</b>		<b>0.1</b>	<b>93.2</b>	<b>93.3</b>

<sup>1</sup> Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

<sup>2</sup> Tiers refer to City MSCP Subarea Plan habitat classification system.

<sup>3</sup> Acreages rounded to the nearest 0.1 acre for uplands and 0.01 acre for wetlands; total reflects rounding.

<sup>4</sup> Impacts limited to trimming of vegetation within the riparian canopy to allow for equipment access.

## 6.4 JURISDICTIONAL WETLANDS AND WATERWAYS

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

The San Diego River is located within the study area and is situated generally south of the proposed project alignment. The San Diego River, its tributaries, and associated wetland and riparian habitat qualifies as wetland and non-wetland WUS/WS subject to USACE and RWQCB jurisdiction (Figures 12a and 12b, *Impacts to Waters of the U.S./State*), streambed and riparian habitat subject to CDFW jurisdiction (Figures 13a and 13b, *Impacts to CDFW Jurisdictional Areas*), and City ESL wetlands (Figures 14a and 14b, *Impacts to City of San Diego Wetlands*). The project would avoid direct impacts to the San Diego River, wetland and riparian habitats, and jurisdictional areas; therefore, no impact would occur.

Portions of the project impact footprint occur directly adjacent to wetland and riparian habitat, City ESL jurisdictional areas, and City ESL wetlands. Specifically, these areas include a portion of the alignment



south of Fashion Valley Mall between Hazard Center Drive and Fashion Valley. Implementation of avoidance and minimization measure **BIO-1** would ensure that inadvertent impacts to jurisdictional wetlands and waterways, and City ESL wetlands, located immediately adjacent to construction work areas are avoided (see Section 7.0).

## 6.5 WILDLIFE MOVEMENT AND NURSERY SITES

***Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, VPHCP, or impede the use of native wildlife nursery sites?***

Approximately 35.4 acres of the study area is located within the MHPA, which in this area provides habitat linkage along the San Diego River from urbanized coastal area to Mission Trails Regional Park. The proposed project would primarily occur within existing road right-of-ways and disturbed habitat located outside of, but adjacent to, the MHPA. Though construction activities may temporarily disrupt local wildlife in the area, wildlife would be expected to move back into the area once construction activities have ceased. Therefore, project would not constrain east-west wildlife movement through the area and would not result in significant impact to wildlife corridors or movement.

## 6.6 ADOPTED PLANS

***Would the project conflict with the provisions of an adopted HCP, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP or VPHCP plan area or in the surrounding region?***

As stated above, the project could result in potential significant indirect impacts to special-status species and inadvertent construction impacts could impact sensitive vegetation communities located immediately adjacent the project footprint. Implementation of avoidance and minimization measures **BIO-1** and **BIO-2** would ensure project consistency with the adopted City MSCP Subarea Plan and Land Development Manual Biology Guidelines (see Section 7.0).

The project will conform to the general planning policies and design guidelines and general management directives detailed in Sections 1.4.2 and 1.5.2, respectively, of the City's MSCP Subarea Plan as summarized in Section 5.3.2.

The proposed project consists of a new water pipeline alignment (i.e., utility line) that is located outside, adjacent to, and within the MHPA (Figure 4). The project would result in approximately 0.1 acres of temporary impacts to developed land located within the MHPA. These impacts are limited to work areas south of Fashion Valley, along Riverwalk Drive between Avenida Del Rio and Fashion Valley Road where the MHPA overlaps with existing developed land (Figure 11d). The project would not result in a permanent impacts to sensitive habitat within the MHPA, and the proposed project activity (utility line) is considered a compatible land use within the MHPA; as such, project impacts within the MHPA do not require an MHPA boundary line adjustment and would not represent a significant impact.

No other adopted HCP, RMP, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project.

## 6.7 LAND USE ADJACENCY



***Would the project introduce land use within an area adjacent to the MHPA that would result in adverse edge effects?***

The City's MSCP Subarea Plan addresses the impacts to preserve areas from adjacent development in Section 1.4.3, Land Use Adjacency Guidelines (LUAGs). The LUAGs provide requirements for land uses adjacent to the habitat preserve in order to minimize indirect impacts to the sensitive resources contained therein. The project would not introduce new land uses within an area adjacent to the MHPA that would result in adverse edge effects. The total aboveground impact area of the project 0.9 acres of disturbed habitat, and 92.4 acres of developed lands located within existing disturbed areas or City road right-of-ways.

As detailed in Section 5.3.2, the proposed project would conform to the LUAGs. Implementation of avoidance and minimization measure **BIO-1** would ensure inadvertent impacts to the MHPA located adjacent to construction work areas are avoided, and implementation of avoidance and minimization measure **BIO-2** would ensure that no significant and adverse indirect noise impacts on breeding coastal California gnatcatcher and least Bell's vireo within the MHPA occur.

## 6.8 LOCAL POLICIES OR ORDINANCES

***Would the project conflict with any local policies or ordinances protecting biological resources?***

The project is consistent with the City's Land Development Code Biology Guidelines; no conflict with local policies or ordinances protecting biological resources would occur. Avoidance and minimization measures **BIO-1** and **BIO-2** would ensure project consistency with the MSCP and that impacts to special status species and ESL are avoided or mitigated in accordance with Land Development Code requirements (see Section 7.0).

## 6.9 INVASIVE SPECIES

***Would the project result in an introduction of invasive species of plants into a natural open space area?***

The project would not result in the introduction of invasive species of plants into a natural open space area. The project area is surrounded by urban development and non-native plant species are prevalent on adjacent lands. Additionally, no landscaping is proposed as part of the project.

## 6.10 CUMULATIVE IMPACTS

Adverse cumulative impacts are not expected from implementation of the proposed project. Projects which adhere to the City's MSCP Subarea Plan are not expected to have significant cumulative impacts to resources regulated and covered by these plans. The project would comply with the City's MSCP Subarea Plan, the MHPA LUAG requirements, and the City of San Diego Biology Guidelines and ESL Regulations.



## 7.0 AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measures shall be implemented to reduce potential impacts resulting from project implementation to below a level of significance.

### 7.1 BIOLOGICAL RESOURCES PROTECTION DURING CONSTRUCTION

The project shall implement avoidance and minimization measure **BIO-1** to prevent inadvertent impacts to sensitive riparian habitat and Tier II habitat, and jurisdictional wetlands and waterways, adjacent to the project's impact area.

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

#### I. Prior to Construction

- A. **Biologist Verification** – The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City Biology Guidelines (2018), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.
- B. **Pre-construction Meeting** – The Qualified Biologist shall attend the pre-construction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.
- C. **Biological Documents** – The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands (ESL) Ordinance, project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state, or federal requirements.
- D. **Biological Construction Mitigation/Monitoring Exhibit (BCME)** – The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME), which includes the biological documents in C above. In addition, include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the



Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

- E. **Avian Protection Requirements** – To avoid direct impacts to any species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.
- F. **Resource Delineation** – Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the project site.
- G. **Education** – Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site area educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

## II. During Construction

- A. **Monitoring** – All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan



has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVSR). The CSVSR shall be e-mailed to MMC on the first day of monitoring, the first week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

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

### III. Post Construction Measures

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

## 7.2 AVOIDANCE OF SPECIAL STATUS SPECIES DURING CONSTRUCTION

Potential indirect impacts on coastal California gnatcatcher and least Bell's vireo from potential construction noise effects would be avoided through implementation of the avoidance and minimization measure **BIO-2**.

**BIO-2 Coastal California Gnatcatcher and Least Bell's Vireo Avoidance:** No clearing, grubbing, or other construction activities shall occur within 500 feet of coastal sage scrub during the coastal California gnatcatcher breeding season (March 1 through August 15) or riparian habitat during the least Bell's vireo breeding season (March 15 through September 15) until the following requirements have been met to the satisfaction of the City Manager:

- A. A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) shall survey those habitat areas within 500 feet of the proposed impact areas that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average, or exceeding ambient noise levels if greater than 60 dBA, for the presence of the coastal California gnatcatcher or least Bell's vireo. Surveys for coastal California gnatcatcher and least Bell's vireo shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service within the breeding season prior to the commencement of any construction. If gnatcatcher or vireos are present, then Condition I and either II or III must be met:
  - I. Between March 1 and August 15, no clearing or grubbing of occupied gnatcatcher habitat shall be permitted. Between March 15 and September 15, no clearing or grubbing of occupied vireo habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a qualified biologist; AND



- II. Between March 1 and August 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB hourly average or ambient, whichever is higher, at the edge of occupied gnatcatcher habitat. Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB hourly average or ambient, whichever is higher, at the edge of occupied LBVI habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB hourly average at the edge of occupied habitat must be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City Manager at least two weeks prior to the commencement of construction activities. Prior to commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under supervision of a qualified biologist; OR
- III. At least two weeks prior to commencement of construction activities, under direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB hourly average or ambient (whichever is higher) at the edge of habitat occupied by the coastal California gnatcatcher or least Bell's vireo. Concurrent with commencement of construction activities and construction of necessary noise attenuation facilities, noise monitoring\* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB or ambient (whichever is higher) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16 or September 16, for gnatcatcher and vireo respectively).

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

- B. If coastal California gnatcatchers or least Bell's vireo are not detected during the protocol surveys, the qualified biologist shall submit substantial evidence to the City Manager and applicable Resource Agencies that demonstrates whether or not mitigation measures, such as noise barriers, are necessary between March 1 and September 15, as follows:
  - I. If evidence indicates potential is high for coastal California gnatcatcher or least Bell's vireo to be present based on historical records or site conditions, the Condition A.III shall be adhered to, as specified above.



- II. If evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

## 8.0 MITIGATION AND MONITORING MEASURES

The proposed project is restricted to existing road right-of-way areas composed of developed lands and adjacent disturbed habitat areas. The project would not result in significant direct impacts to sensitive vegetation communities, jurisdictional wetlands and waterways, or special status species; therefore, no mitigation is required.



## 9.0 LIST OF PREPARERS

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

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Ron Philips	B.S., Geography, Planning and Recreation, emphasis in Geospatial Science, Northern Arizona University, 2017
Aleksandra Richards	M.A., International Relations, University of San Diego, 2010 B.A., Communications, Emphasis in Print Journalism, California State University, Fullerton, 2008
Benjamin Rosenbaum	B.S., Biology, Emphasis in Ecology, San Diego State University, 2009
W. Larry Sward	M.S., Biology, emphasis in Ecology, San Diego State University, 1979 B.S., Biology, concentration in Botany, San Diego State University, 1975
Dane van Tamelen	B.A., Environmental Studies, University of California, Santa Cruz, 2015

\* Primary report author

‡ Contributing author



## 10.0 REFERENCES

- American Ornithological Society. 2018. AOU Checklist of North and Middle American Birds (online checklist). Retrieved from: <http://checklist.aou.org/taxa/>
- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.
- Bradley, R.D., Ammerman, L.K., Baker, R.J., Bradley, L.C., Cook, J.A., Dowler, R.D. Jones, C., Schmidly, D.J., Stangi, F.B., Van De Bussche, R.A., Wursig, B. (2014). Revised checklist of North American mammals north of Mexico. Museum of Texas Tech University Occasional Papers. 327:1-27.
- Calflora. 2018. URL: <http://www.calflora.org/>
- California Department of Fish and Wildlife. 2018a. RareFind Database Program, Version 5.
- 2018b. California Natural Diversity Database (CNDDDB). Special Vascular Plants, Bryophytes, and Lichens List. Retrieved from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>
- 2018c. California Natural Diversity Database. Special Animal List. Retrieved from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>
- California Invasive Plant Council. 2018. California Invasive Plant Inventory. Retrieved from: <http://www.cal-ipc.org/ip/inventory/index.php>.
- California Native Plant Society. 2018. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). Rare Plant Program. California Native Plant Society, Sacramento, CA. Retrieved from: <http://www.rareplants.cnps.org/>
- Clapper Rail Study Team. 2009. Survey Guidelines to Determine Presence/Absence of the Light-footed Clapper Rail in Southern California; Recommendations of the Clapper Rail Study Team (John Konecny, Richard Zembal, Susan Hoffman). Draft Recommendations Provided to the Fish and Wildlife Service.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.
- HELIX Environmental Planning, Inc. 2020. Noise Analysis and Control Plan for the Alvarado 2nd Pipeline Extension Project. March.
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, 156 pp.
- Jepson Flora Project (eds.). 2018. Jepson eFlora. URL: <http://ucjeps.berkeley.edu/eflora/>



- Kollmorgen Instruments Corporation (Kollmorgen). 1994. Munsell Soil Color Charts, Revised edition. Baltimore, MD.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1–17. Published 28 April. Retrieved from: [http://wetland-plants.usace.army.mil/nwpl\\_static/v33/home/home.html](http://wetland-plants.usace.army.mil/nwpl_static/v33/home/home.html)
- Lichvar, R.W. and S.M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH. U.S. Army Engineer Research and Development Center. August. Natural Resource Conservation Service. 2018. Hydric Soils of the U.S. Retrieved from. <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>
- North American Butterfly Association. 2018. Checklist of North American Butterflies Occurring North of Mexico, Edition 2.3. Retrieved from: [http://www.naba.org/pubs/enames2\\_3.html](http://www.naba.org/pubs/enames2_3.html)
- Oberbauer, T., M. Kelly, and J. Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," R. F. Holland, Ph.D., October 1986. March. Revised from 1996 and 2005. July.
- Riley, D.T. 2005. Ordinary High Water Mark Identification. RGL No. 05-05. December 5. 4 pp.
- San Diego, City of. 2018a. City of San Diego Municipal Code, Land Development Code, Biology Guidelines. Amended. February 1 by Resolution No. R-311507. Retrieved from: [https://www.sandiego.gov/sites/default/files/amendment to the land development manual biology guidelines february 2018 - clean.pdf](https://www.sandiego.gov/sites/default/files/amendment%20to%20the%20land%20development%20manual%20biology%20guidelines%20february%202018%20-%20clean.pdf)
- 2018b. Storm Water Standards. October. Retrieved from: [https://www.sandiego.gov/sites/default/files/storm water standards manual oct 2018.pdf](https://www.sandiego.gov/sites/default/files/storm%20water%20standards%20manual%20oct%202018.pdf)
1997. Multiple Species Conservation Program: City of San Diego MSCP Subarea Plan. March. Retrieved from: <https://www.sandiego.gov/sites/default/files/legacy/planning/programs/mscp/pdf/subareafullversion.pdf>
- San Diego Natural History Museum. 2014. Plant Atlas Project. Retrieved from: <http://www.sdplantatlas.org/>
- Society for the Study of Amphibians and Reptiles. 2018. North American Standard English and Scientific Names Database. Retrieved from: <https://ssarherps.org/cndb/>
- Sogge, M.K., Ahlers, Darrell, 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.



U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Eds. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

--- And EPA. Environmental Protection Agency. 2015. Clean Water Rule. Fed Reg. 80 (124) pp. 37054-37127. 29 June.

U.S. Department of Agriculture. 2018. Web soil survey. National Resources Conservation Service. Retrieved from: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

U.S. Fish and Wildlife Service. 2018a. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO). Retrieved from: <http://www.fws.gov/carlsbad/gis/cfwogis.html>

2018b. National Wetland Inventory, Wetlands Mapper. Retrieved from: <https://www.fws.gov/wetlands/data/mapper.html>

2014. Quino Checkerspot Butterfly Survey Guidelines. December 15. Retrieved from: [https://www.fws.gov/cno/es/Recovery\\_Permitting/insects/quino\\_checkerspot\\_butterfly/Quino CheckerspotButterfly\\_SurveyGuidelines\\_20141215.pdf](https://www.fws.gov/cno/es/Recovery_Permitting/insects/quino_checkerspot_butterfly/Quino_CheckerspotButterfly_SurveyGuidelines_20141215.pdf)

2001. Least Bell's Vireo Survey Guidelines. January 19. Retrieved from: <https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/LBVireo.2001.protocol.pdf>

1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines. February 28. Retrieved from: <https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/CCalGnatcatcher.1997.protocol.pdf>



## Appendix A

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2018 Least Bell's Vireo Survey Report



August 29, 2018

KJC-29

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

Subject: 2018 Least Bell's Vireo (*Vireo bellii pusillus*) Survey Report for the Alvarado 2<sup>nd</sup> Pipeline Extension Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Alvarado 2<sup>nd</sup> Pipeline Extension Project (project). The project proposes the extension of the existing Alvarado 2<sup>nd</sup> Pipeline along Friars Road, from Interstate (I-) 805 to West Mission Bay Drive, totaling approximately 8.5 miles, portions of which occur within disturbed and developed areas adjacent to the San Diego River. This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

## PROJECT LOCATION

The approximately 745.7-acre study area is located in the City of San Diego (City), San Diego County, California (Figure 1). It is situated in an unsectioned portion of Pueblo Lands within Township 16 South, Ranges 2 and 3 West of the La Jolla U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). The project alignment is located north of I-8 within Mission Valley between the I-805 and West Mission Bay Drive, primarily along the northern boundary of the San Diego River valley, with one segment crossing the river and extending to Old Town (Figure 3). The alignment is located within paved City right-of-way along Friars Road and Sea Work Drive.

## METHODS

The survey consisted of eight site visits conducted by HELIX biologists Erica Harris, Katie Bellon, Benjamin Rosenbaum, Dane van Tamelen, and Samantha Edgley, and independent biologist John Konecny between May 4 and July 27, 2018 (Table 1), in accordance with the current USFWS survey protocol (2001). The survey area consisted of approximately 26.29 acres of potential LBVI habitat made up of mule fat scrub, non-native riparian, southern willow scrub (including disturbed), and southern cottonwood-willow riparian forest located along the San Diego River (Figure 4a). The survey area



consisted of 2 separate areas of suitable habitat that occur adjacent to the proposed project alignment and are not separated by existing development (Figures 4a – 4c). Survey Area 1 is located south of Hazard Center Drive and Riverwalk Drive between Mission Center Road and Fashion Valley Road (Figure 4b). Survey Area 2 is located south of Friars Road and north of I-8 to the east and west of Morena Boulevard (Figure 4c). Table 1 details the survey dates, times, and conditions. The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was designed to ensure complete survey coverage of habitat potentially occupied by LBVI.

A portion of the surveys were conducted on the same days as the protocol surveys for the for the southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL). A permitted SWFL biologist was present conducting the SWFL survey while the LBVI biologist conducted the LBVI survey (Table 1). A separate survey report is being submitted for the SWFL survey effort under a separate cover (HELIX 2018).

## SURVEY RESULTS

A total of three male least Bell's vireos, two within the study area and one outside of the study area, were detected in three separate locations during the 2018 survey effort (Figure 4a). The male vireos were all detected within, and adjacent to, Survey Area 2 to the east and west of Morena Boulevard along the San Diego River (Figure 4c). No LBVI were detected within Survey Area 1.

One male (Male No. 1) was heard singing to the north of the San Diego River and approximately 475 feet west of Morena Boulevard during the first and second surveys but was not detected during the remaining six survey visits. The male was detected at the edge of the survey area and heard singing farther west. A male LBVI (Male No. 2) was heard singing to the north of the San Diego River and approximately 145 feet east of Morena Boulevard during the first three surveys but was not detected during the remaining five survey visits. The male was visually observed singing during the third survey visit and flew to the south of the river channel and then further east. No bands were observed on individual. A male LBVI (Male No. 3) was heard singing outside of the study area to the south of the San Diego River and approximately 880 feet east of Morena Boulevard during all surveys except the last survey visit.

The brown-headed cowbird (*Molothrus ater*; BHCO), a nest parasite of the LBVI, was detected during all the eight surveys in multiple locations (Figure 4a – 4c). Observations of BHCO included singing males, calling females, and multiple individuals observed in courtship displays.



**Table 1**  
**SURVEY INFORMATION**

Site Visit	Survey Date	Biologist	Time Start/End	Approx. Acres Surveyed/Acres per Hour	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird <sup>1</sup>
1	5/4/18	Erica Harris Samantha Edgley	0710/1100	26.29 ac/ 5.4 ac per hr.	58°F, wind 1-2 mph, 0% clouds 80°F, wind 1-3 mph, 0% clouds	<ul style="list-style-type: none"> <li>• Single male vireo (Male No. 1) heard singing north of San Diego River and west of Morena Boulevard</li> <li>• Single male vireo (Male No. 2) heard singing to the north of San Diego River and east of Morena Boulevard</li> <li>• Single male vireo (Male No. 3) heard singing to south of San Diego River and east of Morena Boulevard to the east of the study area</li> </ul>	17
2	5/18/18	Erica Harris <sup>2</sup> Dane van Tamelen	0610/1010	26.29 ac/ 6.6 ac per hr.	61°F, wind 1-2 mph, 100% clouds 64°F, wind 2-4 mph, 100% clouds	<ul style="list-style-type: none"> <li>• Male No. 1 heard singing in same general location</li> <li>• Male No. 2 heard singing in same general location</li> <li>• Male No. 3 heard singing in same general location</li> </ul>	9
3	6/1/18	Erica Harris <sup>2</sup> Samantha Edgley	0730/1030	26.29 ac/ 8.8 ac per hr.	66°F, wind 1-2 mph, 0% clouds 71°F, wind 2-5 mph, 0% clouds	<ul style="list-style-type: none"> <li>• Male No. 2 heard singing in same general location</li> <li>• Male No. 3 heard singing in same general location</li> </ul>	9
4	6/14/18	Erica Harris <sup>2</sup> Dane van Tamelen	0710/1030	26.29 ac/ 7.9 ac per hr.	70°F, wind 0-1 mph, 100% clouds 75°F, wind 2-4 mph, 10% clouds	<ul style="list-style-type: none"> <li>• Male No. 3 heard singing in same general location</li> </ul>	6
5	6/26/18	Erica Harris <sup>2</sup> Katie Bellon	0650/0940	26.29 ac/ 9.3 ac per hr.	68°F, wind 0-1 mph, 100% clouds 73°F, wind 1-4 mph, 0% clouds	<ul style="list-style-type: none"> <li>• Male No. 3 heard singing in same general location</li> </ul>	7
6	7/6/18	John Konency <sup>2</sup> Samantha Edgley	0700/1030	26.29 ac/ 7.5 ac per hr.	71°F, wind 0-3 mph, 0% clouds 87°F, wind 0-4 mph, 0% clouds	<ul style="list-style-type: none"> <li>• Male No. 3 heard singing in same general location</li> </ul>	1
7	7/16/18	Benjamin Rosenbaum Samantha Edgley	0700/0945	26.29 ac/ 9.6 ac per hr.	69°F, wind 3-5 mph, 100% clouds 69°F, wind 0-2 mph, 100% clouds	<ul style="list-style-type: none"> <li>• Male No. 3 heard singing in same general location</li> </ul>	2
8	7/27/18	Erica Harris Dane van Tamelen	0700/1020	26.29 ac/ 7.9 ac per hr.	73°F, wind 0-1 mph, 100% clouds 79°F, wind 0-1 mph, 5% clouds	No LBVI detected	7

<sup>1</sup> Number of brown-headed cowbird (*Molothrus ater*) detected during survey.

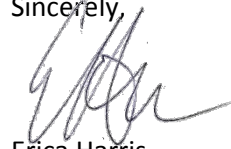
<sup>2</sup> Southwestern willow flycatcher (*Empidonax traillii extimus*) biologist; Conducted flycatcher survey on same day as the vireo survey.



## CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Erica Harris at (619) 462-1515 should you have any questions.

Sincerely,



Erica Harris  
Biologist



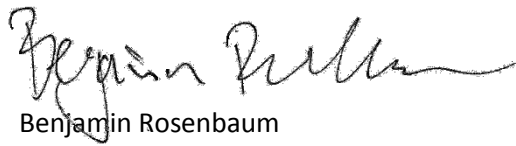
Dane van Tamelen  
Biologist



Samantha Edgley  
Biologist



Katie Bellon  
Biologist



Benjamin Rosenbaum  
Biologist



John Konecny  
Biologist

### Attachments:

- Figure 1: Regional Location
- Figure 2: USGS Topography
- Figure 3: Aerial Photograph
- Figure 4a: 2018 Least Bell's Vireo Survey Results – Overview
- Figure 4b: 2018 Least Bell's Vireo Survey Results – Survey Area 1
- Figure 4c: 2018 Least Bell's Vireo Survey Results – Survey Area 2



## REFERENCES

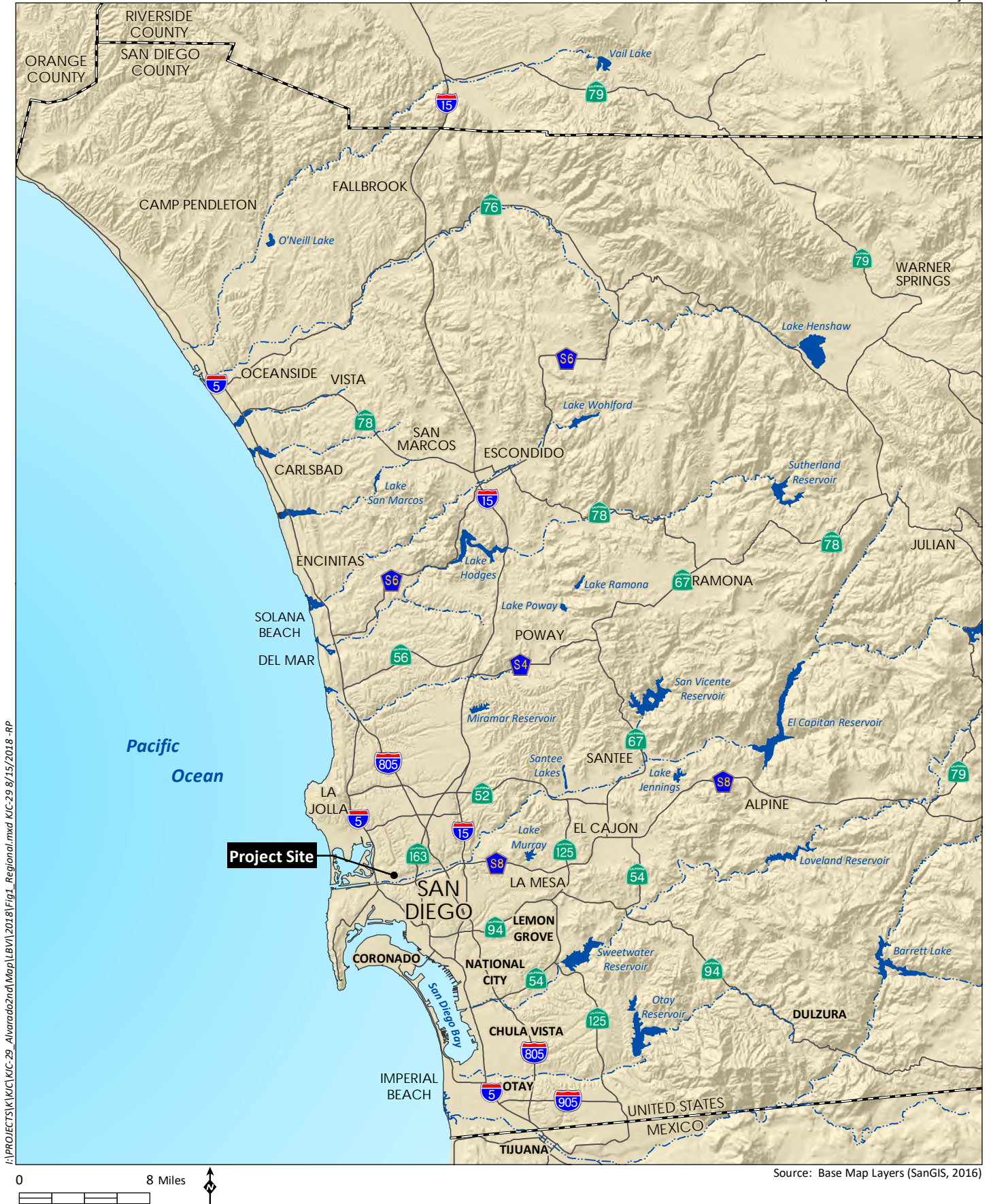
HELIX 2018. 2018 Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Survey Report for the Alvarado 2<sup>nd</sup> Pipeline Extension Project. August 20.

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

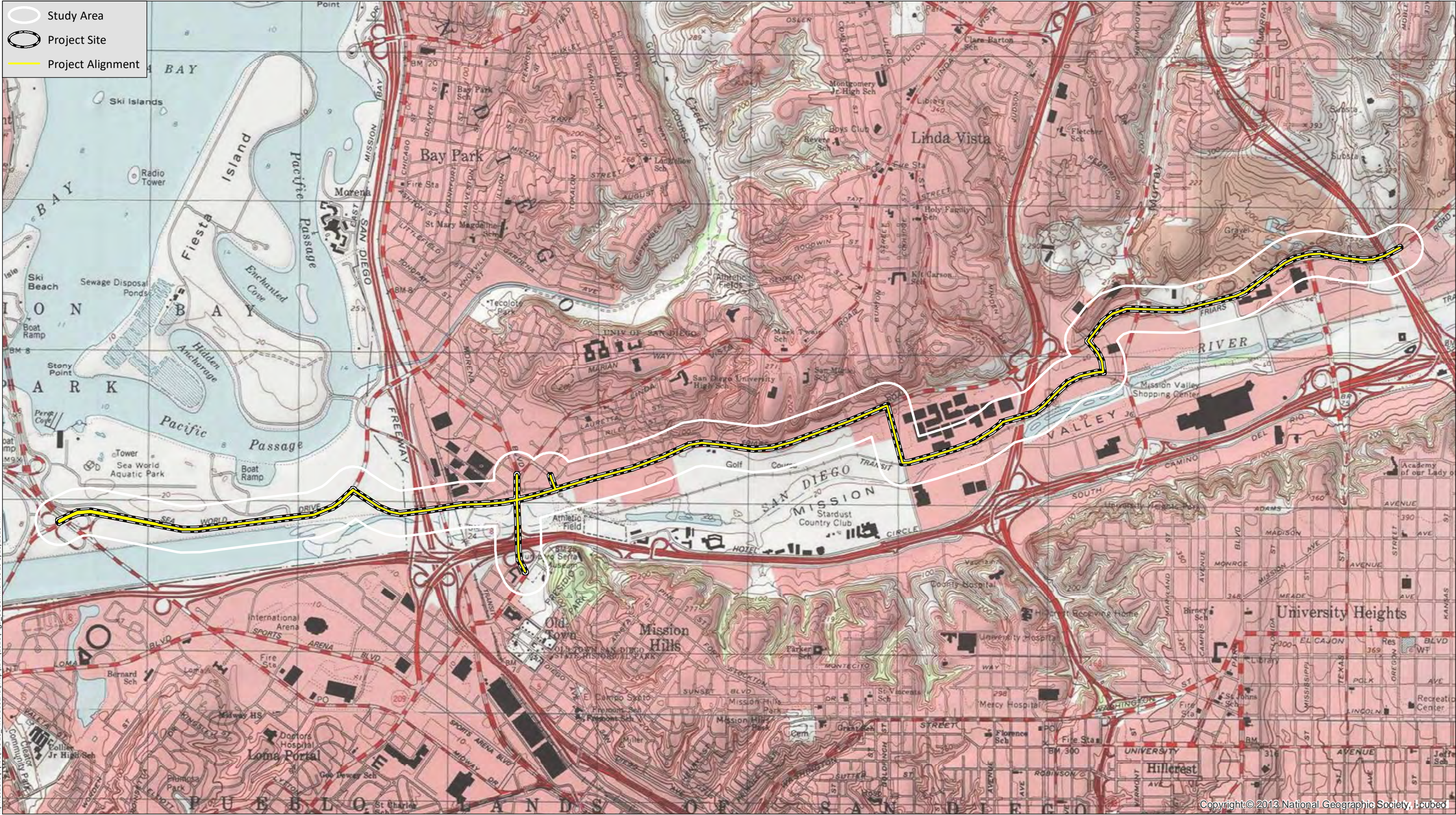


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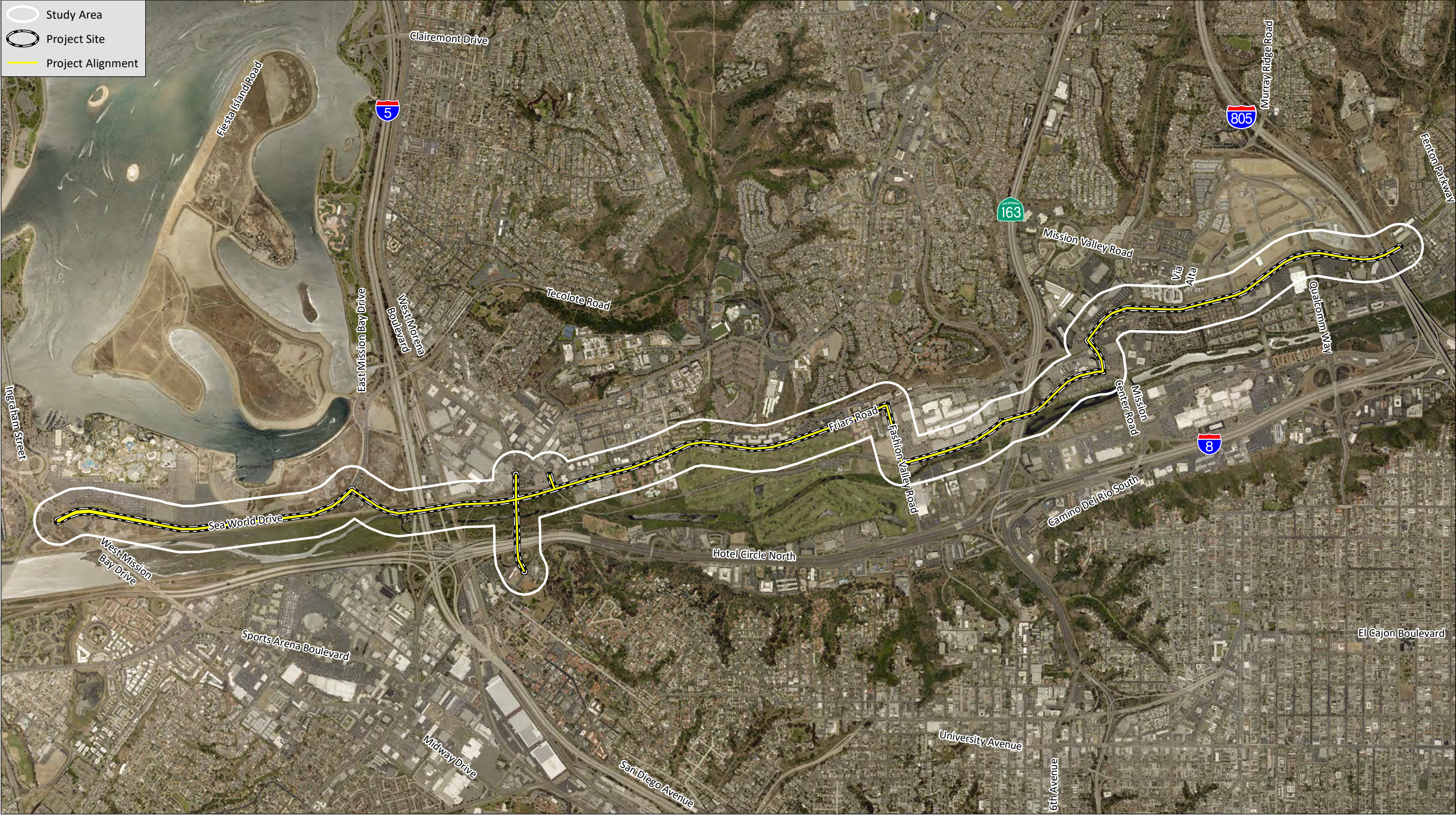




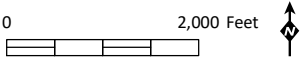






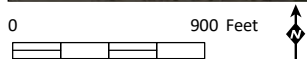


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Source: Aerial (SanGIS, 2017)





Source: Aerial (SanGIS, 2017)









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Source: Aerial (SanGIS, 2017)



## Appendix B

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### 2018 Southwestern Willow Flycatcher Survey Report



August 20, 2018

KJC-29

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

Subject: 2018 Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Survey Report for the Alvarado 2<sup>nd</sup> Pipeline Extension Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally listed southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Alvarado 2<sup>nd</sup> Pipeline Extension Project (project). The project proposes the extension of the existing Alvarado 2<sup>nd</sup> Pipeline along Friars Road, from Interstate (I-) 805 to West Mission Bay Drive, totaling approximately 8.5 miles, portions of which occur within disturbed and developed areas adjacent to the San Diego River. This report describes the survey methods and results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE-778195-13.

## PROJECT LOCATION

The approximately 745.7-acre study area is located in the City of San Diego (City), San Diego County, California (Figure 1). It is situated in an unsectioned portion of Pueblo Lands within Township 16 South, Ranges 2 and 3 West of the La Jolla U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). The project alignment is located north of I-8 within Mission Valley between the I-805 and West Mission Bay Drive, primarily along the northern boundary of the San Diego River valley, with one segment crossing the river and extending to Old Town (Figure 3). The alignment is located within paved City right-of-way along Friars Road and Sea Work Drive.

## METHODS

The survey consisted of five site visits conducted by HELIX biologist Erica Harris (TE-778195-13) and independent biologist John Konecny (TE-837308-6) in accordance with the current USFWS approved survey protocol (Sogge et al. 2010). The SWFL survey area consisted of approximately 26.29 acres of potential SWFL habitat made up of mule fat scrub, non-native riparian, southern willow scrub (including



disturbed), and southern cottonwood-willow riparian forest located along the San Diego River (Figure 4a). The SWFL survey area consisted of 2 separate areas of suitable habitat that occur adjacent to the proposed project alignment and are not separated by existing development (Figures 4a – 4c). Survey Area 1 is located south of Hazard Center Drive and Riverwalk Drive between Mission Center Road and Fashion Valley Road (Figure 4b). Survey Area 2 is located south of Friars Road and north of I-8 to the east and west of Morena Boulevard (Figure 4c). Table 1 details the survey dates, times, and conditions.

Survey protocol requires that five survey visits be conducted at least five days apart, between the hours of sunrise and 10:30 a.m., within the three identified survey periods. A minimum of one survey was conducted between Survey Period 1 (May 15–31), a minimum of two surveys were conducted during Survey Period 2 (June 1–24), and a minimum of one survey was conducted during Survey Period 3 (June 25–July 17).

The surveys were conducted by walking within and along the perimeter of suitable SWFL habitat. Surveys were conducted with binoculars to aid in bird detection. Recorded SWFL vocalizations were played every 20 to 30 meters followed by a one-minute silent period to listen for a response. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by SWFL.

The surveys were conducted on the same days as the protocol surveys for the least Bell's vireo (*Vireo bellii pusillus*; LBVI). A separate LBVI surveyor was present conducting the LBVI survey while the SWFL biologist conducted the SWFL survey (Table 1). A separate survey report is being submitted for the LBVI survey effort under a separate cover.



**Table 1**  
**SURVEY INFORMATION**

Survey Period <sup>1</sup>	Site Visit	Survey Date	Biologist	Start/Stop Time	Approx. Acres Surveyed/ Acres Per Hour	Start/Stop Weather Conditions	Survey Results
1	1	5/18/18	Erica Harris Dane van Tamelen <sup>2</sup>	0610/1010	26.29 ac/ 6.6 ac per hr.	61°F, wind 1-2 mph, 100% clouds 64°F, wind 2-4 mph, 100% clouds	No flycatchers observed
2	2	6/1/18	Erica Harris Samantha Edgley <sup>2</sup>	0730/1030	26.29 ac/ 8.8 ac per hr.	66°F, wind 1-2 mph, 0% clouds 71°F, wind 2-5 mph, 0% clouds	No flycatchers observed
2	3	6/14/18	Erica Harris Dane van Tamelen <sup>2</sup>	0710/1030	26.29 ac/ 7.9 ac per hr.	70°F, wind 0-1 mph, 100% clouds 75°F, wind 2-4 mph, 10% clouds	No flycatchers observed
3	4	6/26/18	Erica Harris Katie Bellon <sup>2</sup>	0650/0940	26.29 ac/ 9.3 ac per hr.	68°F, wind 0-1 mph, 100% clouds 73°F, wind 1-4 mph, 0% clouds	No flycatchers observed
3	5	7/6/18	John Konecny Samantha Edgley <sup>2</sup>	0700/1030	26.29 ac/ 7.5 ac per hr.	71°F, wind 0-3 mph, 0% clouds 87°F, wind 0-4 mph, 0% clouds	No flycatchers observed

<sup>1</sup> Survey Period 1 (May 15–31), Survey Period 2 (June 1–24), Survey Period 3 (June 25–July 17).

<sup>2</sup> Least Bell's vireo (*Vireo bellii pusillus*) biologist; Conducted vireo survey on same day as flycatcher survey.



## SURVEY RESULTS

No southwestern willow flycatchers were detected during the survey effort (Figures 4a – 4c). A Willow Flycatcher Survey and Detection Form was completed and is included as Attachment A.

## CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact Erica Harris at (619) 462-1515 should you have any questions.

Sincerely,



Erica Harris  
Biologist



John Konecny  
Biologist

### Attachments:

- Figure 1: Regional Location
- Figure 2: USGS Topography
- Figure 3: Aerial Photograph
- Figure 4a: 2018 Southwestern Willow Flycatcher Survey Results – Overview
- Figure 4b: 2018 Southwestern Willow Flycatcher Survey Results – Survey Area 1
- Figure 4c: 2018 Southwestern Willow Flycatcher Survey Results – Survey Area 2
- Attachment A: Willow Flycatcher Survey and Detection Form



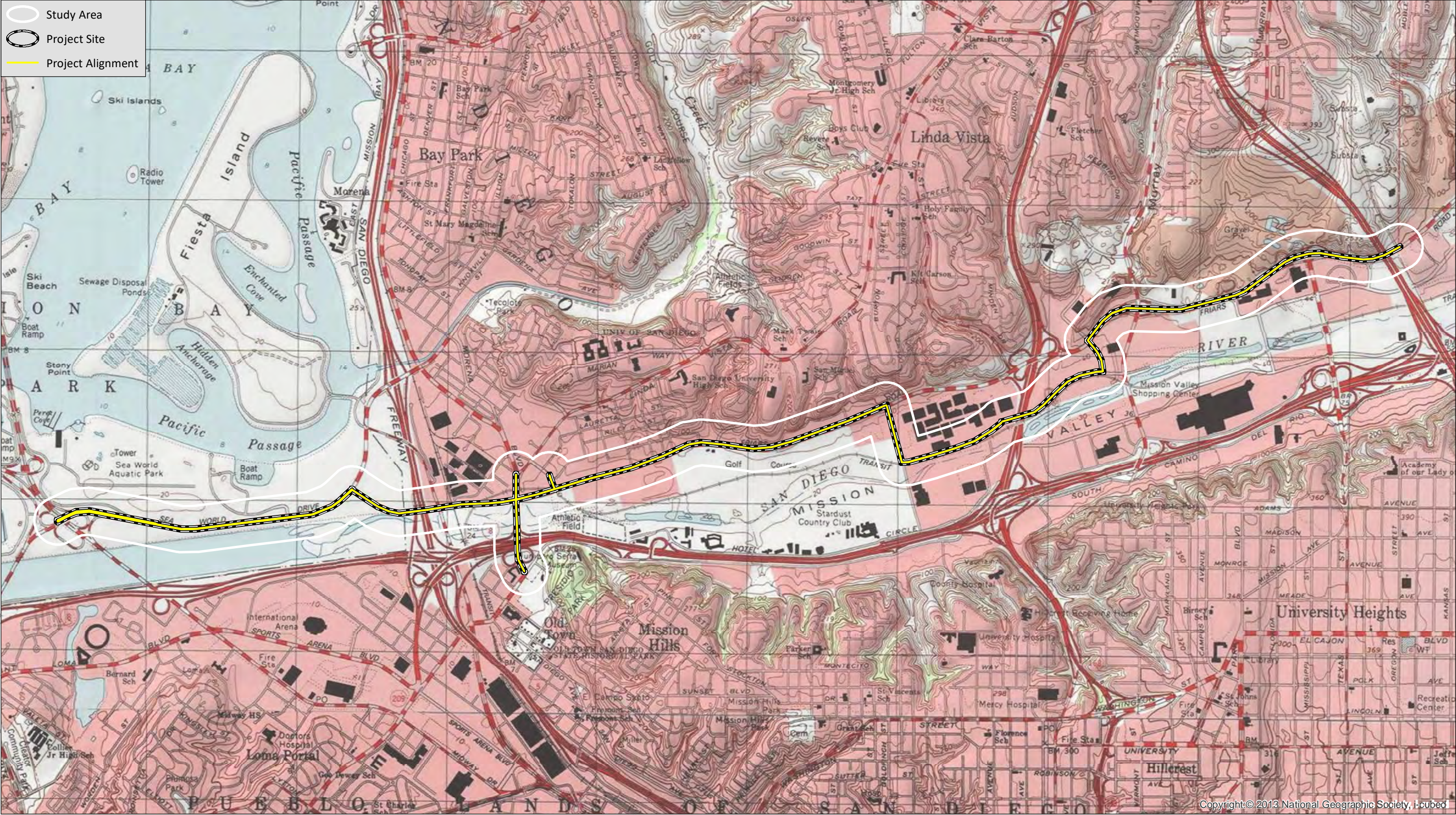
## REFERENCES

Sogge, Mark K., Ahlers, Darrell, and Sferra, Susan J. 2010. A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10.









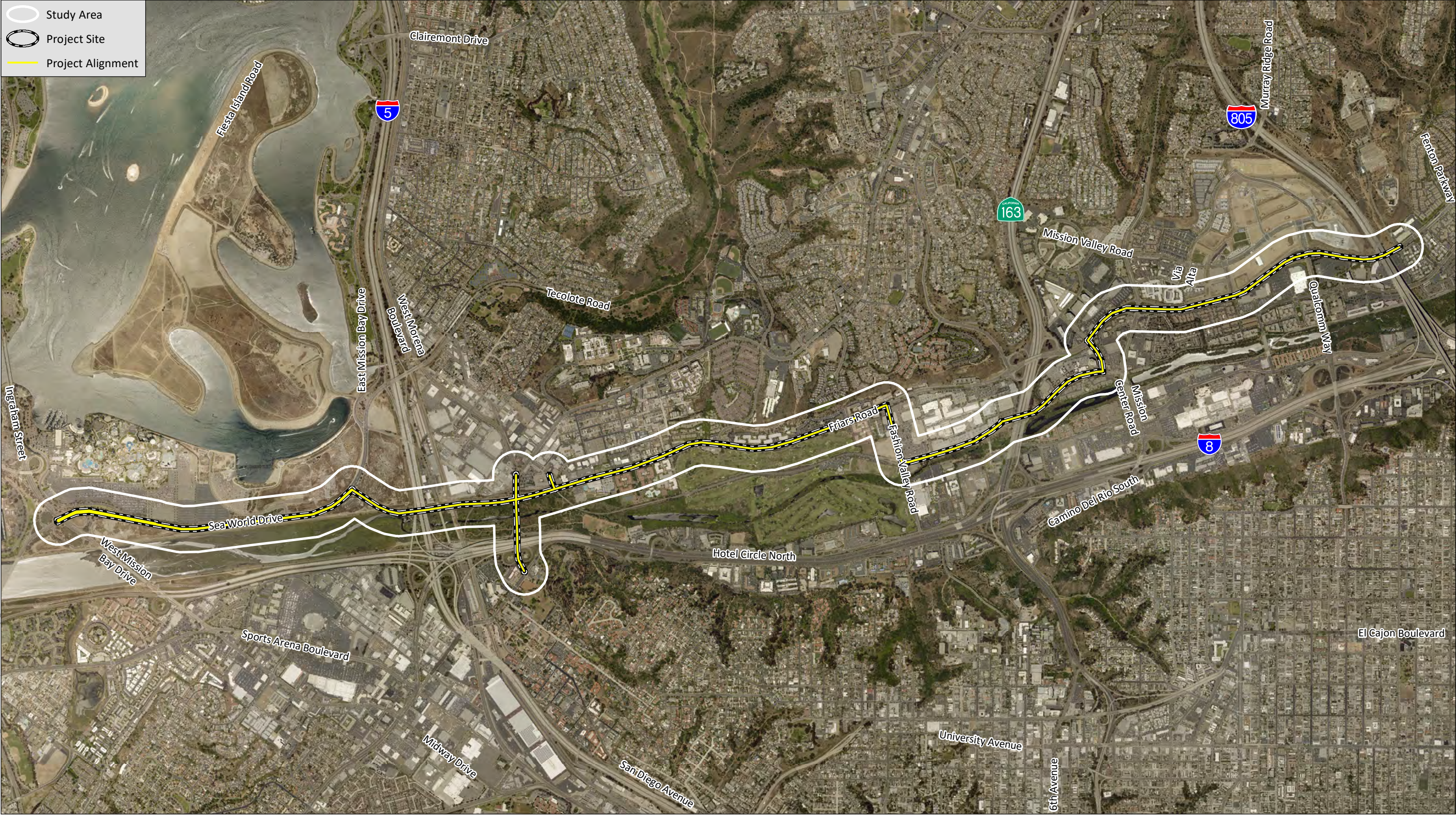
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**HELIX**  
Environmental Planning

Copyright © 2013 National Geographic Society, I-cubed  
Source: La Jolla 7.5' Quad (USGS)





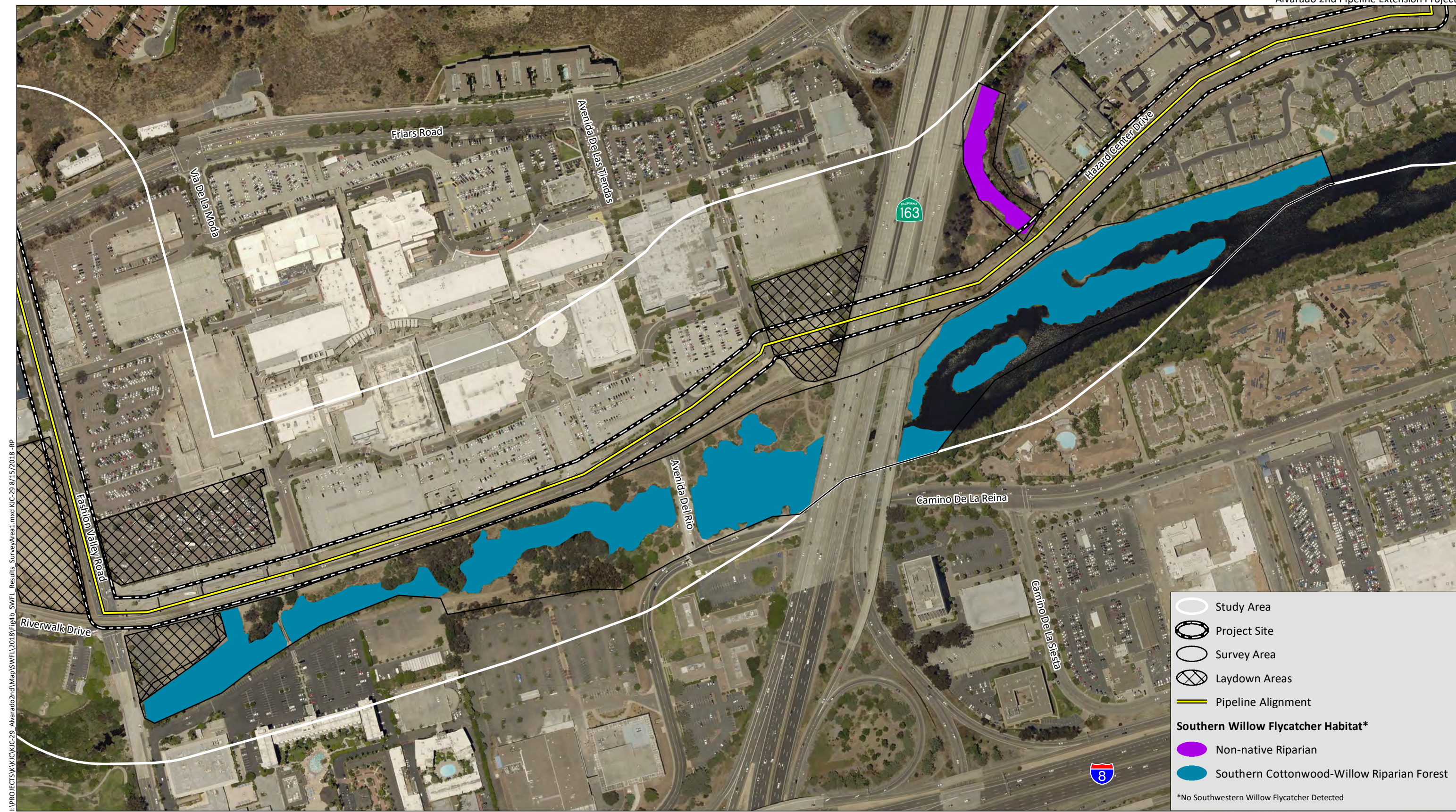
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Source: Aerial (SanGIS, 2017)



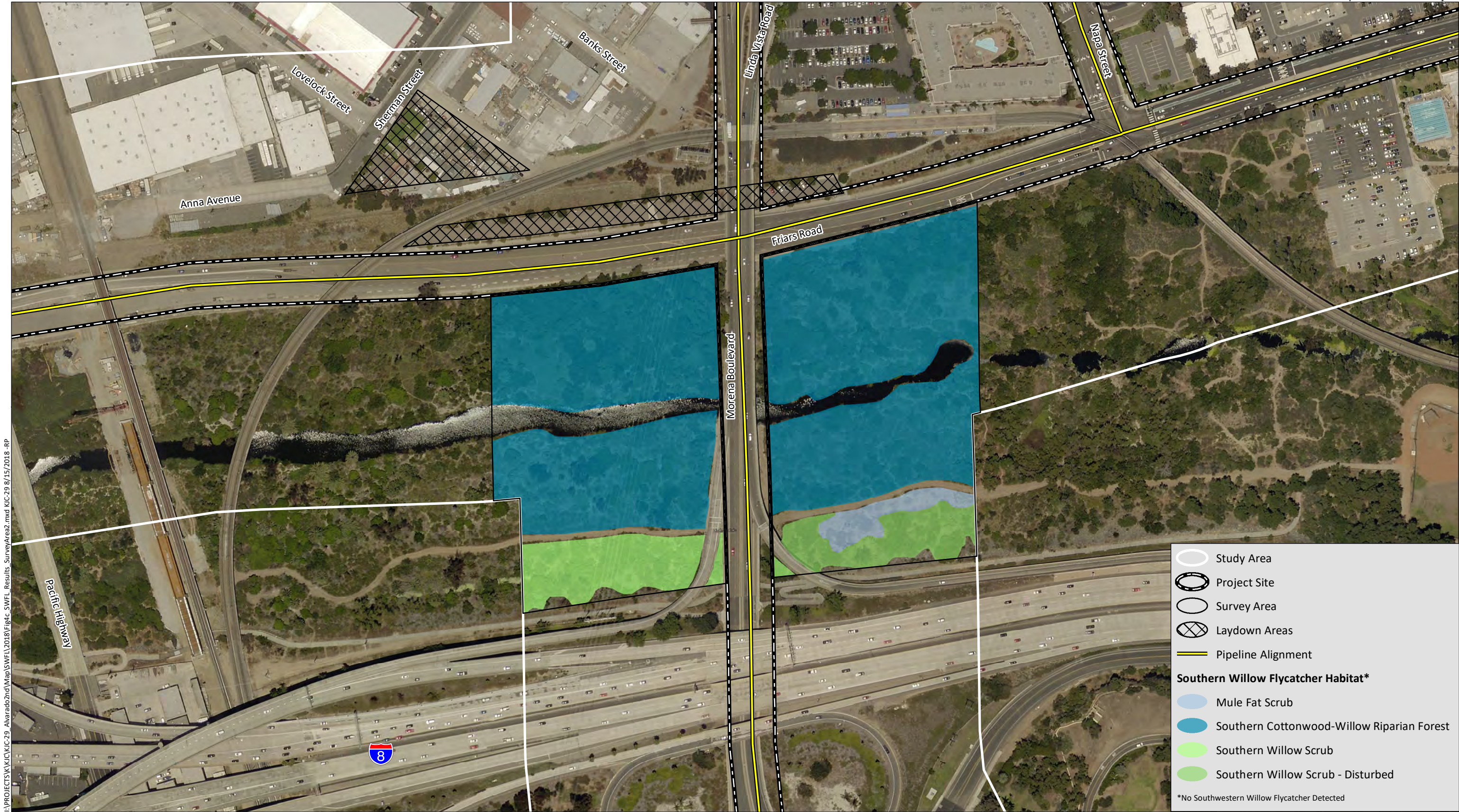






Source: Aerial (SanGIS, 2017)





Source: Aerial (SanGIS, 2017)



# Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Site Name: Alvarado 2nd Pipeline Extension State: CA County: San Diego  
 USGS Quad Name: La Jolla Elevation: 10 (meters)  
 Creek, River, or Lake Name: San Diego River  
*Is copy of USGS map marked with survey area and WIFL sightings attached (as required)?* Yes X No       
 Survey Coordinates: Start: E 485111.12 N 3625701.11 UTM Datum: WGS84 (See instructions)  
 Stop: E 481323.94 N 3624813.80 UTM Zone: 11S

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

**\*\*Fill in additional site information on back of this page\*\***

Survey #	Observer(s) (Full Name)	Date (m/d/y)	Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding; potential threats [livestock, cowbirds, <i>Diorhabda</i> spp.]). If <i>Diorhabda</i> found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
									# Birds	Sex	UTM E	UTM N
<b>Survey # 1</b>	Observer(s): Erica Harris Dane van Tamelen	Date:	5/18/2018	0	0	0	N	n/a				
		Start:	6:10									
		Stop:	10:10									
		Total hrs:	4.0									
<b>Survey # 2</b>	Observer(s): Erica Harris Samantha Edgley	Date:	6/1/2018	0	0	0	N	n/a				
		Start:	7:30									
		Stop:	10:30									
		Total hrs:	3.0									
<b>Survey # 3</b>	Observer(s): Erica Harris Dane van Tamelen	Date:	6/14/2018	0	0	0	N	n/a				
		Start:	7:10									
		Stop:	10:30									
		Total hrs:	3.3									
<b>Survey # 4</b>	Observer(s): Erica Harris Katie Bellon	Date:	7/26/2018	0	0	0	N	n/a				
		Start:	6:50									
		Stop:	9:40									
		Total hrs:	2.8									
<b>Survey # 5</b>	Observer(s): John Konecny Samantha Edgley	Date:	7/6/2018	0	0	0	N	n/a				
		Start:	7:00									
		Stop:	10:30									
		Total hrs:	3.5									
<b>Overall Site Summary</b> Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals.				Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded? Yes <u>    </u> No <u>    </u>  If yes, report color combination(s) in the comments section on back of form and report to USFWS.				
				0	0	0	0					
Total survey hrs:				16.6								

Reporting Individual: Erica Harris Date Report Completed: 8/20/2018  
 US Fish & Wildlife Service Permit #: TE-778195-13 State Wildlife Agency Permit #:     

**Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.**



Fill in the following information completely. Submit form by September 1<sup>st</sup>. Retain a copy for your records.

Reporting Individual Erica Harris Phone # 619-462-1515  
Affiliation HELIX Environmental Planning, Inc. E-mail EricaH@helixepi.com  
Site Name Alvarado 2nd Pipeline Extension Date report Completed 8/20/2018  
Was this site surveyed in a previous year? Yes      No X Unknown       
Did you verify that this site name is consistent with that used in previous yrs? Yes      No      Not Applicable X  
If name is different, what name(s) was used in the past? N/A  
If site was surveyed last year, did you survey the same general area this year? Yes      No      If no, summarize below.  
Did you survey the same general area during each visit to this site this year? Yes      No      If no, summarize below.  
Management Authority for Survey Area: Federal      Municipal/County X State      Tribal      Private       
Name of Management Entity or Owner (e.g., Tonto National Forest) City of San Diego

Length of area surveyed: 1.6 (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

     Native broadleaf plants (entirely or almost entirely, > 90% native)

X Mixed native and exotic plants (mostly native, 50 - 90% native)

     Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

     Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.

Salix gooddingii, Salix laevigata, Populus fremontii

Average height of canopy (Do not include a range): 4.5 (meters)

- Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;  
2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;  
3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features).  
Attach additional sheets if necessary.

**Survey consisted of 2 survey areas along San Diego River. Survey Area 1 south of Riverwalk Drive, west of Mission Center Road, east of Fashion Valley Road, and North of Interstate 8. Survey Areas 2 south of Friars Road, north of Interstate 8, within 500 feet west and east of Morena Boulevard.**

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary



## Appendix C

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2018 Light-footed Ridgway's Rail  
Survey Report



# **Konecny Biological Services**

Biological Consulting, Research, Conservation

August 30, 2018

HELIX Environmental Planning, Inc.  
7578 El Cajon Boulevard, Suite 200  
La Mesa, CA 91942

Attn: Ms. Erica Harris

**Re: Results of the 2018 Focused Surveys for the Light-footed Ridgway's Rail at the Alvarado 2nd Pipeline Extension Project Site, San Diego County, California**

Dear Ms. Harris:

This letter report presents the results of focused surveys for the light-footed Ridgway's rail (*Rallus obsoletus levipes*; LFRR) at the Alvarado 2nd Pipeline Extension Project site (referred to hereafter as the Alvarado Project) site at the San Diego River, City of San Diego, San Diego County, California. The LFRR is listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW). This coastal southern California subspecies is one of three subspecies of federally endangered *R. obsoletus*, which was formerly *R. longirostris* but recently has been taxonomically reclassified by the American Ornithological Society because of genetic studies (Chesser *et al* 2014).

Surveys for the LFRR were conducted by wildlife biologist Mr. John Konecny. The LFRR surveys were conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (CRST 2009). This activity is authorized by Konecny Biological Services's (KBS) USFWS section 10(a) permit number TE837308-6. No LFRR were detected in the survey area in 2018. LFRR's were detected immediately west of the downstream-most survey area.

## **INTRODUCTION**

The LFRR is a slender, tawny-breasted bird with grayish edges on brown centered back feathers, olive wing coverts, vertical white bars on the flanks, a white stripe over the eye, and a partially orange bill. LFRR occurred historically along the coast of southern California from Carpinteria Marsh in Santa Barbara County south to San Quintín, Baja California, Mexico (Grinnell and Miller 1944, USFWS 1994).

The LFRR is a permanent resident of coastal salt marsh traversed by tidal sloughs, usually characterized by cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia* spp.) (Grinnell and Miller 1944, USFWS 1994). LFRR's have also nested in freshwater marsh characterized by cattails (*Typha* sp.) and bulrush (*Scirpus* sp.) at Buena Vista, Agua Hedionda, Batiquitos, San Elijo, and San Dieguito Lagoons in San Diego County (Zembal and Hoffman 2017); and in spiny rush (*Juncus acutus*) at Naval Air Station (NAS) Point Mugu.

LFRR's forage primarily on crustaceans when present. They will also feed on mollusks, small fish, aquatic insects, grasshoppers, small vertebrates, and in some cases, seeds (Eddleman and Conway 1998); and within emergent vegetation or along the ecotone between mudflats and marsh (Zembal and Fancher 1988). LFRR's also forage for crabs in the central drains of tidal creeks at low tide. Surface gleaning and shallow probing compose approximately 90% of foraging time. They very irregularly probe deep into the substrate (Zembal and Fancher 1988).



Zemba and Massey (1986) have shown that paired LFRR can be detected “clapping” throughout the year, but have a bimodal peak in vocalizing during mid-February to mid-April and again in September through October. The initial peak in “clapping” vocalizing corresponds to the onset of breeding season and the second peak is thought to function in pair formation in the fall (Zemba and Massey 1986). In contrast to “clapping”, single male and female “kekking” is highly seasonal, almost exclusively occurring between February and June.

Populations of LFRRs have undergone decline in the United States due to the rail’s limited distribution and destruction and degradation of coastal salt marsh habitat, and was the basis for listing of the species in 1970. The statewide LFRR population in 2017 was reported to be 514 pairs in 18 marshes (Zemba *et al.* 2017), and is the sixth straight year the statewide total has been over 500 pairs since the statewide census began in 1980. The 2017 total is 142 pairs fewer (22%) than the 2016 count of 656 pairs. Forty-two percent of these pairs were found in two coastal salt marsh complexes at Upper Newport Bay and the Tijuana Marsh National Wildlife Refuge (NWR). Five other marshes; NAS Point Mugu; Batiquitos Lagoon; San Elijo Lagoon; Seal Beach NWR, and Kendall-Frost Marsh in Mission Bay; had between 12 and 68 pairs each, and a total of 261 pairs, or 50% of the statewide population. The remaining eight marshes had between one and nine pairs, representing 7.6% percent of the state population.

## PROJECT LOCATION

The Alvarado Project site is located in the San Diego River Valley in the City of San Diego, California (Figure 1). The project alignment is located north of Interstate (I)-8 within Mission Valley, between I-805, running west for approximately 8.5 miles (13.7 kilometers) along the San Diego River to just east of West Mission Bay Drive. Specifically, the Alvarado Project is located within Township 16 South, Ranges and 3West, and an unnumbered section of the U.S. Geological Survey La Jolla, CA 7.5-minute quadrangle.

## PROJECT SITE DESCRIPTION

The survey area for the Alvarado Project in this reach of the San Diego River is a mosaic of open water, emergent freshwater marsh, southern willow riparian woodland, and coastal salt marsh. Survey Area 1 is the most upstream of three survey areas for the LFRR. The upstream terminus contains the western edge of the First San Diego River Improvement Project (FSDRP), characterized by open water, emergent freshwater marsh at the water’s edge with islands and embankments of southern willow riparian woodland of several species, and continues downstream for approximately 3,400 feet (1,000 meters) to Fashion Valley Road. A high degree of urbanization is present on either side of Survey Area 1.

Survey Area 2 is a five hundred foot (157 meter) patch of southern willow riparian upstream and downstream of Morena Boulevard. Most of this area is a Caltrans mitigation site and is a lush willow woodland with small patches of coastal freshwater marsh embedded. A bicycle path is present on the south side of Survey Area 2 and there are several foot paths present.

The downstream terminus, Survey Area 3 is 1,375 feet (419 meters) of high coastal salt marsh characterized by spiny rush, alkali heath (*Frankenia salina*), and pickleweed (*Salicornia* sp). This area transitions into low coastal saltmarsh characterized by chordgrass in the extreme west end of the survey area, and is contiguous with a lush cordgrass community to the west. The San Diego River proper forms the southern border of Survey Area 3 within the Flood Control Channel (FCC). Both sides of the River are rock riprap in this area. Elevation of the three survey areas ranges from approximately zero to 30 feet (10 meters) above mean sea level.



## METHODS

Six focused LFRR survey events were conducted at least five days apart over the Alvarado Project site between May 3<sup>rd</sup> and May 29<sup>th</sup>, 2018. Dawn surveys were conducted on May 16<sup>th</sup> and May 29<sup>th</sup>. Dusk surveys were conducted on May 3<sup>rd</sup>, May 7<sup>th</sup>, May 11<sup>th</sup>, and May 21<sup>st</sup>. Each survey lasted a little more than four hours. The surveys were conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009), only on a compressed schedule to complete the survey in May. A summary of the environmental conditions on the six survey dates is provided in Table 1 below.

**Table 1. Summary of Weather Conditions During Six Light-footed Ridgway's Rail Surveys for the KJC-29 Alvarado Extension Project Site, City of San Diego, County of San Diego, California, 2018.**

Survey #	Date	Surveyor (Species)*	Time	Weather Conditions
1	05/03/2018	JK (LFRR)	1600-2010	100% overcast, 74-66°F, wind 3-5 mph
2	05/07/2018	JK (LFRR)	1600-2000	70% overcast, 72-66°F, wind 5-7 mph
3	05/11/2018	JK, (LFRR)	1555-2010	20% overcast, 65-63°F, wind 3-5 mph
4	05/16/2018	JK (LFRR)	0605-1020	100% overcast, 62-66°F, wind 1-3 mph
5	05/21/2018	JK (LFRR)	1550-2005	20% overcast, 72-67°F, wind 7-10 mph
6	05/29/2018	JK (LFRR)	0610-1020	100% overcast, 65-68°F, wind 5-7 mph

\* JK-John Konecny; LFRR-Light-footed Ridgway's Rail

The surveys were conducted by walking along the pedestrian path along the project site boundary and stopping at areas where there was appropriate habitat and listening for vocalizing LFRR's. If rails were not detected passively, a digital call-prompt of the light-footed clapper rail "dueting" was played with an iPod and amplified speakers at 30-second intervals. A response was listened for approximately ten minutes before proceeding to the next survey station.

## RESULTS and DISCUSSION

No LFRR were detected during the six focused surveys in the three Alvarado Project survey areas in 2018. Since 2000, the LFRR population in the San Diego River has ranged from three or four pairs present in 2000 and 2001, to 20 pairs present in 2016, all of which were downstream of I-5 (Zemba *et al* 2017). Pockets of appropriate LFRR habitat exists in Survey Areas 1 and 2. There have been several reports of LFRR in FSDRP over the last several years, none of which been verified by the CRST, and none have been included in annual reports to the State. Survey Area 2 has minimal LFRR habitat at this time. LFRR have been documented as far upstream as Lake Kumeyaay, approximately 12 miles (19 kilometers) upstream. The habitat present in Survey Areas 1 and 2 may function as important dispersal corridors for LFRR's breeding west of I-5. The status of the LFRR between I-5 and the upper San Diego River is poorly understood at this time.

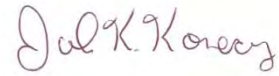
LFRR's have been present in the San Diego River west of I-5 since the state-wide census was initiated in 1980, with one pair present in 1980 and 20 pairs present in 2016 (Zemba *et al* 2017). The chordgrass habitat is lush and the western portion is tidally influenced, making it ideal habitat for the LFRR. No LFRR were detected in Survey Area 3 in the 2018 survey. This may be a function of the lateness in the breeding season the survey took place in. The habitat present in this area is, for the most part, the shorter high saltmarsh and lacks the cordgrass present immediately downstream. Three to four pairs of LFRR were heard "clapping" in the chordgrass just west of the downstream boundary of Survey Area 3. LFRR may use this upper saltmarsh of Survey Area 3 to forage in or disperse through.



## **CERTIFICATION**

I certify that the information in this survey report and attached exhibits fully and accurately represent my work. The results of focused surveys for listed species are typically considered valid for one year by the USFWS and CDFW. If you have any questions or require additional information, please call me at (760) 390-8959.

Sincerely,



John K. Konecny  
Wildlife Biologist  
TE837308-6



**REFERENCES CITED**

- Chesser R.T., Richard C. Banks, Carla Cicero, Jon L. Dunn, Andrew W. Kratter, Irby J. Lovette, Adolfo G. Navarro-Sigüenza, Pamela C. Rasmussen, J. V. Remsen, Jr., James D. Rising, Douglas F. Stotz, and Kevin Winker (2014) Fifty-Fifth Supplement to the American Ornithologists' Union *Check-list of North American Birds*. The Auk: October 2014, Vol. 131, No. 4, pp. CSi-CSxv.
- Clapper Rail Study Team. 2009. Survey Guidelines to Determine Presence/Absence of the Light-footed Clapper Rail in Southern California; Recommendations of the Clapper Rail Study Team (John Konecny, Richard Zembal, Susan Hoffman). Draft Recommendations Provided to the Fish and Wildlife Service. 2pp.
- Eddleman, W.R., and C.J. Conway. 1998. Clapper Rail (*Rallus longirostris*). In *The Birds of North America*, No.340 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA. 32 pp.
- Grinnell, J., and A.H. Miller. 1944. *The Distribution of the Birds of California*. Cooper Ornithological Club. Berkeley, California.
- Marschalek, D.A. 2011. California Breeding Survey, 2010 Season. Report to California Department of Fish and Game. 72pp.
- U.S. Fish and Wildlife Service. 1994. Light-footed Clapper Rail. Unpublished two-page pamphlet, prepared by R. Zembal.
- VanRossen, A.J. 1947. A Synopsis of the Savannah Sparrows of Northwestern Mexico. *Condor* 49: 97 – 107.
- Wiley, James W., and Richard Zembal. 1989. Concern Grows for Light-footed Clapper Rail. *Endangered Species Tech. Bull.* Vol. XIV, No. 3, pp. 6-7.
- Zembal, R., S. Hoffman and J. Konecny. 2017. Status and Distribution of the Light-footed Clapper Rail in California, 2017 Season. Report to California Department of Fish and Game, for the Clapper Rail Recovery Fund. 20pp.
- Zembal, R. and S. Hoffman. 2010. A Survey of the Belding's Savanna Sparrow in California, 2010 Season. Report to California Department of Fish and Game, for the Clapper Rail Recovery Fund. 15pp.
- Zembal, R. and B. W. Massey. 1986. Seasonality of Vocalizations by Light-footed Clapper Rails. *J. Field Ornithol.*, 58(1):41-48.





**Figure 1.** Location of the Light-footed Ridgway's Rail Survey Area (survey area outlined in red) of the KJC-29 Alvarado Extension Project, City of San Diego, San Diego County, California, 2018.



## Appendix D

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### Wetland Delineation Forms



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 3  
 Investigator(s): W.L.Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 1%  
 Subregion (LRR): C: California mediterranean Lat: 32.7677 Long: -117.1621 Datum: NAD83  
 Soil Map Unit Name: TuB: Tujunga sand, 0 to 5% slopes 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="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: SP is located in SR 163 r-o-w, which is a series of bridges at this location. SP is between bridge spans.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>15'x60'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'x30'</u>)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>r=5'</u>)</b> 1. <u>Stipa miliacea</u> <u>1</u> <u>no</u> <u>UPL</u> 2. <u>Oxalis pes-caprae</u> <u>5</u> <u>no</u> <u>UPL</u> 3. <u>Glebionis coronaria</u> <u>30</u> <u>yes</u> <u>UPL</u> 4. <u>Plantago lanceolata</u> <u>45</u> <u>yes</u> <u>FAC</u> 5. <u>Malva parviflora</u> <u>5</u> <u>no</u> <u>UPL</u> 6. <u>Galium aparine</u> <u>10</u> <u>no</u> <u>FACU</u> 7. <u>Medicago polymorpha</u> <u>1</u> <u>no</u> <u>FACU</u> 8. _____ <u>45%</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>15'x20'</u>)</b> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
Remarks: disturbed land				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				



# SOIL

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 2/2	100					SiL	
6-10	10YR 3/3	100					L	
10-20	10YR 3/3	39	7.5YR 3/6	1	C	M	SaL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histic Sol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes ☒ No ☐

Remarks:

Insufficient redox to qualify as having hydric soil indicators.

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☐ No ☒

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

Remarks:

FAC-neutral Test; W:U=0:1

Insufficient wetland hydrology indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 4  
 Investigator(s): W.L. Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 2%  
 Subregion (LRR): C: California mediterranean Lat: 32.7671 Long: -117.1634 Datum: NAD83  
 Soil Map Unit Name: TuB: Tujunga sand, 0 to 5% slopes 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="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: SP is located in an open area dominated by upland species and next to riparian vegetation.	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: <u>r=30'</u> ) 1. _____ Absolute % Cover _____ Dominant Species? _____ Indicator Status _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover <b>Sapling/Shrub Stratum</b> (Plot size: <u>r=15'</u> ) 1. <u>Baccharis pilularis</u> 2 no UPL 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover <b>Herb Stratum</b> (Plot size: <u>r=5'</u> ) 1. <u>Stipa miliacea</u> 1 no UPL 2. <u>Bromus diandrus</u> 80 yes UPL 3. <u>Glebionis coronaria</u> 5 no UPL 4. <u>Medicago polymorpha</u> 1 no FACU 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover <b>Woody Vine Stratum</b> (Plot size: <u>r=10'</u> ) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>2%</u> % Cover of Biotic Crust <u>0</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B) <b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ <b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

Non-native grassland.  
 Platanus racemosa canopy overhangs western edge of tree plot; tree rooted outside plot.



# SOIL

Sampling Point: 4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2.5/2	100					SiL	
5-9	10YR 3/3	100					SaL	
9-16	10YR 3/2	98	7.5YR 4/6	2	C	M	SaL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

### Restrictive Layer (if present):

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

Insufficient redox for F6.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

### Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

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

Remarks:

FAC-neutral Test; W:U=0:1  
Insufficient wetland hydrology indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 5  
 Investigator(s): W.L. Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 3%  
 Subregion (LRR): C: California mediterranean Lat: 32.7671 Long: -117.1636 Datum: NAD83  
 Soil Map Unit Name: TuB: Tujunga sand, 0 to 5% slopes 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="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: SP is located within riparian tree canopy and their trunks.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>r=30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	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%</u> (A/B)
1. <u>Platanus racemosa</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Populus fremontii</u>	<u>22</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Acacia longiflora</u>	<u>10</u>	<u>no</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
<u>82%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>r=15'</u> )				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>r=5'</u> )				
1. <u>Stipa miliacea</u>	<u>2</u>	<u>no</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Bromus diandrus</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
3. <u>Glebionis coronaria</u>	<u>10</u>	<u>no</u>	<u>UPL</u>	
4. <u>Sonchus oleraceus</u>	<u>1</u>	<u>no</u>	<u>UPL</u>	
5. <u>Oxalis pes-caprae</u>	<u>50</u>	<u>yes</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>83%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>r=10'</u> )				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>5%</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

Riparian overstory with an upland understory.



# SOIL

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 2.5/2	100					SaL	
7-16	10YR 3/2	98	7.5YR 4/6	2	C	M	SaL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No ☒

Remarks:

Insufficient redox for F6.

# HYDROLOGY

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

**Secondary Indicators (2 or more required)**

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No ☒

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

Remarks:

FAC-neutral Test; W:U=0:2

Insufficient wetland hydrology indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 6  
 Investigator(s): W.L. Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Streambank Local relief (concave, convex, none): none Slope (%): 7-10%  
 Subregion (LRR): C: California mediterranean Lat: 32.7656 Long: -117.1679 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="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: SP is located on upper streambank between San Diego River low-flow channel and upper terrace.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'x60'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Salix gooddingii</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>30x30</u>)</b> 1. <u>Schinus terebinthifolius</u> <u>2</u> <u>no</u> <u>FAC</u>				
2. _____				
3. _____				
4. _____				
<u>2%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Herb Stratum (Plot size: <u>r=5'</u>)</b> 1. <u>Stipa miliacea</u> <u>40</u> <u>yes</u> <u>UPL</u>				
2. <u>Brassica nigra</u> <u>15</u> <u>yes</u> <u>UPL</u>				
3. <u>Glebionis coronaria</u> <u>1</u> <u>no</u> <u>UPL</u>				
4. <u>Sonchus oleraceous</u> <u>1</u> <u>no</u> <u>UPL</u>				
5. <u>Ricinus communis</u> <u>5</u> <u>no</u> <u>FACU</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. <u>Cynodon dactylon</u> <u>1</u> <u>no</u> <u>FACU</u>				
7. _____				
8. _____				
<u>63%</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>r=10'</u>)</b> 1. _____ 2. _____ <u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
% Bare Ground in Herb Stratum <u>30%</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

Riparian overstory with an upland understory.



# SOIL

Sampling Point: 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-9	10YR 2/1	100					L	
9-19	10YR 2.5/2	100					SaL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No ☒

Remarks:

No hydric soil indicators.

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No ☒

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

Remarks:

FAC-neutral Test; W:U=1:2  
Insufficient wetland hydrology indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 7  
 Investigator(s): W.L. Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Streambank Local relief (concave, convex, none): none Slope (%): 5%  
 Subregion (LRR): C: California mediterranean Lat: 32.7652 Long: -117.1691 Datum: NAD83  
 Soil Map Unit Name: TuB: Tujunga sand, 0 to 5% slopes 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="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: SP is located along a tributary to the San Diego River. Hydrology source is a culvert outlet. Wetland WUS	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20x60</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>15</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30%</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20'x30'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>r=5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Stipa miliacea</u>	<u>1</u>	<u>no</u>	<u>UPL</u>	
2. <u>Urtica urens</u>	<u>1</u>	<u>no</u>	<u>UPL</u>	
3. <u>Helminthotheca echioides</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	
4. <u>Populus fremontii</u> (seedlings)	<u>1</u>	<u>no</u>	<u>FAC</u>	
<u>4%</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>r=10'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>75%</u> % Cover of Biotic Crust <u>0</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks:

Shrubby willows present.



## SOIL

Sampling Point: 7

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
FAC-neutral Test; W:U=1:0		



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alvarado 2nd Pipeline Extension Project City/County: San Diego/San Diego Sampling Date: 25 Mar 2019  
 Applicant/Owner: Kennedy/Jenks Consultants, Inc./City of San Diego (KJC-29) State: CA Sampling Point: 8  
 Investigator(s): W.L. Sward, Erica Harris Section, Township, Range: Unsectioned, T 16S, R 3W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 2-3%  
 Subregion (LRR): C: California mediterranean Lat: 32.7652 Long: -117.1689 Datum: NAD83  
 Soil Map Unit Name: TuB: Tujunga sand, 0 to 5% slopes 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="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: SP is located just south of a large eucalyptus stump. SP is located in an upland.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>40x60</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>r=15</u> ) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ <u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<b>Herb Stratum</b> (Plot size: <u>r=5'</u> ) 1. <u>Cynodon dactylon</u> <u>5</u> <u>yes</u> <u>UPL</u> 2. <u>Urtica urens</u> <u>1</u> <u>no</u> <u>UPL</u> 3. <u>Cotula australis</u> <u>3</u> <u>yes</u> <u>FAC</u> 4. <u>Populus fremontii</u> (seedlings) <u>1</u> <u>no</u> <u>FAC</u> 5. <u>Sisymbrium irio</u> <u>1</u> <u>no</u> <u>UPL</u> 6. <u>Erigeron canadensis</u> <u>1</u> <u>no</u> <u>FACU</u> 7. <u>Matricaria discoidea</u> <u>1</u> <u>no</u> <u>FACU</u> 8. <u>Medicago polymorpha</u> <u>1</u> <u>no</u> <u>FACU</u> <u>14%</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>r=10'</u> ) 1. _____ 2. _____ <u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>85%</u> % Cover of Biotic Crust <u>0</u>				
Remarks: Disturbance: Area currently undergoing habitat restoration. All non-native perennial and woody species have been removed.				



# SOIL

Sampling Point: 8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/2	100					SaL	
5-18	10YR 2.5/2	100					SaL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No ☒

Remarks:

No hydric soil indicators.

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No ☒

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

Remarks:

FAC-neutral Test; W:U=0:1

No wetland hydrology indicators.



## Appendix E

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### Representative Site Photographs





Photo 1. Eastern portion of Friars Road, north of Mission Valley Mall, where the 48-inch water main will be constructed within existing road right-of-way. Looking east.



Photo 2. Middle portion of Friars Road, north of River Walk Country Club, where the 16-inch water main will be replaced within existing road right-of-way. Looking east.





Photo 3. Western portion of Friars Road to east of Morena Boulevard, where the 16-inch water main will be replaced, and the 24-inch water main will be constructed within the existing road right-of-way. Looking east.



Photo 4. Northern portion of Sea World Drive, north of Friars Road, where the 12-inch water main will be constructed within the existing road right-of-way. Looking northwest.





Photo 5. Southern portion of Sea World Drive, south of Friars Road, where the 24-inch and 12-inch water main will be constructed within the existing road right-of-way. Planted Torrey pines trees on south (left) side of road. Looking west.



Photo 6. Riverwalk Drive to the south of Fashion Valley Mall where the 48-inch water main will be constructed within the existing road right-of-way. Looking east.

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Photo 7. Laydown yard to the west of SR 163 in Fashion Valley Mall. Looking northeast.



Photo 8. Terminus of Hazard Center River where pedestrian sidewalk continues under SR 163 towards Fashion Valley Mall and the 48-inch water main will be constructed within disturbed and developed areas. San Diego River and riparian forest to south (left) will be avoided. Looking west.





Photo 9. Proposed laydown yard/staging area located north of Friars Road and San Diego River, just west of Morena Boulevard. Looking east.



Photo 10. Diegan coastal sage scrub dominated by bush sunflower located southwest of the Friars Road and Sea World Drive intersection, where the Pressure Regulating Station will be constructed. MHPA occurs to the south (left). Looking west.





Sampling Point 3. Non-native vegetation below SR 163 overpass to west of Hazard Center Drive, east of Fashion Valley mall, and north of San Diego River. Non-jurisdictional.



Sampling Point 4. Non-native grasses within upland habitat located to the west of SR 163, south of Riverwalk Drive, and north of San Diego River. Non-jurisdictional.





Sampling Point 5. Annual non-native vegetation beneath canopy of western sycamore and willows to the west of SR 163, south of Riverwalk Drive, and north of San Diego River. CDFW-riparian habitat and City ESL wetland.



Sampling Point 6. Disturbed habitat located west of SR 163, south of Riverwalk Drive, and north of San Diego. Non-jurisdictional.





Sampling Point 7. Riparian forest located along the San Diego River where an existing culvert discharges into the river to the south of Riverwalk Drive and east of Fashion Valley Drive. Wetland waters of the U.S./State. CDFW-jurisdictional streambed and riparian habitat. City ESL Wetlands.



Sampling Point 8. Disturbed habitat located west of SR 163, south of Riverwalk Drive, and north of San Diego River. Non-jurisdictional.

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## Appendix F

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### Federal Jurisdictional Information



## Appendix F Federal Jurisdictional Information

# WETLANDS AND “WATERS OF THE U.S.” DEFINITIONS

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### WETLANDS

The U.S. Army Corps of Engineers (USACE; 33 CFR 328.3) and the Environmental Protection Agency (EPA; 40 CFR 230.3) jointly define wetlands as “[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Environmental Laboratory 1987).

### WATERS OF THE U.S.

The official definition of “Waters of the U.S.” and their limits of jurisdiction (as they may apply) are defined by the USACE’ Regulatory Program Regulations (33 CFR 328.3, paragraphs [a] 1-3 and [e], and Section 328.4, paragraphs [c] 1 and 2) as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters,
  - i. which are or could be used by interstate or foreign travelers for recreation or other purposes; or
  - ii. from which fish or shellfish are or could be taken and sold in interstate commerce; or
  - iii. which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands)...



## Appendix F (cont.) Federal Jurisdictional Information

### NON-TIDAL WATERS OF THE U.S.

The limits of jurisdiction in non-tidal waters: In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or when adjacent wetlands are present, the jurisdiction extends to the limit of the adjacent wetlands.

The term OHWM refers to that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation (scouring), the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Waters of the U.S. must exhibit an OHWM or other evidence of surface flow created by hydrologic physical changes. These physical changes include (Riley 2005):

- Natural line impressed on the bank
- Sediment sorting
- Shelving
- Leaf litter disturbed or washed away
- Changes in the character of soil
- Scour
- Destruction of terrestrial vegetation
- Deposition
- Presence of litter and debris
- Multiple observed flow events
- Wracking
- Bed and banks
- Vegetation matted down, bent, or absent
- Water staining
- Change in plant community

Further guidance on identifying the OHWM in the Arid Southwest (Lichvar and McColley 2008). This publication provided geomorphic and vegetation OHWM indicators specific to the Arid Southwest.

Jurisdictional areas also must be connected to Waters of the U.S. (Guzy and Anderson 2001; U.S. Supreme Court 2001).

As a consequence of the U.S. Supreme Court decision in *Rapanos v. United States*, a memorandum was developed regarding Clean Water Act jurisdiction (Grumbles and Woodley 2007). The memorandum states that the EPA and the USACE will assert jurisdiction over traditional navigable waters (TNW), wetlands adjacent to TNW, tributaries to TNWs that are a relatively permanent water body (RPW), and wetlands adjacent to TNW. An RPW has year-round flow or a continuous seasonal flow (i.e., typically for three months or longer). Jurisdiction over other waters (i.e., non TNW and RPW) will be based on a fact-specific analysis to determine if they have a significant nexus to a TNW.

Pursuant to the USACE Instructional Guidebook (USACE and EPA 2007), the significant nexus evaluation will cover the subject reach of the stream (upstream and downstream) as well as its adjacent wetlands (Illustrations 2 through 6, USACE and EPA 2007). The evaluation will include the flow characteristics,



## Appendix F (cont.) Federal Jurisdictional Information

annual precipitation, ability to provide habitat for aquatic species, ability to retain floodwaters and filter pollutants, and proximity of the subject reach to a TNW, drainage area, and the watershed.

### WETLAND CRITERIA

Wetland boundaries are determined using three mandatory criteria (hydrophytic vegetation, wetland hydrology, and hydric soil) established for wetland delineations and described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Following is a brief discussion of the three criteria and how they are evaluated.

### Vegetation

“Hydrophytic vegetation is defined herein as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present” (Environmental Laboratory 1987).

The wetland indicator status (obligate upland, facultative upland, facultative, facultative wetland, obligate wetland, or no indicator status) of the dominant plant species of all vegetative layers is determined. Species considered to be hydrophytic include the classifications of facultative, facultative wetland, and obligate wetland as defined in the current list of wetland plants of the Arid Southwest (Lichvar, et al. 2016; Table A-1). The percent of dominant wetland plant species is calculated. The hydrophytic vegetation criterion is considered to be met if it meets the “Dominance Test,” “Prevalence Index,” or the vegetation has morphological adaptations for prolonged inundation.

**Table A-1  
DEFINITIONS OF PLANT INDICATOR CATEGORIES**

<b>Indicator Categories</b>	<b>Abbreviation</b>	<b>Qualitative Description</b>
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands but may occur in wetlands
Upland	UPL	Almost never occur in wetlands

### Hydrology

“The term ‘wetland hydrology’ encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic reducing conditions, respectively” (Environmental Laboratory 1987).



## Appendix F (cont.) Federal Jurisdictional Information

Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year (approximately 18 days for most of low-lying southern California). Hydrology criteria are evaluated based on the characteristics listed below (USACE 2008). Where positive indicators of wetland hydrology are present, the limit of the OHWM (or the limit of adjacent wetlands) is noted and mapped. Evidence of wetland hydrology is met by the presence of a single primary indicator or two secondary indicators.

### Primary

- surface water (A1)
- high water table (A2)
- saturation (A3)
- water marks (B1; non-riverine)
- sediment deposits (B2; non-riverine)
- drift deposits (B3; non-riverine)
- surface soil cracks (B6)
- inundation visible on aerial imagery (B7)
- water-stained leaves (B9)
- salt crust (B11)
- biotic crust (B12)
- aquatic invertebrates (B13)
- hydrogen sulfide odor (C1)
- oxidized rhizospheres along living roots (C3)
- presence of reduced iron (C4)
- recent iron reduction in tilled soils (C6)
- thin muck surface (C7)

### Secondary

- watermarks (B1; riverine)
- sediment deposits (B2; riverine)
- drift deposits (B3; riverine)
- drainage patterns (B10)
- dry-season water table (C2)
- crayfish burrows (C8)
- saturation visible on aerial imagery (C9)
- shallow aquitard (D3)
- FAC-neutral test (D5)

In the absence of all other hydrologic indicators and in the absence of significant modifications of an area's hydrologic function, positive hydric soil characteristics are assumed to indicate positive wetland hydrology. This assumption applies unless the site visit was done during the wet season of a normal or wetter-than-normal year. Under those circumstances, wetland hydrology would not be present.

### Soils

The USACE and EPA, in their administration of Section 404 of the Clean Water Act, rely on the National Technical Committee for Hydric Soils (NTCHS) for a definition of hydric soils. According to the NTCHS, "A



## Appendix F (cont.) Federal Jurisdictional Information

hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” (Federal Register 1994)

Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation. Soil matrix and mottle colors are identified at each sampling plot using a Munsell soil color chart (Kollmorgen 1994). Generally, an 18-inch or deeper pit is excavated with a shovel at each sampling plot unless refusal occurs above 18 inches.

Soils in each area are closely examined for hydric soil indicators, including the characteristics listed below. Hydric soil indicators are presented in three groups. Indicators for “All Soils” (A) are used in any soil regardless of texture, indicators for “Sandy Soils” (S) are used in soil layers with USDA textures of loamy fine sand or coarser, and indicators for “Loamy and Clayey Soils” (F) are used with soil layers of loamy very fine sand and finer (USACE 2008 and Vasiliadis et al. 2017).

- |                                     |                              |
|-------------------------------------|------------------------------|
| • histosols (A1)                    | • stripped matrix (S6)       |
| • histic epipedons (A2)             | • loamy mucky mineral (F1)   |
| • black histic (A3)                 | • loamy gleyed matrix (F2)   |
| • hydrogen sulfide (A4)             | • depleted matrix (F3)       |
| • stratified layers (A5)            | • redox dark surface (F6)    |
| • 1 cm muck (A9)                    | • depleted dark surface (F7) |
| • depleted below dark surface (A11) | • redox depressions (F8)     |
| • thick dark surface (A12)          | • vernal pools (F9)          |
| • sandy mucky mineral (S1)          | • 2 cm muck (A10)            |
| • sandy gleyed matrix (S4)          | • reduced vertic (F18)       |
| • sandy redox (S5)                  | • red parent material (TF2)  |

Hydric soils may be assumed to be present in plant communities that have complete dominance of obligate or facultative wetland species. In some cases, there is only inundation during the growing season and determination must be made by direct observation during that season, recorded hydrologic data, testimony of reliable persons, and/or indication on aerial photographs.

### NON-WETLAND WATERS OF THE U.S.

The non-wetland Waters of the U.S. designation is met when an area has periodic surface flows but lacks sufficient indicators to meet the hydrophytic vegetation and/or hydric soils criteria. For purposes of delineation and jurisdictional designation, the non-wetland Waters of the U.S. boundary in non-tidal areas is the OHWM as described in the Section 404 regulations (33 CFR Part 328).



## **Appendix F (cont.)**

### **Federal Jurisdictional Information**

#### **U.S. Geological Survey Mapping**

The U.S. Geological Survey (USGS) quad maps are one of the resources used to aid in the identification and mapping of jurisdictional areas. Their primary uses include understanding the subregional landscape position of a site, major topographical features, and a project's position in the watershed.

In our experience, the designation of watercourse as a blue-line stream (intermittent or perennial) on USGS maps has been unreliable and typically overstates the hydrology of most streams. This has also been the experience of others, including the late Dr. Luna Leopold. Dr. Leopold was a hydrologist with USGS from 1952 to 1972, professor in the Department of Geology and Geophysics and Department of Landscape Architecture, University of California, Berkeley from 1972 to 1986, and Professor Emeritus from 1987 until his death in 2006. In regard to USGS maps, Dr. Leopold wrote, "I tried to devise a way of defining hydrologic criteria for the channels shown on topographic maps and developed some promising procedures. None were acceptable to the topographers, however. I learned that the blue lines on a map are drawn by non-professional, low-salaried personnel. In actual fact, they are drawn to fit a rather personalized aesthetic" (Leopold 1994).



## Appendix F (cont.) Federal Jurisdictional Information

# REFERENCES

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- Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Technical report Y-87-1. Vicksburg (MS): U.S. Army Engineer Waterways Experiment Station. 100 p. with Appendices.
- Federal Register. 1994. Changes in hydric soils of the United States. July 13.
- Grumbles, B.H. and J.P. Woodley, Jr. 2007. Memorandum: Clean Water Act jurisdiction following the U.S. Supreme Court's decision in Rapanos v. United States & Carabell v. United States. June 5. 12 p.
- Guzy, G.S. and R.M. Anderson. 2001. Memorandum: Supreme Court Ruling concerning CWA jurisdiction over isolated waters. U.S. Environmental Protection Agency and U.S. Army Corps of Engineers.
- Kollmorgen Instruments Corporation. 1994. Munsell Soil Color Charts. Rev. ed. Baltimore (MD).
- Leopold, L.B. 1994. A View of the river. Cambridge (MA): Harvard University Press. 298 p.
- Lichvar, R., D. Banks, W. Kirchner, and N. Melvin. 2016. The National Wetland Plant List: Update of Wetland Ratings. Phytoneuron 2016-30: 1 – 17. 28 April. Available from: [http://wetland-plants.usace.army.mil/nwpl\\_static/index.html](http://wetland-plants.usace.army.mil/nwpl_static/index.html)
- Lichvar, R. and S. McColley. 2008. A field guide to the identification of the ordinary high water mark(OHWM) in the arid west region of the western United States, A delineation manual. August. 68 p. plus Appendices.
- Riley, D.T. 2005. Ordinary high water mark. RGL No. 05-05. 4 p.
- U.S. Army Corps of Engineers (USACE). 2008. Regional supplement to the Corps of Engineers wetland delineation manual: arid west region. 2<sup>nd</sup> ver. Eds. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg (MS): U.S. Army Engineer Research and Development Center. September.
- U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA). 2007. U.S. Army Corps of Engineers jurisdictional determination form instructional guidebook. U.S. Army Corps of Engineers. May 30. 60 p.
- U.S. Supreme Court. 2001. Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (SWANCC). January 9.
- Vasilias, L., G. Hurt, J Berkowitz, ed. 2017. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, v 8.1. Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils. 32 pp, plus appendices.



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## Appendix G

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### State Jurisdictional Information



## Appendix G State Jurisdictional Information

# CALIFORNIA FISH AND WILDLIFE REGULATIONS

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The California Department of Fish and Wildlife (CDFW) regulates alterations or impacts to streambeds or lakes (wetlands) under Fish and Game Code Sections 1600 through 1616 for any private, state, or local government or public utility-initiated projects. The Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, and streams as well as lakes in the state.

In order to notify the CDFW, a person, state, or local governmental agency or public utility must submit a complete notification package and fee to the CDFW regional office that serves the county where the activity will take place (CDFW 2016). A fee schedule is included in the notification package materials. Under the Permit Streamlining Act (Government Code Sections 65920 et seq.), the CDFW has 30 days to determine whether the package is complete. If the requestor is not notified within 30 days, the application is automatically deemed to be complete.

Once the notification package is deemed to be complete, the CDFW will determine whether the applicant will need a Lake or Streambed Alteration Agreement (SAA) for the activity, which will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an SAA is required, the CDFW will conduct an on-site inspection, if necessary, and submit a draft SAA that will include measures to protect fish and wildlife resources while conducting the project. If the applicant is applying for a regular SAA (less than five years), the CDFW will submit a draft SAA within 60 calendar days after notification is deemed complete. The 60-day time period does not apply to notifications for long-term SAAs (greater than five years).

After the applicant receives the SAA, the applicant has 30 calendar days to notify the CDFW whether the measures in the draft SAA are acceptable. If the applicant agrees with the measures included in the draft SAA, the applicant will need to sign the SAA and submit it to the CDFW. If the applicant disagrees with any measures in the draft SAA, the applicant must notify the CDFW in writing and specify the measures that are not acceptable. Upon written request, the CDFW will meet with the applicant within 14 calendar days of receiving the request to resolve the disagreement. If the applicant fails to respond in writing within 90 calendar days of receiving the draft SAA, the CDFW may withdraw that SAA. The time periods described above may be extended at any time by mutual agreement.

After the CDFW receives the signed draft SAA, the CDFW will make it final by signing the SAA; however, the CDFW will not sign the SAA until it both receives the notification fee and ensures that the SAA complies with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). After the applicant receives the final agreement, the applicant may begin the project, provided that the applicant has obtained any other necessary federal, state, and/or local authorizations.



**Appendix G (cont.)**  
**State Jurisdictional Information**

# **WATER RESOURCE CONTROL BOARD REGULATIONS**

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## **SECTION 401 WATER QUALITY CERTIFICATION**

Whenever a project requires a federal Clean Water Act (CWA) Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must first obtain a CWA Section 401 Water Quality Certification. The Regional Water Quality Control Board (RWQCB) administers the 401 Certification program. Federal CWA Section 401 requires that every applicant for a Section 404 permit must request a Water Quality Certification that the proposed activity will not violate state and federal water quality standards.

## **PORTER-COLOGNE WATER QUALITY CONTROL ACT**

The State Water Resource Control Board (SWRCB) and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code (SWRCB 2017). The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.



**Appendix G (cont.)**  
**State Jurisdictional Information**

## REFERENCES

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California Department of Fish and Wildlife (CDFW). 2016. Notification of Lake or Streambed Alteration, Notification Instructions and Process.

Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3773&inline>

State Water Resources Control Board. 2017. Laws and Regulations. Sacramento, CA: State Water Resources Control Board, California Environmental Protection Agency. Available from: [http://www.waterboards.ca.gov/laws\\_regulations/](http://www.waterboards.ca.gov/laws_regulations/)



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## Appendix H

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### Plant Species Observed



## Appendix H

### Plant Species Observed

Family	Scientific Name*†	Common Name
Adoxaceae	<i>Sambucus nigra</i>	blue elderberry
Aizoaceae	<i>Carpobrotus edulis</i> *	hottentot-fig
	<i>Mesembryanthemum crystallinum</i> *	crystalline iceplant
	<i>Mesembryanthemum nodiflorum</i> *	slender-leaved iceplant
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac
	<i>Rhus integrifolia</i>	lemonadeberry
	<i>Schinus molle</i> *	Peruvian pepper tree
	<i>Schinus terebinthifolius</i> *	Brazilian pepper tree
	<i>Toxicodendron diversilobum</i>	poison oak
Apiaceae	<i>Apium graveolens</i> *	celery
	<i>Conium maculatum</i> *	poison-hemlock
	<i>Foeniculum vulgare</i> *	fennel
Apocynaceae	<i>Vinca major</i> *	greater periwinkle
Arecaceae	<i>Phoenix canariensis</i> *	Canary Island date palm
	<i>Washingtonia robusta</i> *	Mexican fan palm
Asparagaceae	<i>Asparagus asparagoides</i> *	African asparagus fern
Asteraceae	<i>Amblyopappus pusillus</i>	dwarf coastweed
	<i>Ambrosia psilostachya</i>	western ragweed
	<i>Artemisia californica</i>	California sagebrush
	<i>Artemisia douglasiana</i>	mugwort
	<i>Artemisia dracunculus</i>	tarragon
	<i>Baccharis pilularis</i>	coyote brush
	<i>Baccharis salicifolia</i>	mule fat
	<i>Baccharis sarothroides</i>	broom baccharis
	<i>Bidens pilosa</i> *	common beggar's tick
	<i>Cotula australis</i> *	Australian brass buttons
	<i>Encelia californica</i>	California encelia
	<i>Erigeron canadensis</i>	horseweed
	<i>Erigeron sumatrensis</i> *	tropical horseweed
	<i>Glebionis coronaria</i> *	garland daisy
	<i>Hedypnois cretica</i> *	crete hedypnois
	<i>Helminthotheca echioides</i> *	bristly ox-tongue
	<i>Heterotheca grandiflora</i>	telegraph weed
	<i>Isocoma menziesii</i>	goldenbush
	<i>Lactuca serriola</i> *	wild lettuce
	<i>Matricaria matricarioides</i>	common pineapple-weed
	<i>Pluchea odorata</i>	salt marsh fleabane
	<i>Pseudognaphalium</i> sp.	everlasting
	<i>Senecio vulgaris</i> *	common groundsel



## Appendix H (cont.) Plant Species Observed

Family	Scientific Name*,†	Common Name
	<i>Silybum marianum</i> *	milk thistle
Asteraceae	<i>Sonchus asper</i> *	prickly sow thistle
	<i>Sonchus oleraceus</i> *	common sow thistle
	<i>Xanthium strumarium</i>	cocklebur
Bignoniaceae	<i>Catalpa speciosa</i> *	northern catalpa
Boraginaceae	<i>Heliotropium curassavicum</i>	salt heliotrope
Brassicaceae	<i>Brassica nigra</i> *	black mustard
	<i>Hirschfeldia incana</i> *	short-pod mustard
	<i>Lobularia maritima</i> *	sweet alyssum
	<i>Nasturtium officinale</i>	water cress
	<i>Raphanus sativus</i> *	wild radish
	<i>Sisymbrium irio</i> *	London rocket
	<i>Sisymbrium</i> sp.*	mustard
Cactaceae	<i>Opuntia littoralis</i>	coastal prickly pear
Capparaceae	<i>Peritoma arborea</i>	bladderpod
Chenopodiaceae	<i>Amaranthus albus</i> *	white tumbleweed
	<i>Atriplex semibaccata</i> *	Australian saltbush
	<i>Chenopodium murale</i> *	nettle-leaf goosefoot
	<i>Salicornia pacifica</i>	Pacific pickleweed
	<i>Salsola tragus</i> *	Russian thistle
Convolvulaceae	<i>Cuscuta californica</i>	dodder
Cyperaceae	<i>Bolboschoenus maritimus</i>	alkali bulrush
	<i>Carex</i> sp.	sedge
	<i>Cyperus eragrostis</i>	tall flatsedge
	<i>Cyperus</i> sp.	flatsedge
	<i>Schoenoplectus americanus</i>	three-square bulrush
	<i>Schoenoplectus</i> sp.	bulrush
Euphorbiaceae	<i>Euphorbia albomarginata</i>	rattlesnake weed
	<i>Euphorbia maculata</i> *	spotted spurge
	<i>Euphorbia peplus</i> *	petty spurge
	<i>Ricinus communis</i> *	castor bean
Fabaceae	<i>Acacia longifolia</i> *	golden wattle
	<i>Acacia</i> sp.*	acacia
	<i>Acmispon glaber</i>	deerweed
	<i>Medicago polymorpha</i> *	burclover
	<i>Melilotus indicus</i> *	Indian sweetclover
	<i>Melilotus</i> sp.*	sweetclover
Fagaceae	<i>Quercus agrifolia</i>	coast live oak
Frankeniaceae	<i>Frankenia salina</i>	alkali-heath



## Appendix H (cont.) Plant Species Observed

Family	Scientific Name <sup>*,†</sup>	Common Name
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree
	<i>Erodium moschatum</i> *	green-stem filaree
Geraniaceae	<i>Geranium dissectum</i> *	cutleaf geranium
Juncaceae	<i>Juncus acutus</i>	spiny rush
	<i>Juncus bufonius</i>	toad rush
Malvaceae	<i>Malacothamnus fasciculatus</i>	chaparral mallow
	<i>Malva parviflora</i> *	cheeseweed
Myrsinaceae	<i>Lysimachia arvensis</i> *	scarlet pimpernel
Myrtaceae	<i>Eucalyptus</i> sp.*	eucalyptus
Oleaceae	<i>Fraxinus uhdei</i> *	shamel ash
	<i>Olea europaea</i> *	olive
Onagraceae	<i>Oenothera elata</i>	evening primrose
Oxalidaceae	<i>Oxalis pes-caprae</i> *	Bermuda buttercup
Pinaceae	<i>Pinus halepensis</i> *	Aleppo pine
	<i>Pinus</i> sp.*	Pine
	<i>Pinus torreyana</i> ssp. <i>torreyana</i> †	Torrey pine
Plantaginaceae	<i>Plantago lanceolata</i> *	English plantain
	<i>Plantago major</i> *	common plantain
Platanaceae	<i>Platanus racemosa</i>	western sycamore
Plymbaginaceae	<i>Limonium perezii</i> *	Canarian sea lavender
Poaceae	<i>Arundo donax</i> *	giant reed
	<i>Avena</i> sp.*	oats
	<i>Brachypodium distachyon</i> *	purple false brome
	<i>Bromus diandrus</i> *	common ripgut grass
	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome
	<i>Cortaderia selloana</i> *	white pampasgrass
	<i>Cynodon dactylon</i> *	Bermuda grass
	<i>Distichlis spicata</i>	saltgrass
	<i>Elymus condensatus</i>	giant wild rye
	<i>Elymus triticoides</i>	beardless wild ryegrass
	<i>Festuca perennis</i> *	Italian ryegrass
	<i>Hordeum</i> sp.*	barley
	<i>Leptochloa fusca</i>	Mexican sprangle-top
	<i>Melinis repens</i> *	natal grass
	<i>Muhlenbergia rigens</i>	deergrass
	<i>Paspalum dilatatum</i> *	dallis grass
	<i>Pennisetum setaceum</i> *	purple fountain grass
	<i>Polypogon monspeliensis</i> *	annual beardgrass
	<i>Spartina foliosa</i>	California cordgrass



## Appendix H (cont.) Plant Species Observed

Family	Scientific Name <sup>*,†</sup>	Common Name
	<i>Stipa miliacea</i>	smilo grass
Polygonaceae	<i>Eriogonum fasciculatum</i>	buckwheat
	<i>Rumex</i> sp.*	dock
Portulacaceae	<i>Calandrinia maritima</i>	seaside calandrinia
Rosaceae	<i>Eriobotrya japonica</i> *	loquat
	<i>Heteromeles arbutifolia</i>	toyon
Rubiaceae	<i>Galium aparine</i>	goosegrass
Salicaceae	<i>Populus fremontii</i>	Fremont cottonwood
	<i>Salix exigua</i>	narrow-leaved willow
	<i>Salix gooddingii</i>	black willow
	<i>Salix laevigata</i>	red willow
	<i>Salix lasiolepis</i>	arroyo willow
Saururaceae	<i>Anemopsis californica</i>	yerba mansa
Scrophulariaceae	<i>Myoporum laetum</i> *	Ngaio tree
Simaroubaceae	<i>Ailanthus altissima</i> *	tree of heaven
Solanaceae	<i>Datura wrightii</i>	jimson weed
	<i>Nicotiana glauca</i> *	tree tobacco
	<i>Solanum</i> sp.*	nightshade
Tamaricaceae	<i>Tamarix ramosissima</i> *	saltcedar
	<i>Tamarix</i> sp.*	tamarisk
Tropaeolaceae	<i>Tropaeolum majus</i> *	nasturtium
Typhaceae	<i>Typha</i> sp.	cattail
Ulmaceae	<i>Ulmus parvifolia</i> *	Chinese elm
Urticaceae	<i>Urtica dioica</i>	stinging nettle
	<i>Urtica urens</i> *	dwarf nettle
Vitaceae	<i>Vitis californica</i>	California wild grape
	<i>Vitis girdiana</i>	desert wild grape

\* Non-native Species

† Special Status Species



## Appendix I

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Animal Species Observed  
or Otherwise Detected



## Appendix I

### Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	Family		
INVERTEBRATES			
Lepidoptera	Nymphalidae	<i>Nymphalis antiopa</i>	Mourning Cloak
	Papilionidae	<i>Papilio rutulus</i>	Western Tiger Swallowtail
	Pieridae	<i>Pieris rapae</i>	Cabbage White
		<i>Pontia protodice</i>	Checkered White
VERTEBRATES			
Reptiles			
Cryptodira	Emydidae	<i>Trachemys scripta elegans</i>	red-eared slider
Squamata	Phrynosomatidae	<i>Sceloporus occidentalis</i>	western fence lizard
		<i>Uta stansburiana</i>	common side-blotched lizard
Birds			
Accipitriformes	Accipitridae	<i>Accipiter cooperii</i> †	Cooper's Hawk
		<i>Buteo jamaicensis</i>	Red-tailed Hawk
		<i>Buteo lineatus</i>	Red-shouldered Hawk
Anseriformes	Anatidae	<i>Anas platyrhynchos</i>	Mallard
		<i>Mareca americana</i>	American Wigeon
		<i>Mareca strepera</i>	Gadwall
		<i>Oxyura jamaicensis</i>	Ruddy Duck
		<i>Spatula cyanoptera</i>	Cinnamon Teal
Apodiformes	Apodidae	<i>Aeronautes saxatalis</i>	White-throated Swift
		<i>Chaetura vauxi</i>	Vaux's Swift
	Trochilidae	<i>Archilochus alexandri</i>	Black-chinned Hummingbird
		<i>Calypte anna</i>	Anna's Hummingbird
		<i>Selasphorus sasin</i>	Allen's Hummingbird
		<i>Selasphorus</i> sp.	Allen's/Rufous Hummingbird
Charadriiformes	Laridae	<i>Larus occidentalis</i>	Western Gull
	Scolopacidae	<i>Actitis macularius</i>	Spotted Sandpiper
Columbiformes	Columbidae	<i>Columba livia</i>	Rock Pigeon
		<i>Zenaida macroura</i>	Mourning Dove
Coraciiformes	Alcedinidae	<i>Megasceryle alcyon</i>	Belted Kingfisher
Gruiformes	Rallidae	<i>Fulica americana</i>	American Coot
Passeriformes	Aegithalidae	<i>Psaltiriparus minimus</i>	Bushtit
	Cardinalidae	<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak
		<i>Piranga ludoviciana</i>	Western Tanager
	Corvidae	<i>Corvus brachyrhynchos</i>	American Crow
	Estrildidae	<i>Lonchura punctulata</i>	Scaly-breasted Munia
	Fringillidae	<i>Haemorhous mexicanus</i>	House Finch
		<i>Spinus psaltria</i>	Lesser Goldfinch



## Appendix I (cont.) Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	Family		
Birds			
Passeriformes	Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow
		<i>Petrochelidon pyrrhonota</i>	Cliff Swallow
		<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
	Icteria	<i>Icteria virens</i> †	Yellow-breasted Chat
	Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird
		<i>Icterus cucullatus</i>	Hooded Oriole
		<i>Molothrus ater</i>	Brown-headed Cowbird
		<i>Quiscalus mexicanus</i>	Great-tailed Grackle
	Mimidae	<i>Mimus polyglottos</i>	Northern Mockingbird
	Parulidae	<i>Cardellina pusilla</i>	Wilson's Warbler
		<i>Geothlypis trichas</i>	Common Yellowthroat
		<i>Oreothlypis celata</i>	Orange-crowned Warbler
		<i>Setophaga coronata</i>	Yellow-rumped Warbler
		<i>Setophaga occidentalis</i>	Hermit Warbler
		<i>Setophaga petechia</i> †	Yellow Warbler
		<i>Setophaga townsendi</i>	Townsend's Warbler
	Passerellidae	<i>Junco hyemalis</i>	Dark-eyed Junco
		<i>Melospiza melodia</i>	Song Sparrow
		<i>Melospiza crissalis</i>	California Towhee
		<i>Pipilo maculatus</i>	Spotted Towhee
		<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
	Passeridae	<i>Passer domesticus</i>	House Sparrow
	Poliophtilidae	<i>Poliophtila californica californica</i> †	Coastal California Gnatcatcher
	Sturnidae	<i>Sturnus vulgaris</i>	European Starling
	Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's Wren
		<i>Troglodytes aedon</i>	House Wren
	Turdidae	<i>Catharus guttatus</i>	Hermit Thrush
		<i>Catharus ustulatus</i>	Swainson's Thrush
		<i>Sialia mexicana</i>	Western Bluebird
		<i>Turdus migratorius</i>	American Robin
	Tyrannidae	<i>Contopus sordidulus</i>	Western Wood-Pewee
		<i>Empidonax difficilis</i>	Pacific-slope Flycatcher
		<i>Sayornis nigricans</i>	Black Phoebe
		<i>Tyrannus vociferans</i>	Cassin's Kingbird
	Vireonidae	<i>Vireo bellii pusillus</i> †	Least Bell's Vireo
		<i>Vireo gilvus</i>	Warbling Vireo
		<i>Vireo huttoni</i>	Hutton's Vireo



## Appendix I (cont.) Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	Family		
Birds			
Pelecaniformes	Ardeidae	<i>Ardea alba</i>	Great Egret
		<i>Ardea herodias</i>	Great Blue Heron
		<i>Butorides virescens</i>	Green Heron
		<i>Egretta thula</i>	Snowy Egret
Pelecaniformes	Ardeidae	<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron
	Pelecanidae	<i>Pelecanus occidentalis</i>	Brown Pelican
Piciformes	Picidae	<i>Dryobates nuttallii</i>	Nuttall's Woodpecker
		<i>Dryobates pubescens</i>	Downy Woodpecker
Psittaciformes	Psittacidae	<i>Amazona viridigenalis</i>	Red-crowned Parrot
Suliformes	Phalacrocoracidae	<i>Phalacrocorax auritus</i>	Double-crested Cormorant
Mammals			
Carnivora	Canidae	<i>Canis familiaris</i>	domestic dog
		<i>Canis latrans</i>	coyote
	Mephitidae	<i>Mephitis mephitis</i>	striped skunk
	Procyonidae	<i>Procyon lotor</i>	raccoon
Didelphimorphpia	Didelphidae	<i>Didelphis virginiana</i>	Virginia opossum
Lagomorpha	Leporidae	<i>Sylvilagus audubonii</i>	desert cottontail
Rodentia	Sciuridae	<i>Otospermophilus beecheyi</i>	California ground squirrel

† Special Status Species



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## Appendix J

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Special Status Plant Species  
Observed or with Potential to Occur



## Appendix J

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Red sand-verbena ( <i>Abronia maritima</i> )	--/-- CRPR 4.2	Perennial herb. Occurs in coastal areas of central and southern California; nearly extirpated in southern California. Grows in prostrate mats on well-developed beach dunes away from the heavy foot traffic of humans, which has severely degraded habitat on most southern California beaches. Elevations 0 to 330 feet. Flowers February to November.	<b>None.</b> Suitable sandy soils and beach habitat do not occur within the study area. Not observed during surveys, and there are no records of the species within the project vicinity. The nearest occurrence is approximately 1.25 miles from the site, along the water's edge.
San Diego thorn-mint ( <i>Acanthomintha ilicifolia</i> )	FT/SE CRPR 1B.1 MSCP NE MSCP Covered	Annual herb. Occurs within San Diego County and Baja California, Mexico. Found in grassy openings in the chaparral or sage scrub, or near vernal pools, with friable or broken clay soils. Elevations 33 to 3,150 feet. Flowers April to June.	<b>None.</b> Suitable clay soils do not occur within the study area. Not observed during surveys. A historic observation from 1894 occurs within the San Diego River east of the project, and a possibly extirpated record from 1936 occurs 0.8 miles south of the project. There are no other records of the species within the project vicinity.
Nuttall's lotus ( <i>Acmispon prostratus</i> )	--/-- CRPR 1B.1 MSCP Covered	Annual herb. Found in the coastal regions of southern California and Baja California. Habitats include coastal dunes, coastal scrub with sandy soils, and disturbed areas. Elevation ranges between 0 to 33 feet. Flowers March to June.	<b>High.</b> Suitable habitat occurs within the study area and recorded observations of the species are present within the study area. Particularly, the species has been observed near the Sea World Drive and Friars Road intersection within the previous years. However, the species was not observed during surveys, which were conducted during the flowering period.
California adolphia ( <i>Adolphia californica</i> )	--/-- CRPR 2B.1	Perennial shrub. Found in western San Diego County and northwestern Baja California, Mexico. Occurs on clay soils within sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Usually associated with xeric locales where shrub canopy reaches 4 or 5 feet. Elevations 33 to 2,430. Flowers December to May.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic record from 1922, approximately 2 miles southeast of the site.
Singlewhorl burrobrush ( <i>Ambrosia monogyra</i> )	--/-- CRPR 2B.2	Perennial shrub. Found on sandy soils within washes and dry riverbeds within chaparral communities. Elevations below 1,640 feet. Flowering September to November.	<b>Presumed Absent.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic record from 1902, within the San Diego River southeast of the project. This conspicuous shrub would most likely have been observed if present.



**Appendix J (cont.)**  
**Special Status Plant Species Observed or With Potential to Occur**

<b>Species</b>	<b>Status<sup>1</sup></b>	<b>Habitat Associations</b>	<b>Potential to Occur<sup>2</sup></b>
San Diego ambrosia ( <i>Ambrosia pumila</i> )	FE/--/NE CRPR 1B.1 MSCP Covered	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Elevations 164 to 1,969 feet. Flowers April to July.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrences are historic records from 1897 and 1936, within the San Diego River southeast of the project.
Aphanisma ( <i>Aphanisma blitoides</i> )	--/-- CRPR 1B.2 MSCP NE MSCP Covered	Annual herb. Occurs in sandy or gravelly soils within coastal dunes, coastal bluffs, coastal sage scrub. Elevations below 984 feet. Flowers February to June.	<b>Low.</b> Suitable habitat does not occur within the study area. Not observed during surveys, and there are no records of the species within the project vicinity. The nearest recorded occurrences are historic records from 1882 and 1935, approximately 3 miles from the site.
Del Mar manzanita ( <i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> )	FE/-- CRPR 1B.1 MSCP Covered	Perennial shrub. Found within Relatively open, coastal chaparral. At occasional inland sites it occurs in denser mixed chaparral vegetation. Elevations below 1,200 feet. Flowers December to June.	<b>Presumed Absent.</b> Suitable habitat does not occur within the project site. Conspicuous perennial shrub that would have been observed if present. No records of the species occur within the project vicinity. The nearest recorded occurrence is a historic record from 1891 over 3 miles from the site.
San Diego sagewort ( <i>Artemisia palmeri</i> )	--/-- CRPR 4.2	Perennial herb. Typically found along stream courses, often beneath riparian woodland, on sandy and mesic soils. May occur in coast live oak woodland, coastal sage scrub, and southern mixed chaparral. Elevations below 1,969 feet. Flowers June to October.	<b>High.</b> Suitable habitat occurs within the study area along the San Diego River, and the species is known to occur within the project vicinity.
Western spleenwort ( <i>Asplenium vespertinum</i> )	--/-- CRPR 4.2	Perennial rhizomatous herb. Occurs in chaparral, cismontane woodland, and coastal scrub along rocky bluffs. Elevations 590 to 3,280 feet. Flowers February to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the project is located outside the known elevation range of the species. The nearest recorded occurrence is a historic record from 1881, approximately 3 miles south of the project.
Coulter's saltbush ( <i>Atriplex coulteri</i> )	--/-- CRPR 1.B.2	Perennial herb. Occurs on alkaline or clay soils within coastal dunes, coastal bluffs, coastal sage scrub, and grasslands. Elevations below 1,510 feet. Flowers March to October.	<b>None.</b> Suitable clay soils do not occur within the study area. There are no records of the species within the project vicinity. The nearest occurrence is approximately 1.25 miles northeast of the project.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
South Coast saltscale ( <i>Atriplex pacifica</i> )	--/-- CRPR 1B.2	Annual herb. Found coastally on dunes and within playas in alkali sinks, sage scrub and wetland riparian communities. Elevations below 984 feet. Flowers March to October.	<b>Low.</b> Suitable habitat wetland habitats occur within the study area. However, the species was not observed during surveys, and there are no records of the species within the project vicinity. The nearest recorded occurrence is a historic record from 1938, approximately 3 miles south of the site.
San Diego County viguiera ( <i>Bahiopsis laciniata</i> )	--/-- CRPR 4.3	Perennial shrub. Occurs on a variety of soil types within coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Elevations 295 to 2,461 feet. Flowers February to August.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys, and the nearest recorded occurrences are north of Mission Valley and a historic occurrence in Mission Valley.
San Diego goldenstar ( <i>Bloomeria clevelandii</i> )	--/-- CRPR 1B.1 MSCP Covered	Perennial bulbiferous herb. Occurs in valley grasslands and coastal scrub, particularly near mima mound topography or in the vicinity of vernal pools, on clay soils. Elevations 164 to 1,526. Flowers April to May.	<b>None.</b> Suitable clay soils are absent from the study area. No records of the species are present within the project vicinity; the nearest recorded occurrence is from 1903 on the other side of the San Diego River.
Orcutt's brodiaea ( <i>Brodiaea orcuttii</i> )	--/-- CRPR 1B.1 MSCP Covered	Perennial bulbiferous herb. Occurs within closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers mesic or clay soils. Elevations 98 to 5,550 feet. Flowers May to July.	<b>None.</b> Suitable clay soils and habitat do not occur within the study area. Not observed during surveys, and there are no records of the species within the project vicinity. The nearest occurrence is over 3 miles from the site.
Lewis' evening-primrose ( <i>Camissoniopsis lewisii</i> )	--/-- CRPR 3	Annual herb. Occurs on sandy or clay soils within grasslands, coastal scrub, cismontane woodland, and coastal bluffs and dunes. Elevations below 984 feet. Flowers March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from 1882 in the vicinity of the project along Morena Boulevard.
Otay Mountain ceanothus ( <i>Ceanothus otayensis</i> )	--/-- CRPR 1B.2	Perennial shrub. Found in chaparral dominated by chamise and ceanothus species on metavolcanics or gabbroic soils. Mild soil disturbances may enable this plant to pioneer on road cuts and in burn areas. Only known from Otay Mountain in San Diego County. Elevations 1,960 to 3,600 feet. Flowers January to April.	<b>None.</b> Suitable chaparral habitat does not occur within the study area. Conspicuous perennial shrub that would have been observed if present. There are no records of the species in the project vicinity.
Wart-stemmed ceanothus ( <i>Ceanothus verrucosus</i> )	--/-- CRPR 2B.2 MSCP Covered	Perennial shrub. Found on rocky slopes within chaparral. Elevations below 1,250 feet. Flowers December to May.	<b>None.</b> Suitable chaparral habitat does not occur within the study area. Conspicuous shrub that would have been observed if present.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Orcutt's pincushion ( <i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i> )	--/-- CRPR 1B.1	Annual herb. Found on coastal dunes and sandy coastal bluff scrub. Typically, in proximity to moist ocean breezes. Elevations below 328 feet. Flowers January to August.	<b>None.</b> Suitable habitat does not occur within the study area. The nearest recorded occurrence is from 1902 in Ocean Beach.
Salt marsh bird's-beak ( <i>Chloropyron maritimum</i> ssp. <i>maritimum</i> )	--/-- CRPR 1B.2 MSCP Covered	Annual herb. Found in coastal salt marshes and swamps, particularly on slightly raised hummocks, and on coastal dunes. Elevations below 98 feet. Flowers May to October.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is the mouth of the San Diego River.
Orcutt's spineflower ( <i>Chorizanthe orcuttiana</i> )	FE/SE CRPR 1B.1	Annual herb. Found in sandy openings of coastal sage scrub, chaparral, and coniferous forests. Known from only three occurrences in Encinitas and Point Loma. Elevations below 410 feet. Flowers March to May.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from 1884 in Ocean Beach.
Long-spined spineflower ( <i>Chorizanthe polygonoides</i> var. <i>longispina</i> )	--/-- CRPR 1B.2	Annual herb. Occurs in chaparral, coastal scrub, and native grassland, often in sandy soils. Elevations 98 to 4,920 feet. Flowers April to June.	<b>None.</b> Suitable clay soils do not occur within the study area. Not observed during surveys, and not recorded in the project vicinity.
Seaside cistanthe ( <i>Cistanthe maritima</i> )	--/-- CRPR 4.2	Annual herb. Occurs on sandy soils within coastal bluff scrub, coastal sage scrub, and grasslands. Elevations below 985 feet. Flowers March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys, and not recorded in the project vicinity.
Delicate clarkia ( <i>Clarkia delicata</i> )	--/-- CRPR 1B.2	Annual herb. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral, often on gabbroic soils. Elevations below 3,281 feet. Flowers April to May.	<b>None.</b> Suitable habitat does not occur within the study area. Not observed during surveys, and not recorded in the project vicinity.
Summer holly ( <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> )	--/-- CRPR 1B.2	Perennial shrub. Occurs in chaparral and cismontane woodland. Elevations 328 to 1,804 feet. Flowers May to June.	<b>None.</b> Suitable habitat does not occur within the study area. Conspicuous perennial shrub that would have been observed if present. No records of the species occur in the project vicinity.
Small-flowered morning-glory ( <i>Convolvulus simulans</i> )	--/-- CRPR 4.2	Annual herb. Occurs on clay soils and serpentinite seeps in openings within chaparral, coastal scrub, and native grassland. Elevations 98 to 2,871 feet. Flowers April to June.	<b>None.</b> Suitable clay soils do not occur within the study area. Not observed during surveys, and not recorded in the project vicinity.
San Diego sand aster ( <i>Corethrogyne filaginifolia</i> var. <i>incana</i> )	--/-- CRPR 1B.1	Perennial herb. Occurs within grasslands, coastal bluff scrub, coastal scrub, and chaparral. Elevations 15 to 2,362 feet. Flowers June to September.	<b>Not Expected.</b> Suitable habitat does not occur on site. Not observed during surveys, and the nearest recorded occurrence is from 1921 in Ocean Beach.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Del Mar Mesa sand aster ( <i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> )	--/-- CRPR 1B.1 MSCP Covered	Perennial herb. Found on sandy soils and disturbed areas within southern maritime chaparral, coastal sage scrub, and coastal bluffs. Elevations below 492 feet. Flows May to September.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not detected during surveys. There are no records of the species in the project vicinity.
Western dichondra ( <i>Dichondra occidentalis</i> )	--/-- CRPR 4.2	Perennial herb. Found among rocks and shrubs within grasslands, coastal sage scrub, chaparral, and oak woodlands. Often proliferates on recently burned slopes. Elevations below 1,706 feet. Flowers March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys, and the nearest recorded occurrence is from 1921 approximately 1.25 miles in University Heights.
Low bush monkeyflower ( <i>Diplacus aridus</i> )	--/-- CRPR 4.3	Perennial shrub. Occurs on rocky chaparral and within Sonoran desert scrub. Elevation ranges between 2,460 and 3,940 feet. Flowers April to July.	<b>None.</b> Suitable habitat does not occur within the study area and the project is located outside the known elevation range of the species. A historic record from 1932 occurs in the San Diego River valley.
Blochman's dudleya ( <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> )	--/-- CRPR 1B.1	Perennial herb. Occurs in rocky areas, often on clay or serpentinite soils, within coastal bluffs, coastal sage scrub, chaparral, and grasslands. Elevations below 1,500 feet. Flowers April to June.	<b>None.</b> Suitable soils do not occur within the study area. No records of the species occur in the project vicinity.
Short-leaved dudleya ( <i>Dudleya brevifolia</i> )	--/SE/NE CRPR 1B.1 MSCP Covered	Perennial herb. Occurs in open areas and sandstone bluffs of coastal scrub, chaparral, or Torrey pine forest. Elevations 98 to 820 feet. Flowers April to May.	<b>None.</b> Suitable soils do not occur within the study area. No records of the species occur in the project vicinity.
Variegated dudleya ( <i>Dudleya variegata</i> )	--/--/NE CRPR 1B.2 MSCP Covered	Perennial herb succulent. Occurs on clay soils of dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Elevations below 984 feet. Flowers April to June.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and not recorded in the project vicinity.
Sticky dudleya ( <i>Dudleya viscida</i> )	--/-- CRPR 1B.2 MSCP Covered	Perennial herb. Occurs in rocky areas within coastal bluffs, coastal sage scrub, chaparral, and woodlands. Grows primarily on very steep north-facing slopes. Elevations below 1,800 feet. Flowers May to June.	<b>None.</b> Suitably steep, native upland habitat does not occur within the study area. No records of the species occur in the project vicinity.



**Appendix J (cont.)**  
**Special Status Plant Species Observed or With Potential to Occur**

<b>Species</b>	<b>Status<sup>1</sup></b>	<b>Habitat Associations</b>	<b>Potential to Occur<sup>2</sup></b>
Palmer's goldenbush ( <i>Ericameria palmeri</i> var. <i>palmeri</i> )	--/-- CRPR 1B.1 MSCP Covered	Perennial Shrub. Found in mesic areas within coastal sage scrub and chaparral. Elevation: below 1,968 feet. Flowers September to November.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys, and the nearest recorded occurrence in the San Diego River valley is a historic observation from 1883.
San Diego button-celery ( <i>Eryngium aristulatum</i> var. <i>parishii</i> )	FE/SE/NE CRPR 1B.1 MSCP Covered	Annual or perennial herb. Grows in vernal pools and other mesic areas, such as marshes. Elevation: below 2,313 feet. Flowers May to June.	<b>None.</b> Suitable habitat does not occur in the study area.
Sand-loving wallflower ( <i>Erysimum ammophilum</i> )	--/-- CRPR 1B.2 MSCP Covered	Perennial herb. Found in open areas and sandy soils within coastal dunes, coastal strand, coastal sage scrub, and maritime chaparral. Elevations below 197 feet. Flowers February to June	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrences are at the Cabrillo National Monument and Del Mar.
Cliff spurge ( <i>Euphorbia misera</i> )	--/-- CRPR 2B.2	Perennial shrub. Found in rocky areas of coastal bluffs, coastal sage scrub, and Mojavean desert scrub. Elevations below 1,800 feet. Flowers December to August.	<b>None.</b> Suitable rocky habitat does not occur within the study area. The nearest recorded occurrences are in Point Loma and a historic observation in North Park.
San Diego barrel cactus ( <i>Ferocactus viridescens</i> )	--/-- CRPR 2B.1 MSCP Covered	Perennial (stem succulent) shrub. Grows in sandy to rocky areas within chaparral, valley grassland and coastal sage scrub communities. Elevations 33 to 492 feet. Flowers May to June.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and the nearest recorded occurrence is a historic observation from 1903 in Mission Hills.
Palmer's frankenia ( <i>Frankenia palmeri</i> )	--/-- CRPR 2B.1	Perennial herb. Found in coastal salt marshes and swamps, playas, and coastal dunes. Elevations below 33 feet. Flowers May to July.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. No records of the species occur in the project vicinity.
Mission Canyon bluecup ( <i>Githopsis diffusa</i> ssp. <i>filicaulis</i> )	--/-- CRPR 3.1	Annual herb. Occurs in mesic and disturbed areas within chaparral. Elevations between 1,475 and 2,300 feet. Flowers April to June.	<b>None.</b> Suitable chaparral habitat does not occur in the study area, and the project is located outside the species' known range. Nearest recorded occurrence is a historic observation from 1884 near Balboa Park.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
San Diego gumplant ( <i>Grindelia hallii</i> )	--/-- CRPR 1B.2	Perennial herb. Typically occurs with sunny openings of chaparral and lower montane coniferous forests. Also found in meadows and seeps, and grasslands. Prefers very wet locales in early spring, although such places usually dry quickly as spring turns to summer. Elevations between 605 to 5,725 feet. Flowers May to October.	<b>None.</b> Suitable chaparral habitat does not occur in the study area, and the project is located outside the species' known range. There are not records of the species within the project vicinity.
Palmer's grapplinghook ( <i>Harpagonella palmeri</i> )	--/-- CRPR 4.2	Annual herb. Found in clay soils in annual grasslands and coastal sage scrub. Elevations 65 to 3,100 feet. Flowers March to May.	<b>None.</b> Suitable clay soils do not occur within the study area. The nearest recorded occurrence is a historic observation from 1902 in University Heights.
Beach goldenaster ( <i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i> )	--/-- CRPR 1B.1	Perennial herb. Occurs in coastal chaparral, coastal dunes, and coastal scrub. Elevations below 4,020 feet. Flowers March to December.	<b>Low.</b> Suitable coastal sage scrub occurs in the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1933 in the San Diego River valley.
Graceful tarplant ( <i>Holocarpha virgata</i> ssp. <i>elongata</i> )	--/-- CRPR 4.2	Annual herb. Occurs in grasslands, coastal scrub, chaparral, and cismontane woodland. Elevations 195 to 3,600 feet. Flowers May to November.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and the nearest recorded occurrence is in Serra Mesa.
Vernal barley ( <i>Hordeum intercedens</i> )	--/-- CRPR 3.2	Annual herb. Occurs in vernal pools, alkaline flats, and dry, saline streambeds. Also found in saline flats and depressions within grasslands. Elevations below 3,280 feet. Flowers March to June.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and the nearest recorded occurrence is a historic observation from 1947 in Mission Bay.
Decumbent goldenbush ( <i>Isocoma menziesii</i> var. <i>decumbens</i> )	--/-- CRPR 1B.2	Perennial shrub. Occurs in sandy soil and disturbed areas on the inland side of dunes, hillsides, and arroyos within coastal sage scrub and chaparral communities. Elevations below 656 feet. Flowers July to November.	<b>High.</b> Suitable habitat present on site. The species was not observed during surveys, although it has recently been recorded from Mission Valley.
San Diego marsh-elder ( <i>Iva hayesiana</i> )	--/-- CRPR 2B.2	Perennial herb. Found in alkaline flats, depressions, and streambanks within wetland communities. Elevations 32 to 1,640 feet. Flowers April to October.	<b>High.</b> Suitable habitat occurs within the study area along the San Diego River, and the species is known to occur within the project vicinity.
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	--/-- CRPR 4.2	Perennial herb. Found in moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps. Elevations below 984 feet. Flowers May to June.	<b>High.</b> Suitable habitat present on site. The species was not observed during surveys, although it has recently been recorded from Mission Valley.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Coulter's goldfields ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	--/-- CRPR 1B.1	Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Elevations below 3,281 feet. Flowers April to May.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and the nearest recorded occurrence is a historic observation from 1876 in Old Town.
Heart-leaved pitcher sage ( <i>Lepechinia cardiophylla</i> )	--/--/NE CRPR 1B.2 MSCP Covered	Perennial shrub. Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and metavolcanic soils near Mt. Woodson. Elevations between 1,700 and 4,500 feet. Flowers between April and July.	<b>None.</b> Suitable habitat and soils do not occur within the study area, and the project is outside the species' known elevation range.
Robinson's pepper-grass ( <i>Lepidium virginicum</i> var. <i>robinsonii</i> )	--/-- CRPR 4.3	Annual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas. Elevations below 9,186 feet. Flowers March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1882 in North Park.
Sea dahlia ( <i>Leptosyne maritima</i> )	--/-- CRPR 2B.2	Perennial herb. Occurs within coastal scrub and coastal bluffs scrub. Elevations below 500 feet. Flowers March to May.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1891 in North Park.
California box-thorn ( <i>Lycium californicum</i> )	--/-- CRPR 4.2	Perennial shrub. Occurs within coastal scrub and coastal bluff scrub. Elevations below 500 feet. Flowers March to August.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from University of San Diego.
Willow monardella ( <i>Monardella viminea</i> )	FE/SE CRPR 1B.1 MSCP Covered	Perennial herb. Occurs within alluvial ephemeral washes within coastal scrub, chaparral, and riparian habitats. Generally, there is no canopy cover, and river cobbles may lie in close proximity. Elevations below 1,000 feet. Flowers June to August.	<b>None.</b> Suitable rocky, ephemeral washes do not occur within the study area. The nearest recorded occurrence is a historic observation from 1938 in Murphy Canyon.
Little mouseltail ( <i>Myosurus minimus</i> ssp. <i>apus</i> )	--/-- CRPR 3.1	Annual herb. Occurs in alkaline vernal pools within native grassland. Elevations 65 to 2,100 feet. Flowers March to June.	<b>None.</b> Suitable habitat does not occur in the study area.



**Appendix J (cont.)**  
**Special Status Plant Species Observed or With Potential to Occur**

<b>Species</b>	<b>Status<sup>1</sup></b>	<b>Habitat Associations</b>	<b>Potential to Occur<sup>2</sup></b>
Spreading navarretia ( <i>Navarretia fossalis</i> )	FT/--/NE CRPR 1B MSCP Covered	Annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Found between 98 to 4,265 feet. Flowers April to June.	<b>None.</b> Suitable habitat does not occur in the study area.
Prostrate vernal pool navarretia ( <i>Navarretia prostrata</i> )	--/-- CRPR 1B.1	Annual herb. Occurs in mesic soil within vernal pools in coastal scrub, meadows, seeps, valleys, and foothill grasslands. Grows at mid-levels within the deeper pools to the basin bottoms of the shallower pools. Elevations below 4,000 feet. Flowers April to July.	<b>None.</b> Suitable habitat does not occur in the study area.
Coast woolly-heads ( <i>Nemacaulis denudata</i> var. <i>denudata</i> )	--/-- CRPR 1B.2	Annual herb. Occurs within coastal dunes. The back dunes in mildly protected areas seem to be preferred. Elevations below 330 feet. Flowers April to September.	<b>Not Expected.</b> Suitable habitat not present in the project site. Not observed during surveys, and the nearest recorded occurrence is a historic observation from 1920 in riverbed in Old San Diego.
California Orcutt grass ( <i>Orcuttia californica</i> )	FE/SE/NE CRPR 1B MSCP Covered	Annual herb. Occurs in vernal pools. This species tends to grow in wetter portions of the vernal pool basins but does not show much growth until the basins become somewhat desiccated. Elevations between 50 and 2,165 feet. Flowers April to August.	<b>None.</b> Suitable habitat does not occur in the study area.
Golden-rayed pentachaeta ( <i>Pentachaeta aurea</i> ssp. <i>aurea</i> )	--/-- CRPR 4.2	Annual herb. Occurs in grassy areas within coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Elevations 260 to 6,100 feet. Flowers March to July.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrences are from La Mesa.
Brand's star phacelia ( <i>Phacelia stellaris</i> )	--/-- CRPR 1B.1	Annual herb. Occurs in sandy openings within coastal dunes and coastal scrub. Elevations below 1,315 feet. Flowers March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrences are historic observations from 1881 and 1882 in riverbed in Old San Diego.
Torrey pine ( <i>Pinus torreyana</i> ssp. <i>torreyana</i> )	--/-- CRPR 1B.2 MSCP Covered	Perennial evergreen tree. Occurs within closed cone coniferous forest and chaparral atop sandstone soils. Elevations between 98 and 430 feet.	<b>Present.</b> A row of Torrey pine trees was observed along Seaworld Drive within the project area. These trees were planted; the site is outside of the subspecies' natural range inside Torrey Pines State Natural Reserve.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
San Diego mesa mint ( <i>Pogogyne abramsii</i> )	FE/SE/NE CRPR 1B.1 MSCP Covered	Annual herb. Occurs within vernal pools. Elevations between 295 and 660 feet. Flowers March to July.	<b>None.</b> Suitable habitat does not occur in the study area.
Otay Mesa mint ( <i>Pogogyne nudiuscula</i> )	FE/SE/NE CRPR 1B.1 MSCP Covered	Annual herb. Occurs within vernal pools. Elevations between 295 and 820 feet. Flowers May to July.	<b>None.</b> Suitable habitat does not occur in the study area.
Nuttall's scrub oak ( <i>Quercus dumosa</i> )	--/-- CRPR 1B.1	Perennial shrub. Occurs on sandy or clay loam soils near the coast within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Elevations below 656 feet. Flowers February to April.	<b>Low.</b> Suitable habitat present on site, but the species was not observed during surveys, and the nearest recorded occurrence is a historic observation from 1935 in Mission Valley.
Munz's sage ( <i>Salvia munzii</i> )	--/-- CRPR 2B.2	Perennial evergreen shrub. Occurs within chaparral and coastal scrub. Elevations between 370 and 3,500 feet. Flowers February to April.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from Serra Mesa.
Ashy spike-moss ( <i>Selaginella cinerascens</i> )	--/-- CRPR 4.1	Fern. Grows in sunny spots or under shrubs within coastal sage scrub and chaparral. Often associated with "red clay" soils. Elevations below 1,804 feet.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1900 in Point Loma.
Chaparral ragwort ( <i>Senecio aphanactis</i> )	--/-- CRPR 2B.2	Annual herb. Occurs on alkali flats and dry, open, rocky areas within grasslands, coastal scrub, and cismontane woodland. Elevations 33 to 1,804 feet. Flowers February to May.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1901 in University Heights.
Salt spring checkerbloom ( <i>Sidalcea neomexicana</i> )	--/-- CRPR 2B.2	Perennial herb. Occurs within chaparral, lower montane coniferous woodland, Mojavean desert scrub, playas, and coastal scrub. Elevations between 50 and 5,020 feet. Flowers from March to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from La Jolla.
Purple stemodia ( <i>Stemodia durantifolia</i> )	--/-- CRPR 2B.1	Perennial herb. Grows on wet sand or rocks within riparian habitats or drying streambeds. Elevations 1,312 feet. Flowers year-round.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is a historic observation from 1885 in Mission Valley
San Diego County needle grass ( <i>Stipa diegoensis</i> )	--/-- CRPR 4.2	Perennial herb. Found in rocky, mesic soils near streams or the coast within coastal scrub and chaparral. Elevations 30 to 2,600. Flowers February to June.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from University Heights.



## Appendix J (cont.)

### Special Status Plant Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Oil neststraw ( <i>Stylocline citroleum</i> )	--/-- CRPR 1B.1	Annual herb. Occurs within coastal scrub, chenopod scrub, valleys, and foothill grasslands. Elevations between 160 and 1,315 feet. Flowers March to April.	<b>Low.</b> Suitable habitat occurs within the study area, but the species was not observed during surveys. The nearest recorded occurrence is from Point Loma.
Estuary seablite ( <i>Suaeda esteroa</i> )	--/-- CRPR 1B.2	Perennial herb. Found in coastal salt marshes and swamps. Elevations below 16 feet. Flowers May to October.	<b>High.</b> Suitable habitat occurs within the study area along the San Diego River. The species was not observed during surveys, although it has recently been recorded from Mission Valley Preserve and along the San Diego River channel.
Woolly seablite ( <i>Suaeda taxifolia</i> )	--/-- CRPR 4.2	Perennial shrub. Occurs within coastal bluff scrub, coastal dunes, and along margins of coastal salt marshes and swamps. Elevations below 165 feet. Flowers year-round.	<b>High.</b> Suitable habitat occurs within the study area along the San Diego River. The species was not observed during surveys, although it has recently been recorded along the San Diego River channel.

<sup>1</sup> F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

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

City of San Diego Sensitivity Status: MSCP Covered – Covered Species under City MSCP Subarea Plan; NE = Narrow Endemic Species under City MSCP Subarea Plan.

<sup>2</sup> Potential to Occur is assessed as follows. **None:** Species is either sessile (i.e. plants) or so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; **Low:** Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the project site and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the project site; **Presumed Absent:** Species would be visible all year and would have been observed if present.



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## Appendix K

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Special Status Animal Species  
Observed or with Potential to Occur



## Appendix K

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>INVERTEBRATES</b>			
San Diego fairy shrimp ( <i>Branchinecta sandiegonensis</i> )	FE/-- MSCP Covered	Restricted to vernal pools and other ephemeral basins in southern California from coastal Orange County to San Diego County. Found in seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	<b>None.</b> Vernal pools, ephemeral basins, and other seasonally astatic habitats are absent from the study area.
Quino checkerspot butterfly ( <i>Euphydryas editha quino</i> )	FE/--	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [ <i>Plantago erecta</i> ], woolly plantain [ <i>Plantago patagonia</i> ] but also Coulter's snapdragon [ <i>Antirrhinum coulterianum</i> ], and rigid bird's beak [ <i>Cordylanthus rigidus</i> ]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland.	<b>None.</b> The study area occurs outside the recommended quino survey area (USFWS 2014), and the primary host plant was not observed during biological surveys. No recent occurrences of the species are present in the project vicinity.
Wandering (saltmarsh) skipper ( <i>Panoquina errans</i> )	--/-- MSCP Covered	Occurs along coastal southern California. Inhabits salt marshes that contain its larval host plant salt grass ( <i>Distichlis spicata</i> ). May be observed on ocean bluffs, salt marshes, or open areas along the ocean.	<b>High.</b> Suitable habitat for the species is present within the western portion of the study area along the San Diego River. A single female was photographed in September 2007 at the Famosa Slough approximately 0.3 miles south of the study area.
<b>VERTEBRATES</b>			
<b>Amphibians</b>			
Western spadefoot toad ( <i>Spea hammondi</i> )	--/SSC	Occurs from northern California southward to San Diego County, and west of the Sierra Nevada at elevations below 4,500 feet. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas. Breeds in temporary pools formed by heavy rains, but also found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	<b>None.</b> Vernal pools, ephemeral basins, and other seasonally astatic habitats are absent from the study area.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>VERTEBRATES</b>			
<b>Reptiles</b>			
San Diegan legless lizard ( <i>Anniella stebbinsi</i> )	--/SSC	Occurs in southern California from San Barbara County south to San Diego County, and east into Antelope Valley of the western Mojave Desert. An isolated population is found in the Tehachapi and Piute mountains of Kern County. Inhabits sparsely vegetated areas with moist warm, loose soil with plant cover; moisture is essential. Common in several habitats but especially in beach dunes, coastal scrub, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Sometimes found in suburban gardens in southern California.	<b>High.</b> Suitable habitat is present within the study area, particularly riparian habitat along the San Diego River.
California glossy snake ( <i>Arizona elegans occidentalis</i> )	--/SSC	Occurs along the coastal regions from San Francisco south to San Diego County; though it is absent along the central coast of California. Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and areas with soils loose enough for easy burrowing.	<b>Not Expected.</b> Limited suitable habitat occurs within the study area; however, there are no recent reported observations of the species within the project vicinity. Historical occurrences from the late 1880's to the early 1940's occur in the Fashion Valley area.
Belding's orange-throated whiptail ( <i>Aspidoscelis hyperythra beldingi</i> )	--/WL MSCP Covered	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular ranges below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants (such as California buckwheat, California sagebrush, black sage, or chaparral) to provide a food base for its major food source, termites.	<b>High.</b> Suitable habitat is present within the study area, particularly riparian habitat along the San Diego River.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Reptiles (cont.)</b>			
Red diamond rattlesnake ( <i>Crotalus ruber</i> )	--/SSC	Occurs in southwestern portion of California from San Bernardino County southward to San Diego County at elevations below 5,000 feet. Has a wide tolerance for varying environments including the desert, dense foothill chaparral, warm inland mesas and valleys, and cool coastal zones. Most commonly found near heavy brush with large rocky microhabitats. Chamise and red shank chaparral associations may offer better structural habitat for refuges and food resources.	<b>Not Expected.</b> Limited suitable habitat occurs within the study area and there are no reported occurrences of the species within the project vicinity.
Blainville's horned lizard ( <i>Phrynosoma blainvillii</i> )	--/SSC MSCP Covered	Occurs within southern California from Kern County south to San Diego County and west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants ( <i>Pogonmyrmex</i> sp.) and are generally excluded from areas invaded by Argentine ants ( <i>Linepithema humile</i> ).	<b>Not Expected.</b> Limited suitable habitat occurs within the study area and there are no reported occurrences of the species within the project vicinity.
Coronado skink ( <i>Plestiodon skiltonianus interparietalis</i> )	--/WL	Occurs from in coastal and inland portions of southern San Diego County, though the can occur up into Riverside County where it intergrades with Skilton's skink ( <i>Plestiodon skiltonianus skiltonianus</i> ). Suitable habitats include grassland, woodlands, pine forests, and chaparral, especially in open sunny areas such as clearings and edges of creeks or rivers. Prefers rocky areas near streams with lots of vegetation but can also be found in areas away from water. Occasionally seen foraging in leaf litter but more commonly found underneath surface objects, such as bark or rocks, where it lives in extensive burrows.	<b>Low.</b> Suitable habitat present within the study area; however, no reported occurrences occur within the project vicinity.
Coast patch-nosed snake ( <i>Salvadora hexalepis virgultea</i> )	--/SSC	Occurs in the coastal regions of California from the northern Carrizo Plains in San Luis Obispo County south to San Diego County at elevations below 7,000 feet. Inhabits semi-arid shrubby areas such as chaparral and desert scrub. Also found along washes, sandy flats, canyons, and rocky areas. Takes refuge and overwinters in burrows and woodrat nests.	<b>None.</b> Suitable habitat does not occur within the study area and there are no reported occurrences of the species within the project vicinity.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Reptiles (cont.)</b>			
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	--/SSC	Found in California from Monterey County south along the coast to San Diego County at elevations below 7,000 feet. Commonly inhabits perennial and intermittent streams with rocky beds bordered by riparian habitats dominated by willows and other dense vegetation. The species has also been found in stock ponds and other artificially created aquatic habitats if bordered by dense vegetation and potential prey, such as amphibians and fish, are present.	<b>Low.</b> Suitable habitat is present within the study area along San Diego River; however, there are no recent observations of the species within the project vicinity. A historical observation from 1930 occurs in the Mission Valley area.
<b>Birds</b>			
Cooper's hawk ( <i>Accipiter cooperii</i> )	--/WL MSCP Covered	In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.	<b>Present.</b> The species was heard calling within riparian habitat and observed flying overhead along the San Diego River in three separate areas; two in the Fashion Valley area and one east of Morena Boulevard.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	BCC/SCE, SSC MSCP Covered	Highly colonial, nomadic species occurring as a year-round resident of California from Sonoma County to San Diego. Common locally in the Central Valley and sporadically throughout the State. Breeds in dense colonies. Breeding habitat typically characterized by emergent freshwater marsh dominated by tall, dense cattails ( <i>Typha</i> spp.) and bulrush ( <i>Schoenoplectus</i> spp.), though the species also utilizes willows ( <i>Salix</i> spp.), blackberries ( <i>Rubus</i> spp.), thistles ( <i>Cirsium</i> and <i>Centaurea</i> spp.), nettles ( <i>Urtica</i> sp.), and agricultural crops. Forages in grasslands and cropland habitats adjacent to breeding areas.	<b>Not Expected.</b> Limited suitable marsh habitat occurs in the study area along the San Diego River; however, there are no recent observations of the species within the project vicinity. Historically breed in Mission Valley to the east of Highway 163 in 1989 and 1990. No breeding observations have been reported in the area since 1990.
Southern California rufous-crowned Sparrow ( <i>Aimophila ruficeps canescens</i> )	--/WL MSCP Covered	Restricted to southwestern California occurring from Santa Barbara County southwards to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush but are generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	<b>Not Expected.</b> Study area relatively flat lacking suitable sloped hillsides. Limited amount of native scrub habitat occurs within the study area. No reported occurrences of the species present within the project vicinity.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Burrowing owl ( <i>Athene cunicularia</i> )	BCC/SSC MSCP Covered	Found from central California east to the Mojave Desert and south to coastal San Diego County. Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Species can also occupy agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as California ground squirrel ( <i>Spermophilus beecheyi</i> ). Also utilizes natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	<b>Low.</b> Marginal disturbed habitat occurs in the study area to the west of Interstate 5. Reported eBird observations of wintering individuals are present within the rocky habitat bordering the San Diego River flood control channel at the mouth of the river. No breeding observations reported.
Coastal cactus wren ( <i>Campylorhynchus brunneicapillus sandiegensis</i> )	BCC/SSC (San Diego and Orange Counties only) MSCP Covered	One of seven subspecies occurring in southern California from southern Orange County south to San Diego County. Occupies native scrub vegetation with thickets of mature cacti consisting of cholla ( <i>Cylindropuntia</i> spp.) or prickly-pear cactus ( <i>Opuntia littoralis</i> ). Cacti must be tall enough to support and protect the bird's nest (typically 3 feet or more in height). Surrounding vegetation usually consists of coastal sage scrub habitat with shrubs normally below the level of nest placement.	<b>None.</b> Coastal sage scrub habitat within the study area lacks mature cacti stands required by the species. No reported observations of the species occur in the project vicinity.
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT,BCC/SSC County Group 1 MSCP Covered	Breeds primarily on coastal beaches from southern Washington to southern Baja California. Nesting habitat includes sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Usually prefer sand, silt or dry mud with even surface, avoiding rocky or broken ground. Exhibits high breeding site fidelity. In winter, found on many of the beaches used for nesting, as well as others where they do not nest. Also occur in man-made salt ponds and on estuarine sand and mud flats.	<b>None.</b> Study area lacks suitable sandy beaches. Multiple eBird observations of the species have been reported further south of the study area within the San Diego River flood control channel.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FT, BCC/SE	Uncommon summer resident of California. Current breeding distribution is restricted to isolated sites in Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys. Riparian obligates that nest in riparian woodlands with native broadleaf trees and shrubs, such as cottonwoods and willows, at least 50 acres or more in size within the arid to semiarid landscapes. Most likely to be found in patches of riparian habitat greater than 200 acres.	<b>Not Expected.</b> Suitable riparian habitat occurs in the study area along the San Diego River. However, the project is located outside of the known breeding range of the species and no reported breeding records occur in the vicinity. A single cuckoo was observed in mid-July 2017 at Famosa Slough to the south of the study area. This is presumed to be a migrating individual as no additional observations were reported.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	FE/SE MSCP Covered	Breeds in southern California, Arizona, New Mexico, southwestern Colorado, and extreme southern portions of Nevada and Utah. Riparian obligates that breed in relatively dense riparian habitats along rivers, streams, or other wetlands where surface water is present, or soils are very saturated. Breeding habitat can consist of monotypic stands of willows, a mixture of native broadleaf trees and shrubs, monotypic stands of exotics such as tamarisk ( <i>Tamarix</i> spp.) or Russian olive ( <i>Elaeagnus angustifolia</i> ), or mixture of native broadleaf trees and shrubs with exotics. Restricted in San Diego County to two modest colonies at San Luis Rey River and Santa Margarita River, with a few scattered pairs.	<b>Presumed Absent.</b> Suitable riparian habitat occurs within the study area along the San Diego River. However, the species was not detected during protocol-level surveys in 2018. Migrating individuals have been reported within the study area and project vicinity; however, there are no recorded breeding occurrences.
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	BCC/FP MSCP Covered	In California, the species breeds and winters throughout the State, except for desert areas. Very uncommon breeding resident and uncommon as a migrant. Active nesting sites of this species within California are known from along the coast north of Santa Barbara, in the Sierra Nevada, and other mountains of northern California. Few nest sites are known anecdotally for southern California mostly at coastal estuaries and inland oases. Inhabits a large variety of open habitats including marshes, grasslands, coastlines, and woodlands. Typically nest on cliff faces in remote rugged sites where adequate food is available nearby, but the species can also be found in urbanized areas nesting on man-made structures.	<b>High.</b> Suitable foraging habitat occurs within the study area along the San Diego River. Multiple eBird sightings of the species reported at the San Diego Flood Control Channel. The species would be expected to forage within the project vicinity, but suitable cliff faces for nesting are absent from the study area.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Yellow-breasted chat ( <i>Icteria virens</i> )	--/SSC County Group 1	In California, occurs as a migrant and summer resident breeding from the coastal regions in northern California, east of the Cascades, and throughout the central and southern portions of the State. Breeds in early successional riparian habitats with well-developed shrub layer and an open canopy nesting on the borders of streams, creeks, rivers, and marshes.	<b>Present.</b> The species was observed in several locations along the San Diego River during biological surveys conducted in 2018.
Least bittern ( <i>Ixobrychus exilis</i> )	BCC/SSC	Year-round resident on the coastal slope of southern California from San Luis Obispo County south to San Diego County, Salton Sea, and lower Colorado River. Also breeds within the Siskiyou, Modoc, and Lassen Counties. Inhabits freshwater and brackish marshes with tall, dense emergent vegetation interspersed with clumps of woody vegetation and open water. Occasionally occurs in salt marshes. Constructs nests on platforms of live and dead stakes above the water in dense cattails or bulrush.	<b>Low.</b> Limited marsh habitat occurs in the study area. There are few reported occurrences and eBird sightings of the species within the project vicinity along the San Diego River to the east of Highway 163.
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	BCC/ST,FP	In California, breeds in the Sacramento-San Joaquin River delta, San Francisco Bay area, Bolinas Lagoon and Tomales Bay in Marin County, Morro Bay in San Luis Obispo County, White Slough in San Joaquin County, the Salton Sea area, and the Lower Colorado River Valley. Inhabits salt marshes, freshwater marshes, and wet meadows. Associated with pickleweed ( <i>Salicornia</i> spp.), bulrush ( <i>Scirpus</i> spp.), alkali heath ( <i>Frankenia salina</i> ), and cordgrass ( <i>Spartina</i> spp.). Requires dense cover of upland vegetation in tidal areas which allows for protection when rails must leave marsh habitats during high tide events.	<b>Not Expected.</b> Limited marsh habitat occurs in the study area; however, there are no recent records of the species within the project vicinity. Two historical observations occur in the project vicinity. Two were detected in the Mission Bay area in 1908, and one female was collected from Famosa Slough in 1909 and eggs were collected in 1912.
Belding's savannah sparrow ( <i>Passerculus sandwichensis beldingi</i> )	--/SE MSCP Covered	Year-round resident of coastal salt marshes within southern California from Santa Barbara County south to San Diego County. Associated with salt marsh habitat dominated by dense pickleweed within which most nests are found.	<b>High.</b> Species is known to occur along the San Diego flood control channel to the west of Interstate 5. Suitable habitat occurs in the study area but is absent from the project site.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Coastal California gnatcatcher ( <i>Poliophtila californica californica</i> )	FT/SSC MSCP Covered	Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside Counties. Typically occurs in arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. California sagebrush is at least present as dominant or co-dominant species.	<b>Present.</b> A pair was detected foraging within coastal sage scrub habitat dominated by bush sunflower to the south of the Sea World Drive and Friars Road intersection in January 2019.
Light-footed Ridgway's rail ( <i>Rallus obsoletus levipes</i> )	FE/SE,FP MSCP Covered	One of six recognized subspecies occurring as a resident in coastal salt marshes and lagoons from Santa Barbara County south to Baja California. The species is found primarily in tall, dense cordgrass ( <i>Spartina foliosa</i> ) and occasionally pickleweed ( <i>Salicornia pacifica</i> ) in the low marsh zone. Also found in freshwater marshes in winter.	<b>Presumed Absent.</b> Species not detected during focused protocol surveys conducted in 2018. However, there are multiple reported observations along the San Diego River to the west of Morena Boulevard.
Yellow warbler ( <i>Setophaga petechia</i> )	BCC/SSC	Common to locally abundant species breeding throughout California at elevations below 8,500 feet, excluding most of the Mojave Desert, and all of the Colorado Desert. Breeds in riparian areas dominated by willows and cottonwoods, near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests at higher elevation areas.	<b>Present.</b> The species was detected in multiple locations along the San Diego River during biological surveys conducted in 2018.
Western bluebird ( <i>Sialia mexicana</i> )	--/-- MSCP Covered	Common year-round resident throughout California, but absent from the higher mountains and eastern deserts. Breeds in open woodlands, riparian habitats, grasslands, and farmlands. Nests and roosts in cavities of trees and snags, often in holes previously created by woodpeckers, and nest boxes. Winters in a wider variety of habitats.	<b>Present.</b> Multiple individuals detected to south of Fashion Valley mall along the San Diego River during biological surveys conducted in 2018.
California least tern ( <i>Sternula antillarum browni</i> )	FE/SE,FP MSCP Covered	Occurs locally along California coastal regions breeding in colonies from San Francisco Bay south to San Diego County. Wintering areas in unknown areas of South America. Nests on relatively bare or sparsely vegetation beaches and mudflats near water. Forage in the bays and estuaries near their colonies, on the ocean near shore, and at inland lakes in the coastal lowland.	<b>Low.</b> Limited suitable beach habitat and mudflats are located within the study area. However, there are multiple observations of the species along the San Diego River within the flood control channel. The species is known to nest to the north of the study area within Mission Bay at Fiesta Island.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE/SE MSCP Covered	In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo, San Bernardino, and Riverside Counties. Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. Structurally diverse canopy and dense shrub cover is required for nesting and foraging. Dominant species within breeding habitat includes cottonwood and willows with mule fat, oaks, and sycamore, with mesquite ( <i>Prosopis glandulosa</i> ) and arrowweed ( <i>Pluchea sericea</i> ) within desert habitats. Tolerant of the presence of non-native species such as tamarisk.	<b>Present.</b> Three males were detected along the San Diego River during the 2018 focused protocol-level surveys. One male was detected to the north of the river and east of Morena Boulevard, one male was detected south of the river and east of Morena Boulevard, and one male was detected to the north of the river and west of Morena Boulevard.
<b>Mammals</b>			
Mexican long-tongued bat ( <i>Choeronycteris mexicana</i> )	--/SSC	Found in southern California from Ventura County south to San Diego County. Occurs in arid habitats below 7,900 feet such grasslands, scrub, mixed forest, and canyons in mountain ranges rising from the desert. Primarily found in urban and suburban areas in San Diego County. Roosts in in caves and mines, and man-made structures such as garages, office buildings, under porches, and warehouses.	<b>Low.</b> Urban development within the area may provide suitable roosting habitat for the species. Historic occurrences from the 1940s of the species are reported within the project vicinity. However, there are no recent records of the species.
Western mastiff bat ( <i>Eumops perotis californicus</i> )	--/SSC	In California, the species occurs from Monterey County to San Diego County from the coast eastward to the Colorado Desert. Found in open, semi-arid to arid habitats including coastal and desert scrub, grasslands, woodlands, and palm oases. Prefers to roost in high situations above the ground on vertical cliffs, rock quarries, outcrops of fractured boulders, and occasionally tall buildings.	<b>Low.</b> Urban development within the area may provide suitable roosting habitat for the species. Species was detected near Qualcomm Stadium in 1995.

## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
Western red bat ( <i>Lasiurus blossevillei</i> )	--/SSC	In California, the species is locally common occurring from Shasta County south to San Diego County and west of the Sierra Nevada/Cascade Range and deserts. Mainly occurs in riparian woodlands populated by willows, cottonwoods, sycamores, and oak trees but can be found in non-native vegetation such as tamarisk, eucalyptus, and orchards. Primarily roosts in trees preferring heavily shaded areas which are open underneath.	<b>High</b> Suitable roosting habitat present on site and the species was collected within the Ocean Beach area in 1985.
Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Mammals (cont.)</b>			
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	--/SSC	Occurs along the coastal regions of southern California south to northern Baja California. Found in arid regions preferring grasslands, agricultural fields, and sparse scrub. Typically absent from areas with high-grass or dense brush, such as closed-canopy chaparral, primarily occupying short-grass and open scrub habitats.	<b>None.</b> Suitable open habitats do not occur within the study area which is largely characterized by urban development.
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	--/SSC	Occurs along the coastal regions of California being found as far north as San Luis Obispo County, south to San Diego County, and in the western portions of San Bernardino and Riverside Counties. Inhabits a variety of shrub and desert habitats such as coastal sagebrush scrub, chaparral, pinyon-juniper woodland, and Joshua tree woodland among others. Often associated with rock outcroppings, boulders, cacti patches, and areas with dense understories. Construct dens used for shelter, food storage, and nesting around rock outcroppings and cacti using various materials such as twigs, sticks, and other debris.	<b>Low.</b> Suitable sage scrub habitat is limited within the study area, though the species has been documented within the project vicinity.
Pocketed free-tailed bat ( <i>Nyctinomops femorosaccus</i> )	--/SSC	Rare in California occurring from Los Angeles County eastwards to San Bernardino County, and southwards to San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Sometimes roosts under tiled roofs and observed utilizing bat boxes. Habitat generalists foraging in grasslands, shrublands, riparian areas, oak woodlands, forests, meadows, and ponds favoring larger water bodies for drinking.	<b>High.</b> Suitable foraging habitat present within the study area and the urban development may provide suitable roosting habitat. Species was documented within the project vicinity in 1983 and 1985.



## Appendix K (cont.)

### Special Status Animal Species Observed or With Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Mammals (cont.)</b>			
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	--/SSC	Rare in California with species found in urban areas of San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Also roosts in buildings and occasionally holes in trees. Associated with coastal and desert scrub, forests, riparian zones, and montane woodlands. Probably does not breed in California.	<b>High.</b> Urban development within the area may provide suitable roosting habitat for the species. Species was detected in the Mission Bay area in 1970 and 1981.

<sup>1</sup> F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected

City of San Diego Sensitivity Status: MSCP Covered Species – Covered Species under City MSCP Subarea Plan.

<sup>2</sup> Potential to Occur is assessed as follows. **None:** Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; **Not Expected:** Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur in the study area; **Low:** Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the project site.

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## Appendix L

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### Explanation of Status Codes for Plant and Animal Species

## Appendix L Explanation of Status Codes for Plant and Animal Species

# FEDERAL, STATE, AND LOCAL CODES

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### U.S. FISH AND WILDLIFE SERVICE (USFWS)

- FE      Federally listed endangered
- FT      Federally listed threatened
- FC      Federal candidate for listing
- BCC    Birds of Conservation Concern (discussed in more detail, below)
- BGEPA Bald and Golden Eagle Protection Act (discussed in more detail below)

### CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

- SE      State listed endangered
- SR      State listed rare
- ST      State listed threatened
- SSC    State species of special concern
- WL      Watch List

Fully Protected      Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

### CITY OF SAN DIEGO

#### Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the City has take authorization within the MSCP area.

#### MSCP Narrow Endemic (NE)

Some native species (primarily plants with restricted geographic distributions, soil affinities, and/or habitats) are referred to as a narrow endemic species. For vernal pools and identified narrow endemic species, the jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.



**Appendix L (cont.)**  
**Explanation of Status Codes for Plant and Animal Species**

## **OTHER CODES AND ABBREVIATIONS**

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### **USFWS BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA)**

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle “at any time or in any manner.”

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

### **USFWS BIRDS OF CONSERVATION CONCERN (BCC)**

This report from 2002 aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS’ highest conservation priorities and draw attention to species in need of conservation action. USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at <http://migratorybirds.fws.gov/reports/bcc2002.pdf>.

## Appendix L (cont.) Explanation of Status Codes for Plant and Animal Species

### CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CALIFORNIA RARE PLANT RANKING (CRPR)

Lists	List/Threat Code Extensions
1A = Presumed extinct.	.1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.	.2 – Fairly endangered in California (20 to 80 percent occurrences threatened)
2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.	.3 – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)
3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.	A “CA Endemic” entry corresponds to those taxa that only occur in California.
4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.	All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.



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