Biological Resources Technical Report

Campus Point Drive Storm Drain Replacement Project

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Acronyms and Abbreviations

°F	degrees Fahrenheit
AMSL	above mean sea level
ASMD	Area-Specific Management Directive
BCC	bird of conservation concern
Biology Guidelines	City of San Diego Land Management Manual—Biology Guidelines
BMP	best management practice
BRTR	Biological Resources Technical Report
CAGN	coastal California gnatcatcher
CCA	California Coastal Act
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
City	City of San Diego
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ED	Environmental Designee
ESL	Environmentally Sensitive Lands
FC	federal candidate
FE	federally endangered
FESA	federal Endangered Species Act
FT	federally threatened
GIS	geographic information system
GPS	Global Positioning System
Harris	Harris & Associates
HELIX	HELIX Environmental Planning, Inc.
LDC	Land Development Code
LUAG	Land Use Adjacency Guidelines
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Area
MSCP	Multiple Species Conservation Program
NE	narrow endemic
NHD	National Hydrography Dataset
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
NWW	Non-wetland water
NW	Non-wetland
OHWM	ordinary high water mark
Porter-Cologne	Porter-Cologne Water Quality Control Act
project	Campus Point Drive Storm Drain Replacement Project
RWQCB	Regional Water Quality Control Board

SAP	Subarea Plan
SE	state endangered
SSC	state species of special concern
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
W	wetland
WL	state watch list

Executive Summary

At the request of the City of San Diego (City) Engineering & Capital Projects Department (project applicant), Harris & Associates (Harris) has prepared this Biological Resources Technical Report (BRTR) in support of the Campus Point Drive Storm Drain Replacement Project (project). The approximately 0.48-acre project site occurs within the University Community Plan Area of the City San Diego, and the project consists of replacing a storm drain that is partially undergrounded and in disrepair, resulting in the severe erosion of the steep canyon slope in which the majority of the storm drain is located. Other project activities would include installation of associated cut-off walls, concrete energy dissipator, slope repair, and revegetation. This BRTR provides an environmental baseline of biological resources found on the project site and within the 300-foot survey buffer (together referred to as the "survey area") and presents an analysis of impacts to sensitive biological resources from development of the project. The entire project site and the majority of the survey area are within the Multi-Habitat Planning Area (MHPA) of the City's Multiple Species Conservation Program (MSCP).

Seven vegetation communities and land cover types were mapped in the survey area, and four of them are designated as sensitive: Diegan coastal sage scrub, emergent wetland, non-vegetated channel, and southern arroyo willow riparian forest.

The aquatic resources delineation conducted for the project determined that 0.112 acre of non-wetland and wetland waters and 1.489 acres of southern arroyo willow riparian forest occurs in the survey area. These aquatic resources are potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). The southern arroyo willow riparian forest in the survey area is considered a wetland regulated by the City per the Land Development Code (LDC)—Biology Guidelines (City of San Diego 2018). However, the non-vegetated channels in the survey area do not meet the definition of wetlands per the Biology Guidelines but are considered natural flood channels (City of San Diego 2018).

Protocol coastal California gnatcatcher (CAGN) (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) surveys were conducted on the project site and a 500-foot survey buffer from April 23 through June 2, 2026, and April 23 through July 20, 2026, respectively. The results of the CAGN and least Bell's vireo protocol surveys were negative. However, one CAGN individual was incidentally observed during the final least Bell's vireo survey outside and to the southeast of the 500-foot survey buffer. Due to the quality of the coastal sage scrub, the 500-foot protocol survey area is considered to have a moderate potential for CAGN to forage and moderate potential for nesting. The 500-foot buffer supports suitable, high-quality habitat for least Bell's vireo; however, connectivity to documented populations is fragmented by development and disturbance, and this species is considered to have moderate potential to forage and nest in the survey area.

One sensitive plant species, San Diego sagewort (*Artemisia palmeri*), was observed in the survey area. Four sensitive plant species, San Diego County viguiera (*Bahiopsis laciniata*), ashy spike-moss (*Selaginella cinerascens*), bottle liverwort (*Sphaerocarpos drewiae*), and Nuttall's scrub oak (*Quercus dumosa*), were determined to have a moderate or high potential to occur in the survey area.

Two sensitive wildlife species, Cooper's hawk (*Accipiter cooperii*) and yellow warbler (*Setophaga petechia*), were observed in the survey area during the biological reconnaissance survey. The following sensitive wildlife species were determined to have a moderate or high potential to occur in the survey area, Crotch's bumble bee (*Bombus crotchii*), Southern California legless lizard (*Anniella stebbinsi*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), CAGN, least Bell's vireo, monarch butterfly (*Danaus plexippus*), southern mule deer (*Odocoileus hemionus*), and western red bat (*Lasiurus frantzii*). The survey area was determined to have high potential to support nesting birds and raptors protected under the California Fish and Game Code (CFGC) and the Migratory Bird Treaty Act (MBTA), as well as sensitive roosting bats.

Overall, the survey area likely functions as a local and regional wildlife movement corridor for both sensitive and common wildlife species.

Implementation of the project has the potential to result in significant direct impacts to biological resources, including sensitive wildlife species. Standard avoidance, minimization, and mitigation measures are proposed to reduce impacts to below a level of significance.

Section 1 Introduction

Harris & Associates (Harris) was contracted by the City of San Diego (City) Engineering & Capital Projects Department (project applicant) to conduct desktop literature reviews, a reconnaissance-level biological survey, and an aquatic resources delineation in support of the proposed Campus Point Drive Storm Drain Replacement Project (project) in the City of San Diego, California.

1.1 Purpose of the Report

The purpose of this Biological Resources Technical Report (BRTR) is to document the biological resources present on the project site and within a 300-foot survey buffer, where appropriate (together referred to as the "survey area"); identify potential impacts to sensitive biological resources; document potential jurisdictional aquatic resources; and recommend avoidance, minimization, or mitigation measures consistent with federal, state, and local rules and regulations, including the City's current San Diego Municipal Code, Land Development Code (LDC)—Biology Guidelines (City of San Diego 2018).

The term "biological resources" refers to plant species, wildlife species, and vegetation communities on and adjacent to the project site. For this BRTR, sensitive biological resources are those defined as follows: (1) species designated as endangered, threatened, rare, protected, sensitive, or species of special concern according to the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), California Native Plant Society (CNPS), or applicable regional plans, policies, or regulations needs due to limited distribution, limited numbers, or significant population declines associated with natural or human-made causes; (2) species and habitat types recognized by local and regional resource agencies as special status; (3) habitats or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; (4) wildlife corridors and habitat linkages; or (5) biological resources that may or may not be special status but are regulated under local, state, and/or federal laws.

This BRTR discusses potential impacts, avoidance areas, and mitigation measures applicable to biological resources associated with implementation of the project in accordance with the federal Endangered Species Act (FESA); California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050 et seq.); California Environmental Quality Act (CEQA); Clean Water Act (CWA); Porter-Cologne Water Quality Control Act (Porter-Cologne); Migratory Bird Treaty Act (MBTA); Sections 1600, 1602, 3511, and 4700 of the California Fish and Game Code (CFGC); California Coastal Act (CCA); and the City's Multiple Species Conservation Program (MSCP) Subarea Plan (SAP) (City of San Diego 1997), the City's LDC, the City's Environmentally Sensitive Lands (ESL) regulations, and the City's Biology Guidelines.

1.2 Project Location

The project site is in the University City neighborhood of the City of San Diego within the City's University Community Plan Area, which is generally bordered by La Jolla to the west, State Route 52 to the south, and Interstate 805 to the east (Appendix A, Figures; Figure 1, Regional Location). The project site is linear, beginning west at the edge of Campus Point Drive and extending northeast and down a steep slope of a canyon composed of native and non-native vegetation and ending at the bottom through which existing dirt access roads traverse (Figure 2, Project Location). The project site is immediately surrounded on the northern, eastern, and southern sides by an undeveloped, steep-slope canyon and bordered on the western side by dense commercial development (Figure 2 and Figure 3, USGS Topographic Map). The entire project site and most of the survey buffer are within the Multi-Habitat Planning Area (MHPA) of the City's MSCP (Figures 1 and 2).

1.3 Project Description

The project includes the demolition of approximately 160 linear feet of existing 18-inch-diameter corrugated metal pipe and two catch basins. The project would install approximately 328 linear feet of 24-inch-diameter reinforced concrete pipe storm drain, including associated cut-off walls for steep terrain installations, installation of two catch basins, and installation of one concrete energy dissipator to reduce flow velocity from the outfall structure. One cleanout would be installed upstream of the concrete energy dissipator to accommodate the change in pipe vertical alignment. Approximately 50 linear feet of existing reinforced concrete brow ditches immediately north and south of the existing 18-inch-diameter corrugated metal pipe are also damaged and would be removed and replaced to intercept stormwater runoff on the slope and direct it into the catch basins and new 24-inch storm drain pipe. Approximately 16 linear feet of 6-foot-wide earthen vegetated channel would be established downstream of the concrete energy dissipator and would direct flow to the existing drainage.

Eroded sections of the existing slope would be repaired by grading and backfilling, and temporarily impacted areas would be revegetated per City requirements. The Revegetation Plan would include both container plants and an approved hydroseed mix and a 25-month maintenance and monitoring period.

The estimated area of total disturbance associated with project construction for the site would be 20,908.8 square feet, or 0.48 acre. All of the proposed storm drain would be placed underground and would not be visible. After the pipe is in place, the required trenches for construction would be backfilled, and the project site would be returned to pre-existing conditions.

Dewatering or diversion during wet season may be required. Diversion efforts may include installation of temporary gravity piping and pumping to bypass the storm drain system under construction.

Construction would be performed by qualified contractors, and contract documents, plans, and specifications would incorporate stipulations regarding standard City and District requirements and acceptable construction practices, including but not limited to safety measures, vehicle operation and maintenance, excavation stability, erosion control, drainage alteration, groundwater disposal, traffic circulation, public safety, dust control, and noise generation. Also, the project would be designed in accordance with applicable San Diego Municipal Code requirements.

The project includes removal and replacement of existing storm drains; installation of accessory structures such as storm drain cleanouts, dissipator, catch basins, and slope repair. This would include the use of construction vehicles and hand tools to clear vegetation, dig and remove the existing storm drains, trench and install the replacement storm drains, build a concrete dissipator, and build catch basins. Any staging of construction equipment would occur within the project boundary.

The project site can be accessed from Campus Point Drive, a dirt access road north of Eastgate Mall, and a dirt access road just east of Campus Point Drive.

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Section 2 Environmental Setting

The following is a description of the existing conditions on the project site and within the 300-foot survey buffer where appropriate (together referred to as the "survey area").

2.1 Land Use

The survey area is generally within and immediately surrounded by Campus Point Open Space (MHPA) and developed/landscaped areas. Most of the survey area occurs on the western slope of a canyon in the University City neighborhood of the City of San Diego (Figure 3). The steep-sided canyon slope that makes up most of the survey area contains native and non-native vegetation communities and land cover types and is largely undeveloped due to the steepness of the slope (Figures 2 and 3). Commercial development occurs on the mesa tops of the steep-slope canyon surrounding most of the survey area. Evidence of unhoused encampments, trash, and debris was observed at various locations along the slope. The urban areas within the western portion of the survey area include the Campus Point Drive roadway and parts of a corporate office campus; Nissan Design America, which is surrounded by medical campuses; industrial buildings, residential areas, a Jewish Community Recreation Center, and a high school. Historical imagery suggests that development in the area began between 1953 and 1964 (Historic Aerials 2026).

2.2 Topography and Soils

The topography of the survey area is variable: the western portion begins on a mesa top, extends downslope of a steep-sided canyon, crosses the canyon floor, and begins to climb back up the opposite slope of the canyon. The elevation in the survey area ranges from approximately 200 to 360 feet above mean sea level (AMSL) (Figure 3).

The survey area is underlain by three soil types: Altamont clay (30 to 50 percent slopes), Chesterton fine sandy loam (2 to 5 percent slopes), and terrace escarpments (Figure 4, Soils; USDA 2019).

Altamont clay (30 to 50 percent slopes) represents only a small portion of the northern part of the survey area and occurs only in the survey buffer. This soil type is typically found on uplands, hillslopes, or mountain slopes and is formed by material weathered from fine-grained sandstone and shale. Altamont clay (30 to 50 percent slopes) is primarily clay soil that has intersecting slickensides and cracks more than 1 centimeter wide to a depth of 20 inches or more that open and close once each year in April/May and November/December, respectively. When the cracks are closed, these soils have low permeability, but when open, they are well drained. Altamont clay (30 to 50 percent slopes) is not classified as a hydric (wetland) soil or has the potential to contain hydric inclusions (USDA 2019).

Chesterton fine sandy loam (2 to 5 percent slopes) occurs in the southwestern corner of the survey area and only within the survey buffer. It is typically found on gently to moderately sloping

hillslopes. Chesterton fine sandy loam (2 to 5 percent slopes) consists of moderately well-drained fine loamy soils that formed in material weathered from ferruginous sandstone. Chesterton fine sandy loam (2 to 5 percent slopes) is not classified as a hydric (wetland) soil or has the potential to contain hydric inclusions (USDA 2019).

Terrace escarpments form the majority of the survey area, including the entire project site, and are steep or very steep landscapes, typically with 4 to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, or gravelly sediments. Terrace escarpments are not classified as hydric (wetland) soils or have the potential to contain hydric inclusions (USDA 2019).

2.3 Hydrology

The survey area is in the Los Peñasquitos Watershed (Hydrologic Unit 906) (Project Clean Water 2026). The Los Peñasquitos Watershed encompasses 94 square miles, making it the second smallest watershed management area in the County of San Diego (County). It lies in the central portion of the County and neighbors the San Dieguito River Watershed to the north and the Mission Bay/La Jolla and San Diego River Water Management Areas to the south.

The National Wetlands Inventory (NWI) and U.S. Geological Survey National Hydrography Dataset (NHD) results identify one mapped aquatic feature running from south to north along the east-central portion of the survey area, in the survey buffer outside the project site (Figure 5, Hydrology) (USFWS 2026a; USGS 2026). The NWI results identify this aquatic feature as a freshwater forested/shrub wetland and the NHD results classify it as a riverine stream. The feature shown in the NWI and NHD database queries was observed in the survey buffer during the aquatic resources delineation survey. The riverine feature identified in the survey area has a documented hydrologic connection to the nearest traditional navigable water, Los Peñasquitos Lagoon, via its tributary, Los Peñasquitos Creek (USACE 2026). The aquatic resource observed on the project site likely has a downstream connection to Los Peñasquitos Creek and Los Peñasquitos Lagoon through the documented riverine feature and underground municipal stormwater facilities northwest of the survey area.

Two additional features that were not identified in the NWI and NHD databases query but observed during the survey include one erosional channel on the project site and one earthen channel with an in-feature wetland in the survey buffer, outside the project site.

Several other aquatic features identified in both the NWI and NHD surround the survey area on all sides, including freshwater emergent wetlands, riverine, and freshwater forested/shrub wetlands to the north, east, south, and west; two freshwater ponds to the north and east; and an estuarine and marine wetland to the west. Most of these features appear to be hydrologically connected to the documented riverine feature that occurs in the survey area.

The aquatic resources and drainage patterns on and adjacent to the project site show evidence of alteration from urban stormwater discharges into the canyon from the urban development at the top of the mesas. This includes historical and recent construction of infrastructure that directs stormwater flows into the canyon, which has caused accelerated erosion and the establishment of erosional aquatic features through the canyon.

2.4 Climate

On a regional level, the County has a Mediterranean climate, which is characterized by wet winters and dry summers. This is largely because of a semi-permanent high-pressure zone that sits over the Pacific Ocean during much of the year and forms a fog belt (marine layer). The survey area is generally in the South Coast Ranges subregion of the California Floristic Province (Jepson Online 2026). Generalized climate in the region is dry, subhumid mesothermal, with warm dry summers and cold moist winters, which pushes the growing season to the wet months of the year (late winter to early spring). Annual vegetation often goes dormant (senescent) during the later summer months until initial rainfall starts in the fall. The rainy season typically lasts from late October through April.

The closest Natural Resources Conservation Service weather station to the project site is the San Diego International Airport, approximately 10 miles south of the project site. Between 2004 and 2024, the average maximum temperature was 71 degrees Fahrenheit (°F), and the average minimum temperature was 58.5°F. The average annual precipitation during this time period was 9.60 inches. In 2023, the total rainfall was 14.43 inches, approximately 8.53 inches greater than in 2022 (NRCS 2026). As of February 2024, when the aquatic resources delineation fieldwork was conducted, total precipitation in the area was 4.58 inches, approximately 2.80 inches more than total precipitation in the area in February 2023.

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Section 3 Regulatory Framework

This section summarizes federal, state, regional, and local regulations, plans, policies, and programs that provide protection and management of sensitive biological resources that are applicable to the project. The federal government administers non-marine plant- and wildlife-related issues through the USFWS, while waters of the United States issues are administered by the U.S. Army Corps of Engineers (USACE). California law relating to wetland, water-related, and wildlife issues is administered by the CDFW. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA lead agency pursuant to the CEQA Guidelines. Biological resources-related laws and regulations that apply include the FESA, MBTA, CWA, CEQA, CESA, and CFGC.

As a condition of approval, the project would be required to comply with all federal, state, and local regulations.

3.1 Federal

Bald and Golden Eagle Protection Act (16 USC 668–668d). This act prohibits the possession, selling, or hunting of bald or golden eagles. This includes living eagles and their feathers, nests, eggs, or body parts.

CWA Section 404 (33 CFR 328.3[a]). These provisions regulate the discharge of dredged or fill material in waters of the United States, including wetlands. Activities that discharge dredge or fill material into waters of the United States can be authorized by the USACE.

On August 29, 2023, the U.S. Environmental Protection Agency and the USACE issued a final rule to amend the final "Revised Definition of Waters of the U.S." The 2023 final rule became effective on September 8, 2023. Under the 2023 final rule:

(a) Waters of the U.S. are defined as:
1. Waters which are:
    i. 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;
    ii. The territorial seas; or
    iii. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under (a)(5) of this section;
3. Tributaries of waters identified in (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

4. Wetlands adjacent to the following waters:
    i. Waters identified in (a)(1) of this section; or
    ii. Relatively permanent, standing or continuously flowing bodies of water identified in (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
5. Intrastate lakes and ponds not identified in (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in (a)(1) or (a)(3) of this section.

FESA Sections 7 and 9 (16 USC 1531 et seq.; 50 CFR Part 402). This act prohibits the "take" (i.e., harm, harass, or kill individuals or destroy associated habitat) of species federally listed as threatened or endangered. Take incidental to otherwise lawful activities can be authorized by the USFWS through a permit under FESA Sections 4(d), 7, or 10(a).

MBTA (16 USC 703–712; 50 CFR 10). The MBTA prohibits the direct or indirect take of migratory birds and their active nests unless permitted.

3.2 State

Birds of Prey Protection Provision (California Fish and Game Code, Section 3503.5). This provision prohibits the taking of birds of prey (order Falconiformes and Strigiformes), including their nests and eggs.

CESA (California Fish and Game Code, Section 2050 et seq.). This act prohibits any activities that would jeopardize or take a species designated as threatened or endangered by the state.

California Fish and Game Code, Section 1602. Section 1602 regulates water resources in the State of California. Activities that divert or obstruct the natural flow of or change or use material from the bed, channel, or bank of any river, stream, or lake may be authorized by the CDFW. CDFW jurisdiction includes intermittent and perennial watercourses and extends to the top of the bank of a stream or lake if unvegetated or to the limit of the adjacent riparian vegetation, located contiguous to the watercourse, if the stream or lake is vegetated.

California Fish and Game Code, Section 3503. Section 3503 prohibits the take, possession, or needless destruction of the nests or eggs of any birds except as otherwise provided by the code or any regulation made pursuant thereto.

CEQA, as amended (California Public Resources Code, Section 21000 et seq.). The goal of CEQA is to assist California public agencies in identifying potentially significant negative environmental impacts caused by their actions and avoiding or mitigating those impacts when feasible.

California Fully Protected Wildlife Species Provision (California Fish and Game Code, Sections 3511, 4700, 5050, and 5515). These provisions prohibit the taking of fully protected birds, mammals, amphibians, and fish.

California Native Plant Protection Act (California Fish and Game Code, Sections 1900–1913). These provisions preserve, protect, and enhance endangered or rare native plants of the state.

Regional Water Quality Control Board. The Regional Water Quality Control Board (RWQCB) regulates impacts to water quality under Section 401 of the CWA. A project must comply with Section 401 of the CWA before the USACE can issue a Section 404 Permit. The RWQCB will issue a Section 401 Water Quality Certification or Waiver of Certification, depending on the extent of impacts to waters of the United States. The RWQCB also regulates impact to waters of the state (usually limited to "isolated" waters or swales that may not fall under USACE jurisdiction) under Porter-Cologne.

Streambed Alteration Agreement (California Fish and Game Code, Section 1600). The CFGC requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or their tributaries, or use materials from a streambed to submit a notification for a Streambed Alteration Agreement to the CDFW.

Natural Community Conservation Planning Act, as amended (California Fish and Game Code, Sections 2800–2835). The primary objective of the Natural Community Conservation Planning program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listing by focusing on the long-term suitability of wildlife and plant communities and including key interests in the process.

Porter-Cologne. This act is regulated by the RWQCB for impacts to waters of the state. Although water quality issues related to impacts to waterways are normally addressed in a Section 401 Water Quality Certification, should a water of the State of California be determined by the USACE not to have CWA jurisdiction, Porter-Cologne would be addressed under a construction general permit, state general waste discharge order, or waste discharge requirements, depending on the level of impact and the properties of the waterway.

3.3 Local

3.3.1 San Diego Multiple Species Conservation Program

The City is a participant in the regional County MSCP, a cooperative federal, state, and local environmental conservation program aimed at preserving the County's unique native plants and animals (covered species) (County of San Diego 1998). The program's boundaries extend over multiple jurisdictions and environments, including regional watersheds and migratory wildlife corridors. The program also protects the region's diverse native plant and wildlife species, including those that are threatened and endangered. The MSCP also provides provisions and regulations that accommodate future growth and streamline building regulations while protecting natural resources in the region.

3.3.2 City of San Diego Multiple Species Conservation Program Subarea Plan

The MSCP SAP was adopted in 1997 and encompasses 206,124 acres in the regional MSCP Study Area (City of San Diego 1997). The SAP delineates an MHPA where preserve planning is focused and permanent conservation of habitat lands will be accomplished and includes a process for the issuance of permits under the California Natural Communities Conservation Planning Act of 1991, FESA, and CESA. The MSCP SAP is characterized by predominantly urban land uses, including associated parks and open space. The MSCP SAP separates the City into several geographic subunits. The project is in the urban area, which encompasses the central coastal and central eastern portions of the City including Urban Habitat Areas. The Urban Habitat Areas include existing designated open space such as Mission Bay; Tecolote Canyon; Marian Bear Memorial Park; Rose Canyon; San Diego River; the southern slopes along Mission Valley, Carroll Canyon, and Rattlesnake Canyon; Florida Canyon; Chollas Creek; and various smaller canyon systems. The majority of these lands consist of canyons with native habitats within relative proximity to other MHPA areas providing habitat. These areas contribute to the MHPA by providing habitat for native species to continue to reproduce and find new territories or by providing necessary shelter and forage for migrating species. Project consistency with the MSCP SAP General Management Directives and Area-Specific Management Directives (ASMDs) is discussed in Section 6.1, City of San Diego Multiple Species Conservation Program Subarea Plan.

3.3.3 Multi-Habitat Planning Area

The City's MHPA identifies a "hard line" boundary developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation in which only limited development may occur. The MHPA is an urban preserve that is constrained by existing or approved development and is composed of habitat linkages connecting several large core areas of habitat. The criteria used to define core and linkage areas involve maintaining ecosystem function and processes, including large wildlife movement. Each core area is connected to other core areas or to habitat areas outside the MHPA through common boundaries or through linkages. Core areas have multiple connections to ensure that the balance in the ecosystem is maintained. Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75 percent of the habitat within identified linkages conserved (City of San Diego 1997). Project consistency with the MSCP SAP General Planning Policies and Design Guidelines is discussed in Section 6.2, Multi-Habitat Planning Area.

3.3.4 Multi-Habitat Planning Area Land Use Adjacency Guidelines

Land uses adjacent to or within the MHPA would be managed to ensure minimal impacts to the MHPA. Consideration would be given to good planning principles in relation to adjacent land uses. The MHPA Land Use Adjacency Guidelines (LUAGs) address the issues of drainage, toxics,

lighting, noise, barriers, invasive species, brush management, and grading/development. Project consistency with the MHPA LUAGs is discussed in Section 6.3, Multi-Habitat Planning Area Land Use Adjacency Guidelines.

3.3.5 City of San Diego General Plan

The project is in the City and, therefore, is subject to the goals and policies in the City's General Plan (City of San Diego 2023). The City's General Plan provides policy guidance to balance the needs of a growing city while enhancing the quality of life for current and future San Diegans. It includes the City of Villages strategy, which outlines how the City can enhance its many communities and neighborhoods as growth occurs over time. The City's General Plan contains 10 elements that provide a comprehensive "blueprint" for the City's growth over the next 20+ years.

The project is required to comply with Policies CE-B.1 through CE-B.4, CE-B.6, CE-E.2, CE-E.3, CE-G.1, CE-G.4, CE-G.5, and CE-H.8 of the City's General Plan Conservation Element, which provide a framework for environmental conservation and best practices for open space and landform preservation, urban runoff management, biological diversity, and wetlands (City of San Diego 2023).

3.3.6 University Community Plan

The University Community Plan, updated and approved in July 2024, is a series of general goals for the development of land established by the City's General Plan. In the context of the City's General Plan, the goals apply to the analysis of citywide alternative plan schemes (City of San Diego 2024). Generally, the University Community Plan centers around four basic areas of concern: (1) facilitating and providing capital improvements for appropriate new growth in an efficient manner; (2) encouraging economically, socially, and racially balanced communities; (3) minimizing the environmental and design consequences of urban development; and (4) providing for a development framework that is compatible with regional plans and programs. The project would be required to comply with the following goals set forth in the Open Space and Conservation Element (City of San Diego 2024):

- Preservation and enhancement of biologically diverse ecosystems and improved viability of endangered, threatened and sensitive species and their habitats.
- Preservation and enhancement of wetland resources, including estuarine and coastal waters, creeks, bays, riparian wetlands and vernal pools, to provide ecosystem functions and services, wildlife habitat, water quality improvement, carbon sequestration, and resilience to climate change.
- Protection, enhancement and long-term management of an open space system that preserves canyonlands, habitat, and sensitive biological resources.

- Development patterns that preserve natural landforms, public and private open spaces, wildlife linkages, sensitive species and habitats, watersheds and natural drainage systems, and that contribute to clean air and clean water and help the city meet its climate action goals.
- Sustainable design that reduces greenhouse gas emissions and dependency on non-renewable energy sources, makes efficient use of resources, and incorporates sustainable landscaping, water use, and storm-water management.
- Opportunities for compatible public access to open space, including portions of the MHPA, through low impact passive recreation, scenic overlooks, environmental education and research.

3.3.7 City of San Diego Biological Guidelines

The City's Development Services Department developed the City's Biology Guidelines in the Land Development Manual "to aid in the implementation and interpretation of the ESL regulations, LDC, Chapter 14, Division 1, Section 143.0101 et seq., and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section 131.0201 et seq." (City of San Diego 2018). The City's Biology Guidelines also provide standards for the determination of impact and mitigation under CEQA. Biological Technical Report supplemental guidelines were provided in the 2018 update of the City's 2012 Biology Guidelines. Sensitive biological resources, as defined by the ESL regulations, include lands in the MHPA, as discussed in Section 3.3.3, Multi-Habitat Planning Area, of this BRTR, as well as other lands outside the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, threatened, or endangered species; or narrow endemic species.

The City's definition of wetlands is broader than the definition applied by the USACE. The City uses the criteria listed in Section 320.4(b)(2) of the USACE General Regulatory Policies (33 CFR 320–330) to apply an appropriate buffer around wetlands that serves to protect the function and value of the wetland. Guidelines that supplement the development regulation requirements described in this section are provided in the City's Biology Guidelines. According to the City's Biology Guidelines, a wetland buffer is an area surrounding a wetland that helps protect the function and value of the adjacent wetland by reducing physical disturbance, provides a transition zone where one habitat phases into another, and acts to slow floodwaters for flood and erosion control, sediment filtration, water purification, and groundwater recharge. The City's Biology Guidelines also rank upland habitat values by rarity and sensitivity. The most sensitive habitats are Tier I, and the least sensitive are Tier IV. The varying mitigation ratios and requirements that mitigation be either in-tier or in-kind are based on the sensitivity of the affected habitats provided in Table 3 of the City's Biology Guidelines. Mitigation ratios for impacts to sensitive habitats are also determined based on the relationship between impacts and mitigation relative to their location inside or outside the MHPA boundary (City of San Diego 2018).

3.3.8 City of San Diego Land Development Code Regulations – Environmentally Sensitive Lands Regulations

The ESL regulations in Chapter 14, Article 3, Division 1 (Section 143.0101), of the City's LDC (City of San Diego 2018) are intended to ensure that development occurs in a manner that protects the overall quality of specific natural resources, as defined in the City's LDC, and is consistent with sound resource conservation principles and the rights of private property owners. These regulations and accompanying guidelines for biological resources, steep hillsides, special flood hazards areas, and coastal bluffs and beaches are intended to serve as standards for the determination of impacts and mitigation under the CEQA Statute and Guidelines and the CCA. Development on a site containing ESL requires a Site Development Permit in accordance with LDC Section 125.0502.

The project's consistency with the City's Biology Guidelines and the City's LDC are demonstrated in Section 6, Plan and Policy Consistency Analysis.

The City's Biology Guidelines and Section 143.0150 of the City's LDC allow for deviations from wetland avoidance requirements in ESL located outside the Coastal Overlay Zone if a project meets specific criteria under the Essential Public Project Option, the Economic Viability Option, or the Biologically Superior Option. Project qualification under the Essential Public Project Option per the City's Biology Guidelines (Section 143.051[d]) is discussed in Section 6.4, Deviations to Environmentally Sensitive Lands Regulations.

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Section 4 Methods

Prior to the 2024 biological resources survey, sensitive biological and aquatic resources with potential to occur in the survey area were identified through a review of existing maps, literature and other biological studies conducted in the area, and sensitive species occurrence databases.

4.1 Literature Review

The following documents and databases were reviewed before the 2024 biological resources survey was performed:

- Campus Point Drive Storm Drain Replacement Project (HELIX 2018)
- Campus Point Drive Storm Drain Replacement Project Jurisdictional Delineation Report (HELIX 2014)
- Calflora Database (Calflora 2026)
- The CNPS Rare Plant Program Inventory of Rare Plants (CNPS 2026)
- California Natural Diversity Database (CDFW 2026a)
- CDFW Biogeographic Information and Observation System (CDFW 2026b)
- SanGIS SanBIOS database (SanGIS 2026)
- U.S. Department of Agriculture Soil Survey (USDA 2019)
- USFWS NWI Wetlands Mapper (USFWS 2026a)
- USFWS Information for Planning and Consultation (USFWS 2026b)
- Historic Aerials (Historic Aerials 2026)
- Google Earth (Google Earth 2026)

4.2 General Biological Surveys

Harris biologists Emily Mastrelli and Kelly Otto (Appendix B, Biologists Resumes) conducted a general biological reconnaissance survey on February 13, 2024, from 7:50 a.m. to 2:00 p.m. The temperature ranged from 45°F to 59°F and skies were mostly clear with minimal wind. During the survey, the biologists mapped vegetation communities, documented observed plant and wildlife species, and evaluated the potential for occurrence of sensitive plant and wildlife species by walking slowly along meandering transects throughout the survey area. A formal aquatic resources delineation was also performed on February 13, 2024, and completed on February 14, 2024, by Harris biologists Kelly Otto and Katie Deodat (Appendix B). The delineation on February 13, 2024, was performed concurrently with the biological reconnaissance survey, and the survey on February 14, 2024, was performed from 1:00 p.m. to 3:30 p.m. On February 14, 2024, the temperature ranged from 46°F to 48°F, and skies were clear with minimal wind. No focused protocol surveys or rare plant surveys were conducted during the 2024 survey effort.

The results of the 2024 surveys, particularly the vegetation and land cover type mapping, were verified in the field by Harris biologists Monica Alfaro and Katie Deodat on June 2, 2026.

In addition to the general biological reconnaissance survey, protocol-level surveys for coastal California gnatcatcher (CAGN; *Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) were conducted between April and July 2026. Further information on the protocol-level surveys is provided in Section 4.4, Protocol-Level Surveys.

Discussions of the 2024 surveys (verified in June 2026) and the 2026 protocol-level surveys conducted in the survey area are provided in the following sections.

4.2.1 Vegetation and Land Cover Type Mapping

Vegetation communities and land cover types observed in the survey area were mapped by Harris biologists using geographic information system (GIS) aerial maps connected to an iSXBlue II Global Positioning System (GPS) receiver for maximum accuracy. The vegetation communities and land cover types were documented by walking along meandering transects through the survey area (where accessible). The vegetation community and land cover type mapping was in accordance with the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County and noted in the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008) per the City's Biology Guidelines (City of San Diego 2018). Representative photographs of each vegetation community observed in the survey area are present in Appendix C, Photographic Log.

4.2.2 Plant and Wildlife Species Observations

Wildlife identifications were made in the field directly through visual observation or indirectly through call, burrow, track, or scat detection. Latin and common names of wildlife follow Crother (2012) for reptiles and amphibians, American Ornithological Society (Chesser et al. 2023) for birds, San Diego Natural History Museum Atlas (2017) for mammals, and San Diego Natural History Museum (2002) for butterflies.

Plant and wildlife species observed during the survey were recorded in field notebooks, and sensitive species locations were recorded in a GIS-enabled ArcGIS Collector application. Complete lists of observed plant and wildlife species are provided in Appendix D, Plant and Wildlife Species Observed.

In addition to species detected during the survey, the survey area was assessed for the potential for sensitive plant and wildlife species to occur on site, the results of which are presented in Section 5.4, Sensitive Species. Determinations were made through assessment of habitat preferences, knowledge of local and regional distributions, and review of pertinent literature and local recorded occurrences.

Plants that could not be identified in the field by the surveyors were collected and subsequently identified using the Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). Plant nomenclature follows Baldwin et al. (2012). Non-native invasive plant species were identified using the California Invasive Plant Council's California Invasive Plant Inventory rating criteria (Cal-IPC 2026).

4.3 Aquatic Resources Delineation

The formal aquatic resources delineation was conducted to identify and document aquatic resources in the survey area using the routine on-site determination method described in the USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (USACE 2008a). An Arid West Region Ordinary High Water Mark (OHWM) datasheet and a USACE three-parameter wetland determination datasheet for the Arid West Region were completed at each sampling point for each unique aquatic resource feature (USACE 1987, 2008a, 2008b). Each sampling point was collected to investigate the presence and extent of potential wetland and non-wetland waters in the survey area. The full results and discussion of the aquatic resources delineation are documented in Appendix E, Aquatic Resources Delineation Report, and summarized in Section 5.2, Jurisdictional Aquatic Resources, of this BRTR.

4.4 Protocol-Level Surveys

4.4.1 Coastal California Gnatcatcher

Protocol coastal California gnatcatcher surveys were conducted by permitted biologists Monica Alfaro (TE Permit No. PER0003214) and Katie Deodat (TE Permit No. PER5061737) from April 23 through June 2, 2026. Survey methodology followed the 1997 USFWS Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol guidelines (USFWS 2010). Protocol surveys were conducted in portions of the project site and a 500-foot survey buffer that were determined to be suitable habitat for CAGN, specifically in the Diegan coastal sage scrub in the eastern and central portions of the survey area. Surveys were conducted by walking meandering transects along the edges of suitable CAGN habitat in the survey area. The density and height of the vegetation and steep slopes did not allow for direct access into the Diegan coastal sage scrub habitat in the survey area. Instead, vantage points were used to passively observe (with the aid of binoculars) for individuals at a distance to allow for natural behavior and maximum detection. Pre-recorded CAGN vocalizations were played selectively during all three surveys to elicit responses from gnatcatchers that may have been in the area but were not detected visually or audibly without its use.

Results of the CAGN survey effort are documented in Appendix F, Coastal California Gnatcatcher Survey Report, and summarized in Section 5.4 of this report.

4.4.2 Least Bell's Vireo

Protocol least Bell's vireo surveys were conducted by qualified biologists Monica Alfaro and Katie Deodat from April 23 through July 20, 2026. Survey methodology followed the 2001 USFWS Least Bell's Vireo Survey Guidelines. The eight surveys for the presence of least Bell's vireo were conducted at least 10 days apart and occurred within suitable habitat on the project site including a 500-foot buffer.

Observations of brown-headed cowbird (*Molothrus ater*) were recorded using hand-held GPS units using the ArcGIS Field Maps application and reported. Locations of other special-status bird species were also documented using ArcGIS Field Maps, and common bird species were noted. Results of the least Bell's vireo survey efforts are documented in Appendix G, Least Bell's Vireo Survey Report, and summarized in Section 5.4 of this report.

4.5 Survey Limitations

Plants and wildlife were identified by direct observation, vocalizations, or other observance including tracks, scat, and other sign. Therefore, lists of observed wildlife species are not necessarily comprehensive because species can be nocturnal, secretive, or within the region (survey area) seasonally/during migration only and, therefore, may not have been observed. The survey was conducted during a time of year when many rare plants are not yet present or identifiable; therefore, some rare plants may not have been observed. However, the evaluation of available suitable habitat and historical occurrences of sensitive plant and wildlife species in the survey area was used to compensate for potential gaps in direct observations during the survey.

Some areas were not surveyed (i.e., developed areas) due to a lack of habitat, and other areas, primarily the canyon slopes, contained impenetrable vegetation stands or areas that were unsafe to physically assess due to steep and eroded slopes. These areas either were not reviewed because of lack of habitat or were only able to be visually scanned rather than walked. Most of these inaccessible areas are in the survey buffer, outside the project site, and are unlikely to result in the presence of unidentified sensitive biological resources on the project site.

Section 5 Results

The results presented below include data from surveys conducted in the survey area.

5.1 Vegetation Communities and Land Cover Types

The survey area is in the South Coast Ranges subregion of the California Floristic Province (Jepson Online 2026). The terrestrial vegetation classifications in this BRTR conform to Oberbauer et al. (2008) and the City's Biology Guidelines (City of San Diego 2018).

Seven vegetation communities and land cover types were observed within the survey area: Diegan coastal sage scrub, eucalyptus woodland, emergent wetland, non-vegetated channel, southern arroyo willow riparian forest, disturbed habitat, and urban/developed land (Figure 6, Vegetation Communities and Land Cover Types) (Oberbauer et al. 2008).

All vegetation communities and land cover types in the survey area are within the MHPA except 3.095 acres of urban/developed land, which is located outside the MHPA and outside the project site (Figure 6). Table 1, Vegetation Communities and Land Cover Types in the Survey Area within the Multi-Habitat Planning Area, shows the vegetation communities occurring in the survey area.

Table 1. Vegetation Communities and Land Cover Types in the Survey Area within the Multi-Habitat Planning Area

Vegetation Community and Land Cover Type	Tier/Biology Guidelines[1]	Project Site (acres)[2]	Survey Area (acres)[2]
Upland			
Diegan Coastal Sage Scrub (32500)	II	0	3.343
Eucalyptus Woodland (79100)	IV	3.032	3.413
Subtotal	—	*6.375*	*6.756*
Riparian			
Emergent Wetland (52440)	Disturbed Wetland	0	0.010
Southern Arroyo Willow Riparian Forest (61320)	Riparian Forest	0.008	1.489
Subtotal	—		*1.499*
Other Land Cover			
Non-Vegetated Channel (64200)[3]	Natural Flood Channel	0.040	0.102
Disturbed/Developed			
Disturbed Habitat (11300)	IV	0.717	0.735
Urban/Developed Land (12000)[4]	IV	3.527	3.536
Subtotal	—	*4.244*	*4.271*
Total	—	**12.172**	**12.628**

Sources: Holland 1986; Oberbauer et al. 2008.

Notes:

[1] MSCP SAP tiers and City wetland identifications are from the City's Biology Guidelines (City of San Diego 2018). Other land cover/aquatic habitat type from Table 2A in the City's Biology Guidelines.

[2] Acreages rounded up to one-thousandths.

[3] Acreage based on the top-of-bank measurements.

[4] Approximately 3.095 acres of urban/developed land occur outside the MHPA.

5.1.1 Upland Vegetation Communities

5.1.1.1 Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is composed of various soft, low, aromatic shrubs characteristically dominated by drought-deciduous species, such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sage (*Salvia* spp.), with scattered evergreen shrubs, including lemonade berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*) (Oberbauer et al. 2008). Diegan coastal sage scrub is present in coastal Southern California from Los Angeles, California, to Baja California, Mexico, and supports a rich diversity of sensitive plants and wildlife.

Approximately 3.343 acres of Diegan coastal sage scrub occur in the survey area and the MHPA, entirely within the survey buffer, outside the project site (Appendix C, Photographs 1, 2, 6, and 8; Figure 6). Diegan coastal sage scrub occurs in smaller sections on the western slope that makes up most of the survey area and occurs in larger quantities on the eastern slopes within the survey buffer. Dominant species in these stands include lemonade berry and black sage (*Salvia mellifera*). Subdominant plant species include California sagebrush, sugar bush (*Rhus ovata*), and laurel sumac. A narrow strip of Diegan coastal sage scrub also occurs along the southeastern edge of the riparian corridor surrounding NWW-2 and is dominated by broom baccharis (*Baccharis sarothroides*) with California sagebrush and poison oak (*Toxicodendron diversilobum*) as subdominant species (Figure 6). Diegan coastal sage scrub is a Tier II vegetation community (City of San Diego 2018).

5.1.1.2 Eucalyptus Woodland (79100)

Eucalyptus woodland habitat can be composed of single-species thickets with little to no shrubby understory or scattered trees over a well-developed herbaceous and shrubby understory. Generally, eucalyptus forms a dense stand with a closed canopy and produce a large amount of leaf and bark litter that chemically limit the ability of other species to grow in the understory. Characteristic species include a variety of eucalyptus species including the most common, red gum (*Eucalyptus camaldulensis*) and blue gum (*Eucalyptus globulus*) (Oberbauer et al. 2008).

Approximately 3.413 acres of eucalyptus woodland occurs in the survey area and in the MHPA (Photographs 1 through 7, and 12 thorough 14; Figure 6). Approximately 0.381 acre occurs on the project site, with the remaining 3.032 acres in the survey buffer. Eucalyptus woodland makes up the majority of the survey area along the western slope of the canyon and surrounding the majority of the project site. Dominant species include red gum eucalyptus with an understory dominated by

Cootamundra wattle (*Acacia baileyana*) with scattered lemonade berry. Eucalyptus woodland is a Tier IV vegetation community (City of San Diego 2018).

5.1.2 Riparian Vegetation Communities

5.1.2.1 Emergent Wetland (52440)

Emergent wetlands are generally persistent wetlands dominated by low-growing, perennial wetland species and can be found in channels, seeps, and springs; floodplains; margins of lakes and rivers; and various basins such as pools and ponds, palustrine lakes, montane meadows, and dune swales. Emergent wetlands can be freshwater or alkaline and are often, but not always, found in previously disturbed areas throughout the County (Oberbauer et al. 2008).

Approximately 0.010 acre of emergent wetland occurs in the survey area and the MHPA, entirely within the survey buffer, outside the project site (Photograph 10; Figure 6). Emergent wetland occurs within the degraded concrete lining of non-wetland water (NWW-) 3 and is dominated by arroyo willow (*Salix lasiolepis*) and pampas grass (*Cortaderia* sp.), distinguishing this feature as a disturbed wetland, a City wetland designation, according to the City's Biology Guidelines (City of San Diego 2018).

5.1.2.2 Southern Arroyo Willow Riparian Forest (61320)

Southern arroyo willow riparian forests are winter-deciduous forests dominated by moderately tall broadleaf trees and arroyo willow. These forests generally have closed canopies with an understory consisting of shrubby willows. This vegetation community is often sub-irrigated and usually occurs along perennial rivers and streams. Characteristic species for this vegetation community include California mugwort (*Artemisia douglasiana*), mule fat (*Baccharis salicifolia*), wild cucumber (*Marah macrocarpus*), willow species (*Salix* sp.), and nettle species (*Urtica* sp.) (Oberbauer et al. 2008).

Approximately 1.489 acres of southern arroyo willow riparian forest occur in the survey area and the MHPA (Photographs 1, and 6 through 11; Figure 6). Approximately 0.008 acre of southern arroyo willow riparian forest occurs on the project site. The remaining 1.481 acres occur within the survey buffer outside the project site. Southern arroyo willow riparian forest is along NWW-2 and NWW-3 and is dominated by arroyo willow, poison oak, and California blackberry (*Rubus ursinus*). Therefore, it is defined as a riparian forest, a City wetland designation, according to the City's Biology Guidelines (City of San Diego 2018).

5.1.3 Other Land Cover

5.1.3.1 Non-Vegetated Channel (64200)

Non-vegetated channel consists of predominantly unvegetated sandy, gravelly, or rocky channels. Variable water lines inhibit the growth of vegetation, although some weedy grass species may grow along the outer edges of the channel. Vegetation may exist here but is usually less than 10 percent total cover (Oberbauer et al. 2008).

Approximately 0.102 acre of non-vegetated channel occurs in the survey area and the MHPA. Approximately 0.040 acre occurs on the project site, with the remaining 0.062 acre in the survey buffer (Photographs 4 through 8 and 10; Figure 6). The non-vegetated channel in the survey area consists of three earthen-bottom aquatic features, identified as 'non-wetland waters,' NWW-1 through NWW-3 (Figure 6 and Figure 7, Aquatic Resources).

Non-vegetated channel NWW-1 was formed by severe erosion from the failure of the underground storm drain pipe that extends through the center of the project site. The channel is unvegetated except for sparse upland grass species (*Bromus* sp.) growing along the top of the bank, is within an upland vegetation community (eucalyptus woodland) on a steep slope, and does not support wetland-dependent vegetation. Therefore, NWW-1 does not meet the City's definition of a wetland but is defined as a natural flood channel according to the City's Biology Guidelines (City of San Diego 2018). Although the designation of NWW-1 as a 'natural flood channel' is the closest applicable categorization of this feature under the City's Biology Guidelines, it is not a naturally occurring channel because it formed solely from erosion caused by the failure of underground municipal infrastructure and would not exist otherwise.

NWW-2 is generally unvegetated but is surrounded by southern arroyo willow riparian forest and has approximately 15 percent coverage of willows growing within the feature under and along the sides of the top of bank. Similarly, NWW-3 is earthen-bottom where the concrete channel lining has degraded. NWW-3 is generally non-vegetated but has an emergent wetland within the feature and is surrounded by southern arroyo willow riparian forest. Therefore, non-vegetated channels NWW-2 and NWW-3 meet the City's definition of a wetland according to the City's Biology Guidelines (City of San Diego 2018).

5.1.4 Disturbed/Developed Land Cover Types

5.1.4.1 Disturbed Habitat (11300)

Disturbed habitat consists of areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association but continue to retain a soil substrate. Typically, vegetation, if present, is nearly exclusively composed of non-native plant species, such as ornamentals or ruderal exotic species, that take advantage of disturbance or show signs of past

or present wildlife use that removes any capability of providing viable natural habitat for uses other than dispersal. Disturbed habitat typically supports scattered non-native species such as mustard (*Brassica* sp.), wild radish (*Raphanus sativus*), sweet fennel (*Foeniculum vulgare*), Russian thistle (*Salsola tragus*), and starthistle (*Centaurea* sp.).

Approximately 0.735 acre of disturbed habitat occurs in the survey area and the MHPA (Photographs 11 and 12; Figure 6). Approximately 0.014 acre of disturbed habitat occurs on the project site, with the remaining 0.717 acre in the survey buffer outside the project site. Disturbed habitat in the survey area consists of only one portion of the eastern slope of the survey area, and the dominant species is black mustard (*Brassica nigra*). A few coastal sage scrub species, including lemonade berry, are scattered throughout the disturbed area; however, this habitat no longer functions as coastal sage scrub habitat.

5.1.4.2 Urban/Developed Land (12000)

Urban/developed land refers to areas that have been constructed on or disturbed so severely that native vegetation is no longer supported. Urban/developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large volume of debris or other materials (Oberbauer et al. 2008). Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction staging areas, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

Approximately 3.536 acres of urban/developed land occur in the survey area, with approximately 0.441 acre in the MHPA and 3.095 outside the MHPA. Approximately 0.009 acre of urban/developed land occurs on the project site, with the remaining 3.531 acres in the survey buffer outside the project site (Photographs 13 and 14; Figure 6). Urban/developed land occurs primarily within the western portion of the survey area along Campus Point Drive and the commercial buildings west of Campus Point Drive.

Seven concrete drainage channels, OTH-1 through OTH-7, have been mapped as urban/developed land because they are artificial features constructed in upland for stormwater and erosion control (Photograph 3). Further, these drainage channels do not exhibit the characteristics of non-vegetated channels or natural flood channels, nor do they support wetland-dependent vegetation that would categorize them as City wetlands or non-wetlands per the Biology Guidelines (City of San Diego 2018). The seven concrete drainage channels comprise approximately 0.044 acre of the urban/developed land in the survey area, with approximately 0.005 acre on the project site and 0.039 acre in the survey buffer. Concrete drainage channels OTH-1 through OTH-7 are surrounded by eucalyptus woodland. Portions of OTH-4 and OTH-5 have upland herb and shrub species growing on top of accumulated leaf litter within the concrete lining. OTH-7 occurs at the northeastern edge of the survey buffer and ends where it is undergrounded through a storm drain at its downstream end.

5.2 Jurisdictional Aquatic Resources

The results of the 2024 aquatic resource delineation determined that a total of 0.102 acre of non-wetland waters occurs in the survey area, and approximately 0.01 acre of wetland waters occurs in the survey area. Potentially jurisdictional aquatic resources mapped in the survey area are shown on Figure 7. Of the total 0.112 acre of potentially jurisdictional aquatic resources documented in the survey area, approximately 0.040 acre of non-wetland waters occurs on the project site. The remaining approximately 0.072 acre of non-wetland and wetland waters is in the survey buffer outside the project site.

Based on the aquatic resource delineation results, there are three aquatic features preliminarily determined to be under the jurisdiction of the resource agencies USACE, RWQCB, and CDFW, and the City. The preliminary federal, state, and City jurisdictions of the aquatic resources in the survey area are discussed below and summarized in Table 2, Potentially Jurisdictional Aquatic Resources in the Survey Area. It should be noted that only the resource agencies, USACE, RWQCB, and CDFW, and the City can make a final determination of jurisdictional boundaries.

NWW-1 is an ephemeral non-wetland water that was formed by severe erosion from the damaged underground storm drain pipe that extends through the project site. Despite being an erosional ephemeral feature, NWW-1 appears to be hydrologically connected to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon, the nearest traditional navigable water, approximately 1.5 miles downstream to the north. Additionally, this feature currently conveys urban stormwater through a primarily undeveloped canyon, potentially providing water quality and habitat functions for the Los Peñasquitos Watershed. Therefore, NWW-1 is potentially under the jurisdiction of the RWQCB, CDFW, and the City pursuant to the CWA Section 401, CFGC Section 1602, and City Biology Guidelines, respectively. However, because it is an ephemeral feature, NWW-1 is potentially not under the jurisdiction of USACE pursuant to CWA Section 404. As previously discussed in Section 5.1.3, Other Land Cover, although NWW-1 does not meet the definition of a City wetland and is most closely categorized as a natural flood channel according to the City's Biology Guidelines, the feature is not naturally occurring and, therefore, is not a City wetland (City of San Diego 2018).

NWW-2 and NWW-3 were determined to be at least intermittent non-wetland waters that are hydrologically connected to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon. NWW-3 has an in-channel emergent wetland that is hydrologically connected to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon. Therefore, NWW-2 and NWW-3, in addition to the in-channel emergent wetland that has formed within NWW-3, are potentially under the jurisdiction of USACE pursuant to CWA Section 404. NWW-2 and NWW-3 and the in-channel emergent wetland within NWW-3 convey urban stormwater through a primarily undeveloped canyon, potentially providing water quality and habitat functions for the San Diego River

Watershed and, therefore, are potentially under the jurisdiction of the RWQCB and CDFW pursuant to the CWA Section 401 and CFGC Section 1602, respectively. As previously discussed in Section 5.1.3, these features would be under the jurisdiction of the City as wetlands pursuant to the City's Biology Guidelines as well.

As previously discussed in Sections 5.1.3 and 5.1.4, Disturbed/Developed Land Cover Types, the seven concrete drainage channels that occur in the survey area, OTH-1 through OTH-7, were constructed in and drain only uplands solely for stormwater and erosion control, do not exhibit the characteristics of non-wetland waters or stream channels, and are not considered aquatic resources as defined by the USACE, RWQCB, and CDFW. Further, these artificial features do not exhibit the characteristics of non-vegetated channels or support wetland-dependent vegetation and, therefore, do not meet the City's definitions of wetlands or non-wetlands per the City's Biology Guidelines. For these reasons, these artificial features have been mapped as urban/developed land (Figure 6). Therefore, OTH-1 through OTH-7 are not under the jurisdiction of USACE, RWQCB, CDFW, and the City pursuant to CWA Section 404, CWA Section 401, CFGC Section 1602, and City Biology Guidelines, respectively. These features are not considered aquatic resources or City wetlands and are not included in Table 2.

Table 2. Potentially Jurisdictional Aquatic Resources in the Survey Area

Feature	Project Site Permanent Impacts (acres)[1]	Project Site Temporary Impacts (acres)[1]	Project Site Total (acres)[1]	Survey Buffer (acres)[1]	Survey Area Total (acres)[1]	Potential Jurisdiction
Non-Wetland						
NWW-1	0.040	0	0.040	0	0.040	RWQCB/CDFW
NWW-2	0	0	0	0.037	0.037	USACE/RWQCB/CDFW/City
NWW-3	0	0	0	0.025	0.025	USACE/RWQCB/CDFW/City
Non-Wetland Subtotal[2]	*0.040*	*0*	*0.040*	*0.062*	*0.102*	—
Wetland						
NWW-3 Emergent Wetland	0	0	0	0.01	0.01	USACE/RWQCB/CDFW/City
Total[2]	**0.040**	**0**	**0.040**	**0.072**	**0.112**	**—**

Notes: CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; USACE = U.S. Army Corp of Engineers

[1] Acreages based on the top-of-bank measurements.

[2] Rounded to one-thousandth of an acre.

A detailed discussion of the aquatic resources delineation results is included in Appendix E.

5.3 Observed Species

The protocol-level sensitive wildlife surveys were conducted using a 500-foot survey buffer, but for the purposes of this document, only those species documented on the project site and 100-foot

survey buffer (survey area) during the 2024/2026 surveys are considered present. Any sensitive species observed outside the 100-foot buffer but within the 500-foot buffer is considered as having high potential to occur in the survey area.

5.3.1 Plant Species

Appendix D lists the vascular plant species observed in the survey area during the 2024 biological reconnaissance survey (verified in 2026). A total of 74 plant taxa were observed in the survey area, 32 (43 percent) of which were native and 42 (57 percent) of which were non-native species. Of the 74 plants observed in the survey area, one is designated as sensitive; however, a rare plant survey was not conducted as part of this biological reconnaissance survey. Sensitive plant species observed in the survey area are described in Section 5.4.

5.3.2 Wildlife Species

Appendix D lists the wildlife species detected in the survey area during the 2024 biological reconnaissance survey (verified in 2026). A total of 28 wildlife species were observed in the survey area during the 2024 biological reconnaissance survey. A total of three invertebrates, one amphibian, 21 birds, and three mammals (or evidence thereof) were observed in the survey area. Of the 28 wildlife species observed in the survey area, two are designated as sensitive. Sensitive wildlife species observed in the survey area are described in Section 5.4.

5.4 Sensitive Species

Sensitive species are those recognized by federal, state, or local agencies as being potentially vulnerable to impacts because of rarity, local or regional reductions in population numbers, isolation/restricted genetic flow, or other factors. Sensitive plants include those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and CDFW; those sensitive by the CDFW; those species included in the California Rare Plant Rank (CRPR) inventory maintained by the CNPS; and are listed as an MSCP SAP-covered species; or have been defined by the City as narrow endemic. Sensitive wildlife species include those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and CDFW; sensitive by the CDFW; on the California Watch List (WL); or MSCP SAP-covered species. The MSCP SAP provides ASMDs for certain covered species to ensure their protection (City of San Diego 1997).

As discussed in Section 4, Methods, no focused surveys were conducted as part of the 2024 biological reconnaissance survey; however, CAGN and least Bell's vireo protocol-level surveys were conducted in 2026. The results of a rare plant survey conducted by HELIX in 2014 were documented in a technical report prepared for this project in 2018 by HELIX, which showed that three San Diego sagewort (*Artemisia palmeri*) plants were observed in the survey area. Approximately 58 San Diego sagewort plants were observed during the 2024 biological reconnaissance survey. In addition to one sensitive plant species, two sensitive wildlife species,

Cooper's hawk (*Accipiter cooperii*) and yellow warbler (*Setophaga petechia*), were observed during the 2024 biological reconnaissance survey. The sensitive plant and wildlife species observed in the survey area during the 2024 biological reconnaissance survey are identified as present and discussed in this section accordingly.

As described in Section 4.1, Literature Review, distributions of historical sensitive species observations within 1 mile of the survey area were reviewed in preparation of this BRTR. For this biological resources assessment, only those species that are known to occur or have some potential to occur within 1 mile of the survey area are addressed in this section. Species returned during CNPS querying with elevation ranges exceeding that of the survey area or plants requiring habitats not available in the survey area were excluded. The list of observed and potentially occurring sensitive plant and wildlife species is provided in Table 3, Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area, and shown on Figure 8, Species with Potential to Occur, along with an assessment of their potential for occurrence in the survey area. Other database results are not included on Figure 8 because GIS information on specific points is not available.

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Plants				
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1/MSCP; NE	Occurs in openings with clay soils in vernal pools, coastal sage scrub, chaparral, valley grassland, and riparian habitats between 12 and 3,260 feet AMSL. Blooms April–July.	*Low.* Although suitable Diegan coastal sage scrub with clay soils occurs within the buffer of the survey area, no clay openings or vernal pools were observed. No historical locations are documented within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Adolphia californica	California adolphia	None/None/2B.1/None	Occurs in coastal scrub, chaparral, and valley and foothill grasslands with clay soils at elevations between 35 and 2,430 feet AMSL. Blooms December–May.	*Low.* Suitable Diegan coastal sage scrub with clay soils is present within the buffer of the survey area, outside the project site. Only one historical location exists from 1935 approximately 0.8 mile north of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1/MSCP; NE	Occurs in open, often disturbed areas with clay, loam, sandy loam, and sandy soils within grasslands, coastal scrub, river terraces, pools, and alkali playas in Southern California and Baja California. Found below 600 feet AMSL. Blooms April–October.	*Not Expected*. Suitable coastal sage scrub habitat with clay soils occurs within the buffer of the survey area; however, no historical locations are documented within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Artemisia palmeri	**San Diego sagewort**	**None/None/4.2/None**	**Occurs in (mesic and sandy) chaparral and coastal scrub and riparian forest, scrub, and woodland habitats from 15 to 3,000 feet AMSL. Blooms (February) May–September.**	***Present.* Suitable habitat is present throughout the coastal sage scrub and arroyo willow riparian forest habitats in the survey area. Approximately 58 individual plants observed in the 2024 survey; this species was also observed in the 2014 rare plant survey (Figure 9, Sensitive Species Observed; HELIX 2018).**
Bahiopsis laciniata	San Diego County viguiera	None/None/4.3/None	Occurs in chaparral and coastal scrub vegetation communities with silt loam, loam, sandy loam, or loamy sand between 200 and 2,460 feet AMSL. Blooms February–August.	*Moderate*. A common species in Diegan coastal sage scrub habitat, which occurs within the buffer of the survey area. No historical observations occur within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Brodiaea filifolia	Thread-leaved brodiaea	FT/SE/1B.1/None	Occurs in open clay, clay loam, loam, or sandy loam soils at the edges of vernal pools in a variety of habitats including coastal sage scrub, foothill woodland, valley grassland and wetland or riparian areas, or within grasslands between 65 and 6,135 feet AMSL. Blooms March–June.	*Not Expected*. Diegan coastal sage scrub and riparian habitat occurs throughout the survey area; however, these habitats are very dense with little to no open areas that are suitable for this species. This species was not observed during the 2024 biological reconnaissance survey, and no historical locations occur within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1/MSCP; NE	Occurs in vernal pools, grassland, and scrub openings with silt loam, loam, sandy loam soils, or bedrock at elevations under 5,250 feet AMSL. Blooms May–July.	*Low.* Diegan coastal sage scrub occurs in the survey area; however, the vegetation is very dense with few to no openings to support this species. No historical locations occur within 1 mile of the survey area (CNPS 2026; HELIX 2018).
Ceanothus verrucosus	Wart-stemmed ceanothus	None/None/2.B.2/MSCP; NE	Occurs in chaparral habitat with silt loam, sandy loam, and loamy sand soils between zero and 360 feet in elevation. Blooms January–April.	*Not Expected*. No suitable chaparral habitat occurs in the survey area; however, historical locations occur as close as 0.6 mile northeast of the survey area (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1/MSCP	Generally limited to openings in weathered sandstone bluffs within southern maritime chaparral between 35 and 600 feet in elevation. Known to be closely associated with Carlsbad gravelly loamy sand or soils within the Marina soil series, specifically Chesterton and Corralitos soils. Blooms March–May.	*Not Expected*. Chesterton sandy loam soils occur in the western portion of the survey area; however, this land is now entirely developed, and no suitable chaparral habitat occurs in the survey area. No historical locations occur within 1 mile of the survey area. Known populations occur north of the survey area in Del Mar, Torrey Pines, and Encinitas (CNPS 2026; USFWS 2026b; HELIX 2018).
Cylindropuntia californica var. *californica*	Snake cholla	None/None/1B.1/MSCP	Occurs in coastal sage scrub and coastal chaparral habitat with clay loam or loam soils at elevations below 1,000 feet AMSL. Blooms April–July.	*Low.* Suitable Diegan coastal sage scrub is present in the survey area. A historical location occurs 0.9 mile northwest of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; USFWS 2026b; HELIX 2018).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Dudleya variegata	Variegated dudleya	None/None/1B.2/ MSCP; NE	Occurs in chaparral, coastal scrub, cismontane woodland, and valley and foothill grasslands, often on hillsides or mesas with heavy clay soil. Usually found at elevations between 10 and 1,905 feet AMSL. Blooms April–June.	*Low.* Suitable Diegan coastal sage scrub is present in the survey area, but this species is conspicuous and was not observed during the 2024 biological reconnaissance survey or 2014 rare plant survey. Historical locations occur approximately 0.7 mile east of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Eryngium aristulatum var. *parishii*	San Diego button celery	FE/SE/1B.1/MSCP; NE	Occurs in vernal pools or marshes within wetlands, coastal sage scrub, valley grassland, and wetland riparian communities that contain clay soils between approximately 37 and 2,907 feet in elevation. Blooms April–June.	*Not Expected.* The emergent wetland within NWW-3 could support this species. This species was not observed during the 2014 rare plant survey, and the only historical location within 1 mile of the survey area has been extirpated (Figure 8; CNPS 2026; CDFW 2026a; USFWS 2026b; HELIX 2018).
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1/ MSCP; NE	Occurs in rocky and sandy chaparral, coastal scrub, and valley and foothill grassland habitats from 10 to 1,500 feet AMSL. Blooms May–June.	*Low.* While suitable Diegan coastal sage scrub is present throughout the survey area, this species was not observed during the 2024 biological reconnaissance survey. Several historical locations occur north of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; USFWS 2026b; HELIX 2018).
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1/None	Occurs in moist coastal sage scrub or vernal pools with loam soils between 130 and 330 feet in elevation.	*Not Expected.* While Diegan coastal sage scrub habitat is present, there are no open, flat, moist areas within this vegetation community that would support this species in the survey area. A historical location occurs approximately 0.9 mile north of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a).
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2/None	Occurs in chaparral, coastal scrub, and valley and foothill grassland with clay soils at elevations between 60 to 3,100 feet AMSL. Blooms March–May.	*Low.* Suitable Diegan coastal sage scrub with clay soils occurs in the survey area. No historical locations occur within 1 mile of the survey area (CNPS 2026; HELIX 2018).
Holocarpha virgata ssp. *elongata*	Graceful tarplant	None/None/4.2/None	Occurs in coastal sage scrub, foothill woodland, chaparral, and grassland habitats with clay and loamy soils at elevations below 2,950 feet AMSL. Blooms May–November.	*Low.* Suitable Diegan coastal sage scrub with clay soils occurs in the survey area. No historical locations occur within 1 mile of the survey area (CNPS 2026; HELIX 2018).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3/None	Occurs in chaparral and coastal scrub bluff habitats between 80 and 8,890 feet in elevation, often in sandy loam soils. Blooms January–July.	*Low.* No suitable coastal scrub on bluffs or chaparral habitat occurs in the survey area. A recent historical location occurs approximately 0.8 mile northwest of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Microseris douglasii ssp. *platycarpha*	Small-flowered Microseris	None/None/4.2/None	Occurs in clay soils in grasslands, coastal sage scrub, and foothill woodlands, often near vernal pools, at elevations below 3,600 feet AMSL. Blooms March–May.	*Low.* Diegan coastal sage scrub with clay soils are present, but no vernal pools occur in the survey area. No historical locations occur within 1 mile of the survey area (CNPS 2026; HELIX 2018).
Monardella viminea	Willowy monardella	FE/SE/1B.1/MSCP; NE	Usually occurs in canyons along or near ephemeral streams in coarse rocky sand or sandy clay between 122 and 5,118 feet AMSL. Blooms June–August.	*Low.* Suitable habitat occurs along NWW-2 and NWW-3, as these streams have sandy clay loam soil and are within a canyon located within 3 miles of known extant populations; however, no historical locations occur within 1 mile of the survey area, and terracing where this species it typically found along streams is limited (CNPS 2026; USFWS 2026b; HELIX 2018).
Navarretia fossalis	Spreading navarretia	FT/None/1B.1/None	Occurs in vernal pools and valley and foothill grassland with clay soils between 100 and 4,270 feet AMSL. Blooms April–June.	*Not Expected*. No vernal pools or grassland habitat occur in the survey area. No historical locations are present within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Orcuttia californica	California Orcutt grass	FE/SE/1B.1/MSCP	Occurs in vernal pools within freshwater wetlands, valley grassland, and wetland riparian communities between 49 and 2,161 feet AMSL. Fewer than 30 occurrences are documented in San Diego County. Blooms April–August.	*Not Expected*. No vernal pools or grassland habitat occur in the survey area. No historical locations are present within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Pogogyne abramsii	San Diego mesa-mint	FE/SE/1B.1/MSCP; NE	Occurs in vernal pools within freshwater wetlands, coastal sage scrub, chaparral, and wetland riparian communities with loam soils between 285 and 833 feet AMSL. Blooms May–July.	*Not Expected*. No vernal pools or grassland habitat occur in the survey area. No historical locations are present within 1 mile of the survey area (CNPS 2026; USFWS 2026b; HELIX 2018).
Quercus dumosa	Nuttal's scrub oak	None/None/1B.1/None	Occurs in coastal sage scrub and chaparral habitats between zero and 4,530 feet in elevation. Can occur in clay loam, silt loam, loam, sandy loam, and sandy soils. Blooms February–March.	*High.* Suitable Diegan coastal sage scrub habitat occurs in the survey area. Multiple recent historical locations occur immediately northeast of the survey area (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Selaginella cinerascens	Ashy spike-moss	None/None/4.1/None	Occurs in coastal sage scrub and chaparral habitats, often in red clay soils (but can occur in clay, clay loam, silt loam, loam, sandy loam, and loamy sand soils) at elevations between 65 and 2,100 feet AMSL.	*Moderate.* Diegan coastal sage scrub with clay soils is present in the survey area. However, no historical observations occur within 1 mile of the survey area, and this species was not observed during the 2014 rare plant survey (CNPS 2026; HELIX 2018).
Sidalcea neomexicana	Salt spring checkerbloom	None/None/2B.2/None	Occurs in coastal sage scrub, creosote bush scrub, alkali sink, yellow pine forest, chaparral, and wetland riparian areas with loamy or clay soils between 1,805 to 8,595 feet in elevation. Blooms March–June.	*Not Expected.* Suitable Diegan coastal sage scrub habitat occurs in the survey area. Although the survey area is outside the typical elevational range of this species, a historical observation was made approximately 0.8 mile south of the survey area at approximately 200 feet in elevation, similar to portions of the survey area. This species was not observed during the 2014 rare plant survey (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Sphaerocarpos drewiae	Bottle liverwort	None/None/1B.1/None	Occurs in openings within coastal sage scrub and chaparral. Little information is known about soil and elevational requirements for this species.	*Moderate.* Suitable coastal sage scrub habitat is present. A recent historical location occurs approximately 0.5 mile east of the survey area but not within (Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).
Stipa diegoensis	San Diego County needlegrass	None/None/4.2/None	Occurs in chaparral and coastal scrub with mesic or rocky soils, especially near streams between 230 and 1,085 feet AMSL in elevation. Blooms February–June.	*Low.* Suitable Diegan coastal sage scrub habitat occurs near NWW-2 and NWW-3 in the survey area buffer, outside the project site. However, this species was not observed during the 2014 rare plant survey, and no historical locations occur within 1 mile of the survey area (CNPS 2026; HELIX 2018).
Texosporium sancti-jacobi	Woven-spored lichen	None/None/3/None	Occurs in semi-arid to arid habitats, including shrub-steppe, chaparral, grasslands, and old growth sagebrush-steppe. Grows on lithosols and organic matter (e.g., decaying bunchgrasses) generally in rocky areas with silt or sandy soils.	*Not Expected.* No suitable habitat available in the survey area. This species was not observed during the 2014 rare plant survey. Historical locations occur approximately 0.6 mile north and northeast of the survey area but not within (Figure 8; CNPS 2026, CDFW 2026a; HELIX 2018).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Wildlife				
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/SC/—/None	Occurs in open grassland and scrub habitats primarily within southern and Central California, with a few records in southwestern Navada and Baja California, Mexico. A generalist forager, but is short-tongued and prefers plants like milkweeds, buckwheats, medics, poppies, and lupines, but is known to forage on other flowering species like black sage when preferred plants are absent.	*Moderate Foraging. Low Nesting.* Suitable foraging habitat available in the Diegan coastal sage scrub in the survey buffer, outside the project site, which is dominated by lemonade berry and black sage, followed by California sagebrush, sugar bush, and laurel sumac as subdominants. May also use the other limited, scattered flowering plants within the survey area for nectar. Species may pass through while foraging but is unlikely to spend extended periods of time in the survey area or use it for nesting due to lack of bare ground, rodent burrows, or other preferred cavities and substrates. No historical observations have been documented in the survey area (CDFW 2026a; USFWS 2026b).
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/SSC/—/MSCP	Generally restricted to shallow freshwater vernal pools between approximately 2 and 12 inches in depth, including swales, tire ruts, and other depressions that are filled seasonally by rainfall. Occurs in Riversides, Orange, and San Diego Counties and in northwestern Baja California, Mexico.	*Not Expected.* No vernal pool habitat is present in the survey area. Historical populations occur within road ruts approximately 0.8 mile northeast of the survey area but not within (Figure 8; CDFW 2026a; USFWS 2026b).
Danaus plexippus	Monarch butterfly[1] (California overwintering population)	FC/None/—/None	Occurs in a variety of habitats where patches of milkweed (*Asclepias* sp.), the monarch caterpillar host plant, are present. Overwinter in groves of eucalyptus, cypress, and pine along the California coast and high-elevation forests in Mexico.	*High Foraging; High Overwintering.* Suitable nectar sources for foraging occur throughout the survey area, and eucalyptus woodland provides suitable overwintering habitat. No milkweed patches occur in the survey area suitable as host plants for caterpillars to occupy; however, the 2024 biological reconnaissance survey was performed outside the blooming period for most milkweed species. Overwintering populations are documented approximately 0.8 mile west of the survey area (Xerces Society 2026).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Amphibians				
Spea hammondii	Western spadefoot	FC/SSC/—/None	Occurs primarily in grasslands or coastal sage scrub with vernal pools or similar shallow, temporary pools for breeding.	*Low.* The emergent wetland within NWW-3 could support this species; however, it is unlikely to support pooling water due to its position within the non-vegetated channel. Historical locations occur approximately 0.9 mile south of the survey area but not within, and likely extirpated (Figure 8; CDFW 2026a; SanGIS 2026).
Reptiles				
Anniella stebbinsi	Southern California legless lizard	None/SSC/—/None	Occurs in moist, warm, and loose soil (sand, loam, humus) in sparsely vegetated areas of coastal dunes, coastal sage scrub, chaparral, woodlands, desert scrub, and riparian habitats.	*Moderate.* Suitable riparian habitat occurs along NWW-2 and NWW-3 in the survey area; however, soil is more compact around these features. Historical locations occur approximately 0.7 mile west of the survey area but not within (Figure 8; CDFW 2026a; SanGIS 2026).
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	None/WL/—/MSCP	Occurs in coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also, found in weedy, disturbed areas adjacent to these habitats.	*High.* Diegan coastal sage scrub habitat (and adjacent disturbed habitat) along the access roads surrounding NWW-2 and NWW-3 is suitable habitat in the survey area. One historical location occurs approximately 0.8 mile southeast of the survey area (Figure 8; CDFW 2026a).
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC/—/None	Occurs in hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	*Moderate*. Diegan coastal sage scrub and open areas adjacent to dirt roads occur on the project site; however, this habitat is dense. Some of the disturbed areas along the eastern slope may be more suitable. One historical location occurs 0.9 mile northwest of the survey area (Figure 8; CDFW 2026a).
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL/—/None	Occurs in open areas, sparse brush, and oak woodlands and is usually found under rocks, leaf litter, logs, debris, or in the shallow burrows it digs.	*Low.* Diegan coastal sage scrub is present in the survey area but is densely vegetated with little to no open areas to support this species. One historical location occurs approximately 0.9 mile west of the survey area but not within (Figure 8; SanGIS 2026).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Birds				
Accipiter cooperii	**Cooper's hawk**	**None/WL/None/MSCP**	**Occurs where stands of trees are present, including oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.**	***Present.*** **Observed flying through the eucalyptus woodland in the western portion of the survey area. Suitable foraging occurs throughout the survey area, and suitable nesting habitat occurs within the eucalyptus woodland and southern arroyo willow riparian forest throughout the survey area (Figure 9).**
Circus hudsonius	Northern harrier	BCC/SSC/—/MSCP	Nests in open wetlands (marshes, meadows, wet lightly grazed pastures, old fields, freshwater and brackish marshes). Also found nesting in grasslands and agricultural fields. Forages in grassland, scrub, emergent wetland, and other open habitats (including rangelands).	*Low Foraging*; *Not Expected Nesting*. Suitable foraging is limited to small emergent wetland habitat surrounding NWW-3 in the survey area. Historically, one individual was observed near Campus Point Drive (Figure 8; SanGIS 2026).
Polioptila californica californica	Coastal California gnatcatcher	FT/SSC/—/MSCP	Occurs in dense coastal sage scrub, occasionally baccharis scrub, and chaparral in Southern California to Baja Mexico below 2,500 feet AMSL.	*Not detected during 2026 protocol surveys. Moderate Foraging; Moderate Nesting*. Diegan coastal sage scrub occurs in the survey area, but the vegetative species composition and density makes some portions of this habitat less likely to support nesting. Diegan coastal sage scrub that is moderately suitable is present in the northeast edge of the survey buffer and to the southeast outside the survey buffer and is contiguous to the eastern survey area, increasing potential for foraging. One individual observed to the southeast outside the 500-foot buffer during the final July 2026 least Bell's vireo protocol survey; likely a dispersing juvenile or adult with established territory to the southeast. Multiple historical observations occur surrounding the entire survey area (Figure 8; CDFW 2026a; SanGIS 2026; USFWS 2026b).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Setophaga petechial	**Yellow warbler**	**None/SSC/—/None**	**Occurs in well-developed riparian woodlands and montane scrub, particularly along streams and wetlands.**	***Present.*** **Suitable nesting and foraging habitat occur within the southern arroyo willow riparian forest surrounding NWW-2 and NWW-3. This species was observed foraging and calling along NWW-2 during the 2024 biological reconnaissance survey. No historical observations occur within 1 mile of the survey area (Figure 9).**
Vireo bellii pusillus	Least Bell's vireo	FE/SE/—/MSCP	Occurs in a variety of habitats but most often associated with riparian habitat, often with willow species in Southern California below 2,000 feet in elevation. Requires dense understory shrub cover for nest concealment, with an overstory dominated by willows.	*Not detected during 2026 protocol surveys. Moderate Foraging; Moderate Nesting.* Riparian habitat (southern arroyo willow riparian forest surrounding NWW-2 and NWW-3) and immediately surrounding upland (areas of coastal sage scrub) suitable for nesting and foraging. However, connectivity to nearest population to the northeast is fragmented by surrounding development and disturbance, reducing the potential for the species to occupy the survey area. No historical locations occur within 1 mile of the survey area (USFWS 2026b; HELIX 2018).
			Mammals	
Euderma maculatum	Spotted bat	None/SSC/—/None	Occurs in rocky arid and semi-arid environments, including forested mountains, open scrublands, and deserts with rocky cliffs. Usually, solitary roosts occur on steep cliffs. Only four recorded observations in San Diego County have been documented, only two of which are verified.	*Not Expected Foraging; Not Expected Roosting.* No suitable foraging or roosting habitat in the survey area. One of the two verified observations of this species in San Diego County occurred approximately 0.9 mile southwest of the survey area; however, this was in 1955 (Figure 8; CDFW 2026a; SDHM 2017).
Lasiurus blossevillii	Western red bat	None/SSC/—/None	Associated primarily with riparian trees including sycamores, cottonwoods, and oaks but can be found in non-native vegetation. Roosts only in foliage, either solitarily or in small family groups. Found near creeks and rivers but also occurs in small woodland parks, wooded suburban neighborhoods, and orchards.	*High Foraging; High Roosting.* Suitable roosting in the eucalyptus and riparian habitats. Suitable foraging habitat throughout the riparian corridor and surrounding areas. No historical observations occur within 1 mile of the survey area.

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/ CRPR/Regional	Habitat	Potential to Occur
Odocoileus hemionus fuliginata	Southern mule deer	None/None/—/MSCP	Occurs in grasslands, woodlands, and sparse shrub communities.	*High*. Suitable habitat occurs along the access roads adjacent to the riparian habitats and eucalyptus woodland. Several historical observations occur north of the survey area (Figure 8; SanGIS 2026).
Neotoma bryanti intermedia	Bryant's woodrat	None/SSC/—/None	Requires habitats that provide adequate cover, appropriate areas of midden construction, and succulent vegetation. Occupies coastal sage scrub and chaparral (sea level) and pinyon-juniper woodland at higher elevations. Builds middens most frequently within talus or rock outcrops but sometimes in yuccas or at the base of shrubs and cacti.	*Low*. No suitable rocky outcrops in coastal sage scrub available. Few succulent species available. No woodrat middens were observed during the survey. Historical locations occur approximately 1 mile north of the survey area but not within (Figure 8; CDFW 2026a; SanGIS 2026).

Notes: AMSL = above mean sea level; BCC = bird of conservation concern; FC = federal candidate; FE = federally endangered; FT = federally threatened; MSCP = City of San Diego MSCP Subarea Plan (MSCP SAP)-covered species; NE = City of San Diego MSCP SAP Narrow Endemic species; SE = state endangered; None = No status indicated for species; SE = state endangered; SSC = state species of special concern; WL = state watch list species

CNPS Rare Plant Ranking

1B = rare, threatened, or endangered in California and elsewhere; 2B = rare, threatened, or endangered in California but more common elsewhere; 3 = more information is needed; 4 = a watch list of species of limited distribution

Threat Ranks: .1 = seriously threatened; .2 = moderately threatened; .3 = not very threatened

Bold = present in the survey area

5.4.1 Sensitive Plant Species Observed

One sensitive plant species, San Diego sagewort, was observed in the survey area and is described in the following section (Figure 9, Sensitive Species Observed).

5.4.1.1 San Diego Sagewort (*Artemisia palmeri*), CRPR 4.2

San Diego sagewort, a CRPR 4.2 species, is an upright or spreading woody perennial with long, wand-like stems. It is a sagebrush species and, therefore, strongly scented. It is typically associated with moist drainages and sandy soil in ravines and drainages in riparian areas and floodplains, and it is frequently found within a shaded understory under willow, sycamore, or cottonwood. It is found from 15 to 3,000 feet in elevation and blooms from June to September. Threats to this species include waterway channelization, coastal development, vehicles, and non-native plant introduction (CNPS 2026).

Approximately 58 individual San Diego sagewort plants were observed in and around NWW-2 and NWW-3 (Figure 9). The areas in and around NWW-2 and NWW-3 represent the only suitable habitat in the survey area. This species was also observed during the 2014 rare plant survey (CNPS 2026; HELIX 2018).

5.4.2 Sensitive Plant Species Not Observed With a Moderate or High Potential to Occur

Based on the literature and database review, three sensitive plant species, San Diego County viguiera (*Bahiopsis laciniata*), ashy spike-moss (*Selaginella cinerascens*), and bottle liverwort (*Sphaerocarpos drewiae*), were determined to have a moderate potential to occur in the survey area, and one sensitive plant species, Nuttall's scrub oak (*Quercus dumosa*), was determined to have a high potential to occur in the survey area (Table 3).

5.4.2.1 Ashy Spike-Moss (*Selaginella cinerascens*), CRPR 4.1

Ashy spike-moss is a CRPR 4.1 perennial rhizomatous herb. This species is a member of the spike-moss family and occurs in coastal sage scrub and chaparral habitats, often in red clay soils, but can also occur in clay, clay loam, silt loam, loam, sandy loam, and loamy sand soils, at elevations between 65 and 2,100 feet AMSL. Ashy spike-moss has green or grayish leaves and grows flat against the ground, forming a thick matt. This species does not have a documented blooming period. Loss of habitat due to development is the main contributor to this species' decline (CNPS 2026).

Suitable habitat for this species occurs within the coastal sage scrub in the survey area buffer, outside the project site; however, no historical locations have been recorded within 1 mile of the survey area, and this species was not observed during the 2014 rare plant survey (Table 3; CNPS 2026; HELIX 2018).

5.4.2.2 Bottle Liverwort (*Sphaerocarpos drewiae*), CRPR 1B.1

Bottle liverwort is a CRPR 1B.1 liverwort native to California. This species often grows in shady openings within coastal sage scrub and chaparral; however, little information is known about its soil and elevational requirements. Only 32 observations of this species have been documented in the County (CNPS 2026).

Suitable habitat occurs in the coastal sage scrub in the survey area buffer, outside the project site; however, the density of the vegetation may not provide optimal conditions for this species. This species was not observed during the 2024 biological reconnaissance survey or the 2014 rare plant survey. A historical occurrence from 1995 was recorded approximately 0.5 mile east of the survey area (Table 3; Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).

5.4.2.3 Nuttall's Scrub Oak (*Quercus dumosa*), CRPR 1B.1

Nuttall's scrub oak, a CRPR 1B.1 species, is an evergreen shrub with branching, brittle, and shiny green leaves that easily fall when branches are disturbed. The relatively flat leaves are shiny green on the upper side and hairy with distinctive two to six rayed ascending hairs on the underside, particularly along the veins. The bark of this species is typically smooth and then turns scaley with age, and the twigs are reddish but become gray with age. Nuttall's scrub oak can be difficult to differentiate from other scrub oak species due to scrub oaks' ability to hybridize; however, this species tends to occur at low elevations in dry habitats like coastal sage scrub and chapparal typically near the ocean. Nuttall's scrub oak blooms between February and May. Threats to this species include urbanization along the coast (CNPS 2026).

Suitable habitat for this species occurs within the coastal sage scrub in the survey area buffer, outside the project site. While this conspicuous species was not observed during the 2024 biological reconnaissance survey or the 2014 rare plant survey, the vegetation within the majority of the Diegan coastal sage scrub in the survey area is very dense, and individuals may have not been directly observable. Multiple historical locations are documented between 2001 and 2013 that occur immediately northeast of the survey area, with the closest observation occurring approximately 0.2 mile away and the rest between approximately 0.2 and 0.8 mile away; however, this species was not observed during the 2014 rare plant survey conducted (Table 3; Figure 8; CNPS 2026; CDFW 2026a; HELIX 2018).

5.4.2.4 San Diego County Viguiera (*Bahiopsis laciniata*), CRPR 4.3

San Diego County viguiera is a CRPR 4.3 perennial shrub in the sunflower family. San Diego County viguiera occurs in chaparral and coastal scrub vegetation communities at elevations between 200 and 2,460 feet AMSL. This species blooms from February to August, when it produces small, yellow flowers (Calflora 2026). San Diego County viguiera is threatened primarily by urbanization (CNPS 2026).

Suitable habitat for this species occurs within the coastal sage scrub in the survey area buffer, outside the project site. Although no historical locations have been recorded of this species within 1 mile of the survey area, this species is relatively common in this general region in the County (Table 3; CNPS 2026; USFWS 2026b; HELIX 2018).

5.4.3 Sensitive Wildlife Species Observed

Two sensitive wildlife species, Cooper's hawk and yellow warbler, were observed in the survey area during the 2024 biological reconnaissance survey. These sensitive wildlife species are shown on Figure 9 and described in the following sections.

5.4.3.1 Cooper's Hawk (*Accipiter cooperii*), WL, MSCP SAP Covered

Cooper's hawk is a CDFW WL and an MSCP SAP-covered species. It is a medium-sized hawk with rounded wings and a long tail with a rounded tip. Adults are blue-gray above with reddish bars on their underparts and a thickly banded tail. It inhabits most wooded parts of California year-round at elevations from sea level to above 9,000 feet AMSL. Cooper's hawk once strictly preferred dense coast live oak forests or riparian forests and woodlands usually near water. Since the latter part of the 20th century, Cooper's hawk has adapted to urban settings and is now as ubiquitous in urban eucalyptus woodland settings as it is in natural habitats. In the County, Cooper's hawk still uses oaks for nesting, but documentation shows twice as many nests in eucalyptus trees than in oaks. The species will also nest in willow, pine, redwood, and avocado trees and, in all tree species, will construct nests high in the tree but below the canopy (Unitt 2004). Cooper's hawk pursues prey, especially birds, from perches but will also feed on small mammals, reptiles, or amphibians. This species is threatened by habitat fragmentation and loss, hunting, and pest control.

One adult Cooper's hawk was observed flying within the eucalyptus woodland in the western portion of the survey area (Figure 9). Suitable foraging habitat for Cooper's hawk occurs throughout the survey area, and suitable nesting habitat occurs within the eucalyptus woodland and southern arroyo willow riparian forest throughout the survey area. No historical locations for this species occur within 1 mile of the survey area. The MSCP SAP conditions of coverage and ASMDs for Cooper's hawk are discussed in Section 6.1, City of San Diego Multiple Species Conservation Program Subarea Plan, Table 4.

5.4.3.2 Yellow Warbler (*Setophaga petechia*), SSC

Yellow warbler is a California species of special concern. Yellow warblers occur in woods and thickets along stream edges and other riparian habitats. Male and female yellow warblers are bright yellow with black eyes, large, stout bills, and yellow-green or yellow-gray wings and backs. Males have brown or brown-red streaks on their chests, while females are mostly plain. This species is widely distributed throughout the United States and breeds in second growth forests or shrublands before migrating south for the winter.

Yellow warbler was observed foraging through the southern arroyo willow riparian forest along NWW-2 (Figure 9) near the junction of the dirt access roads during the 2024 survey and incidentally during the 2026 protocol-level least Bell's vireo surveys. Suitable foraging and nesting habitat occurs throughout the southern arroyo willow riparian forest along NWW-2 and NWW-3 in the survey area. No historical locations for this species occur within 1 mile of the survey area.

5.4.4 Sensitive Wildlife Species Not Observed With a Moderate or High Potential to Occur

Based on the literature and database review and biologists knowledge of the area, it was determined that five sensitive wildlife species, Crotch's bumble bee (*Bombus crotchii*), Southern California legless lizard (*Anniella stebbinsi*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), CAGN, and least Bell's vireo, have a moderate potential to occur in the survey area, and four sensitive wildlife species, Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), monarch butterfly (*Danaus plexippus*), southern mule deer (*Odocoileus hemionus fuliginata*) and western red bat (*Lasiurus blossevillii*), have a high potential to occur in the survey area but were not observed during the 2024 biological resources survey (Table 3). These sensitive wildlife species with a moderate or high potential to occur are described in the following sections.

5.4.4.1 Crotch's Bumble Bee (*Bombus crotchii*), SC

Crotch's bumble bee is a state candidate for listing as an endangered species. In October 2018, the Xerces Society for Invertebrate Conservation submitted a petition to CDFW to list Crotch's bumble bee (CDFW 2019). It was determined that listing the species "may be warranted," and the species became a candidate for federal listing on June 12, 2019, affording it the same legal protection as an endangered or threatened species (CDFW 2019). Crotch's bumble bee is distinguished from other *Bombus* species based on hair coloration. Queens and workers have a black face with a yellow vertex and yellow scutum with black hairs between and below the wings and on the scutellum. The first tergal segments are black, the second is yellow, and the third is black, sometimes with red. Males have a yellow head, face, scutellum, and scutum with a black band between the wings. The first, second, and third tergal segments on males are yellow, and the third and fourth through seventh are either entirely black or entirely red. This species is endemic to California, where it occurs throughout most of southwestern California in various habitats, including open grasslands, shrublands, chaparral, desert margins, creosote scrub, and semi-urban areas. Crotch's bumble bees are generalist foragers but are best suited to forage on species with open flowers and short corollas due to their short tongue. The plant families most commonly visited include *Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, Hydrophyllaceae, Asclepiadaceae*, and *Boraginaceae*. While little is known about hibernacula of this species, it is likely that it overwinters in soft, disturbed soil and nests underground. The flight period for Crotch's bumble bee occurs from late February to late October, peaking in early April and again in July (Xerces Society 2018). Threats to this species include habitat loss and modification, herbicides, pesticides, disease, and competition.

Suitable foraging habitat for Crotch's bumble bee occurs in the Diegan coastal sage scrub in the survey buffer, outside the project site, which is dominated by lemonade berry and black sage, followed by California sagebrush, sugar bush, and laurel sumac as subdominants. The other limited, scattered flowering plants within the survey area may also be used for nectar by this species. Crotch's bumble bee has the potential to pass through while foraging, but is unlikely to spend extended periods of time in the survey area or use it for nesting due to the lack of bare ground, rodent burrows, or other preferred cavities and substrates. No historical observations of this species have been documented in or within one mile of the survey area (CDFW 2026a; USFWS 2026b).

5.4.4.2 Southern California Legless Lizard (*Anniella stebbinsi*), SSC

Southern California legless lizard, a CDFW species of special concern, is a small, slender lizard with a shovel-shaped snout, smooth, shiny scales, a blunt tail, and no legs. Southern California legless lizard occurs in the sandy soils of coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. This species prefers habitats in coastal dune, valley foothill, chaparral, and coastal scrub types where its preferred prey of larval insects, beetles, termites, and spiders are present (Nafis 2026). Southern California legless lizard conceals itself under rocks and leaf litter in loose soil.

Suitable habitat occurs within the riparian habitat along NWW-2 and NWW-3 in the survey area; however, the soil is more compacted in these areas and may not provide optimal habitat for this species. One historical location occurs approximately 0.7 mile west of the survey area (Table 3; Figure 8; CDFW 2026a; SanGIS 2026).

5.4.4.3 San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*), SSC

San Diegan tiger whiptail, a CDFW species of special concern, is a slim-bodied lizard with a long, slender tail and a pointed snout. Its back and sides are a gray, tan, or brown color with dark spots, bars, or mottling. San Diegan tiger whiptails can occur in various habitats but are generally found in hot, dry, open areas within chaparral, woodland, and riparian areas where it feeds on small invertebrates (Nafis 2026).

Suitable coastal sage scrub and open areas including dirt roads adjacent to the riparian habitats surrounding NWW-2 and NWW-3 occur in the survey area; however, most of the coastal sage scrub is dense, making it less than optimal for this species. The disturbed habitat in the northeastern portion of the survey area may be suitable as well. One historical location of this species was recorded approximately 0.9 mile northwest of the survey area in 1997 (Table 3; Figure 8; CDFW 2026a).

5.4.4.4 Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythra beldingi*), WL, MSCP SAP Covered

Belding's orange-throated whiptail, a CDFW WL and a, MSCP SAP-covered species, is small, ranging from 2 to 2.75 inches in length and has a slim body and long tail that can reach up to two times its body length. Coloring ranges from black, dark brown, or grayish with six or fewer pale

yellow or whitish stripes. The throat and chest have a distinctive orange patch, which brightens during the breeding season. Belding's orange-throated whiptail occurs in coastal sage scrub, chaparral, edges of riparian woodlands, washes, and weedy, disturbed areas adjacent to these habitats throughout Southern California and Baja California, Mexico. This species eats small invertebrates, including spiders, scorpions, centipedes, and termites, and small lizards. Breeding begins in June (some accounts as early as April), with eggs hatching in July and August (Nafis 2026; CDFW 2000). Threats to this species include development and habitat fragmentation.

Suitable habitat for Belding's orange-throated whiptail occurs throughout the eastern portion of the survey area within Diegan coastal sage scrub, the disturbed habitat adjacent to Diegan coastal sage scrub and along the dirt access roads surrounding southern arroyo willow riparian forest. This species could also be found in the eucalyptus woodland, although it is less suitable than surrounding areas for this species. One historical location occurs approximately 0.8 mile southeast of the survey area (Figure 8; CDFW 2026a). The MSCP SAP conditions of coverage and ASMDs for Belding's orange-throated whiptail are discussed in Section 6.1, Table 4.

5.4.4.5 Coastal California Gnatcatcher (*Polioptila californica californica*), FT, SSC, MSCP SAP Covered

CAGN is a federally threatened species, a California species of special concern, and an MSCP SAP-covered species. CAGN is a small, gray, long-tailed songbird that feeds on insects and occurs almost exclusively in coastal sage scrub vegetation but can also be found in chaparral and riparian habitats (USFWS 2010). The species has dark blue-gray plumage on its upperparts and grayish white plumage on its underparts. The tail is mostly black above and below. Males have a distinctive black cap, which is absent during the winter. Both sexes have a distinctive white eye ring. This non-migratory bird is restricted to Southern California to Baja California, Mexico. In Southern California, this species ranges from the County of Ventura south to the County of San Diego and east to the County of San Bernardino. CAGN is most numerous in low, dense coastal sage scrub habitat in arid washes, on mesas, and on slopes of coastal hills in Southern California and Baja California, Mexico. Coastal sagebrush, flat-topped buckwheat, and sage are particularly favored for roosting, nesting, and foraging. The breeding season extends from February through August, with peak nesting activities occurring from mid-March through May (USFWS 2010).

No CAGN were observed during the protocol-level surveys between April 23 and June 2, 2026 (Appendix F). However, an individual CAGN was detected incidentally outside and to the southeast of the 500-foot protocol survey buffer during the eighth least Bell's vireo protocol survey on July 20, 2026. Shortly after being detected, the CAGN flew approximately 420 feet southwest, away from the survey area, and remained in that general area for the remainder of the survey. Based on its behavior, it is likely that the individual observed to the southeast of the survey area in July 2026 was a dispersing juvenile or a foraging or patrolling adult with an established territory to the southeast. No CAGN were detected during the first seven least Bell's vireo surveys. Large

portions of lemonade berry and black sage-dominated Diegan coastal sage scrub habitat exist in the central and southeastern portions of the survey area, which are not suitable nesting habitat for CAGN. However, a small 1.78-acre stand of California sagebrush-dominated Diegan coastal sage scrub in the northeastern edge of the survey buffer provides moderately suitable nesting habitat for CAGN due to connectivity to similar quality habitat outside the survey area. Therefore, there is only a moderate potential for CAGN nesting in the northeastern edge of the survey buffer (Figure 8; CDFW 2026a; SanGIS 2026; USFWS 2026b). Due to the presence of higher-quality California sagebrush-dominated Diegan coastal sage scrub outside the survey buffer to the southeast that is contiguous to the habitat in the eastern portion of the survey area, there is a moderate potential for CAGN to forage in the survey area. The MSCP SAP conditions of coverage and ASMDs for CAGN are discussed in Section 6.1, Table 4.

5.4.4.6 Least Bell's Vireo (*Vireo bellii pusillus*), FE, SE, MSCP SAP Covered

Least Bell's vireo is a federally endangered, state endangered, and MSCP SAP-covered species. Least Bell's vireo occurs in riparian habitat in California and Baja California, Mexico. This species feeds on insects and spiders and forages among dense shrubs and trees along rivers and streams. Least Bell's vireo is restricted to riparian woodland and is most frequent in areas that combine an understory of dense young willows or mule fat with a canopy of tall willows. Historically, least Bell's vireo was a common summer visitor to riparian habitat throughout much of California. Currently, this subspecies is found only in riparian woodlands in Southern California, with most breeding pairs in San Diego, Santa Barbara, and Riverside Counties and some in Los Angeles and Ventura Counties. Least Bell's vireo arrives in breeding grounds in late March and early April and returns to its wintering ground in September. Riparian plant succession is an important factor maintaining vireo habitat. Threats to this species include urbanization, agriculture, wildfires, firewood cutting, livestock grazing, flood control projects, and reservoir construction.

No least Bell's vireo were detected during the protocol-level surveys conducted between April 23 and July 20, 2026 (Appendix G). A brown-headed cowbird pair was observed in the 500-foot protocol survey area during each survey. This species is known to parasitize least Bell's vireo nests and those of other small, insectivorous songbirds (Unitt 2004). High-quality riparian habitat suitable for nesting and foraging by least Bell's vireo occurs throughout the southern arroyo willow riparian forest along NWW-2 and NWW-3. Although southern arroyo willow riparian forest in the survey area is structurally diverse and highly suitable for this species, it is surrounded by disturbance and development; isolating this habitat from the closest populations and larger tracts of occupied habitat to the northeast in the Los Peñasquitos Canyon Preserve, reducing the potential for this species to occur in the survey area (CDFW 2026b). No historical locations occur within 1 mile of the survey area; however, the presence of suitable habitat indicates that least Bell's vireo has a moderate potential for nesting and foraging in the survey area (Table 3; USFWS 2026b; HELIX 2018). The MSCP SAP conditions of coverage and ASMDs for least Bell's vireo are discussed in Section 6.1, Table 4.

5.4.4.7 Monarch Butterfly (*Danaus plexippus*), FC

On December 15, 2020, the USFWS found that adding the monarch butterfly to the list of threatened and endangered species is warranted but precluded by higher-priority species reviews and work (USFWS 2023). Monarch butterfly is one of the most recognizable butterfly species, with orange wings laced with black lines and bordered with white dots. Its wingspan is 3.70 to 4.10 inches. This species occurs in patches of milkweed (*Asclepias* sp.), which is the species' caterpillar host plant. Although larvae only eat milkweed, adult monarchs feed on various nectar-bearing flowers. Monarch butterflies are found across North America where suitable feeding, breeding, and overwintering habitat exists. Monarch butterflies overwinter in groves of eucalyptus, cypress, and pine trees along the California coast and high-elevation forests in Mexico. Threats to this species include habitat loss, climate change, and agriculture.

Suitable foraging habitat occurs throughout the survey area in all habitat types, including the ornamental species within the developed areas on the western side of the survey area. No milkweed patches were observed in the survey area that would be suitable host plants for caterpillars; however, the survey was performed in late winter, when most milkweed species are not apparent. Suitable overwintering habitat occurs mainly within the eucalyptus woodland on the steep western slope that makes up the majority of the survey area and project site. Overwintering populations are documented approximately 0.8 mile west of the survey area (Table 3; USFWS 2026b; Xerces Society 2026).

5.4.4.8 Southern Mule Deer (*Odocoileus hemionus*), MSCP SAP Covered

Southern mule deer, an MSCP SAP-covered species, is a stocky deer with large ears and a dark, sooty colored coat. Southern mule deer occurs in grasslands, woodlands, and sparse shrub communities throughout Southern California. Shrub habitats and woodlands interspersed with meadows or grasslands are important for food resources, as well as cover for shade and protection from predators. Southern mule deer is mobile but non-migratory. It prefers to move through areas where there is high vegetative cover, such as ridgetops or riparian corridors, and typically avoids areas of sparse vegetative cover, agricultural areas, urban areas, and areas with high levels of human activity. Access to dependable water sources is important for mule deer, especially during the summer. Home ranges for southern mule deer in the County are generally small (average 120 acres). This species is threatened by development, habitat fragmentation, and vehicle strikes.

The entire survey area represents suitable habitat for this species; however, the riparian corridor and immediate surrounding habitats (southern arroyo willow riparian forest, Diegan coastal sage scrub, and disturbed areas) likely present the highest quality habitat for this species. While no scat or sign or this species was observed during the survey, the area is a core biological resource area that has direct connectivity to a vast array of high-quality habitat farther east that supports this species (Table 3; SDHM 2017). The MSCP SAP conditions of coverage and ASMDs for southern mule deer are discussed in Section 6.1, Table 4.

5.4.4.9 Western Red Bat (*Lasiurus blossevillii*), SSC

Western red bat is a California species of special concern. It is a relatively small bat with distinctively red-orange fur that inhabits woodlands and forests throughout cismontane California. Western red bats generally roost solitarily or in small family groups in the foliage of trees or shrubs that are generally hidden from view from all directions except from below, lack obstruction beneath, have dark ground cover to reduce solar radiation, and have nearby vegetation to block wind and dust. This species often roosts in riparian areas but will roost in wooded areas, wooded neighborhood parks, and orchards. It hunts a variety of insects on the wing and feeds over a wide variety of habitats, including grasslands, shrub-dominated habitats, open woodlands, and agricultural areas. Western red bats are generally active when temperatures reach above 68° F and will hibernate during the winter (SDHM 2017.)

Suitable roosting and foraging habitat occurs throughout the survey area, particularly along the southern arroyo willow riparian forest and adjacent areas. The eucalyptus woodland adjacent to the survey area may provide high-quality roosting habitat, and the entire survey area serves as suitable foraging habitat (Table 3; SDHM 2017).

5.4.5 Critical Habitat

The potential presence of critical habitat in the survey area was also analyzed. No critical habitat for sensitive plant or wildlife species occurs in the survey area. The closest critical habitat for spreading navarretia (*Navarretia fossalis*) occurs 1.7 miles southeast of the survey area.

5.4.6 Nesting Birds

While no active nests were observed in the survey area, a focused nesting bird survey was not conducted. In addition, the survey was conducted at the beginning of the typical breeding season for most bird species. The project site provides potentially suitable nesting habitat for several bird species, including raptors, which are protected under the CFGC and MBTA.

The western portion of the survey area, although generally developed, has ornamental vegetation, including several trees and shrubs that could support nesting of a variety of species. Additionally, the Nissan Design America building could support nesting of species that use structures with eaves, crevices, cracks, and other "cavities," such as black phoebes (*Sayornis nigricans*), or species that may nest on the roofs of buildings, such as gulls (*Larus* sp.).

The central portion of the survey area generally consists of eucalyptus woodland and Diegan coastal sage scrub. Eucalyptus woodland provides exceptional nesting habitat for both common and sensitive species, including raptors such as the Cooper's hawk, which has shown preference for nesting in eucalyptus trees. The shrubby understory within the eucalyptus woodland also provides opportunities for ground and shrub nesting bird species. Diegan coastal sage scrub in the

central portion of the survey area provides suitable nesting habitat for species that nest in or at the base of shrubs like California towhee (*Melozone crissalis*).

The eastern and east-central portions of the survey area generally consist of southern arroyo willow riparian forest, Diegan coastal sage scrub, and disturbed habitat. Southern arroyo willow riparian forest provides suitable habitat for a wide variety of both common and sensitive species, including yellow warbler, which was observed in the survey area. Diegan coastal sage scrub in this portion of the survey area is generally of the same quality and composition as that in the central portion of the survey area and also provides suitable nesting habitat for a variety of common species, including Allen's hummingbird (*Selasphorus sasin*), spotted towhee (*Pipilo maculatus*), and bushtit (*Psaltriparus minimus*). The disturbed habitat on the eastern slope is almost entirely dominated by black mustard but may provide some suitable habitat for ground nesting species, particularly those that prefer dense ground cover like various sparrow species.

The availability of large amounts of high-quality nesting habitat with access to nearby food and water sources indicates birds and raptors are likely to use the survey area for nesting.

5.4.7 Sensitive Roosting Bats

The survey area contains suitable foraging habitat for both common and sensitive bat species and suitable roosting habitat for common species. Many bat species, including sensitive species like the western red bat, emerge from roosting sites and travel to nearby water sources and open spaces to forage and drink. The aquatic features in the survey area, particularly NWW-2 and NWW-3, present high-quality water sources with abundant insects for foraging while flows are present. The surrounding Diegan coastal sage scrub, eucalyptus woodland, and disturbed and ornamental vegetation also provide suitable foraging opportunities for many species of bat. Trees in the survey area may provide suitable roosting habitat for common bat species such as the hoary bat (*Lasiurus cinereus*) and sensitive species like western red bat, which prefer trees within riparian habitats. It does not appear that the Nissan Design America building provides suitable night roosting habitat for species that may roost in crevices or structures; however, other buildings nearby and outside the survey area may support roosting. However, this building may have potential to support day roosting. While no bats were observed using the survey area for roosting or foraging during the biological resource surveys, no nighttime focused acoustic surveys were conducted, and it was determined that suitable foraging and roosting habitat is present for sensitive and common bat species in the survey area.

5.4.8 Wildlife Corridors and Habitat Linkages

Wildlife corridors provide routes for local movement and regional linkages and corridors and often follow linear topographic, vegetation, or water features. These corridors can be continuous habitats features, or "stepping stone" areas, providing critical rest and foraging areas for, for example, birds traveling along migratory routes. Local routes of movement provide constant connections to resources that include sources of water, home/cover sites, and foraging areas. Regional linkages and

movement corridors provide larger patches of open space to allow relatively free movement of wildlife species along multiple paths between important resources. These areas allow for not only long-term genetic flow between subpopulations but also critical pathways of seasonal/migratory movements. Larger predatory mammals often use regional corridors for hunting and reproduction needs. Potential wildlife corridors can include streams, riparian areas, and culverts under roadways. Habitat characteristics included topography, habitat quality, and adjacent land uses.

Prior to conducting the field surveys, the MSCP was reviewed to confirm the presence of designated habitat linkages and dispersal corridors in the survey area. The majority of the survey area and the entire project site are entirely within the MHPA and are designated as a core biological resource area (Figure 10, MSCP Core Area/Linkages). The survey area functions as a wildlife corridor and is generally connected to large uninterrupted native habitats farther east by connections with Rose Canyon and San Clemente Canyon to the south and Carroll Canyon immediately to the east. The survey area is generally bordered on all sides by dense urban development, including two major highways (Interstate 5 and Interstate 805) to the north, which may restrict local movement for mammals, reptiles, and amphibians. However, the survey area has direct, uninhibited connections to several other open space areas, including the Rose, San Clemente, and Carroll Canyons.

The eucalyptus woodland, Diegan coastal sage scrub, southern arroyo willow riparian forest, emergent wetland, and non-vegetated channels provide high- and moderate-quality habitat (depending) for both terrestrial (e.g., reptiles and mammals) and aquatic species (e.g., amphibians) to reproduce and find new territories, and provide necessary shelter and foraging for migrating species (mostly birds). Larger mammal species, including southern mule deer, mountain lion (*Puma concolor*), and bobcat (*Lynx rufus*), may use these areas to forage as well. Sensitive species, such as Belding's orange-throated whiptail, Cooper's hawk, monarch butterfly, western red bat, and yellow warbler, are present or have a high potential to occur in the survey area and likely use the habitats present to forage and reproduce. The uninterrupted connections between other core biological resource areas provide opportunities for major movement of both small and larger terrestrial species (e.g., carnivores and mesocarnivores).

The survey area also holds value for migrating birds flying through to wintering grounds that are protected by the MBTA. The survey area is within the path of the Pacific Flyway, along which millions of birds, especially waterfowl, migrate annually between Alaska and Canada, through California, to Mexico and South America. The native habitats, including the riparian corridors surrounding NWW-2 and NWW-3, likely provide an important stopover area for a large variety of birds during their annual migration. Non-native habitats, including eucalyptus woodland, also provide high value habitat for migrating bird species. The available foraging habitat in the survey area and its proximity to Los Peñasquitos Creek/Lagoon indicate that migratory birds may use the survey area as a stopover during annual migration.

Overall, the survey area likely acts as a local and regional wildlife movement corridor that provides abundant suitable nesting, foraging, and dispersal areas for both common and sensitive wildlife species, as well as uninterrupted connections to other nearby canyons that are also core biological resource areas.

Section 6 Plan and Policy Consistency Analysis

6.1 City of San Diego Multiple Species Conservation Program Subarea Plan

The project is required to comply with the General Management Directives and Area-Specific Management Directives outlined in Section 1.5.2 of the MSCP SAP. Table 4, Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives, demonstrates the project's compliance with the MSCP SAP.

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
General Management Directives (Section 1.5.2 of the MSCP SAP)		
Mitigation: Mitigation, when required as part of future site-specific project approvals, shall be performed in accordance with the City of San Diego Environmentally Sensitive Lands Ordinance and Biology Guidelines.	Mitigation is required for impacts to sensitive species and jurisdictional aquatic resources. Direct and indirect impacts to these resources are described in detail in BRTR Sections 7.2 through 7.4.	Project mitigation measures to reduce potentially significant impacts are described in BRTR Section 8.2, Protection Element. With implementation of the proposed mitigation described in these sections, the identified impacts would be reduced to a less than significant level. Therefore, the project would comply with this MSCP SAP General Management Directive.
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.	The project would fill and revegetate an eroded slope within eucalyptus woodland, non-vegetated channel, and southern arroyo willow riparian forest. All revegetation would be entirely within the MHPA.	A Revegetation Planning and Design Package would be submitted to the City for approval prior to project implementation. Additionally, permitting with USACE, RWQCB, and CDFW would be performed for impacts to southern arroyo willow riparian forest and non-vegetated channel as applicable. Restoration and revegetation activities in the MHPA would be required to be conducted in accordance with the City's Biology Guidelines (City of San Diego 2018), Landscape Regulations (City of San Diego 2018), and the Landscape Standards (City of San Diego 2012), with specific native species incorporated as appropriate. Therefore, the project would comply with this MSCP SAP General Management Directive.
Public Access, Trails, and Recreation – Priority 1.2: Locate	The overall project would be consistent with the MSCP SAP General	No trails or paths are proposed within the MHPA. Restoration of temporary

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
trails, view overlooks, and staging areas in the least sensitive areas of the MHPA. Locate trails along the edges of urban land uses adjacent to the MHPA, or the seam between land uses (e.g., agriculture/habitat), and follow existing dirt road as much as possible rather than entering habitat for wildlife movement areas.	Management Directives for public access, trails, and recreation because no trails or paths are proposed within the MHPA. Staging would occur on the existing unpaved road on the project site to the greatest extent feasible; however, staging may occur within eucalyptus woodland and a small portion of southern arroyo willow riparian forest within the temporary work areas for work to be completed. The project site would be restored to match the surrounding areas upon completion of project activities.	impacts resulting from staging would be restored and revegetated, as staging is expected to occur within the project boundaries and the existing access road. Restoration and revegetation activities in the MHPA would be required to be conducted in accordance with the City's Biology Guidelines (City of San Diego 2018), Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012), with specific native species incorporated as appropriate. Additionally, a qualified biologist would delineate sensitive resources, including sensitive habitats, prior to start of project activities to ensure that staging occurs in the least sensitive areas to the greatest extent feasible. Therefore, the project would comply with this MSCP SAP General Management Directive.
Litter/Trash and Materials Storage – Priority 1.3: Prohibit permanent storage of materials (e.g., hazardous and toxic chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, due to potential leakage.	No hazardous construction materials would be allowed to be permanently stored within or adjacent to the MHPA (including fuel or sediment) during project construction, and any drainage from the construction site must be clear of such materials. Litter/trash would be kept in appropriately contained receptacles within staging areas and removed from the project site daily.	The construction contractor, with support from the qualified monitoring biologist, shall ensure that all areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction-related activities are conducted in previously developed or disturbed areas wherever possible. Typical BMPs, such as having trash containers on site, a demarcated limit of work, and contractor education, would limit the potential for trash and other human disturbance. During construction, the qualified monitoring biologist shall verify that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking, or other construction-related activities occurred within sensitive habitat in the MHPA. These activities shall only occur within the designated staging areas and in accordance with a project-specific Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual.

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
		Therefore, the project would comply with this MSCP SAP General Management Directive.
Adjacency Management Issues: Enforce, prevent, and remove illegal intrusions into the MHPA (e.g., orchards, decks, etc.) on an annual basis, in addition to complaint basis. Disseminate educational information to residents adjacent to and inside the MHPA to heighten environmental awareness, and inform residents of access, appropriate plantings, construction or disturbance within MHPA boundaries, pet intrusion, fire management, and other adjacency issues. Install barriers (fencing, rocks/boulders, vegetation) and/or signage where necessary to direct public access to appropriate locations.	The MHPA is within the Campus Point Open Space and is publicly accessible. The dirt access roads are commonly used as public walking trails.	The project site is publicly accessible, and therefore, no measures are required to be taken to enforce illegal intrusions into the area. Thus, the project would comply with this MSCP SAP General Management Directive.
Invasive Exotics Control and Removal: Do not introduce invasive non-native species into the MHPA. Provide information on invasive plants and animals harmful to the MHPA, and prevention methods to visitors and adjacent residents. Encourage residents to voluntarily remove invasive exotics from their landscaping.	Any plant species installed within 100 feet of the MHPA shall comply with the Landscape Regulations (LDC Section 142.0400 and per Table 142-04F, Revegetation and Irrigation Requirements) and be non-invasive.	Revegetation in temporary impact areas would be required to be in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012) that describes invasive plant control measures. Additionally, the project would be required to comply with a Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual and would implement the use of BMPs and mitigation measures such as having trash containers on site, a demarcated limit of work, and contractor education, which would limit the potential for trash and human disturbance that could attract invasive wildlife species. Therefore, the project would comply with this MSCP SAP General Management Directive.
Flood Control: Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and	Not applicable.	Not applicable.

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
upstream from the MHPA if feasible, should remain in a natural condition and configuration to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.		
Area-Specific Management Directives for MSCP Covered Species		
Belding's Orange-throated Whiptail: The conditions of coverage require that ASMDs for Belding's orange-throated whiptail must address edge effects.	The project is required to conform to the MSCP SAP ASMDs for covered species, including for Belding's orange-throated whiptail, which was determined to have a high potential to occur in the survey area. The storm drain replacement is within an existing drainage easement, and most of the additional temporary and permanent impacts outside the easement would occur in non-sensitive eucalyptus woodland, which provides limited suitable habitat for Belding's orange-throated whiptail.	The project would be consistent with the MSCP SAP ASMDs for Belding's orange-throated whiptail through the project design, which minimizes project impacts and reduces potential adverse edge effects to sensitive wildlife species. Project impacts to Belding's orange-throated whiptail habitat, as well as potential edge effects, would be avoided through implementation of standard avoidance and minimization measures in accordance with the City's Biology Guidelines (City of San Diego 2018). Areas of temporary impacts on the project site would be revegetated in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012). Therefore, the project would comply with this MSCP SAP ASMDs for Belding's orange-throated whiptail.
Cooper's Hawk: The conditions of coverage require that ASMD for Cooper's hawk must include establishment of 300-foot impact avoidance areas around active nests.	The project is required to conform to the MSCP SAP ASMDs for covered species, including Cooper's hawk, which was observed in the survey area. Further, the project would be required to comply with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA.	The project would be consistent with the MSCP SAP ASMDs for Cooper's hawk through compliance with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA. The project would establish 300-foot impact avoidance buffer areas around active nests. Therefore, the project would comply with this MSCP SAP ASMD for Cooper's hawk.
California Gnatcatcher: The conditions of coverage require that ASMD 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	The project is required to conform to the MSCP SAP ASMDs for covered species, including CAGN, which was determined to have a high potential to occur in the survey area.	The project would be consistent with the MSCP SAP ASMD for CAGN because no permanent or temporary impacts would occur to potential foraging or nesting habitat for CAGN. Whenever possible, project construction activities would be

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
maintain or improve habitat quality including vegetation structure. No cleaning of occupied habitat within the cities' MHPAs and within the County's Biological Resource Core Areas may occur between March 1 and August 15.		conducted outside the breeding season of sensitive wildlife species. If construction is required to be conducted during the breeding season of sensitive wildlife, and suitable habitat is present within or adjacent to the facility segment planned for maintenance, appropriate measures would be taken to reduce impacts to a level below significant. The project would occur outside Diegan coastal sage scrub habitat that could support foraging and marginal nesting habitat of CAGN; however, standard avoidance and minimization measures and species-specific mitigation measures are proposed to reduce potential indirect impacts to CAGN. Further, the project would be required to comply with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA. Therefore, the project would comply with this MSCP SAP ASMDs for CAGN.
Least Bell's Vireo: The conditions of coverage for least Bell's vireo state that the jurisdictions will require protocol-level surveys during the CEQA review process in suitable habitat proposed to be impacted and to incorporate mitigation measures. Additional guidelines, ordinances, and state and federal wetland regulations will provide additional habitat protection resulting in a no-net loss of wetlands. ASMDs 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).	The project is required to conform to the MSCP SAP ASMDs for covered species, including least Bell's vireo, which was determined to have a high potential to occur in the survey area.	The project would be consistent with the MSCP SAP ASMD for least Bell' s vireo through compliance with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA. Whenever possible, project construction activities would be conducted outside the breeding season of sensitive wildlife species. If construction is required to be conducted during the breeding season of sensitive wildlife, and suitable habitat is present within or adjacent to the facility segment planned for maintenance, appropriate measures would be taken to reduce impacts to a level below significant. The project would impact southern arroyo willow; however, standard avoidance and minimization measures and species-specific mitigation

Table 4. Proposed Project Consistency Determination with Multiple Species Conservation Program Subarea Plan General Management Directives and Area-Specific Management Directives

MSCP SAP Directives	Applicability	Implementation
		measures are proposed to reduce potential impacts to least Bell's vireo. Therefore, the project would comply with this MSCP SAP ASMDs for least Bell's vireo.
Southern Mule Deer: The conditions of coverage for southern mule deer do not define specific conditions for this species; however, it identifies that through the maintenance of habitats within biological core and linkage areas, this species will be protected.	The project is required to conform to the MSCP SAP ASMDs for covered species, including southern mule deer, which was determined to have a high potential to occur in the survey area.	The project would be consistent with the MSCP SAP ASMD for southern mule deer through the project design, which minimizes project impacts and includes revegetation of temporary impacts in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012). Construction activities would be temporary, and activities are not expected to prevent use of the area by southern mule deer during construction. In addition, the habitat would be restored to previous project conditions in terms of topography and vegetative cover. Implementation of standard avoidance and minimization measures in accordance with the City's Biology Guidelines (City of San Diego 2018) would ensure the preservation of habitats within the biological core area that supports this species. Therefore, the project would comply with this MSCP SAP ASMDs for southern mule deer.

Notes: ASMD = Area-Specific Management Directives; CAGN = coastal California gnatcatcher; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CFGC = California Fish and Game Code; LDC = Land Development Code; MHPA = Multi-Habitat Planning Area; MSCP = Multiple Species Conservation Program; RWQCB = Regional Water Quality Control Board; SAP = City of San Diego Multiple Species Conservation Program Subarea Plan; USACE = U.S. Army Corps of Engineers

6.2 Multi-Habitat Planning Area

The entire project site and the majority of the survey area are within the MHPA (Figure 2). Because the project would be within or adjacent to the MHPA, the project is required to document compliance with the General Planning Policies and Design Guidelines in Section 1.4.2 of the MSCP SAP as applicable. Table 5, Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis, demonstrates the project's compliance with the MSCP SAP General Planning Policies and Design Guidelines.

Table 5. Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP SAP)		Analysis
Roads and Utilities – Construction and Maintenance Policies		
1	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 project would occur entirely within the MHPA. The project has been designed to replace an existing storm drain, and impacts would be minimized to the greatest extent feasible. The storm drain is within an existing drainage easement; however, temporary impacts would occur outside the existing easement, and areas of temporary impact would be revegetated. Because the project is an essential public facilities project, it would be a compatible use within the MHPA. Therefore, the project would comply with this MSCP SAP Planning Policy.
2	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 would occur entirely within the MHPA. The project has been designed to replace an existing storm drain, and impacts would be minimized to the greatest extent feasible. The storm drain is within an existing drainage easement, and the majority of additional temporary and permanent impacts outside the easement would occur in non-sensitive habitat, eucalyptus woodland. Sensitive habitats, including non-vegetated channel and southern arroyo willow riparian forest, would also be minorly impacted; however, impacts to these habitats would be mitigated in accordance with the City's Biology Guidelines (City of San Diego 2018). Additionally, temporarily impacted areas would be revegetated in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012). Therefore, the project would comply with this MSCP SAP Planning Policy.
3	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.	The project has been designed to follow an existing drainage easement to the greatest extent feasible; however, some impacts to adjacent sensitive and non-sensitive habitats would occur. The majority of the impacts and staging would occur within eucalyptus woodland and along an existing unpaved access road or the paved, public road Campus Point Drive, but the work area would occur within a small portion of southern arroyo willow riparian forest as needed to install energy dissipators, riprap, and pipe. Impacts to sensitive southern arroyo willow riparian forest would be below the 0.01 acre significance threshold for wetland impacts per the City's Biology Guidelines (City of San Diego 2018) and would not require mitigation but would be restored in-kind. Additionally, temporarily impacted areas (eucalyptus woodland) would be revegetated with appropriate native species in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012).

Table 5. Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP SAP)		Analysis
		Therefore, the project would comply with this MSCP SAP Planning Policy.
4	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.	Existing wildlife corridors would remain in place after implementation of the project, and significant long-term impacts to wildlife corridors and habitat connectivity are not expected to occur in these areas, although the project would occur within the MHPA and contain sensitive habitat suitable for wildlife movement and foraging. While project activities may temporarily alter wildlife movement through the project site, the project is not expected to have a significant impact on habitat linkage because the overall habitat quality of the existing corridors would increase as a result of project implementation due to the reduction in erosion and revegetation of the areas on the project site and because the project would not prevent movement through the general area due to the small size of the project site within the overall movement corridor. Because no significant impacts to wildlife corridors would result from project implementation, no mitigation is required. Additionally, the project would implement standard avoidance and minimization measures, which would include a qualified biologist to delineate sensitive resources and ensure that wildlife is safely flushed from the work area prior to the start of project activities, areas where entrapment could occur are secured overnight, and wildlife escape routes are in place as needed. Additionally, the qualified biologist would provide a Worker Environmental Education Program to crew members prior to project implementation. The project would comply with the MSCP SAP, the San Diego RWQCB Municipal Permit, the City's Stormwater Standards Manual (City of San Diego 2021), and NPDES regulations. Therefore, the project would comply with this MSCP SAP Planning Policy.
5	Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.	Not applicable. No new roads are proposed in the MHPA.
6	Development of roads in canyon bottoms should be avoided whenever feasible.	Not applicable. No new roads are proposed in the MHPA.
7	Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.	Not applicable. No new roads are proposed in the MHPA.

Table 5. Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP SAP)		Analysis
8	For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore will be maintained.	Not applicable. No maintenance of existing roads or utilities occurs in the portion of the MHPA on the project site.
Fencing, Lighting, and Signage Design Guidelines		
1	Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).	Prior to construction activities, implementation of standard avoidance and minimization measures requires the qualified monitoring 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 proposed project conditions as shown on the Biological Construction Mitigation/Monitoring Exhibit. This task shall include flagging plant specimens and delineating buffers to protect sensitive biological resources (e.g., habitats, plants, and wildlife, including nesting birds) prior to the start of construction. Further, the project would be required to comply with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA, and appropriate avoidance buffers for nests would be implemented as required. Therefore, the project would comply with this MSCP SAP Design Guideline.
2	Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.	Nighttime construction is not expected for the project. Therefore, the project would comply with this MSCP SAP Design Guideline.
Materials Storage Design Guideline		
1	Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.	During construction activities, implementation of standard avoidance and minimization measures requires the qualified monitoring biologist shall verify that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking, or other construction-related activities should occur adjacent to the MHPA or other sensitive habitat. These activities shall only occur within the designated staging area outside the MHPA and in accordance with a project-specific Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual. Therefore, the project would comply with this MSCP SAP Design Guideline.
Mining, Extraction, and Processing Facilities		
1	Mining operations include mineral extraction, processing, and other related mining activities (e.g., asphaltic processing). Currently permitted mining operations that have approved restoration plans may continue operating in the MHPA. New or expanded mining operations on	Not applicable. No mining activities are proposed as part of the project.

Table 5. Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP SAP)		Analysis
	lands conserved as part of the MHPA are incompatible with MSCP preserve goals for covered species and their habitats unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved. New operations are permitted in the MHPA if: 1) impacts have been assessed and conditions incorporated to mitigate biological impacts and restore mined areas; 2) adverse impacts to covered species in the MHPA have been mitigated consistent with the Subarea Plan; and 3) requirements of other City land use policies and regulations (e.g., Adjacency Guidelines, Conditional Use Permit) have been satisfied. Existing and any newly permitted operations adjacent to or within the MHPA shall meet noise, air quality, and water quality regulation requirements, as identified in the conditions of any existing or new permit, to adequately protect adjacent preserved areas and covered species. Such facilities shall also be appropriately restored upon cessation of mining activities.	
2	All mining operations and other related activities must be consistent with the objectives, guidelines, and recommendations in the MSCP plan, the City of San Diego's Environmentally Sensitive Lands Ordinance, all relevant long-range plans, as well as with the State Surface Mining and Reclamation Act (SMARA) of 1975.	Not applicable. No mining activities are proposed as part of the project.
3	And sand removal activities should be monitored for noise impacts to surrounding sensitive habitats, and all new sediment removal or mining operations proposed in proximity to the MHPA, or changes in existing operations, must include noise reduction methods that take into consideration the breeding and nesting season of sensitive bird species.	Not applicable. No mining activities are proposed as part of the project.
4	All existing and future mined lands adjacent to or within the MHPA shall be reclaimed pursuant to SMARA. Ponds are considered compatible uses where they provide native wildlife and wetland habitats and do not conflict with conservation goals of the MSCP and Subarea Plan.	Not applicable. No mining activities are proposed as part of the project.
5	Any permitted mining activity including reclamation of sand must consider changes and impacts to water quality, water table level, fluvial hydrology, flooding, and wetlands and habitats upstream and downstream, and provide adequate mitigation.	Not applicable. No mining activities are proposed as part of the project.

Table 5. Multiple Species Conservation Program Subarea Plan General Planning Policies and Design Guidelines Consistency Analysis

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP SAP)		Analysis
Flood Control Design Guidelines		
1	Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.	Impacts to non-vegetated channels and southern arroyo willow riparian forest, including installation of riprap, would be permitted with USACE, RWQCB, and CDFW as applicable, and BMPs would be in accordance with a project-specific Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual. Additionally, the project is not within a floodplain and impacts to the nearest floodplain upstream of the project would not result from project implementation. Therefore, the project would comply with this MSCP SAP Design Guideline.
2	No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.	Impacts to non-vegetated channels and southern arroyo willow riparian forest, including installation of riprap, would be permitted with USACE, RWQCB, and CDFW as applicable, and BMPs would be in accordance a project-specific Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual. Additionally, the project is not within a floodplain and impacts to the nearest floodplain upstream of the project would not result from project implementation. Therefore, the project would comply with this MSCP SAP Design Guideline.
3	No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.	Riprap is proposed to be installed as part of the project within the southern arroyo willow riparian forest corridor of a natural stream; however, it would not be used as part of bank stabilization. The southern arroyo willow riparian forest surrounding the riprap would be graded as necessary and revegetated with native vegetation appropriate to the surrounding habitat in accordance with the City's Biology Guidelines, Landscape Regulations (City of San Diego 2018), and Landscape Standards (City of San Diego 2012). Therefore, the project would comply with this MSCP SAP Design Guideline.

Notes: BMP = best management practices; CDFW = California Department of Fish and Wildlife; CFGC = California Fish and Game Code; LDC = Land Development Code; MBTA = Migratory Bird Treaty Act; MHPA = Multi-Habitat Planning Area; MSCP = Multiple Species Conservation Program; NPDES = National Pollutant Discharge Elimination System; RWQCB = Regional Water Quality Control Board; SAP = City of San Diego Multiple Species Conservation Program Subarea Plan; USACE = U.S. Army Corp of Engineers

6.3 Multi-Habitat Planning Area Land Use Adjacency Guidelines

The entire project site and most of the survey area are in the MHPA; therefore, the project would be required to document compliance with the LUAGs. Table 6, Project Consistency Determination with Multi-Habitat Planning Area Land Use Adjacency Guidelines, documents the project's compliance with the MHPA LUAGs.

Table 6. Project Consistency Determination with Multi-Habitat Planning Area Land Use Adjacency Guidelines

MHPA Adjacency Guidelines Section 1.4.3 of the MSCP SAP	Applicability	Implementation
Drainage: All new and proposed parking lots and developed areas in and adjacent to the preserve must not 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.	Ground disturbance for the project in and adjacent to the MHPA would consist of replacement and improvements of existing stormwater infrastructure that directs urban surface runoff into the preserve.	No new development, including parking lots, are proposed to occur in or directly adjacent to the MHPA. In addition, the project would result in an overall increased control of urban surface runoff into the preserve by replacing and improving existing stormwater infrastructure. Prior to construction, the limits of ground disturbance within and adjacent to the MHPA boundary would be clearly delineated on the project site by the qualified monitoring biologist. The project would be required to implement BMPs as part of a project-specific Water Pollution Control Plan developed in accordance with the City's Stormwater Standards Manual. Therefore, the project would comply with this MSCP SAP LUAG.
Toxics: 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.	No hazardous construction materials storage should be allowed adjacent to the MHPA (including fuel or sediment), and any drainage from the construction site must be clear of such materials. The proposed stormwater infrastructure replacement and improvements would further provide water quality benefits and reduce uncontrolled runoff and erosion potential into MHPA. Consistent with the City Storm Water Standards, existing previously legal drainage that flows toward or into the MHPA shall be minimized.	All project construction areas proposed for staging, storage of equipment and materials, trash, equipment maintenance, and other construction-related activities would be required to be on previously developed land and away from the MHPA preserve boundary in compliance with the MSCP SAP, the San Diego RWQCB Municipal Permit, the City's Stormwater Standards Manual (City of San Diego 2012a), and NPDES regulations. Therefore, the project would comply with this MSCP SAP LUAG.
Lighting: Lighting of all developed areas adjacent to the MHPA 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 night work is proposed; however, if night work is required in or adjacent to the MHPA, all lighting should be shielded away from the preserve. No new permanent lighting is proposed in or adjacent to the MHPA.	Nighttime construction is not expected for the project. However, in the event nighttime construction is required, additional measures would be necessary to ensure nighttime construction activity within undeveloped areas containing or adjacent to sensitive biological resources are minimized whenever feasible. Any nighttime lighting would be subject to City Outdoor Lighting Regulations per LDC Section 142.0740. Therefore, the project would comply with this MSCP SAP LUAG.

Table 6. Project Consistency Determination with Multi-Habitat Planning Area Land Use Adjacency Guidelines

MHPA Adjacency Guidelines Section 1.4.3 of the MSCP SAP	Applicability	Implementation
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 utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.	Construction within and adjacent to suitable habitat for MSCP SAP-covered species, including Belding's orange-throated whiptail, Cooper's hawk, CAGN, least Bell' s vireo, and southern mule deer, during the breeding seasons (as applicable) for these species would be avoided to the extent feasible. However, should construction need to occur during the breeding season for the applicable species, noise monitoring would be conducted, and if necessary, temporary sound walls, buffers, or other sound attenuating devices or techniques would be used in areas of concern to reduce noise-related impacts. No long-term noise generating land uses are proposed within or adjacent to the MHPA.	The project is required to conform with the MSCP SAP and ASMDs for covered species, including Belding's orange-throated whiptail, Cooper's hawk, CAGN, least Bell' s vireo, and southern mule deer. Further, the project would comply with regulations protecting sensitive nesting birds and raptors, including the CFGC and MBTA. Therefore, the project would comply with this MSCP SAP LUAG.
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.	No new development is proposed under the project and this LUAG is not applicable.	Not applicable.
Invasives: No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.	Plant species installed in and within 100 feet of the MHPA during revegetation of temporary impact areas shall comply with the Landscape Regulations (LDC 142.0400 and per Table 142-04F, Revegetation and Irrigation Requirements) and be non-invasive.	The construction contractor shall permanently revegetate all graded, disturbed, or eroded native habitat areas within the temporary impact area in accordance with the City's Municipal Code, the City's Biology Guidelines, and Landscape Regulations (City of San Diego 2018a, 2012b), and the City's Municipal Code, Land Development Code—Landscape Standards (City of San Diego 2012b).
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 the MHPA.	No new residential development is proposed under the project and this LUAG is not applicable.	Not applicable.

Table 6. Project Consistency Determination with Multi-Habitat Planning Area Land Use Adjacency Guidelines

MHPA Adjacency Guidelines Section 1.4.3 of the MSCP SAP	Applicability	Implementation
Grading/Land Development: Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.	No manufactured slopes are proposed by the project and this LUAG is not applicable.	Not applicable.

Notes: ASMD = area-specific management directive; CAGN = coastal California gnatcatcher; CFGC = California Fish and Game Code; LUAGs = Land Use Adjacency Guidelines; MBTA = Migratory Bird Treaty Act; MHPA = Multi-Habitat Planning Area; MSCP = Multiple Species Conservation Program; RWQCB = Regional Water Quality Control Board; SAP = City of San Diego Multiple Species Conservation Program Subarea Plan

6.4 Deviations to Environmentally Sensitive Lands Regulations

The City's Biology Guidelines and Section 143.0150 of the City's LDC allow for deviations from wetland avoidance requirements in ESL located outside the Coastal Overlay Zone if a project meets specific criteria under the Essential Public Project Option, the Economic Viability Option, or the Biologically Superior Option. Project qualification of the Essential Public Project Option per the City's Biology Guidelines (Section 143.051[d]) is discussed below.

6.4.1 Essential Public Project Option

The project meets the criteria of an Essential Public Project (EPP) deviation option per the City's Biology Guidelines and ESL Regulations (Section 143.051[d]). Deviation from ESL Regulations for impacts to wetlands under the EPP option is required to include a design where no feasible alternative exists that would avoid impacts to wetlands. In addition, an EPP option project must include one of the following four criteria: (1) be identified in an adopted land use plan or implementing document and identified on the EPP List adopted by Resolution No. [R-311507] as Appendix III to the City Biology Guidelines; (2) be linear infrastructure, including but not limited to major roads and land use plan circulation element roads and facilities; (3) be the maintenance of existing public infrastructure; or (4) be a state or federally mandated project.

A total of approximately 0.008 acre of southern arroyo willow riparian forest, considered City wetlands, on the project site would be impacted during project implementation. As previously discussed, while the project has been designed to minimize impacts to the aquatic resources on and surrounding the project site to the maximum extent feasible, project activities necessarily occur in the location of the failed storm drain, resulting in unavoidable impacts to City wetlands. The project is considered essential in both location and need in that its purpose is to address severe erosion that has occurred from the failure of an existing storm drain by replacing the in-place storm drain and repairing the surrounding eroded areas. Further, the project includes repair and improvements to existing linear stormwater conveyance infrastructure currently serving the

surrounding community. Thus, the project meets EPP option criteria number 3 listed in the previous paragraph and qualifies under the EPP option for wetland deviation.

Per the City's Biology Guidelines, analysis of a no project alternative, a wetland avoidance alternative, and a wetland impact minimization alternative are provided in the following sections.

6.4.2 No Project Alternative

Under the No Project Alternative, no project activities or City wetland impacts would occur, and no repair or replacement of the damaged storm drain would occur. The severe erosion of the slope at this location would continue, resulting in further destabilization of the slope, vegetation, and canyon bottom. While the No Project Alternative would avoid direct impacts to City wetlands resulting from project activities, continued erosion of the slope from uncontrolled stormwater flows directed into the canyon would result in degradation of downstream water quality from erosion, sedimentation, and potential pollutants. Further, if the erosion were left to continue, it would likely eventually start to impact the native habitats surrounding the project site, including the riparian forest corridor downslope and to the east and the Diegan coastal sage scrub on the canyon slopes. Continued erosion of the slope and downstream sedimentation could potentially disrupt the sensitive species supported by these nearby native habitats, including riparian species like yellow warbler and least Bell's vireo, and coastal sage scrub species like coastal California gnatcatcher. Thus, a No Project Alternative is not the least environmentally damaging practicable alternative.

6.4.3 Wetland Avoidance Alternative

As previously discussed, the project necessarily occurs in the location of the failed storm drain, within which most of the City wetlands have formed due to repeated flow events creating the conditions under which non-vegetated channels have been established and riparian vegetation has grown. Repair and replacement of the damaged storm drain system is critical to maintaining the functionality of the City infrastructure to serve the public. An alternative that fully avoids City wetlands would result in the same conditions as the No Project Alternative, analyzed previously. Therefore, like the No Project Alternative, the Wetland Avoidance Alternative is not the least environmentally damaging practicable alternative.

6.4.4 Wetland Impact Minimization Alternative

The project has been designed to minimize impacts to the City wetlands on the project site to the maximum extent feasible while still meeting the objectives of the project and would thereby be considered equal to the Wetland Impact Minimization Alternative. The project necessarily occurs in the location of the failed storm drain and although full avoidance of City wetlands (southern arroyo willow riparian forest) is not feasible, impacts would be limited to 0.008 acre of temporary impacts, below the 0.01 acre significance threshold for wetland impacts per the City's Biology Guidelines (City of San Diego 2018). Although temporary impacts to City wetlands would occur

during project construction, implementation of the project would minimize long-term impacts to City wetlands through elimination of the source of ongoing erosion and water quality degradation. Thus, the project would be the least environmentally damaging practicable alternative, consistent with the City's Biology Guidelines criteria of an EPP. Therefore, this EPP qualifies for a wetland deviation under the City's ESL regulations.

Section 7 Impacts

Based on the City's Biology Guidelines (City of San Diego 2018), direct or primary effects are those that are caused by a project and occur at the same time and place; indirect or secondary effects are those that are reasonably foreseeable and caused by a project but occur at a different time or place; and cumulative effects refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts.

The following thresholds are used in this BRTR and are adapted from Appendix G of the CEQA Guidelines and the City's adopted Thresholds of Significance (City of San Diego 2022). Would the project result in:

1. 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 SAP or other local or regional plans, policies or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)?
2. 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 CDFG or USFWS?
3. 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?
4. Interfering 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, or impede the use of native wildlife nursery sites?
5. A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state Habitat Conservation Plan, either within the MSCP plan area or in the surrounding region?
6. Introducing land use within an area adjacent to the MHPA that would result in adverse edge effects?
7. A conflict with any local policies or ordinances protecting biological resources?
8. An introduction of invasive species of plants into a natural open space area?

7.1 Impacts

Impacts to biological resources from implementation of the project are categorized quantitatively as direct and indirect impacts. Within the direct and indirect quantitative impacts categories, impacts are also qualified temporally as permanent and temporary impacts.

Permanent impacts may result in irreversible damage to biological resources, including habitat or removal of species from a particular area. Specific to the project, permanent impacts are those that occur from filling and grading the eroded area where the replacement storm drain occurs, and installation of associated cut-off walls for steep terrain installations, concrete energy dissipators, riprap, and catch basins.

Temporary impacts are interim changes in the local environment due to construction and would not extend beyond project-associated construction, including revegetation of temporarily disturbed areas adjacent to native habitats. Specific to the project, temporary impacts are those that occur during construction of the project adjacent to the reinforced concrete pipe installation and where staging would occur.

7.1.1 Direct Impacts

A direct impact is a physical change in the environment caused by and immediately related to the project. Construction and restoration activities associated with implementation of the project could result in direct impacts to biological resources including but not limited to the following:

- Direct removal of vegetation and/or land cover during construction activities by means of excavation, grading, vegetation clearing/grubbing/crushing
- Placement of fill within potentially jurisdictional aquatic resources
- Human incursion into sensitive habitats
- Mortality of sensitive wildlife species from vehicular collision
- Destruction or abandonment of nests

Lands containing Tier I, II, IIIA, and IIIB (Table 3 from the City's Biology Guidelines) and all wetlands/non-wetlands (Table 2A and Table 2B from the City's Biology Guidelines) are sensitive and declining habitats. As such, impacts to these resources would be significant. There are several exceptions to this; however, only the following is applicable to the project (City of San Diego 2018):

- Lands designated as Tier IV (e.g., disturbed habitat and developed land) are not considered to have significant habitat value, and any proposed impacts to these communities would not be considered significant.

Impacts to individual sensitive plants species, aside from impacts to sensitive habitat, may also be significant based on the rarity and extent of impacts. In general, conformance with the MSCP SAP provides incidental take coverage for covered species (both plants and wildlife) such that impacts to those species outside the City's MHPA would not be significant (due to conservation of the species provided by MSCP SAP implementation). Exceptions to this would be impacts that occur to narrow endemic covered species; non-covered species that are state- or federally listed species or have a CRPR of 1B.1, 1B.2, or 2B.2; or covered species that are within the MHPA (City of San Diego 2018). Impacts to plant species ranked CRPR 3 and 4 would not be significant since any

populations identified on site would not represent a significant percentage of the population in terms of the ability for the species to persist (i.e., CRPR 4 species are not considered "rare" from a statewide perspective).

Per the City's adopted Thresholds of Significance outlined previously in Section 7.1, Impacts, the analysis of direct impacts to biological resources from project implementation is provided in Sections 7.2 through 7.9.

7.1.2 Indirect Impacts

Indirect impacts are reasonably foreseeable physical changes in the environment, which are not immediately related to the project, but which are caused indirectly by the project. If a direct impact in turn causes another physical change in the environment, then the secondary changes are an indirect impact, such as dust from heavy equipment resulting from grading that could settle on nearby vegetation and interfere with the photosynthetic process or construction equipment noise levels that could interrupt reproductive behavior within adjacent sensitive avian breeding habitats during the breeding season (City of San Diego 2018). Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects occurring after construction. Indirect impacts that would result in loss of function of wetlands, Tier I–III upland vegetation habitats, or sensitive species may be significant. Potential indirect effects resulting from project implementation may include elevated levels of noise or lighting; increased erosion, sedimentation, and fugitive dust; change in surface water hydrology; increased erosion or sedimentation; and the introduction or increased presence of non-native species. These types of indirect impacts can affect surrounding vegetation communities or their potential use by sensitive species. They can also cause the disruption of normal wildlife functions or activities, impacting individual species.

Avoidance of indirect impacts to the sensitive biological resources from project implementation would be achieved through project compliance with federal, state, and local regulations. Therefore, an overarching indirect impacts analysis for sensitive plant and wildlife species, sensitive vegetation communities, jurisdictional aquatic resources, and wildlife corridors and habitat linkages on the project site is provided below.

Sensitive plant species, sensitive vegetation communities, and jurisdictional aquatic resources are affected by many of the same indirect impacts, which primarily result from adverse edge effects during construction, including dust deposition in nearby habitats from activities such as grading operations and equipment movement, which could disrupt plant vitality in the short-term; construction-related pollutant discharges; soil erosion; and runoff. Additional indirect impacts to these sensitive biological resources may include invasion by exotic plant and wildlife species, exposure to urban pollutants (fertilizers, pesticides, herbicides, and other hazardous materials), litter, and hydrologic changes (e.g., surface and groundwater level and quality). These indirect impacts in the form of adverse edge effects and habitat disturbance could have a significant impact on the

sensitive plant species observed or determined to have a high or moderate potential to occur, as well as the sensitive vegetation communities and jurisdictional aquatic resources on the project site.

Indirect impacts to sensitive wildlife species and wildlife corridors and habitat linkages generally include lighting, increased human activity, hydrologic quality (increased turbidity, excessive sedimentation, flow interruptions, and changes in water temperature), noise, vibration, and trash and garbage, which can attract both introduced terrestrial and native terrestrial and bird predators (such as American crows [*Corvus brachyrhynchos*], common ravens [*Corvus corax*], coyotes [*Canis latrans*], domestic dogs [*Canis familiaris*], raccoons [*Procyon lotor*], and striped skunks [*Mephitis mephitis*]). These indirect impacts in the form of habitat disturbance and potential predation could have a significant impact on the sensitive wildlife species observed or determined to have a high or moderate potential to occur, as well as wildlife corridors and habitat linkages on the project site.

Overall, the project would be required to comply with the MSCP SAP, the ESL Ordinance, the San Diego RWQCB Municipal Permit, the City's Stormwater Standards Manual, and National Pollutant Discharge Elimination System (NPDES) regulations through implementation of site design, source control, and incorporation of construction and permanent BMPs. The project's consistency with the MSCP SAP General Management Directives, species-specific ASMDs, and General Planning Policies and Design Guidelines is demonstrated in Tables 4 and 5 (BRTR Sections 6.1 and 6.2). In addition, because the project site is within the MHPA and could result in potential indirect impacts to the preserve, the project would be required to demonstrate consistency with the MSCP SAP Section 1.4.3, Land Use Adjacency Guidelines. The project's consistency with the MHPA LUAGs is demonstrated in Table 6 (BRTR Section 6.3, Multiple-Habitat Planning Area Land Use Adjacency Guidelines). Indirect impacts to sensitive plant and wildlife species, sensitive vegetation communities, and jurisdictional aquatic resources would be precluded by conformance with MSCP SAP Section 1.4.3 and implementing the Protection Element. Further, consultation with the regulatory agencies and preparation of a compensatory mitigation plan consistent with the City's Biology Guidelines would be required as a condition of project approval to ensure no net loss of jurisdictional aquatic resources. Therefore, indirect impacts to sensitive plant and wildlife species, sensitive vegetation communities, jurisdictional aquatic resources, and wildlife corridors and habitat linkages from implementation of the project are less than significant, and no mitigation is required.

7.2 Threshold 1: Sensitive Plant and Wildlife Species

7.2.1 Guidelines for Determination of Significance

Significant impacts could result if the project would 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 SAP or other local or regional plans, policies, or regulations or by the CDFW or USFWS.

7.2.2 Impact Analysis

7.2.2.1 Sensitive Plant Species

Direct Impacts

One sensitive plant species, San Diego sagewort, was observed on the project site during the 2024 biological reconnaissance survey. A focused rare plant survey was not conducted as part of this biological reconnaissance survey; however, a rare plant survey was performed (within the 100-foot survey buffer only) in 2014, in which only San Diego sagewort was observed. Four additional sensitive plant species, ashy spike-moss, bottle liverwort, Nuttall's scrub oak, and San Diego County viguiera, were determined to have a moderate or high potential to occur in the survey area. San Diego sagewort is a CRPR 4.2 species, ashy spike-moss is a CRPR 4.1 species, bottle liverwort and Nuttall's scrub oak are CRPR 1B.1 species, and San Diego County viguiera is a CRPR 4.3 species.

Observations of San Diego sagewort only occurred outside the project's potential impact area. Therefore, no observed individuals would be directly removed as a result of project implementation (Figure 11, Biological Resource Impacts). Suitable habitat for ashy spike-moss, bottle liverwort, Nuttall's scrub oak, and San Diego County viguiera occurs only in the Diegan coastal sage scrub that occurs outside the project's potential impact area. Further, San Diego sagewort, ashy spike-moss, and San Diego County viguiera are CRPR 4 species, and potential impacts would not be considered significant since any populations identified on the project site would not represent a significant percentage of the population in terms of the ability for the species to persist (i.e., CRPR 4 species are not considered "rare" from a statewide perspective). Therefore, no direct impacts to sensitive plant species are expected to occur from implementation of the project, and no mitigation is required.

7.2.2.2 Sensitive Wildlife Species

Direct Impacts

Two sensitive wildlife species, Cooper's hawk and yellow warbler, were observed in the survey area during the 2024 biological reconnaissance survey. Five sensitive wildlife species, Crotch's bumble bee, Southern California legless lizard, San Diegan tiger whiptail, CAGN, and least Bell's vireo, were determined to have a moderate potential to occur in the survey area. Four sensitive wildlife species, Belding's orange-throated whiptail, monarch butterfly, southern mule deer, and western red bat, were determined to have a high potential to occur in the survey area (described in BRTR Sections 5.4.3 and 5.4.4) (Figures 8 and 9).

As discussed in Section 5.4.4, the results of the 2026 protocol-level CAGN and least Bell's vireo surveys were negative. Although one individual CAGN was observed incidentally outside the 500-foot protocol survey buffer during the final least Bell's vireo survey, the results of the protocol-level surveys indicate that the Diegan coastal sage scrub in the survey buffer has a moderate

potential to support nesting by the species. However, due to the presence of suitable habitat and connectivity to nearby populations of CAGN, this species is considered to have a moderate potential to use the survey buffer as a movement corridor for foraging and dispersal. Although high-quality riparian habitat suitable for least Bell's vireo is present in the survey area, connectivity to documented populations to the northeast is fragmented, reducing the potential for this species to forage and nest in the survey area from high to moderate.

Of the 11 sensitive wildlife species observed or determined to have a moderate or high potential to occur in the survey area, six are covered by the MSCP SAP: Cooper's hawk, Belding's orange-throated whiptail, CAGN, least Bell's vireo, and southern mule deer. Implementation of the conditions of coverage and ASMDs for these MSCP SAP-covered sensitive wildlife species would be required as a condition of project approval. The project's consistency with the MSCP SAP General Management Directives, species-specific ASMDs, conditions of coverage, and General Planning Policies and Design Guidelines is demonstrated in Tables 4 and 6 (BRTR Sections 6.1 and 6.2).

Potential direct impacts to the remaining six sensitive wildlife species observed or determined to have a moderate or high potential to occur in the survey area that are not covered by the MSCP SAP include the following: state candidate species Crotch's bumble bee; federal candidate species monarch butterfly; and California species of special concern San Diegan tiger whiptail, Southern California legless lizard, yellow warbler, and western red bat.

The project has the potential to directly impact these species during construction activities and operation of the project through displacement of individual wildlife or elimination of portions of their habitat (Figure 11). In addition, species like San Diegan tiger whiptail and Southern California legless lizard could be killed or injured by clearing, grading, and other construction activities. Implementation of the project would result in both permanent and temporary direct loss of habitat, including nesting, roosting, and foraging habitat for these sensitive wildlife species observed or with a high or moderate potential to occur in the survey area.

Four sensitive vegetation communities that are present in the survey area, Diegan coastal sage scrub, emergent wetland, non-vegetated channel, and southern arroyo willow riparian forest, could support these sensitive wildlife species. However, as shown in Table 7, Impacts to Vegetation Communities and Land Cover Types in the Multi-Habitat Planning Area, only approximately 0.040 acre of non-vegetated channel (NWW-1) and 0.008 acre of southern arroyo willow riparian forest would be impacted by project implementation, and no direct impacts to Diegan coastal sage scrub and emergent wetland are expected because these vegetation communities occur only within the survey buffer outside the project site.

Table 7. Impacts to Vegetation Communities and Land Cover Types in the Multi-Habitat Planning Area

Vegetation Community and Land Cover Type	Tier/Biology Guidelines[1]	Project Site Permanent (acres)[2]	Project Site Temporary (acres)[2]	Project Site Total (acres)[2]	Biology Guidelines Required Mitigation Ratio[1]	Minimum Required Mitigation Acreage[3]
Upland						
Diegan Coastal Sage Scrub (32500)	II	0	0	0	2:1	—
Eucalyptus Woodland (79100)	IV	0.002	0.379	0.381	None	—
Subtotal	—	*0.002*	*0.379*	*0.381*	—	—
Riparian						
Emergent Wetland (52440)	Disturbed Wetland	0	0	0	2:1	—
Southern Arroyo Willow Riparian Forest (61320)	Riparian Forest	0	0.008	0.008	None[4]	0
Subtotal	—	*0*	*0.008*	*0.008*	—	*0*
Other Land Cover						
Non-Vegetated Channel (64200)[5]	None	0.040	0	0.040	None[6]	0
Disturbed/Developed						
Disturbed Habitat (11300)	IV	0.002	0.016	0.018	None	—
Urban/Developed Land (12000)	IV	0.001	0.008	0.009	None	—
Subtotal	—	*0.003*	*0.024*	*0.027*	—	—
Total	—	**0.045**	**0.411**	**0.456**	**—**	**0**

Sources: Holland 1986; Oberbauer et al. 2008.

Notes:

[1] City's MSCP SAP tiers and mitigation ratios are from the City's Biology Guidelines (City of San Diego 2018). Non-upland habitat types not assigned tiers in the City's Biological Guidelines. Other land cover/aquatic habitat type and mitigation ratios from Table 2A in the City's Biological Guidelines.

[2] Acreages rounded up to one-thousandth.

[3] Mitigation acreages for impacts; acreages rounded up to one-hundredth.

[4] Impacts to southern arroyo willow riparian forest are less than the City's Biology Guidelines significance threshold of 0.01 acre and no mitigation is required (City of San Diego 2018).

[5] Acreage based on the top-of-bank measurements.

[6] NWW-1 is not considered a City wetland or other aquatic feature per the City's Biological Guidelines; therefore, no mitigation is required (City of San Diego 2018).

The Diegan coastal sage scrub outside the project site provides the only suitable foraging and nesting habitat for Crotch's bumble bee in the survey area. No impacts to this species' suitable habitat would occur from project implementation; therefore, impacts to Crotch's bumble bee would be less than significant and no mitigation is required.

Temporary loss of 0.008 acre of southern arroyo willow riparian forest has the potential to directly impact monarch butterfly, San Diego tiger whiptail, Southern California legless lizard, western red bat, and yellow warbler due to the loss of nesting habitat for yellow warbler; loss of foraging habitat for monarch butterfly, San Diego tiger whiptail, Southern California legless lizard, and western red bat; and loss of roosting habitat for western red bat. Additionally, non-sensitive habitat, including eucalyptus woodland, could support overwintering habitat for monarch butterfly and roosting habitat for western red bat. A total of two eucalyptus trees within the eucalyptus woodland are anticipated for removal on the project site during project implementation.

Potential impacts to nesting birds and raptors, including yellow warbler, would be avoided through the project's required implementation of regulations protecting sensitive nesting birds, including the CFGC and MBTA.

Therefore, impacts to monarch butterfly, San Diego tiger whiptail, Southern California legless lizard, and western red bat, would be significant, and mitigation is required.

7.3 Threshold 2: Sensitive Vegetation Communities

7.3.1 Guidelines for Determination of Significance

Significant impacts could result if the project would have a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats as identified in the City's Biology Guidelines or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.

7.3.2 Impact Analysis

7.3.2.1 Direct Impacts

Five vegetation communities and land cover types occur on the project site (Table 1) that cover a total of approximately 0.456 acre. The entire project site is within the MHPA; however, construction of the project would not result in impacts to sensitive upland vegetation communities (Table 7; Figure 11). Impacts to two sensitive vegetation communities that are considered jurisdictional aquatic resources, non-vegetated channel and southern arroyo willow riparian forest, are discussed in BRTR Section 7.4, Threshold 3: Jurisdictional Aquatic Resources. Therefore, no mitigation is required for impacts to sensitive upland vegetation communities.

7.4 Threshold 3: Jurisdictional Aquatic Resources

7.4.1 Guidelines for Determination of Significance

A significant impact could result if the project would have a substantial adverse impact on wetlands (including but not limited to marsh, vernal pool, and riparian) through direct removal, filling, hydrological interruption, or other means.

7.4.2 Impact Analysis

7.4.2.1 Direct Impacts

The project site is outside the Coastal Overlay Zone, and as demonstrated in BRTR Section 6.2, the project would be a land use compatible within the MHPA. This infrastructure project involves the removal and replacement of an existing damaged storm drain, along with installation of the associated outfall structure, concrete energy dissipator, cut-off walls, and cleanout. Replacement activities are restricted to an existing City easement, within which the proposed design represents the least amount of impact to ESL, including avoidance of City wetlands (riparian forest). However, as the project is currently designed, there would be an unavoidable impact to two potentially jurisdictional aquatic features, including non-vegetated channel and southern arroyo willow riparian forest, where the replacement storm drain and associated structures are located. No project structures would be constructed in the southern arroyo willow riparian forest on the project site, only a small area (0.008 acre) of potential temporary encroachment into the vegetation during construction would occur. The southern arroyo willow riparian forest on the project site is defined by the City's Biological Guidelines as riparian forest, a wetland designation, and is therefore under the City's jurisdiction. As discussed in BRTR Section 5.2, although the non-vegetated channel on the project site most closely resembles a natural flood channel as defined by the City's Biological Guidelines, it is an erosional feature that is not naturally occurring and is not under the jurisdiction of the City. However, both the non-vegetated channel and southern arroyo willow riparian forest on the project site are potentially under the jurisdiction of the RWQCB, pursuant to the CWA Section 401, and the CDFW, pursuant to the CFGC Section 1602.

As shown in Table 8, Impacts to Potentially Jurisdictional Aquatic Resources on the Project Site, approximately 0.040 acre of permanent impacts to non-vegetated channel NWW-1 and approximately 0.008 acre of temporary impacts to southern arroyo willow riparian forest would result from project implementation. No impacts would occur to non-vegetated channels NWW-2 and NWW-3 or the emergent wetland within NWW-3 (defined by the City's Biological Guidelines as natural flood channels and disturbed wetland, respectively) during project implementation.

Table 8. Impacts to Potentially Jurisdictional Aquatic Resources on the Project Site

Aquatic Feature	Project Site Permanent Impacts (acres)[1]	Project Site Temporary Impacts (acres)[1]	Project Site Total (acres)[1]	Potential Jurisdiction	Biology Guidelines Required Mitigation Ratio	Minimum Required Mitigation Acreage
Non-Wetland Waters						
Non-vegetated channel	0.040	0	0.040	RWQCB/CDFW	None[2]	0
Riparian						
Southern arroyo willow riparian forest	0	0.008	0.008	RWQCB/CDFW /City	None[3]	0

Notes: CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board

[1] Rounded to one-thousandth of an acre.

[2] NWW-1 is not considered a City wetland or other aquatic feature per the City's Biological Guidelines; therefore, no mitigation is required (City of San Diego 2018).

[3] Impacts to southern arroyo willow riparian forest are less than the City's Biology Guidelines significance threshold of 0.01 acre and no mitigation is required (City of San Diego 2018).

As shown in Table 8 and previously discussed in Sections 5.1.3 and 5.2, the ephemeral non-vegetated channel NWW-1 is an erosional feature that formed from the failure of the underground storm drain pipe that extends through the center of the project site and would not exist otherwise. This feature is mostly unvegetated and does not support wetland-dependent vegetation and is thereby not considered a wetland or an aquatic resource according to the City's Biology Guidelines (City of San Diego 2018). Further, repair and replacement of the underground storm drain pipe and restoration of the slope that would result in the loss of the non-vegetated channel NWW-1 would avoid additional erosion and slope instability from occurring, benefiting the water quality on the project site and in downstream waters. Therefore, the permanent loss of 0.040 acre of non-vegetated channel NWW-1 from repair and in-kind replacement of the damaged storm drain pipe on the project site would not be considered a significant impact to City wetlands and no mitigation would be required under the City's Biology Guidelines.

Similarly, as shown in Table 8, project impacts to southern arroyo willow riparian forest are limited to 0.008 acre of temporary impacts. Because project impacts to this City-designated wetland would be less than the City's Biology Guidelines significance threshold of 0.01 acre, no mitigation is required (City of San Diego 2018). Although no mitigation is required by the City's Biology Guidelines, as previously discussed in Section 1.3, Project Description, temporarily impacted areas, including southern arroyo willow riparian forest, would be revegetated per City requirements and a Revegetation Plan that includes using both container plants and an approved hydroseed mix and a 25-month maintenance and monitoring period.

Non-vegetated channel NWW-1 and southern arroyo willow riparian forest on the project site would remain potentially under the jurisdiction of the regulatory agencies, RWQCB and CDFW, and the project would be required to comply with federal and state regulations pertaining to jurisdictional aquatic resources.

Prior to the start of construction, the project would be required as a condition of project approval to consult with the regulatory agencies, including USACE, RWQCB, and CDFW, to determine which regulatory permits are required and to prepare a conceptual mitigation plan outlining the mitigation for impacts to City wetlands in accordance with the City's Biology Guidelines (City of San Diego 2018) to ensure that no net loss of aquatic resources would occur.

Wetland buffers are typically maintained around all City wetlands as appropriate to protect the functions and values of the wetland; however, since the project would directly impact southern arroyo willow riparian forest (defined as a City wetland), it is not possible to establish a buffer on the project site. However, measures would be implemented to protect adjacent wetlands, including

temporary fencing along project boundaries to avoid off-site impacts, biological monitoring during construction, and silt fencing to create a buffer for all downslope areas leading into wetlands to avoid sedimentation or other fill material from entering adjacent wetland areas. Any measures outlined in the resource agency permits would also be implemented. Therefore, direct impacts to potentially jurisdictional aquatic resources would be less than significant, and no mitigation is required.

7.5 Threshold 4: Wildlife Corridors and Habitat Linkages

7.5.1 Guidelines for Determination of Significance

A significant impact could result if the project would 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 SAP, or impede the use of native wildlife nursery sites.

7.5.2 Impact Analysis

7.5.2.1 Direct Impacts

As discussed in BRTR Section 5.4.8, Wildlife Corridors and Habitat Linkages, the project site is a core biological resources area and is likely used as a wildlife movement corridor because it provides suitable nesting, foraging, and dispersal areas for both sensitive and common wildlife species. The dense residential and commercial development immediately surrounding the project site has the potential to limit wildlife movement; however, because of the presence of native vegetation communities and its connection to large, high-quality MHPA land and open space areas farther east by way of connection with the Carroll, Rose, and San Clemente Canyons, the project site and surrounding areas facilitate local and regional movement of species. Additionally, the project site likely acts as a stopover for migratory birds and raptors protected by the MBTA due to its proximity to valuable habitats within the Pacific Flyway.

Project impacts would generally be short-term impacts that occur during construction activities to replace the storm drain and perform necessary revegetation of the slope and impacted habitats (Figure 11). Existing wildlife corridors would remain in place after implementation of the project. While project activities may temporarily alter wildlife movement through the project site, the project is not expected to have a significant impact on habitat linkage because the overall habitat quality of the existing corridors would increase as a result of project implementation due to the reduction in erosion and revegetation of the areas on the project site and because the project would not prevent movement through the general area due to the small size of the project site within the overall movement corridor. Further, as shown in Table 8 under BRTR Section 7.2.2.2, project impacts, including temporary impacts to sensitive habitats like southern arroyo willow riparian forest (0.008 acre), are relatively small, and there is sufficient habitat surrounding the project site that would allow continued movement through the area during construction. Further, the small amount of temporary

impacts to southern arroyo willow riparian forest would be restored and revegetated once construction is complete. Project compliance with the MSCP SAP, the San Diego RWQCB Municipal Permit, the City's Stormwater Standards Manual (City of San Diego 2021), and NPDES regulations would further ensure potential impacts to wildlife corridors and habitat linkages would be reduced. Impacts from grading and fill of non-vegetated channel NWW-1 would be mitigated by revegetation with species appropriate to the surrounding area and through consultation with the USACE, RWQCB, and CDFW. Therefore, significant direct long-term impacts to wildlife corridors and habitat connectivity provided by the project and surrounding areas are not expected to occur, and no mitigation is required.

7.6 Threshold 5: Habitat Conservation Plans

7.6.1 Guidelines for Determination of Significance

A significant impact could result if the project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state Habitat Conservation Plan, either within the MSCP SAP area or in the surrounding region.

7.6.2 Impact Analysis

As previously discussed, the entire project site is within the MHPA. Within the MHPA, certain land uses are conditionally compatible with the biological objectives of the MSCP and, thus, would be allowed within the City's MHPA (City of San Diego 1997):

- Passive recreation
- Utility lines and roads
- Limited water facilities and other essential public facilities
- Limited low-density residential uses
- Brush management (Zone 2)
- Limited agriculture

As demonstrated in BRTR Section 6.2, the project would be a compatible land use within the MHPA. When land is developed within or adjacent to the MHPA, there is the potential for direct and indirect impacts to occur that would result in detrimental effects related to drainage, toxics, lighting, noise, human intrusion, and invasive species. Direct and indirect impacts from the project could occur within the MHPA from the clearing and grading of a portion of the slope and associated storm drain replacement activities. The project site is within the Urban Habitat Lands within the MHPA, which does not have specific management policies; however, in addition to being a compatible use within MHPA land, the project would be required to comply with the General Planning Policies and Design Guidelines provided in Section 1.4.2 of the MSCP SAP, General Management Directives outlined in Section 1.5.2 of the MSCP SAP, and species-specific ASMDs provided in the MSCP SAP Appendix A (City of San Diego 1997). The project's

compliance with Section 1.4.2 of the MSCP SAP and General Management Directives outlined in Section 1.5.2 of the MSCP SAP is demonstrated in BRTR Sections 6.1 and 6.2, Tables 4 and 5.

Additionally, the repair of the extremely eroded slope would result in a net benefit, as the slope would be further stabilized, transport of sediment from erosion into non-vegetated channel NWW-2 and downstream waters would be reduced, and impacts to the non-vegetated channel that has developed due to erosion (NWW-1) would be mitigated as deemed appropriate by the USACE, RWQCB, and CDFW through consultation and regulatory permitting with these agencies. The areas where clearing and grading occur would be revegetated in accordance with the City's Biology Guidelines (City of San Diego 2018), Landscape Regulations (City of San Diego 2018), and the Landscape Standards (City of San Diego 2012), further reducing erosion and re-establishing habitat to pre-construction conditions. Because the project would be consistent with the policies and requirements of the MSCP SAP, impacts would be less than significant, and no mitigation is required.

7.7 Threshold 6: Multi-Habitat Planning Area Adjacency

7.7.1 Guidelines for Determination of Significance

A significant impact could result if the project would introduce land uses within an area adjacent to the MHPA that would result in adverse edge effects.

7.7.2 Impact Analysis

As discussed in Threshold 5, the project site occurs entirely within the MHPA. The work performed on the project site within the MHPA would be a compatible land use within the MHPA, and because the purpose of the project is to replace an existing storm drain within the MHPA, no new land uses would result from project implementation. However, because the project site occurs within and adjacent to the MHPA, the project is required to document compliance with the MHPA LUAGs. Table 6 documents the project's compliance, including mitigation requirements, with the MHPA LUAGs. As demonstrated in Table 6, the project, including implementation of standard avoidance and minimization measures (included in Section 8, Mitigation, Minimization, and Avoidance Measures), would comply with the MHPA LUAGs, and no further mitigation is required.

7.8 Threshold 7: Local Policies or Ordinances

7.8.1 Guidelines for Determination of Significance

A significant impact could result if the project would conflict with any local policies or ordinances protecting biological resources.

7.8.2 Impact Analysis

The project would be required to comply with the policies and goals set forth in the City's General Plan (including but not limited to Policies CE-C.1 through CE-C.13; City of San Diego 2023), the goals set forth in the University Community Plan Open Space and Conservation Element (City of San Diego 2024), the requirements of the San Diego RWQCB Municipal Permit, and the standards set forth in the City's Stormwater Standards Manual, including the use of appropriate BMPs (City of San Diego 2021). Because the project would be consistent with these local policies, goals, and requirements, including mitigation requirements, impacts would be less than significant, and no mitigation is required.

7.9 Threshold 8: Invasive Species Introduction

7.9.1 Guidelines for Determination of Significance

A significant impact could result if the project would introduce invasive species of plants into a natural open space area.

7.9.2 Impact Analysis

As discussed in BRTR Sections 7.2, Threshold 1: Sensitive Plant and Wildlife Species, and 7.3, Threshold 2: Sensitive Vegetation Communities, implementation of the project has the potential to introduce non-native invasive plant species into the natural open space areas within the MHPA. However, the project would comply with the MSCP SAP (Tables 4 and 5), MHPA LUAGs (Table 6), the San Diego RWQCB Municipal Permit, the City's Stormwater Standards Manual (City of San Diego 2021), and NPDES regulations. Further, the project would comply with Section IV of the Landscape Standards put forth in the San Diego Land Development section of the Municipal Code, which provides guidance on revegetation on slopes, including hydroseed mixtures and placing limits on species that can be incorporated into revegetation. Therefore, impacts from the introduction of invasive species of plants into a natural open space area would be less than significant with mitigation incorporated.

7.10 Cumulative Impacts

The MSCP was designed to compensate for the loss of biological resources throughout the region. Projects that conform with the MSCP SAP and implementing ordinances (i.e., Biology Guidelines and ESL regulations) are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Preservation and restoration of habitat, planning in accordance with the biological resource conservation goals of the MSCP SAP, and limitation of impacts in accordance with the MSCP SAP are intended to mitigate cumulative biological resource impacts.

The project's consistency with the MSCP SAP, the City's Biology Guidelines, the MHPA Land Use and Adjacency Guidelines, the policies and goals set forth in the City's General Plan (including but not limited to Policies CE-C.1 through CE-C.13), the goals set forth in the University Community Plan Open Space and Conservation Element, the San Diego RWQCB Municipal Permit, and the standards set forth in the City's Stormwater Standards Manual ensures that the project, in combination with other cumulative projects within the City, would not result in cumulatively considerable impacts to biological resources. In fact, the project would provide a net benefit to the biological resources on the project site by restoring the broken storm drain and eliminating the possibility of increased erosion and sedimentation that is currently impacting the open space canyon in which the project is located. Further, the areas where clearing and grading occur would be revegetated in accordance with the City's Biology Guidelines (City of San Diego 2018), Landscape Regulations (City of San Diego 2018), and the Landscape Standards (City of San Diego 2012), further reducing erosion and re-establishing habitat to pre-construction conditions. The project is consistent with the MSCP SAP through project design and incorporation of standard avoidance and minimization measures (included in Section 8).

Therefore, because the project would minimize impacts to biological resources through project design and implementation of mitigation, and demonstrates consistency with the MSCP SAP requirements, the project would not result in a cumulatively considerable impact to biological resources.

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Temporary direct impacts to vegetated areas shall be restored to pre-construction topographic contours and conditions (with the exception of the eroded slope, which shall be restored to match the topographic contours prior to erosion), and will include revegetation with native plants as appropriate. Revegetation and erosion control treatments shall be installed within temporarily impacted areas per the Revegetation Plan, which shall be prepared in accordance with the City of San Diego Land Management Manual—Biology Guidelines, the City of San Diego Whitebook, the San Diego Municipal Code, Land Development Code—Landscape Standards, and the City of San Diego Standard Operating Procedures for Revegetation/Erosion Control and Restoration. Habitat revegetation shall feature native species that are typical of the area, and associated erosion control best management practices shall include silt fence and microplastic- and weed-free straw fiber rolls where appropriate. Revegetation shall incorporate both container plants and a hydroseed mix. After replanting, a 120-day plant establishment period and a 25-month maintenance and monitoring program shall be implemented to ensure adequate establishment and sustainability of the plantings/seedings.

Focused surveys for CAGN and least Bell's vireo were conducted in 2026. Both surveys were negative, and based on the surveys' findings, potential for occurrence for both species was determined to be moderate.. Because there is moderate potential for the two species to occur, Mitigation Element Measures 8.1.1.1. and 8.1.1.2 will be brought forward as mitigation measures.

Mitigation, minimization, and avoidance measures proposed to reduce impacts to sensitive biological resources to a less than significant level are provided in the following sections.

8.1 Mitigation Element

The project includes mitigation that is consistent with the MSCP and the City's Significance Determination Thresholds (City of San Diego 2022). Impacts to sensitive wildlife species were determined to be potentially significant and would require mitigation, which is outlined in the section below.

8.1.1 Sensitive Wildlife Species

Surveys for the six federally listed or non-MSCP-covered sensitive wildlife species that were determined to have a moderate or high potential to occur on the project site, CAGN, least Bell's vireo, monarch butterfly, San Diego tiger whiptail, Southern California legless lizard, and western red bat, shall be conducted prior to the initiation of construction activities. If these species are present on the project site, the project would result in direct impacts to these sensitive wildlife species.

Direct and indirect impacts to sensitive wildlife species would also be reduced to a less than significant level through implementation of the standard avoidance and minimization measures,

and mitigation measures, including implementation of the Mitigation Element (Section 8.1) and Protection Element (Section 8.2).

Specific mitigation measures required for CAGN, least Bell's vireo, monarch butterfly, San Diego tiger whiptail, Southern California legless lizard, and western red bat are discussed below. For mitigation measures for sensitive nesting birds and raptors, including Cooper's hawk, refer to Section 8.2.1, Prior to Construction.

8.1.1.1 Coastal California Gnatcatcher

Prior to the issuance of any Notice to Proceed, City of San Diego Engineering & Capital Projects Department (ECP) Environmental Designee (ED) shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

No clearing, grubbing, grading, or other construction activities shall occur between March 1 and August 15, the breeding season of the coastal California gnatcatcher, until the following requirements have been met to the satisfaction of the City of San Diego manager:

A. A qualified monitoring biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas within the Multi-Habitat Planning Area that would be subject to construction noise levels exceeding 60 A-weighted decibel hourly average for the presence of the coastal California gnatcatcher. Surveys for the coastal California gnatcatcher 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 gnatcatchers are present, then the following conditions must be met:

    1. Between March 1 and August 15, no clearing, grubbing, or grading of occupied coastal California gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a qualified monitoring biologist.

    2. 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 A-weighted decibel hourly average at the edge of occupied coastal California gnatcatcher habitat. An analysis showing that noise generated by construction activities would not exceed 60 A-weighted decibel 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 wildlife species) and approved by the City of San Diego representative at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding

season, areas restricted from such activities shall be staked or fenced under the supervision of a qualified monitoring biologist.

3. At least 2 weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities shall not exceed 60 A-weighted decibel hourly average at the edge of habitat occupied by the coastal California gnatcatcher. Concurrent with the commencement of construction activities and the 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 A-weighted decibel hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or qualified monitoring 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).

   * Construction noise monitoring shall continue 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 A-weighted decibel hourly average or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average. If not, other measures shall be implemented in consultation with the qualified monitoring biologist and the City of San Diego representative, as necessary, to reduce noise levels to below 60 A-weighted decibel hourly average or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average. Such measures may include but not be limited to limitations on the placement of construction equipment and the simultaneous use of equipment.

B. If coastal California gnatcatchers are not detected during the protocol survey, the qualified monitoring biologist shall submit substantial evidence to the City of San Diego manager and applicable resource agencies that demonstrates if mitigation measures such as noise walls are necessary between March 1 and August 15 as follows:

   1. If this evidence indicates the potential is high for coastal California gnatcatcher to be present based on historical records or site conditions, then Condition A.3 shall be adhered to as specified above.
   2. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

8.1.1.2 Least Bell's Vireo

Prior to issuance of the Notice to Proceed, the City of San Diego Engineering & Capital Projects Department (ECP) Environmental Designee (ED) shall review and approve all construction documents (such as plans, specifications, and details) to verify that the following project requirements regarding the least Bell's vireo are shown on the construction plans. Temporary impacts to vegetated areas, including southern arroyo willow riparian forest, shall be revegetated under a 25-month program per the General Management Directives.

No clearing, grubbing, grading, or other construction activities shall occur between March 15 and September 15, the breeding season of the least Bell's vireo, until the following requirements have been met to the satisfaction of the City of San Diego manager:

A. A qualified monitoring biologist (possessing a valid Endangered Species Act Section 10[a][1][a] recovery permit) shall survey those wetland areas that would be subject to construction noise levels exceeding 60 A-weighted decibels or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average for the presence of the least Bell's vireo. Surveys for this species 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 construction. If the least Bell's vireo is present, then the following conditions must be met:

    1. Between March 15 and September 15, no clearing, grubbing, or grading of occupied least Bell's vireo habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a qualified monitoring biologist.

    2. 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 A-weighted decibels or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average at the edge of occupied least Bell's vireo or habitat. An analysis showing that noise generated by construction activities would not exceed 60 A-weighted decibel hourly average at the edge of occupied habitat must be completed by a qualified acoustician (possessing a current noise engineer license or registration with monitoring noise level experience with listed wildlife species) and approved by the City of San Diego manager at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of any of the construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a qualified monitoring biologist.

    3. At least 2 weeks prior to the commencement of construction activities, under the 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 A-weighted decibels or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average hourly average at the edge of habitat occupied by the least Bell's vireo. Concurrent with the commencement of construction activities and the 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 the 60 A-weighted decibel hourly average or to the ambient noise level if it already exceeds the 60 A-weighted decibel hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or qualified monitoring 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 (September 16).

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 A-weighted decibel hourly average or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average. If not, other measures shall be implemented in consultation with the monitoring biologist and the City of San Diego manager, as necessary, to reduce noise levels to below 60 A-weighted decibel hourly average or to the ambient noise level if it already exceeds 60 A-weighted decibel hourly average. Such measures may include, but not be limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. If least Bell's vireo is not detected during the protocol survey, the qualified monitoring biologist shall submit substantial evidence to the City of San Diego manager and applicable resource agencies that demonstrates if mitigation measures such as noise walls are necessary between March 15 and September 15 as follows:

    1. If this evidence indicates the potential is high for least Bell's vireo to be present based on historical records or site conditions, then Condition A.III shall be adhered to as specified above.

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

8.1.1.3 Monarch Butterfly (Overwintering Populations)

If grubbing, trimming, or clearing of vegetation occurs during the winter (November 1 through February 28), a qualified monitoring biologist, as approved by the City of San Diego, shall perform a pre-construction overwintering monarch butterfly survey no more than 48 hours before the start

of vegetation grubbing, trimming, or clearing to confirm that no overwintering monarch butterflies occupy vegetation on the project site. If overwintering monarch butterflies are found during the pre-construction survey, a 50-foot buffer around the occupied vegetation shall be established, and no disturbance shall be allowed within the buffer until a qualified monitoring biologist determines that monarch butterflies are no longer occupying the vegetation. If no overwintering monarch butterflies are on the project site, grubbing, trimming, or clearing shall proceed.

8.1.1.4 Sensitive Reptiles

A pre-construction survey for San Diego tiger whiptail and Southern California legless lizard, which have a moderate potential to occur on the project site, shall be required prior to the initiation of construction activities. This mitigation measure would reduce impacts to San Diego tiger whiptail and Southern California legless lizard to less than significant.

8.1.1.5 Western Red Bat

Pre-construction surveys shall be required for the western red bat, which has a high potential to occur on the project site. Prior to the removal of trees or other potential roosting sites, a qualified biologist shall conduct a pre-construction survey to look for suitable roosting sites and bat sign. If tree-roosting bats or their sign are detected or suspected, a means of escape shall be provided to allow the species to disperse. This shall require slow removal of trees, where trees shall be shaken prior to removal and then gently pushed over with heavy equipment. This mitigation measure would reduce impacts to western red bat to less than significant.

8.2 Protection Element

The project has been designed to include the following requirements to ensure compliance with the City's MSCP Subarea Plan and to avoid or minimize impacts to biological resources to the maximum extent feasible. The following requirements shall be incorporated into the project plans and contract specifications: Prior to the issuance of the Notice to Proceed, the ECP ED shall review and approve all construction documents (plans, specifications, details) to ensure these Mitigation Monitoring Reporting Program requirements are incorporated.

8.2.1 Prior to Construction

- **Biologist Verification –** The owner/permittee shall provide a letter to the ECP ED stating that a project biologist (qualified biologist), as defined in the City's Biology Guidelines (2018), has been retained to implement the project's biological monitoring program. The letter shall include the names, resumes, and contact information of all people involved in the biological monitoring of the project.
- **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.

- **Biological Documents –** The qualified biologist shall submit all required documentation to the ECP ED 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, Environmentally Sensitive Lands Ordinance, project permit conditions, California Environmental Quality Act, federal and California Endangered Species Acts, and other local, state, or federal requirements.
- **Biological Construction Mitigation/Monitoring Exhibit –** The qualified biologist shall present a Biological Construction Mitigation/Monitoring Exhibit, which includes the biological documents mentioned above. In addition, it shall include Restoration/Revegetation Plans, plant salvage/relocation requirements (if applicable), bird or other wildlife surveys/survey schedules (including general avian nesting and U.S. Fish and Wildlife Service protocol), timing of surveys, aquatic resource buffers, bird construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the qualified biologist and the City Assistant Deputy Director/ECP ED. The Biological Construction Mitigation/Monitoring Exhibit shall include a site plan, a written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The ECP ED shall be approved by Mitigation Monitoring Coordination and referenced in the construction documents.
- **Sensitive Avian Protection Requirements –** To avoid any direct impacts to and any bird species identified as a listed, candidate, sensitive, or special-status species in the Multiple Species Conservation Program, including but not limited to coastal California gnatcatcher, least Bell's vireo, yellow warbler, and Cooper's hawk, removal of habitat that supports active nests in the proposed area of disturbance shall occur outside the breeding season for these species (January 1 to July 15 for raptors; February 1 to September 15 for all other bird species).

  If project activities that involve the clearing of vegetation must occur within the breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than seven days prior to the commencement of the activities in areas supporting suitable habitat to determine the presence or absence of nesting birds or raptors within the proposed area of disturbance.

  If the qualified biologist determines that no active nesting birds or raptors are present within the proposed area of disturbance, the activities shall be allowed to proceed.

  If the qualified biologist determines that an active bird or raptor nest is present, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e., appropriate follow-up surveys, monitoring

schedules, appropriate nest setbacks, maintenance/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. Appropriate nest setbacks shall be implemented as determined by the City's Biology Guidelines, or by a qualified biologist if no defined setback is provided in the Biology Guidelines. The City-defined avoidance setback within the MHPA for nesting Cooper's hawk is 300 feet. No impacts shall occur within the setback area until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the qualified biologist. The report or mitigation plan shall be submitted to ECP ED for review and approval and implemented to the satisfaction of ECP ED. The City Manager (or appointed designee) and qualified biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during applicable program activities.

- **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 Biological Construction Mitigation/Monitoring Exhibit. Silt fencing should be used in all downslope portions of the project areas that lead toward aquatic resources AF-1 (Sites 1 through 3), AF-2 (Site 4), and AF-3 (Site 6) to create a buffer of protection around aquatic resources. This phase shall include flagging plant specimens and delineating buffers to protect sensitive biological resources (e.g., habitats/flora and fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize the attraction of nest predators to the site.
- **Education –** Prior to commencement of construction activities, the qualified biologist shall meet with the owner/permittee or designee and the construction crew to conduct an on-site educational session regarding the need to avoid impacts outside the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and aquatic resource buffers, flag system for removal of invasive species or retention of sensitive plants, clarify acceptable access routes/methods and staging areas).

8.2.2 During Construction

- **Monitoring –** All construction activities (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" of the construction drawings and/or the Biological Construction Mitigation/Monitoring Exhibit. 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. The Consultant Site Visit Record shall be emailed to the ECP ED 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.

- **Subsequent Resource Identification –** The qualified biologist shall note/act to prevent any new disturbances to habitat, flora, and fauna on site (e.g., flag plant specimens for avoidance during access). 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.

8.2.3 Post-Construction

In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City's Biology Guidelines, ESL regulations, MSCP, CEQA, and other applicable local, state, and federal law. The qualified biologist shall submit a final Biological Construction Mitigation/Monitoring Exhibit/report to the satisfaction of the City Assistant Deputy Director/Mitigation Monitoring Coordination within 30 days of construction completion.

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Section 9 References

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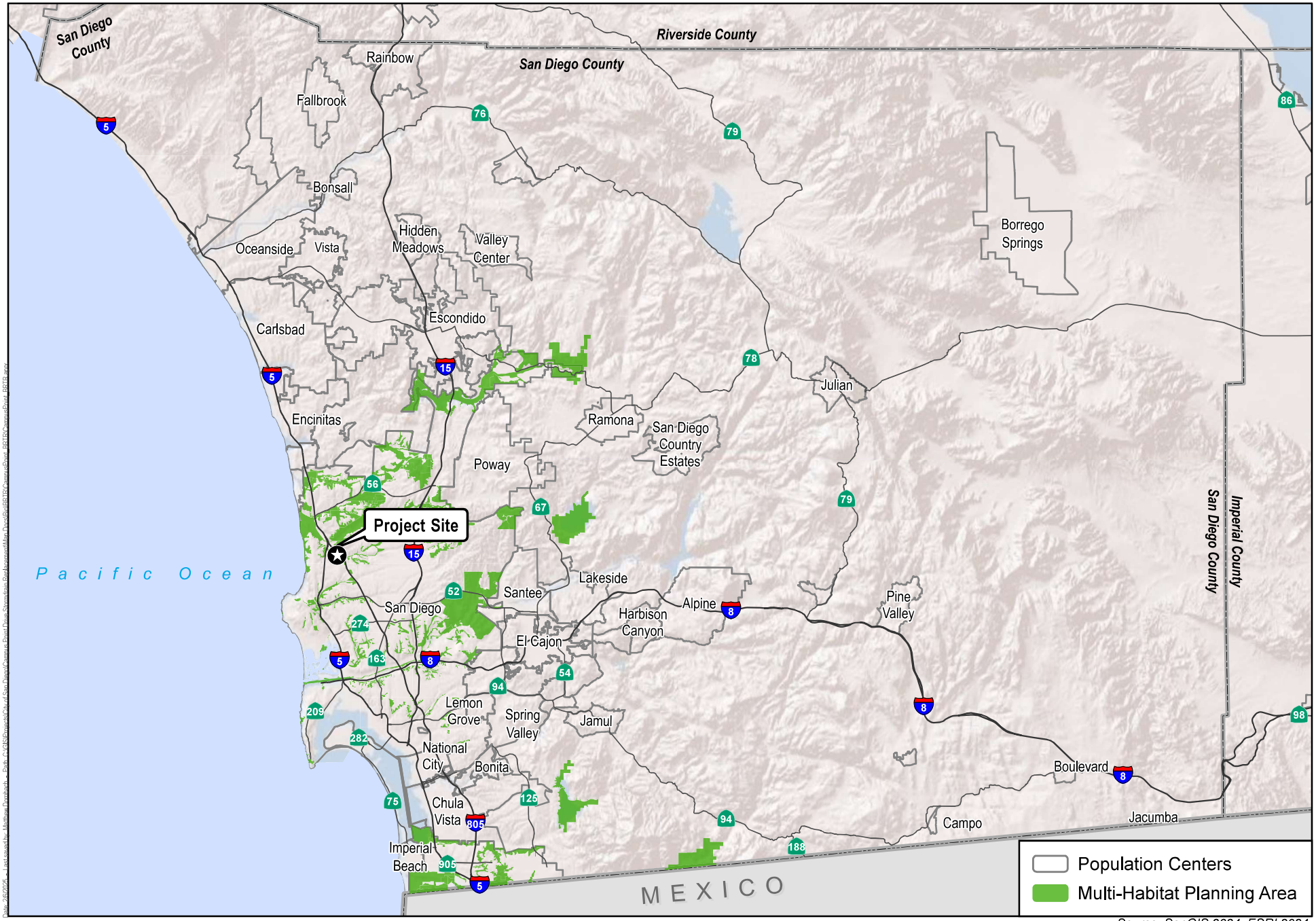
Appendix A. Figures



Source: SanGIS 2024; ESRI 2024.

Harris & Associates

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Figure 1

Regional Location

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

Harris & Associates

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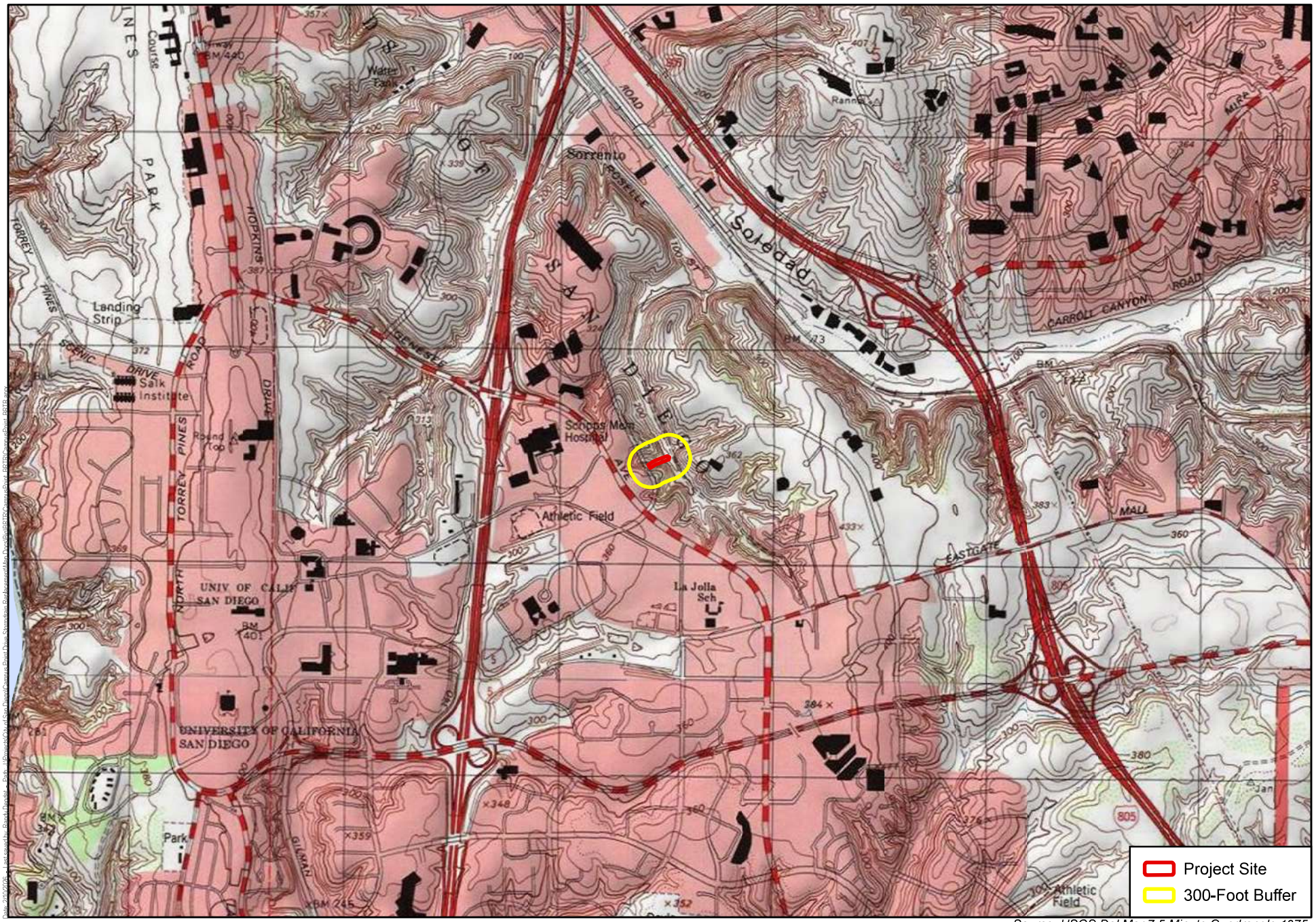
Figure 2

Project Location

Campus Point Drive Storm Drain Replacement Project



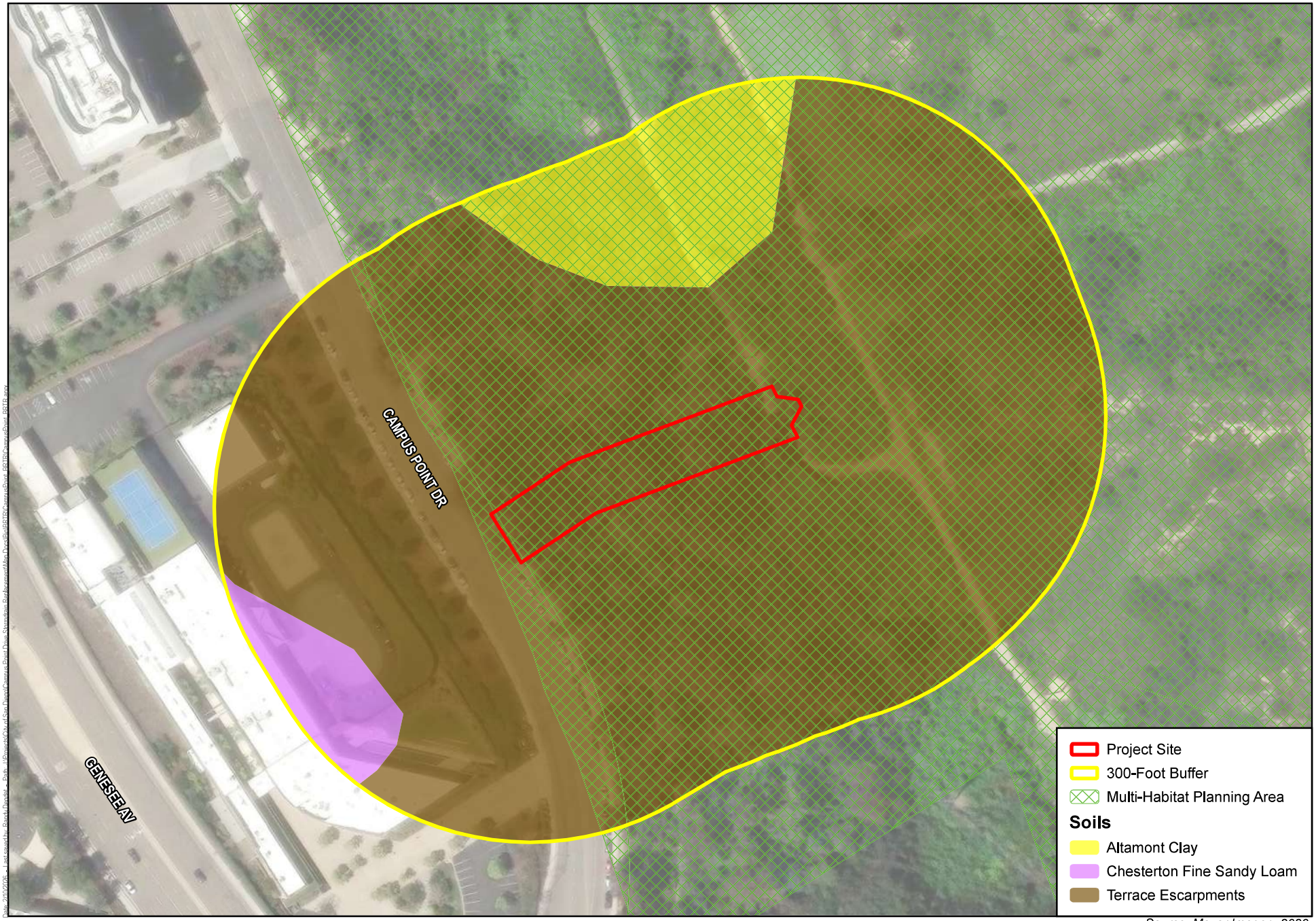
Source: USGS Del Mar 7.5 Minute Quadrangle 1975.

Harris & Associates

Figure 3

USGS Topographic Map

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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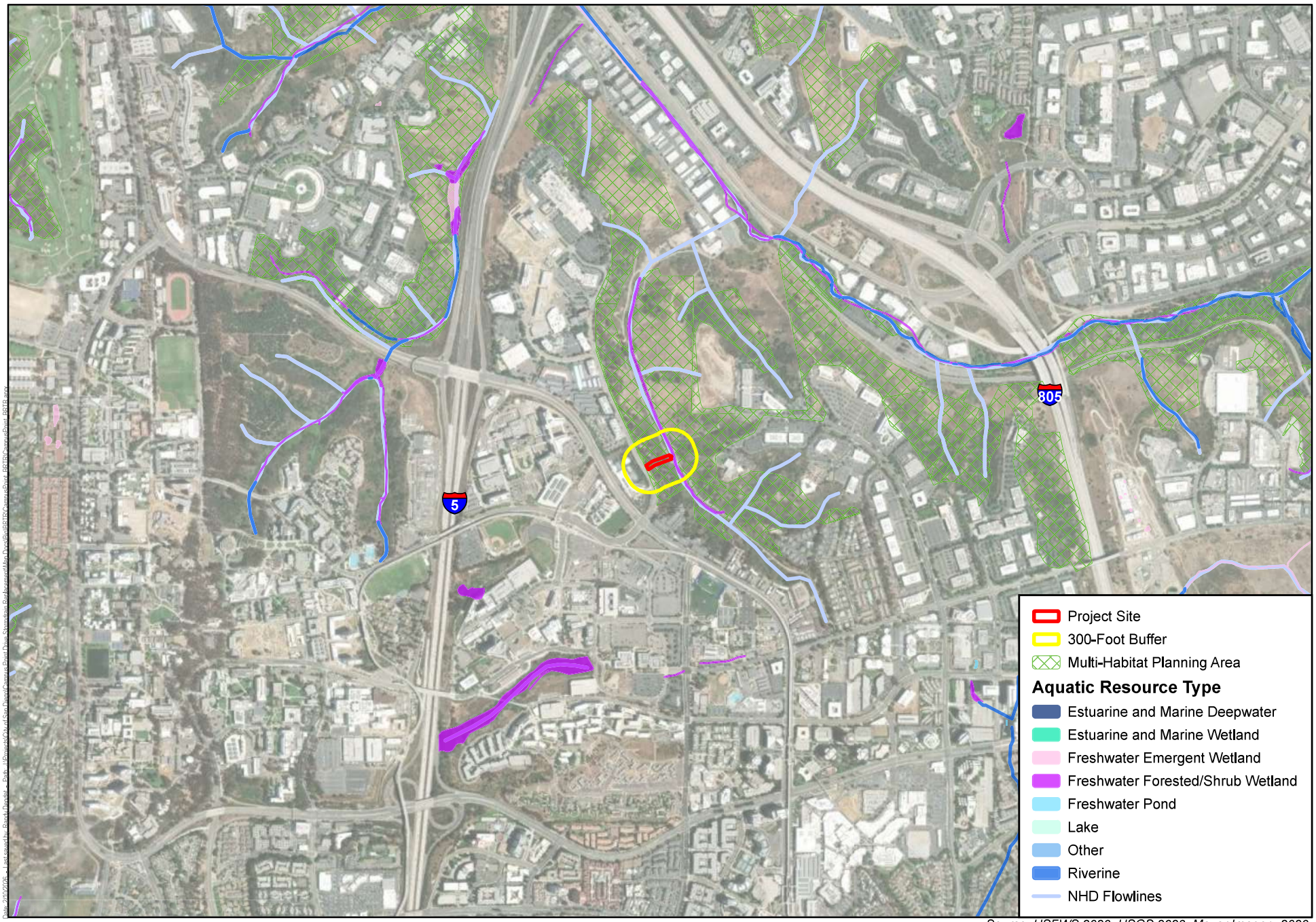
Figure 4

Soils

Campus Point Drive Storm Drain Replacement Project



Source: USFWS 2023; USGS 2023; Maxar Imagery 2023.

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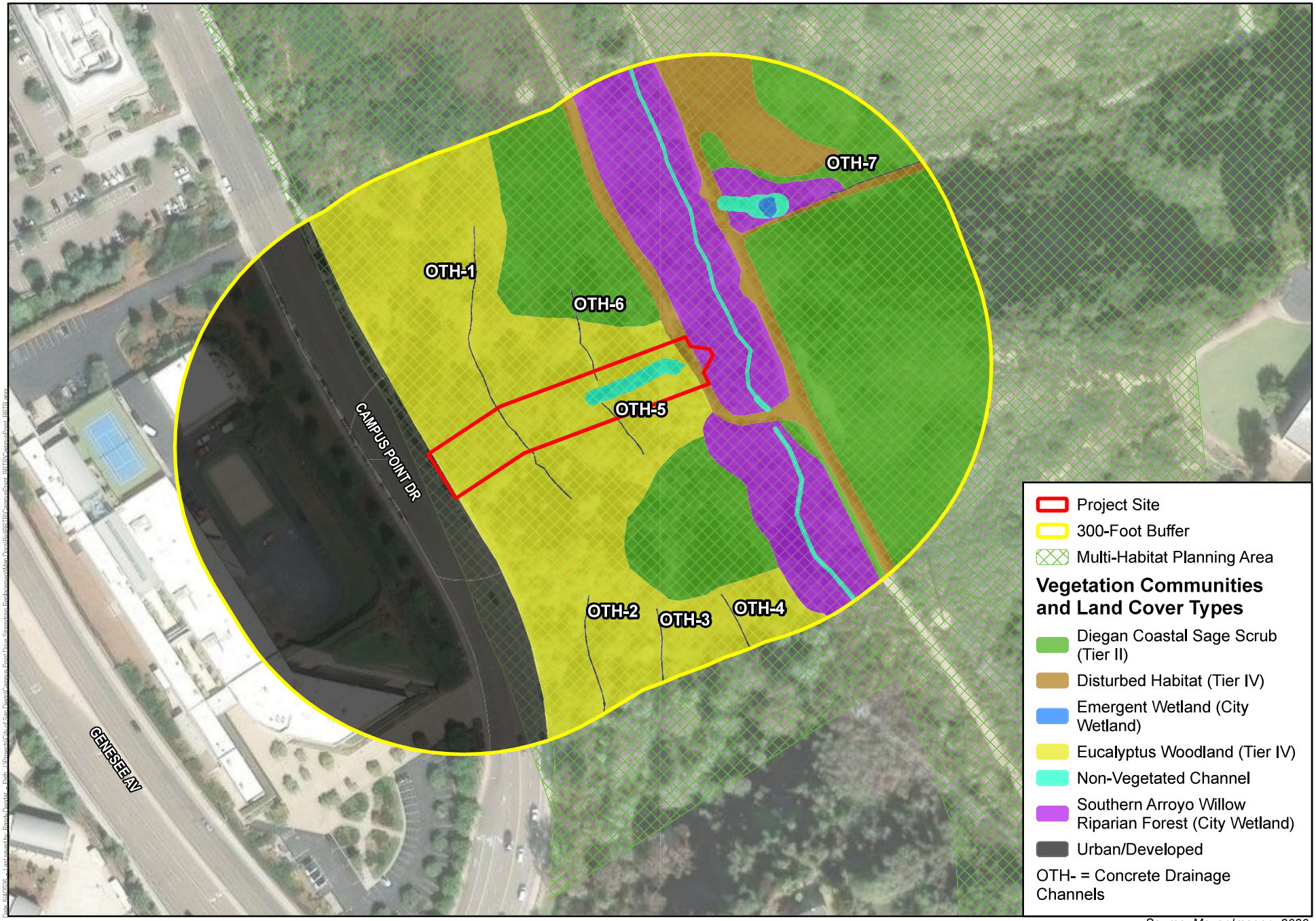
Figure 5

Hydrology

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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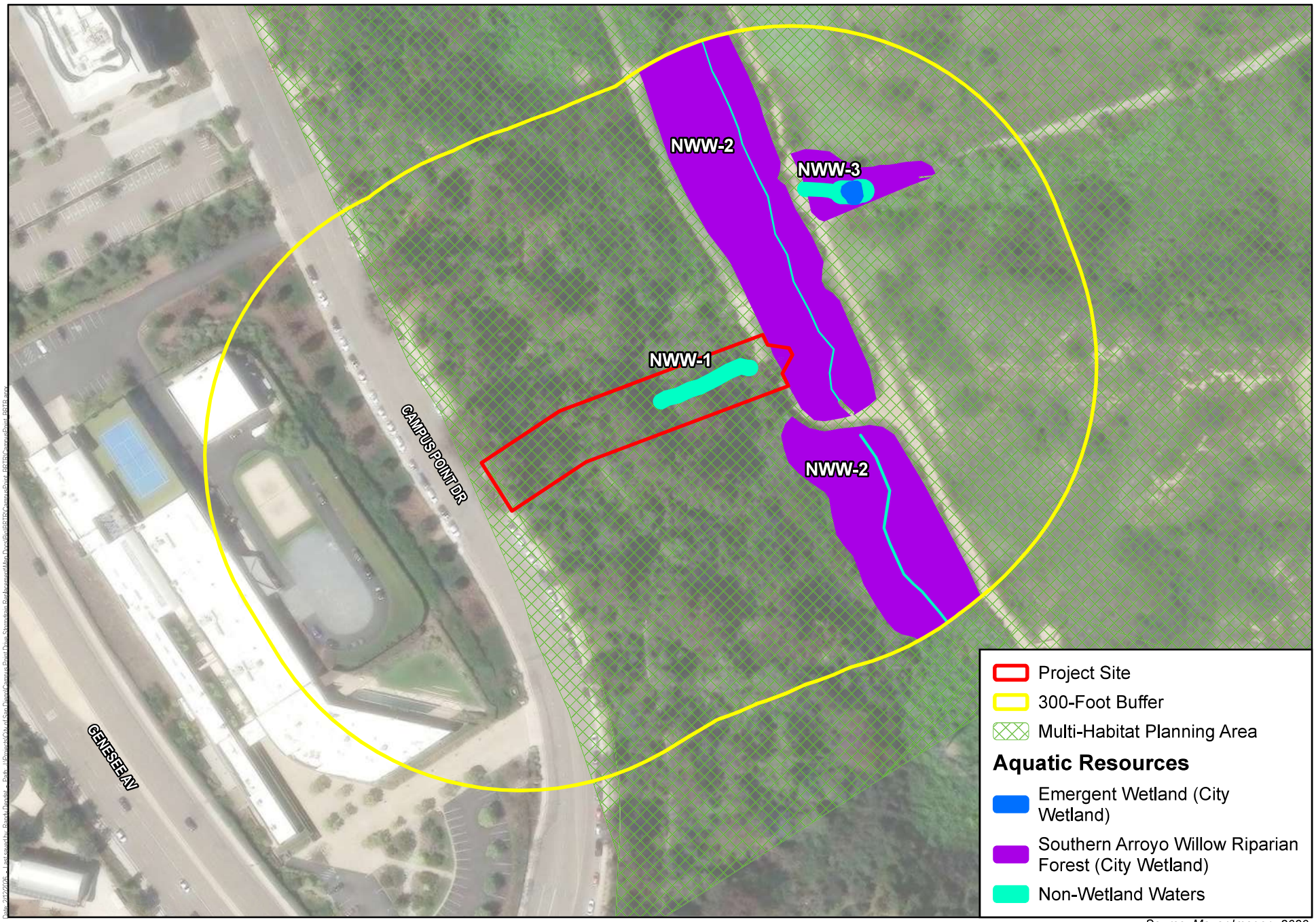
Figure 6

Vegetation Communities and Land Cover Types

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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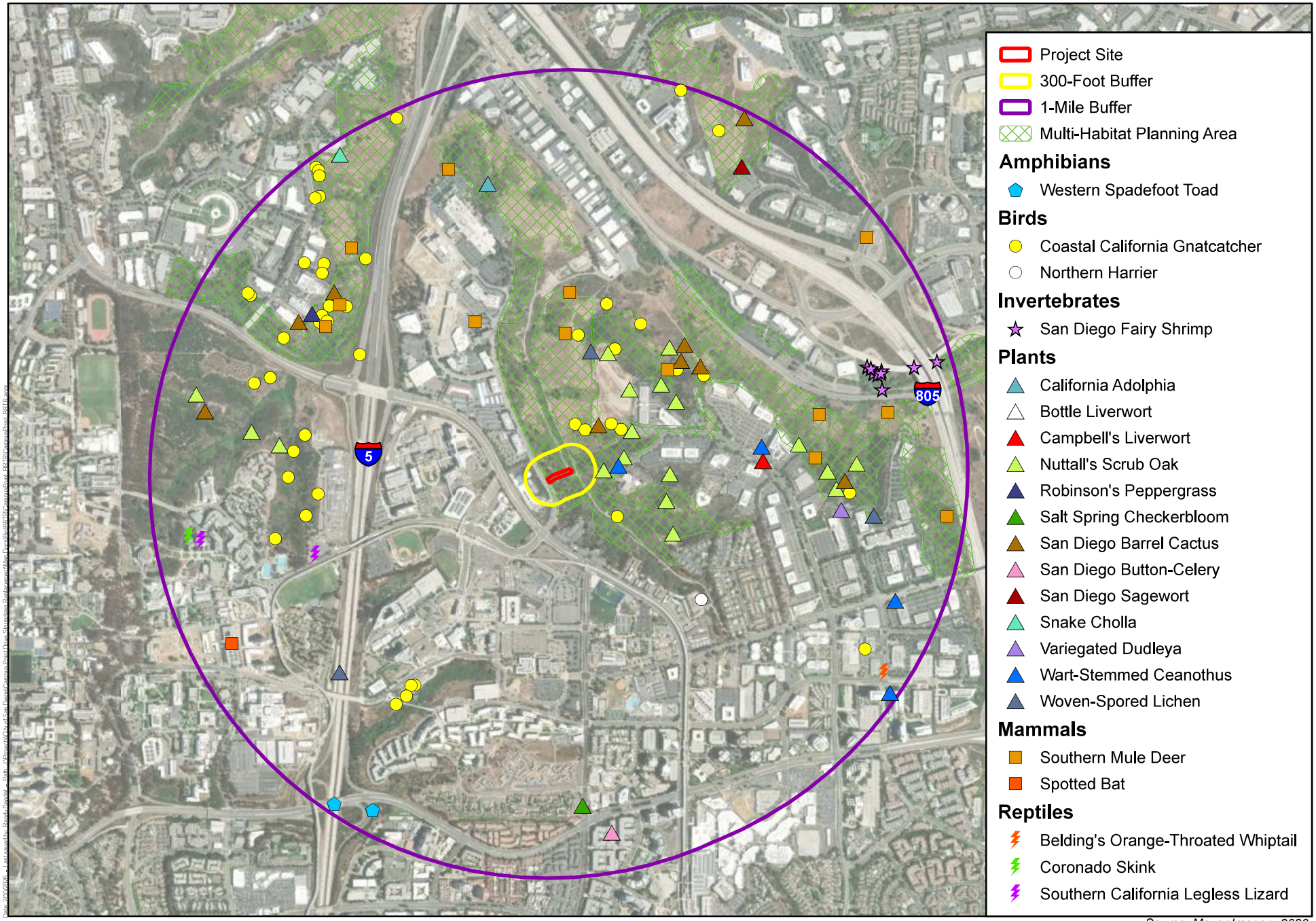
Figure 7

Aquatic Resources

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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Figure 8

Species with Potential to Occur

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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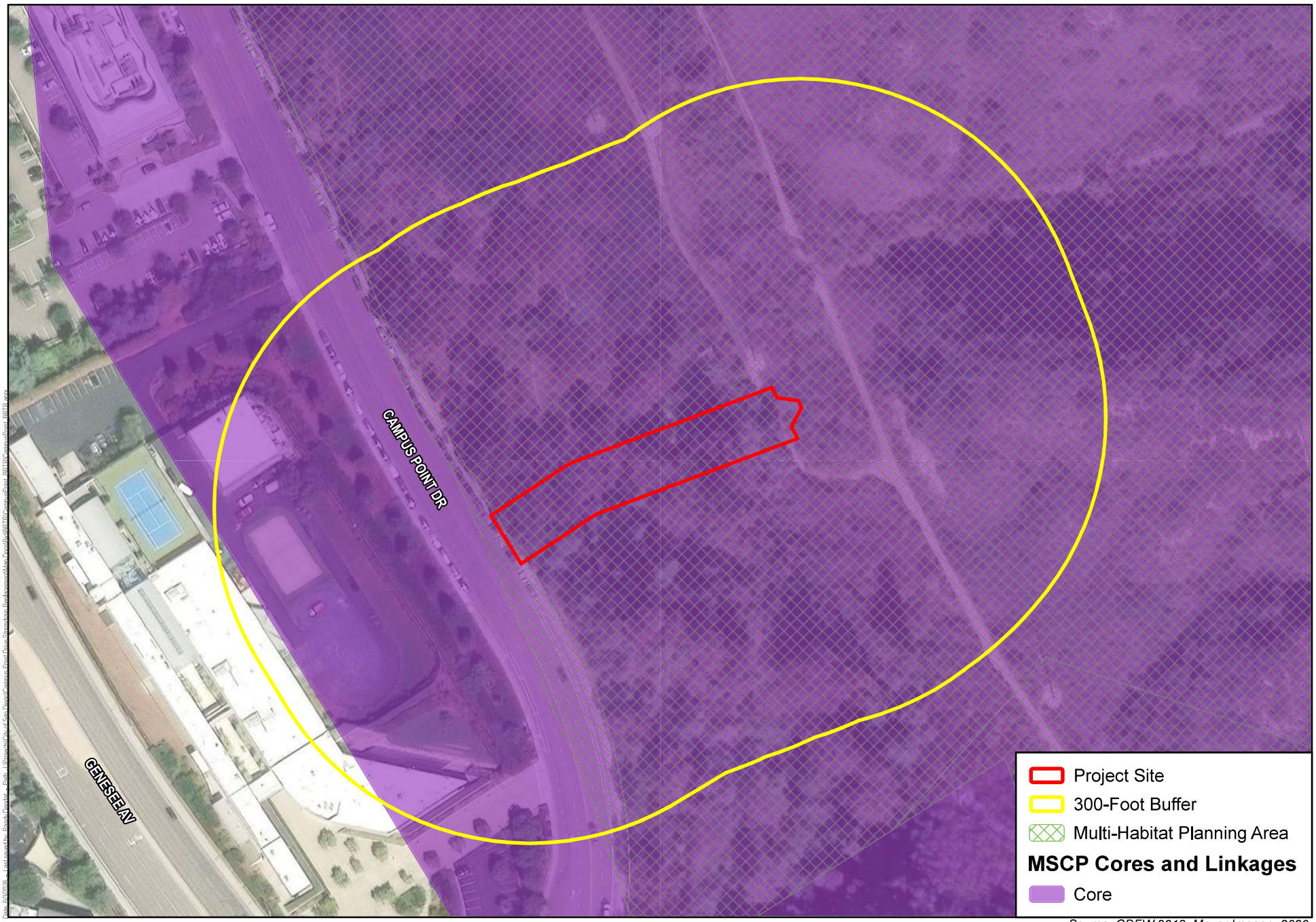
Figure 9

Sensitive Species Observed

Campus Point Drive Storm Drain Replacement Project



Source: CDFW 2018; Maxar Imagery 2023.

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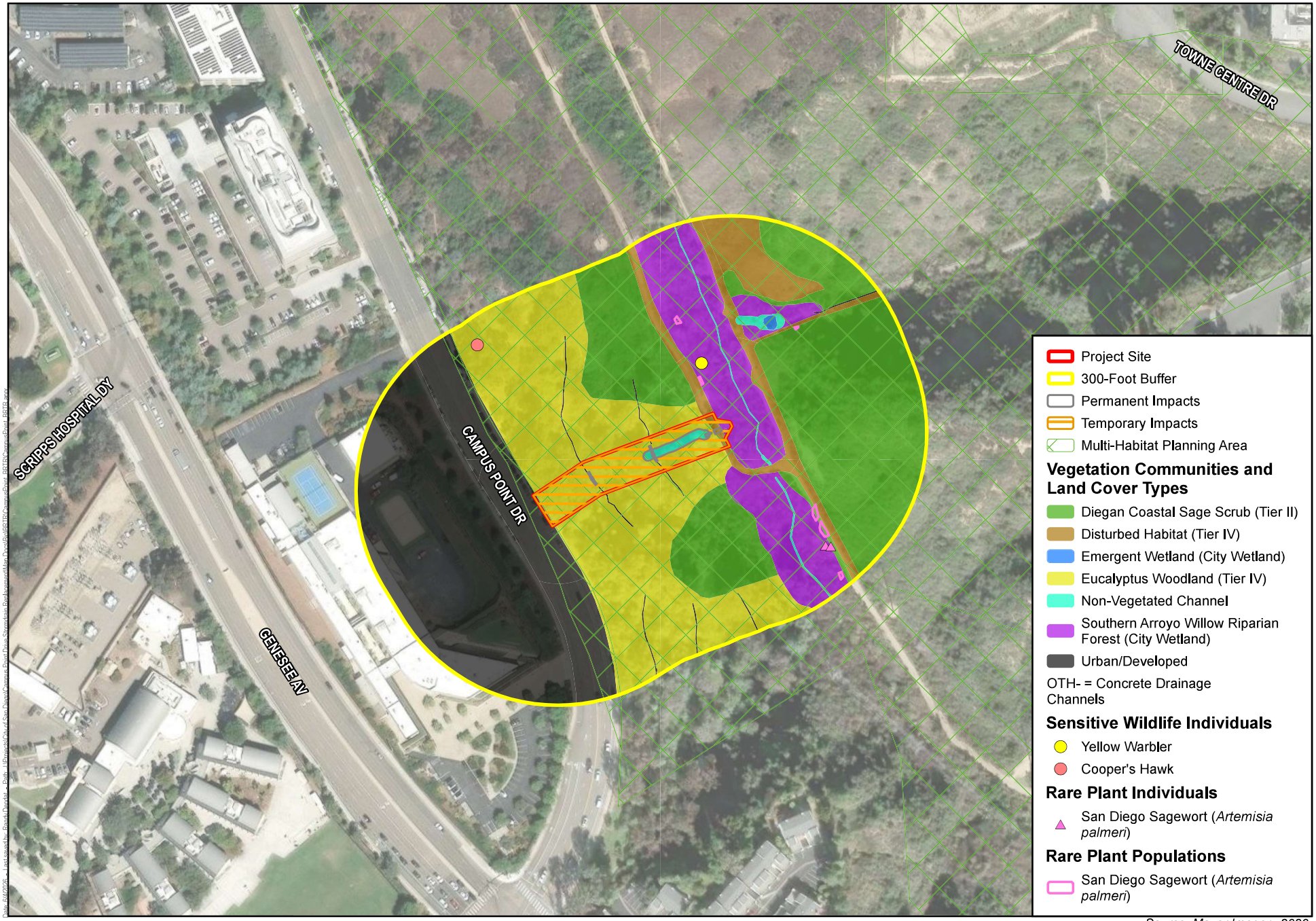
Figure 10

MSCP Core Area/Linkages

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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Figure 11

Biological Resource Impacts

Campus Point Drive Storm Drain Replacement Project

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Appendix B. Biologists Resumes

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Emily Mastrelli

SENIOR MANAGER, BIOLOGICAL SERVICES



Emily Mastrelli is a wildlife biologist with over fifteen years of field experience and expertise in environmental compliance. With a wide skill set, Emily has extensive experience with regulatory permitting, writing and reviewing technical documents, and has served as Principal biologist, project manager and coordinator. Specializing in ornithology and desert tortoises, Emily's other species work includes venomous and non-venomous snakes, butterflies, amphibians, reptiles, vernal pool branchiopods and small mammals. She has previously been an authorized desert tortoise biologist due to her extensive handling experience. Emily holds a Master Bander Permit issued by the USGS Bird Banding Lab and has banded birds for over 14 years. She has served as lead biologist on many projects for surveys and for construction monitoring, including leading teams for large, linear projects.

As a senior wildlife biologist, Ms. Mastrelli has had many years of experience with threatened and endangered species including California least tern, large listed vernal pool branchiopods, California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, western snowy plover, arroyo toad, Quino checkerspot butterfly, Alameda whipsnake, Mojave desert tortoise, and Coachella Valley fringe-toed lizard. She holds a USFWS Section 10(a)(1)(A) TE permit to survey for and band California gnatcatchers; survey for vernal pool branchiopods; and to survey for Quino checkerspot butterfly. Emily also holds a CA SCP that includes Los Angeles Pocket Mouse trapping authorization. A specialist in California gnatcatchers, Ms. Mastrelli has well over 1000 hours of California gnatcatcher surveys, almost all in occupied territory. Currently managing the Biology Team at Harris, Ms. Mastrelli is successfully leading biologists at all levels in providing clients with high quality work as a trusted adviser.

EDUCATION

BA, Biology
Elmira College

REGISTRATIONS

CA SCP No. 12758
USGS Master Banding Permit No. 24167
USFWS TE 64144A

AFFILIATIONS

Western Bird Banders Association

PROFESSIONAL EXPERIENCE AT HARRIS & ASSOCIATES

University of California San Diego

- *Hillcrest Campus 2019 Long Range Development Plan.* Principal Biologist and Project Manager. Emily led a team of biologists conducting California gnatcatcher protocol surveys, nesting bird surveys, aquatic resource delineations, vegetation community mapping, biological monitoring, and nesting monitoring during construction. Emily's team is currently providing resource agency permitting (USACE, RWQCB, CDFW), MMRP management, and is helping to keep the project schedule on track and meet project goals with their trusted advisorship.
- *Elliott Field Station.* Senior Biologist. Provided general biological resources surveys and reporting, with Harris staff providing aquatic resources delineations.
- *La Jolla Campus Central Utility Plant Expansion Project.* Lead/Senior Biologist. Lead biologist for a small team of biological monitors/nesting bird surveyors during demolition, tree removal, and construction project to provide 6,000 tons of additional chilled water-cooling capacity to support existing campus development and planned capital projects.

City of Chula Vista (HomeFed/Otay Land Company). *Village 9, Village 10, and SR-125 Interchange Projects*. Principal/Lead Biologist & Project Manager. Project proposed for mixed-use development and housing (Village 9 and 10) and the addition of an interchange to State Route 125 in Chula Vista, CA. Providing

project management, protocol California gnatcatcher surveys, protocol fairy shrimp surveys, protocol Quino checkerspot butterfly surveys, habitat assessments, coastal Cactus wren surveys, and coordination of rare plant surveys, general biological surveys, aquatic resources delineations, and burrowing owl assessments and surveys. Overseeing the biological teams providing surveys and data collection, providing coordination and scheduling, management of subconsultants, and communication with the client. Authoring and providing senior review and QA/QC of all biological technical documents including survey results reports.

County of San Diego, Department of Parks & Recreation

- *Lakeside-Linkages Preserve (Centex Property)*. Lead/Senior Biologist & Project Manager. Lead biologist and project manager for biological inventory projects providing butterfly surveys, avian surveys, small mammal trapping, large/medium mammal and mesocarnivore camera trapping, herpetological arrays, and rare plant surveys. Provided senior review on technical documents including an inventory results report and co-author for a vegetation management plan. Coordinated with fire specialist subconsultant to submit a Fire Modeling report.
- *Iron Mountain Preserve.* Lead/Senior Biologist & Project Manager. Lead biologist and project manager for biological inventory projects providing butterfly surveys, avian surveys, small mammal trapping, large/medium mammal and mesocarnivore camera trapping, herpetological arrays, and rare plant surveys. Provided senior review on technical documents including an inventory results report and co-author for a vegetation management plan. Coordinated with fire specialist subconsultant to submit a Fire Modeling report.
- *Kumeyaay County Park Biological and Cultural.* Providing project management, protocol California gnatcatcher surveys, protocol least Bell's vireo surveys, general biological reconnaissance surveys, and reporting.
- *Ildica Street Park Cultural Monitoring.* Project Manager. Provided project management and coordination for cultural monitoring during construction.
- *Rancho Penasquitos Adobe Outdoor Classroom Project.* Project Manager. Provided project management and coordination for cultural monitoring during construction.
- *Live Oak Park, Lonny Brewer Park, and Waterfront Park Nesting Bird Surveys.* Project Manager/Principal Biologist. Provided nesting bird surveys, project management, staff coordination, and senior oversight of biological staff conducting surveys.
- *Countywide Small Water Systems Nesting Bird Surveys and Cultural Monitoring.* Project Manager/Principal Biologist. Provided nesting bird surveys, project management, staff coordination, and senior oversight of biological staff conducting surveys.
- *SDRC Fuel Modification Program.* Project Manager/Principal Biologist. Provided nesting bird surveys, project management, staff coordination, and senior oversight of biological staff conducting surveys.

County of San Diego, Department of Public Works

- *Etcheverry Street Realignment Project.* Biologist. Conducted general biological reconnaissance survey (vegetation mapping, Stephens' kangaroo rat habitat assessment, sensitive and general wildlife, and plants). Senior reviewer for biological resources report.
- *Don Dussault Park.* Lead biologist. Provided general biological reconnaissance surveys and least Bell's vireo habitat assessment. Provided senior review of a biological resources constraints analysis.
- *Live Oak Springs Water System Improvements Project*. Lead Biologist. Coordinated, managed, and conducted general and focused surveys including rare plant surveys. Provided senior review of a biological resources technical report, aquatic resources delineation report, rare plant survey results report, and least Bell's vireo 45-day report. Conducted habitat assessments for California gnatcatcher, least Bell's vireo, and Quino checkerspot butterfly.
- *San Diego River Sewer Improvements Project.* Lead biologist. Coordinated, managed, and conducted general and focused surveys including rare plant surveys. Provided senior review of a biological resources technical report, aquatic resources delineation report, rare plant survey results report, California gnatcatcher 45-day report and least Bell's vireo 45-dayreport. Conducted habitat assessments for California gnatcatcher, and least Bell's vireo.

- *Manhole and Sewer Project.* Senior Biologist. Conducted Quino checkerspot butterfly habitat assessments for a manhole/sewer project in San Diego County.
- *Palomar Airport Landfill Projects.* Senior Biologist. Provided coordination and scheduling for junior staff, as well as senior expertise on nesting bird biology and compliance. Provided support to junior staff conducting surveys.

- (Padre Dam Municipal Water District Joint Powers Authority). *East County Advanced Water Purification Pipeline Project*. Senior Biologist and Regulatory Specialist. Harris is providing agency permitting assistance (ACOE, USFWS, CDFW, RWQCB), environmental constraints analysis, environmental compliance review, CEQA review and biological expertise. Provided environmental constraints analysis, environmental compliance review, aquatic resources delineations, and resource agency permit applications.

City of San Diego

- *Otay Pipeline 2 Segment A6 Replacement Project, MMRP Implementation Phase.* Principal/Lead Biologist & Project Manager. Project proposed to replace a 40-inch water pipe with a 54-inch diameter pipe. Providing project management of MMRP implementation phase for all requirements, including biological, cultural, paleontological, and habitat restoration. Lead biologist, overseeing a team of biological monitors to provide environmental compliance for the project. Coordinating with staff, scheduling, and providing general and focused surveys, keeping track of timelines for MMRP requirements, coordinating with and managing subconsultants, and communicating/coordinating with City of Chula Vista Development Services Department for client. Ensuring all MMRP requirements are met.
- *Dove Street Storm Drain Improvements Project.* Lead Biologist. Provided a revegetation plan and revegetation monitoring and reporting.
- *De Anza Natural (Amendment to the Mission Bay Park Master Plan) Project PEIR*. Biologist. The proposed project includes recommendations from the MBPMP pertaining to serve local and regional recreation needs while preserving the natural resources of the De Anza Cove area. Emily conducted biological resources surveys and senior reviewed the biological resources technical report to support the PEIR.
- *Coastal Resiliency Master Plan*. Lead Biologist. Leading a team providing biological resources surveys and biological technical documents for a coastal resiliency master plan in San Diego Bay north to La Jolla along the coast.
- *Campus Point Drive Storm Drain Replacement Project.* Lead Biologist. Leading a team providing biological resources surveys, aquatic resources delineations, biological and aquatic technical documents and permitting for a storm drain repair and replacement project.
- *Mission Hills Storm Drain Replacement Project.* Lead Biologist. Leading a team providing biological resources surveys, aquatic resources delineations, biological and aquatic technical documents and permitting for a storm drain repair and replacement project.
- *Midway Rising Project.* Lead Biologist. Leading term providing biological resources reconnaissance surveys, bat surveys, and biological technical documents.

Kinder Morgan (Liquid Assets/Products Pipeline). Principal Biologist and Regulatory Compliance Specialist**.** In-office and in-field support for various pipeline projects focusing on environmental compliance, biological resources (including sensitive) surveys, resource agency (ACOE, USFWS, CDFW, RWQCB) permitting, guidance, and coordination, and developing and implementing mitigation needs.

- *LS-10/125/126 Anomaly Dig.* Lead Biologist and Project Manager. Provided general biological reconnaissance survey, aquatic resource delineations with Harris staff, senior review of technical reporting, and project management.
- *LS-12 Tahoe Anomaly Digs*. Lead Biologist and Project Manager. Provided general biological reconnaissance surveys, technical reporting, and project management.
- *LS*-9 Integrity Digs. Lead Biologist and Project Manager. Provided general biological reconnaissance surveys, technical reporting, and project management. Provided regulatory agency permitting and coordination.

- *CalNev Baker Station MOV Replacement*. Authorized Desert Tortoise Biologist. Compiled and provided a desert-tortoise specific worker environmental awareness program.

City of Oceanside. *Oceanside Mesa Garrison Force Main, El Corazon Lift Station, Mission Avenue Lift Station Force Main Replacement, and Land Outfall Replacement.* Lead Biologist for Orion/Harris. Harris is providing environmental compliance review and monitoring, and resource agency permitting for aquatic resource impacts.

Port of San Diego/Topgolf. East Harbor Island Redevelopment/Topgolf Project. Avian Biologist. The project includes redevelopment of approximately 43 acres on East Harbor Island, 9.39 acres of which would be for the Topgolf entertainment complex in addition to two 3- and 3.5-acre adjacent parcels, the realignment of Liberator Way, and Public Realm improvements. Emily is providing avian use survey and senior review of project biological technical documents.

22nd Agricultural District- Del Mar Fairgrounds

- *San Dieguito Lagoon California Least Tern Colony Monitoring.* Tern Biologist. Providing passive California least tern monitoring/surveying and managing other monitoring biologists.
- *Del Mar Golf Center.* Avian Biologist. Providing avian use surveys for a future potential project involving the installation of a net around the golf facility.

City of Vista

- *Citrus Sewer Replacement Project.* Lead Biologist. Harris provides construction monitoring, nesting bird surveys, cultural and biological monitor coordination and management. Emily provided project management and monitor coordination and scheduling.
- *Monte Mar Storm Drain Improvements Project.* Permitting. Project to replace and improve a storm drain within the City. Provided senior oversight of resource agency permitting process.
- Tideline/Kensho Residential Project. Principal Biologist. Harris provided biological reconnaissance surveys and aquatic resources delineations, and results reports. Provided resource agency permitting.

City of San Marcos. *On-Call Environmental Services.* Principal/Lead Biologist & Regulatory Specialist. Harris is providing on-going agency (ACOE, CDFW and USFWS) coordination and compliance expertise, as well as third-party document review. Conducted qualitative and quantitative monitoring and reporting for Copper Creek Conservation Easement. Assisted the City in producing Biological Resources Technical Reports guidelines. Provides biological consultant services including general and focused surveys, biological data collection, and technical report writing to private applicants for residential projects.

San Diego Unified School District. *On-Call Environmental Services.* Lead/Principal Biologist. Harris is providing on-going compliance expertise for Migratory Bird Treaty Act and CDFG Codes, including nesting bird surveys and monitoring. Lead biologist for team of biologists providing surveys and monitoring. Coordination of scheduling and needs for monitoring. Provided monitoring during construction.

City of Santee. *Cannabis Ordinance.* Senior/Lead Biologist. Conducted a site survey of undeveloped parcels that could support cannabis activities under the Ordinance and identified potential impacts to biological resources and mitigation, if needed. Provided senior review of IS/MND biological section.

City of Anaheim. *Orange County River Walk Corridor Concept Project.* Senior Biologist. Conducted general biological reconnaissance and produced a biological constraints analysis report.

County of San Bernardino. Senior Biologist. Providing third-party reviews of environmental documents for various development projects throughout the County.

CalTrans. *Da Vall Interchange Project.* Senior Biologist. Conducted biological reconnaissance survey and produced biological resources section for a PEAR.

City of Palm Springs. *Indian Canyon Road Widening Project.* Lead, Environmental Compliance. Providing rare plant surveys focused on Coachella Valley milkvetch; Coachella Valley fringe-toed lizard clearance surveys and relocation; and environmental compliance expertise for the project. Leading environmental compliance staff providing monitoring, her team worked diligently to find creative solutions to schedule challenges brought on by construction, natural weather

events, and the permits required for the project. These creative solutions assisted with maintaining access and required stakeholder coordination.

City of Murrieta. *Los Alamos Sports Complex Soccer Park Project*. Lead Senior Biologist. Provided general reconnaissance surveys, regulatory agency presentations, protocol California gnatcatcher surveys, WRCRCA MSHCP protocol western burrowing owl habitat assessment and surveys, protocol vernal pool branchiopod wet season surveys, and protocol Stephens' kangaroo rat (SKR) live trapping. During SKR trapping, Emily assisted Heteromydae specialist Dr. Thea Wang to conduct protocol (permitted) Stephens' kangaroo rat trapping. Set up trapping grid; opened, baited, checked, and closed traps under supervision. Assisted in identification of captured rodents. Lead and conducted all avian (California gnatcatcher and western burrowing owl) surveys. Produced all focused survey results reports and provided senior review on the biological resources technical report and aquatic resources delineation report. Providing regulatory agency permitting, compliance expertise, and representation during wildlife agency presentations.

County of San Bernardino. Senior Biologist. Providing third-party reviews of environmental documents for various development projects throughout the County.

Monterey-Salinas Transit. SURF! BST Project. MMRP Management. Currently providing MMRP and BO guidance. Leading a team of biologists to conduct rare plant surveys and assist in ensuring the project follows environmental compliance measures.

County of Monterey, Department of Public Works, Facilities and Parks

- *Lake San Antonio South Shore Water Systems Improvements Project*. Environmental Lead and Lead Biologist. Coordinating with subconsultants and performing tasks for biological resources and permitting. Conducted general biological reconnaissance for the project and provided senior review of technical documents. Provided senior review of permitting applications. Providing coordination for and communication between the County and resources agencies. Provided regulatory agency permitting, worker environmental education programs, coordinated with Xolon Salinan Tribal members to conduct monitoring, and assisted with permit-required reporting.
- *Palo Colorado Road Emergency Road Repairs Project*. Environmental permitting lead for mitigation. Providing coordination between CDFW and the County to compile acceptable mitigation for project impacts. Leading efforts to compile and submit LSAA notification application for mitigation.
- *Carmel Valley Emergency Road Repairs Project*. Senior Biologist. Provided regulatory agency reporting as required by CWA permits.

City of Pacific Grove. *Sewer Improvements Project.* Senior Biologist. Conducted a site survey, provided a biological resources technical letter report and senior review of a biological resources section for an IS/MND.

City of Gilroy

- *McCarthy Well Development Project.* Senior Biologist. Conducted a site survey to provide biological resources constraints analysis.
- *Mini-Storage Facility Project.* Senior Biologist. Harris is providing third-party reviews of environmental documents and supplemental jurisdictional aquatic resource reporting. Emily is providing guidance to the client and senior review on all documents.

Town of Moraga. *Sewer Improvements Program.* Lead Biologist. Providing Town of Moraga with desktop environmental reviews of potential project impacts on potentially jurisdictional aquatic resources. Coordinating and communicating with resource agencies (USACE, RWQCB, and CDFW) on permitting for project activities.

City of Discovery Bay. *Sewer Improvements Project.* Senior Biologist. Conducted a general biological reconnaissance survey and provided CEQA analysis section on biological resources.

Ware Malcomb. *CDFW LSAA NOV Clearance Project.* Principal Biologist. Harris is assisting a private developer to resolve Notices of Violation. Provided biological reconnaissance surveys, and regulatory agency document submittal and coordination.

PROFESSIONAL EXPERIENCE PRIOR TO HARRIS & ASSOCIATES

Kinder Morgan (Liquid Assets/Products Pipeline).

- Various Pipeline Projects (2013-2020). Lead Biologist, Project Manager, Coordinator, and Permitting and Compliance Specialist. In-office and in-field management of projects and environmental needs/roles; conducting/coordinating environmental field surveys and monitoring efforts; agency (ACOE, USFWS, CDFW, RWQCB, BCDC) communications/negotiations; interpreting permit needs; developing and implementing mitigation needs; and providing regulatory and environmental technical guidance in field and to the client/project managers at Kinder Morgan. Provided direct guidance on and assistance with keeping project timetables, budgets and permits minimal and manageable. Supported Project Permitting Department (Orange, CA & Houston, TX) with any needs required. Also conducted special-status species surveys, construction monitoring and pre-construction surveys throughout San Diego and Riverside Counties in California. Monitoring included sensitive areas such as Los Penasquitos Lagoon and areas requiring background checks (i.e., military bases). Served as Authorized/Desert Tortoise Biologist for several projects. Provided Mojave desert tortoise specific training, compliance expertise for various projects in San Bernardino County. Projects include but are not limited to: Afton Road Washout, Whitewater Washout, Cajon Creek/Devore Washout, LS-117 Picacho Washout, CalNev Mountain Pass Dig, CalNev JT#34440 and JT#96030 Dig, CalNev ML-1 Yates Block Valve Replacement, CalNev Cajon Wash Dig, Carquinez Strait/San Francisco Bay Pipeline Cover, CalNev Bailey Road Raven Management Plan, Cajon Pass JT#27760 Dig, LS122/LS126 Miramar Junction ROW Clearing, LS-126 Mt. Carmel Pipeline Maintenance, Camp Pendleton Pipeline Relocations, LS-72 Anomaly Digs Project, Deming to Tucson, AZ ROW Clearing, LS-8 JT#16810 Dig, LS-46 /41 JT#20560 Dig, LS-95 Dig, LS-72 JT#7640 Dig, and LS-64 Vegetation Management.
- *Various Pipeline Projects***.** Permitting Specialist (contractor) (2018). Coordinated permitting activities including regulatory reviews (ACOE, USFWS, CDFW, RWQCB), environmental field surveys, agency communications, permit application submittals, agency negotiations, mitigation development and implementation. Provided regulatory and environmental technical guidance on permitting processes and ways to minimize or avoid permitting costs and delays to Kinder Morgan projects. Coordinated required permitting activities with project managers, engineers, contractors, and other Kinder Morgan team members. Managed consultants in performance of various permitting tasks. Sought bids, prepared work directive requests, tracked budgets and managed invoices for consultant activities. Provided regulatory and environmental technical guidance on permitting processes and ways to minimize or avoid permitting costs and delays to Kinder Morgan projects. Supported the Director of Project Permitting on various permitting initiatives.

US Navy & Marine Corps Hercules Joint Venture

- *Basewide California Gnatcatcher Surveys for Fallbrook Naval Weapons Station.* Permitted California Gnatcatcher Biologist. Conducted protocol California gnatcatcher surveys.
- *Basewide California Gnatcatcher Surveys for Marine Corps Air Station Miramar.* Permitted California Gnatcatcher Biologist. Conducted protocol California gnatcatcher surveys.
- *Basewide California Gnatcatcher Surveys for Camp Pendleton.* Permitted California Gnatcatcher Biologist. Conducted protocol California gnatcatcher surveys.
- *California Gnatcatcher Post-Fire Occupation Study for Miramar Air Station*. Permitted California Gnatcatcher Biologist. Conducted protocol surveys for CAGN within areas of previously documented occupied habitats which have been burned in the past ten years on US Marine Corps Base Camp Pendleton. Direct assistant to Project Manager providing in-field project component and deliverable implementation, coordinating surveyor schedules; coordinating and communicating directions to sub-consultants/contractors. Ensured surveys and services were conducted on time and within overall schedule.
- *California Gnatcatcher Winter Territory Habitat Study for Camp Pendleton*. Permitted California Gnatcatcher Biologist. Conducted winter home range mapping by conducting burst sampling (modified) of banded and unbanded pairs of California gnatcatchers on US Marine Corps Base Camp Pendleton. Used Collector application to collect point data. Vegetation point intercept data collected for selected points.

- *California Gnatcatcher Winter Territory Habitat Study for Camp Pendleton*. California Gnatcatcher Bander. Part of a small team of biologists tasked with banding brooding coastal California Gnatcatcher adults. Erected and took down nylon mist nets approximately 3-8 meters from their nests. Monitoring nests and occasional nest surveying. Removed adult gnatcatchers from mist nets, applied USGS Bird Banding Lab silver numerical bands as well as color bands to the adults.
- *Joint Strike Fighter (F-35) Miramar Basing Project Vernal Pool Habitat Mitigation.* Permitted Vernal Pool Branchiopod Surveyor. Wet and dry season vernal pool branchiopod surveys and soil collection. Conducted 8 hours of dry season soil sample collection for endangered branchiopod species including San Diego fairy shrimp (*Branchinecta sandiegonensis*). Conducted over 200 hours of protocol wet season surveys for endangered branchiopod species.
- *Silver Strand Training Complex Vernal Pool Branchiopod Monitoring*. Permitted Vernal Pool Branchiopod Surveyor. Wet and dry season vernal pool branchiopod surveys and soil collection. Conducted protocol wet season sampling for endangered branchiopod species including San Diego fairy shrimp (*Branchinecta sandiegonensis*).
- *Ground Squirrel Management for Camp Pendleton Air Station*. Lead Biologist. Assisted in the implementation of a rodenticide program that reduced ground squirrel populations to prevent air strike hazards near the flight line. Set up and maintained inverted "T-type" bait stations and conducted broadcast baiting after completing a census to count squirrel populations. Also served as deputy project management. Direct assistant to Project Manager providing in-field project component and deliverable implementation, coordinating surveyor schedules; coordinating and communicating directions to sub-consultants/contractors. Ensured surveys and services were conducted on time and within overall schedule.
- *Base-wide Quino Checkerspot Butterfly Surveys at Camp Pendleton*. Protocol Quino Checkerspot Butterfly Surveys. Assistant surveyor to QCB permitted surveyors during protocol presence/absence surveys in Oscar 1 and November training areas.
- *P-1022 Restoration*. Restoration Biologist. Biological monitor for California gnatcatchers during seeding activities for restoration.
- *Miramar IR Site 19.* Lead California Gnatcatcher Biologist and Monitor. Provided protocol California gnatcatcher surveys and monitoring during restoration planting (hydroseeding) of a former munitions site.
- *Miramar Munitions Response Site (MRS)*-5. Lead California Gnatcatcher Biologist and Monitor. Provided protocol California gnatcatcher surveys and biological monitoring during pre-restoration remediation construction focusing on California gnatcatcher compliance.
- *Remote Stream Assessments on NAWS China Lake. Biologist and Surveyor.* Kern, San Bernardino, and Inyo Counties, CA. Dropped in by helicopter at several different remote locations for stream assessments and surveys. Surveys included aquatic/terrestrial invertebrate survey; complete wildlife and plant inventories; vegetation mapping; exotic species mapping/assessments; and recording water chemistry data with multi-meters. Hydrology/stream characteristics were also assessed.

US Air Force. *San Diego Air Force Space Surveillance Station Remediation and Restoration*. Lead Project Biologist. Monitored antenna array demolition, lead remediation, and native habitat restoration activities for a former satellite tracking facility and small arms training site. Provided demolition, remediation, and restoration monitoring, as-built reporting, monthly and annual qualitative and quantitative monitoring reports, endangered species (coastal California gnatcatcher and Quino checkerspot butterfly) surveys, data collection, assisted with seeding and planting activities, and endangered butterfly host plant mapping.

CalTrans

- *SR-58 Hinkley Project.* Rare Plant Surveyor. San Bernardino County, CA. Assisted with rare plant surveys along the I-395.
- *SR-371 Bridge Crossing Project.* Los Angeles Pocket Mouse Live Trapping. Riverside County, CA. Assisted with protocol Los Angeles pocket mouse trapping.
- *Highway Widening Project.* Burrowing Owl Surveyor. Conducted focused burrowing owl surveys for a highway expansion/realignment project in San Diego County.

Duke Energy/PV2 Panoche Valley Solar Project. Project Coordinator and Monitoring Coordinator. Direct assistant to Project Manager, producing memos, letters, reports, other documents/deliverables, and compiling reference binders for construction environmental monitors. Coordinating construction monitor schedules; coordinating and communicating directions to sub-consultants/contractors; ordering and maintaining supplies, reviewing documents, and handling all tasks delegated by the Project Manager. Coordination with and reporting to various agencies (ACOE, USFWS, CDFW). Present for San Joaquin Kit Fox Live Trapping**.** Assisted SJKF expert Dr. Brian Cypher (PhD) of CSU Stanislaus to set live traps for SJKF. Observed removal from traps, performance of health assessments, ear tagging, radio collaring and release (25 hours).

County of San Diego Department of Public Works

- *Cole Grade Road Realignment Project.* Biologist. Conducted general biological reconnaissance surveys, rare plant surveys, vegetation mapping, assisted with conducting protocol California gnatcatcher surveys, and assisted in preparing Biological Resources Technical Report.
- *Rice Canyon Road Realignment Project*. Biologist. Assisted in conducting California gnatcatcher surveys.
- *San Vicente Road Widening Project*. Biologist and Nesting Bird Monitor. Provided construction monitoring for environmental compliance and nesting birds. Conducted surveys for nesting birds.
- *Bear Valley Parkway Widening Project.* Biologist. Conducted general biological reconnaissance surveys, vegetation mapping and provided monitoring during tree removal.
- *De Luz Road Bridge Improvements Project.* Biologist. Assisted with arroyo toad surveys, conducting nesting bird surveys and monitoring. Construction monitoring during active construction.
- *Pine Creek/Old Highway 80 Project.* Avian Biologist. Provided nesting bird surveys and monitoring during construction.
- *Alpine Drainage Improvements Project.* Biologist. Provided vegetation mapping.
- *Woodside Avenue Drainage Project.* Avian Biologist. Provided nesting bird surveys prior to construction.
- *Arroyo Toad Surveys***.** Completed ARTO clearance surveys with an approved/permitted biologist for various locations in the County.

San Diego Gas & Electric

- *Sunrise Powerlink Project*. Biologist and Biological Monitor. Performed pre-construction clearance surveys for wildlife and monitored construction activities. Trained and experienced with helicopter safety. Over 250 hours of helo time and experience. Provided stream and dry wash assessments. Conducted assessments of dry washes and streams occurring in the areas of impact and areas projected to be impacted. Took basic data on surface hydrology; completed vegetation transects; took releve data and analyzed stream identification factors.
- *TL667/610 Underground Conversion and Overhead Reconductor Project*. Biologist and Biological Monitor. Performed pre-construction clearance surveys for nesting birds and monitored construction activities for SDG&E pole project. Marked sensitive *Mammillaria* and *Dudleya* species for avoidance. Assisted in salvage and translocation of *Mammillaria* sp. from active construction areas. Performed updates/checks of established nests as well as sweeps for new nests in areas of construction and known nesting sites.
- *TL636/639 Project.* Quino Checkerspot Butterfly Presence/Absence Surveys. Assistant surveyor to QCB permitted surveyors during protocol presence/absence surveys.

Southern California Edison

- *West of Devers Upgrade Project.* Senior Biologist and Lead Biologist. Assisted with Stephens' kangaroo rat and Los Angeles pocket mouse trapping and co-led a crew of botanists and biologists for rare plant surveys from Desert Hot Springs to Redlands.
- *Devers to Palo Verde 2 Transmission Line Project*. Avian Biologist. Conducted nesting bird surveys and monitoring. Acted as an approved desert tortoise Authorized Biologist, construction monitor and venomous snake handler.

- *Tehachapi Renewable Transmission Project*. LA and Kern County. Authorized Desert Tortoise Biologist/Biologist/Monitor. Performed pre-construction clearance surveys for wildlife and monitored construction activities for Tehachapi Renewable Transmission Project. Monitored and documented the avoidance of resources. Provided breeding status updates for western burrowing owls and other nesting birds. Collected rare plant survey data from field surveyors and compiled daily reports, submitting them to client for review. Performed pre-construction clearance surveys for desert tortoises and monitored construction activities in areas of potential desert tortoise habitat for Tehachapi Renewable Transmission Project. Monitored installation and removal of desert tortoise fencing, as well as daily inspection of all fencing in areas of construction.

United States Fish and Wildlife Service.

- *San Diego National Wildlife Refuge/Tijuana River Slough/Refuge*. MAPS Bander. Assisted the San Diego Natural History Museum to implement a MAPS station for the US Navy and US Fish and Wildlife Service. Set up mist nests, removed birds from the net and assisted in banding and data collection. Banding included service and color banding endangered species such as the least Bell's vireo.
- *Mojave National Preserve & Various USFWS Lands/BLM Lands*. Desert Tortoise Line Distance Transect Surveyor. Clark County, NV; Nye County, NV; San Bernardino County, CA; Riverside County, CA. Worked over 350 hours and walked over 250Km in transect surveys for desert tortoises (*Gopherus agassizii*) for the Institute for Wildlife Studies. Walked pre-defined standard transects (12K) daily to collect information on and survey for desert tortoises. Experienced in handling, weighing, measuring, sexing, and tagging wild tortoises. Handled well over 30 wild, free ranging tortoises and 20 captive tortoises. Used a compass with topographic maps to navigate. Collected data using RDAs with PenDragon forms. Finished extensive tortoise handling experience including training by USFWS, USGS, GBI and the DTCC.
- *Cibola National Wildlife Refuge (Arizona).* Restoration Biologist. Salt Grass Restoration and *Tamarix* sp. Maintenance/Removal**.** Assisted restoration ecologist in removing tamarisk and Bassia from the wildlife refuge as well as re-planting salt grass.
- *Roll Reservoir*. Quino Checkerspot Butterfly Surveys. Assistant surveyor to QCB permitted surveyors conducting QCB monitoring at a known QCB site. Surveying not for protocol surveys but conducted to protocol standards.

US Navy/Hal Hayes. *Red Beach Military Road and Bridge Construction*. Lead Biologist/Monitor. Provided compliance monitoring for the construction of a road on Camp Pendleton that included the demolition of a train trestle bridge and construction near a gas pipeline and active railroad. Provided California gnatcatcher protocols surveys, expertise, and monitoring.

Imperial Irrigation District

- Path 42 230kV Transmission Line Upgrades Project. Biologist/Monitor. Completed pre-construction surveys for desert kit fox, desert tortoise, American badger, burrowing owl and nesting birds. Surveys included incidental bird, mammal, and reptile species. Determined whether nests were active or inactive, as well as determined if burrows were active, inactive, or potentially active. Conducted nest surveys for all avian species, including sensitive species (Le Conte's Thrasher, raptors, and burrowing owls). Determined nest status and observed and interpreted general avian & nesting specific behaviors.

Sweetwater Authority

- *Sweetwater River (Loveland and Sweetwater Reservoir) Pre-release Arroyo Toad Surveys.* Biologist. Completed ARTO surveys and found several adults (female and male, including gravid females), egg masses, and tadpoles. Handled 2 arroyo toads under supervision of permitted biologists.
- *Skelton Ranch.* Biologist. Assisted in writing Skelton Ranch Management Plan.

City of Beaumont. *Beaumont Wastewater Treatment Plant Upgrade/Expansion and Brine Pipeline Project.* Burrowing Owl Surveys. Conducted focused burrowing owl surveys for the project and its alternatives. Provided a final report on survey findings. Surveys to WCA MSHCP protocol and CDFW (2012) protocol.

City of Davenport. *CEMEX Project.* Provided biological reconnaissance surveys and biological constraints analysis reporting. Observed and positively identified a juvenile California red-legged frog in holding pond.

San Diego County Water Authority. *Dos Palmas Area of Critical Environmental Concern.* Yuma Clapper Rail and California Black Rail Surveys & Monitoring Reports. Assisted permitted biologists conducting protocol surveys for Yuma clapper rail and California black rail in the Core Marsh. Wrote Annual Monitoring Reports for a restoration site.

US District Court, Maine. *Penobscot River Mercury Contamination Study*. USGS Permitted Bird Bander and Blood Sample Collector. Lead/sole permitted bander for one of two 3-person teams of biologists for two seasons of mist netting for Nelson's sparrows and red-winged blackbirds in selected salt-water marshes along the Penobscot River as part of a mercury contamination study. Nelson's sparrows, red-winged blackbirds and other incidental catches were banded, and data collected. Also tasked with collecting blood samples from the Nelson's sparrows red-winged blackbirds for mercury analysis.

Marblehead Commercial Development Partners. *Commercial/Residential Development and Restoration Site.* Protocol California Gnatcatcher Surveys. Assisted a CAGN permitted biologist on protocol CAGN surveys, locating/identifying nests, and conducting passive nest surveys/monitoring.

Amtrak. *Elvira to Moreno Track Realignment.* Southwestern Willow Flycatcher Surveys. Assisted SWFL permitted biologist with protocol surveys using playback calls.

US Marine Corps. *Protocol Surveys for SWFL and LBVI*. Protocol SWFL and LBVI Surveys. Assisted SWFL/LBV permitted USGS biologist Scarlett Howell with protocol surveys on US Marine Corps Base Camp Pendleton. Call playbacks used- adults of both species were visually and auditorily identified. One LBV nest was monitored.

Iberdrola. *Tule Wind Turbine Project*. Nesting Bird Surveyor. Completed pre-construction avian & nest surveys. Surveys were for all avian species observed, including raptors. Determined nest status, set up nest buffers, and observed and interpreted general avian & nesting specific behaviors.

US Navy/San Diego Zoo Institute for Conservation Research. *California Least Tern and Western Snowy Plover Nest Site Monitoring and Research*. Bander, Surveyor, Egg Marking. Endangered species nest/site monitoring/surveying on US Naval beach/bay sites for Western Snowy Plovers & California Least Terns. Surveys included: monitoring breeding biology of CLTE and WESP; walking transects throughout nesting sites to locate new nests and update status of existing nests. Installed protective enclosures over WSP nests; conducting fledgling counts; coordinated and communicated with predator management and predator surveys; USFWS metal banding and color banding over 140 CA Least Tern, Snowy Plover & Horned Lark chicks (personally). Took data of birds banded (weight, wing cord). Marked eggs of all species encountered. Species handled & banded: western snowy plover, CA Least Terns, Belding's Savannah Sparrow, Killdeer, Horned Lark, and Mourning Doves. Daily survey counts and occasional point counts of all avian species were also conducted. Over 300 hours of direct observation and handling of Western Snowy Plovers and CA Least Terns.

Otay Ranch Villages Project. *Quino Checkerspot Butterfly Presence/Absence Surveys.* Protocol Quino Checkerspot Butterfly Surveys. Assistant surveyor to QCB permitted surveyors during protocol presence/absence surveys.

Burlington North Santa Fe Railroad. *Emergency Railroad Repairs.* Lead Authorized Desert Tortoise Biologist**.** San Bernardino County, CA. Served as lead authorized desert tortoise biologist and a biological monitor. Monitored railroad workers and heavy-equipment operators work in jurisdictional waterways and railroad bridge and culvert sections to emergency repair storm damage. Performed pre-maintenance clearance sweeps for desert tortoises in critical habitat tortoise habitat. All work sites were cleared as well as roads and equipment prior to all work each day. Authorized to survey, handle, relocate, and perform general health assessments on desert tortoises, as well as approve, train and mentor biological monitors to sweep for desert tortoises. Monitored any work performed under scope of emergency railroad repairs.

San Diego Natural History Museum. Various Museum Research Projects. Volunteer assisting Curator of Birds and Mammals, Philip Unitt. Conducted mist netting, bird collection, and banding uncollected/releasable birds at museum research sites throughout San Diego County. Also assisted in making bird skins for museum collections. Also assist in cataloguing skeleton and skin specimens in the museum.

Bureau of Land Management. *Prairie Falcon Familial and Range Studies.* Prairie Falcon Bander. Various locations in the Mojave Desert (Kern, San Bernardino, Riverside County). Volunteer to assist master bander Douglas Bell in banding and

collecting blood samples from nestling Prairie Falcons retrieved by rappelling down to nests. Blood samples to be used in a familial DNA study.

San Diego State University

- *Desert Tortoise Homing Instinct Study.* Research Technician. San Bernardino County, CA**.** Assisted in research on the homing instincts of desert tortoises (*Gopherus agassizii*) on Fort Irwin's Western Expansion Project. Radio telemetry-tracked of tortoises in experiment and daily collected baseline data. Used PDAs using PenDragon forms for data entry. Trained in proper sexing of tortoises and behavior analysis from a determined ethogram. Handled approximately 40 captive tortoises. Observed wild tortoises being handled, weighed, measured, soaked, and temporarily radio-transmittered. Capable of identifying tortoise habitat and behaviors. Walked transect lines in pre-defined areas to collect information on tortoises. Also volunteered at the DTCC performing the following: proper handling of tortoises (adult, sub-adult, juvenile and hatchling); assisting in daily care of tortoises (feeding, watering, and soaking); completed health assessments of tortoises (weighing, measuring, oral swab collection, and assisting those collecting blood samples); moved captive tortoises on site.
- *Rattlesnake Behavioral Study.* Research Technician*.* Alameda County, CA**.** Assisted in predator-prey study looking at behavioral responses of northern pacific rattlesnakes (*Crotalus oreganus oreganus*) to anti- predator signals given by California ground squirrels (*Spermophilus beecheyi*). Skilled in proper handling of venomous and non-venomous snakes, radiotelemetry, trapping and marking of reptiles (snakes and lizards). Handled northern pacific rattlesnakes; California mountain king snakes; California king snakes; yellow-bellied racers; Alameda whipsnakes, California whipsnakes; pacific gopher snakes; ring-necked snakes; sharp-tailed snakes; western aquatic garter snakes; rough skinned-newts and California newts. Observed and video documented snake/squirrel interactions. Observed surgical procedures to insert tracking device and temperature-log devices in rattlesnakes. Assisted in construction of 10+ snake fences and helped check them multiple times daily. Assisted Karen Swaim of Swaim Biological, Inc. on her graduate Alameda whipsnake project. Daily checking of small mammal traps and maintenance of traps. Trapped, handled, and tagged CA ground squirrels and administered Ketamine injections. Observed snake/squirrel interactions and video documented any interactions. Trapped and handled over 90 squirrels, and other small mammals (moles, voles, mice) that were incident in snake traps.

University of California Riverside. *UC Riverside Beginning Banding Course*. Bird Bander. Riverside County, CA. Assisted master bander to set-up mist nets, extract birds, process, and band birds as well as scribe data.

Starr Ranch Audubon Sanctuary and Preserve. MoSI Banding & Riparian Phenology Study Assistant. Bird Bander and Data Collector. Trabuco Canyon, CA. Assisted in collecting and compiling phenology data for riparian specific bird, plant, and butterfly species. Assist resident ornithologists with (MoSI) banding of overwintering songbirds. Assisted with mist net set-up, metal banding of birds, taking required data of birds while banding, extracting birds from net and scribing data.

CA State Parks. Western Snowy Plover and California Least Tern Surveys. Surveyor. San Diego County, CA. Assisted surveyor with Western Snowy Plover point count and California Least Tern surveys and scrape surveys. Completed point count surveys of other avian & mammal species in the surrounding area of research.

Confidential Client. *Coachella Valley Fringe-toed Lizard Surveys.* Surveyor. Conducted a CVFTL survey for a development project north of the I-10 freeway near Palm Springs, CA.

Pennsylvania Department of Fish and Game. *Pennsylvania Black Bear DNA Study.* Research Technician*.* Wayne County, PA**.** Assisted biologists in extracting teeth from black bear carcasses brought in by hunters on opening day. Extracted teeth were used in population genetics studies for PA Fish and Game Commission and Pennsylvania State University.

Jipangu Mine, *Florida Canyon Gold Mine*. Nesting Bird Surveyor. Pershing County, NV. Surveys were for all avian species observed, including raptors. Determined whether nests were active or inactive. Observed and interpreted general avian & nesting specific behaviors.

Gerace Research Center. *Thalassia testudinum Study.* Research Technician. San Salvador, Bahamas. Assisted with growth rate research on turtle grass. Skin diving in shallow shoals to assist installation of growth measuring devices as well as removal of specimens. Assisted in the drying and packaging of specimens for shipment to US in preparation for analysis.

Katie Deodat

AQUATIC RESOURCES SPECIALIST/BIOLOGIST



Katie Deodat is an aquatic resources specialist and biologist for Harris in the San Diego Office. Katie has more than seven years of experience in the environmental field conducting aquatic resources delineations, biological surveys, including habitat assessments, sensitive plant and wildlife species surveys, biological resources technical analysis, aquatic resources reports, drone surveys, environmental document preparation, and general technical analysis in compliance with the California Environmental Quality Act (CEQA). Katie has experience preparing and obtaining regulatory permits from the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and US Fish and Wildlife Service (USFWS). Katie holds a USFWS Section 10(a)(1)(A) TE permit to survey for coastal California gnatcatchers. She is currently working toward securing USFWS Section 10(a)(1)(A) TE permit to survey for Quino checkerspot butterfly. Types of projects Katie has worked on include park development, biological baseline inventories, flood control projects, education facilities, energy projects, water infrastructure projects, private housing developments, industrial facilities, road widening projects, among others. She has worked with numerous federal, state, and local agencies. With her background in aquatic resources delineations, regulatory permitting, biological resources, and CEQA environmental analysis, Katie brings a unique perspective to the public and private projects she is involved in.

REVELVANT EXPERIENCE

Construction Monitoring/Environmental Compliance

- **City of Palm Springs.** *Indian Canyon Road Widening and UPRR Bridge Replacement.* Biological Monitor. The project includes widening of Indian Canyon Drive and replacement of the Union Pacific Railroad bridge in the City of Palm Springs, California. Katie provides regulatory compliance guidance and performed construction monitoring during the installation of environmentally sensitive area fencing and pre-construction site preparation. Species of concern include Coachella Valley fringe-toed lizard (*Uma inornata*), Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*), and burrowing owl (*Athene cunicularia*).
- **San Diego Unified School District On-Call Environmental Services**
  - *Fay Elementary Pre-Construction Nesting Bird Survey and Compliance Monitoring*. Biological Monitor. The project includes tree removal on the southwestern side of the Fay Elementary School property. Katie performed construction monitoring during tree and vegetation removal and provided regulatory guidance to the school district staff.
  - *La Jolla High School Osprey Monitoring*. Biological Monitor. The project included removing and replacing existing tennis court light posts, which required removal of an osprey (*Pandion haliaetus*) nest that occurs on the top of one of the light posts. Katie conducted osprey nest monitoring on the La Jolla High School campus and provided regulatory and compliance guidance to the school district staff. Monitoring, regulatory guidance, and agency coordination was provided until the osprey nest was determined to be inactive and the nest was observed prior to and during removal to ensure regulatory compliance.
- **Orion Construction.** *Oceanside Mesa Garrison Force Main, El Corazon Lift Station, Mission Avenue Lift Station Force Main Replacement, and Land Outfall Replacement.* Biological Monitor. Harris is providing environmental compliance review and monitoring. Katie provided compliance monitoring during potholing in areas of sensitive resources.
- **University of California San Diego**
  - *Hillcrest Campus 2019 LRDP Phase 1A Project.* Biological Monitor. Katie conducted

EDUCATION

University of San Diego

B.A. Environmental Studies and Marine Science, 2015

CERTIFICATIONS

FAA Unmanned Aircraft System (Drone) Pilot, 2018 to present

Advanced SCUBA, 2014 to present

TRAINING

Wetland Training Institute Certified Wetland Delineator

Arroyo Toad Workshop, 2023 – The Wildlife Society

AEP CEQA Essentials and Advanced Workshops, 2015, 2016, 2017, 2018, 2019, 2020

AFFILIATIONS

The Wildlife Society, Western Section, Member, 2016 to present

Western Field Ornithologists Society, Member, 2022 to present

Association of Environmental Professionals (AEP), San Diego Chapter, Board Member, 2016 to 2019; President, 2019 to 2022

biological monitoring and nesting bird surveys during tree removal in the campus redevelopment area.

  - *La Jolla Campus Central Utility Plant Expansion Project.* Biological Monitor. The project purpose is to provide 6,000 tons of additional chilled water-cooling capacity to support existing campus development and planned capital projects. Katie conducted biological monitoring and nesting bird surveys during demolition, tree removal, and construction activities during the nesting bird season. She identified nests, set and checked avoidance buffers, monitored nest status, and coordinated effectively with construction personnel.

- **City of Vista**, *Beverly Drive Emergency Manhole Stabilization-Permitting, Construction Monitoring, and Habitat Restoration*. Deputy Project Manager, Biologist, Construction Monitor. The project included emergency bank stabilization improvements along a portion of City of Vista right-of-way along the western side of 942 Beverly Drive. Katie served as a deputy project manager and conducted nesting bird surveys and construction monitoring. She identified nests, set and checked avoidance buffers, monitored nest status, and coordinated effectively with construction personnel.

Avian Ecology

- **HomeFed Corporation**
  - *Otay Ranch Village 9*. Biologist, Coastal California Gnatcatcher Surveys and Western Burrowing Owl Surveys. The project includes development of a single-family residential neighborhood in Chula Vista, California. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher (*Polioptila californica californica*). She led the western burrowing owl (*Athene cunicularia* ssp. *hypugaea*) habitat assessments, potential burrow documentation, and presence/absence surveys.
  - *Otay Ranch Village 10*. Biologist, Coastal California Gnatcatcher Surveys and Western Burrowing Owl Surveys. The project includes development of a single-family residential neighborhood in Chula Vista, California. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher. She led the western burrowing owl habitat assessments, potential burrow documentation, and presence/absence surveys.
  - *State Route (SR)-125 Interchange Project*. Biologist, Coastal California Gnatcatcher Surveys and Western Burrowing Owl Surveys. The project includes widening of the SR-125 transportation corridor. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher. She led the western burrowing owl habitat assessments, potential burrow documentation, and presence/absence surveys.
- **San Diego Unified School District On-Call Environmental Services**
  - *Fay Elementary Pre-Construction Nesting Bird Survey and Compliance Monitoring*. Avian Biologist. The project includes tree removal on the southwestern side of the Fay Elementary School property. Katie conducted a pre-construction nesting bird survey on the Fay Elementary campus prior to tree removal.
  - *La Jolla High School Osprey Monitoring*. Avian Biologist. The project included removing and replacing existing tennis court light posts, which required removal of an osprey (*Pandion haliaetus*) nest that occurs on the top of one of the light posts. Katie conducted osprey nest monitoring on the La Jolla High School campus where she observed, interpreted, and documented osprey behavior and provided weekly status updates to the client on nesting progress.
- **County of San Diego, Department of Parks and Recreation**
  - *San Luis Rey River Park Projects:*
    - *Middle Right-of-Way Project.* Biologist, Aquatic Resources Specialist, Coastal California Gnatcatcher Surveys, Least Bell's Vireo Surveys, and Southwestern Willow Flycatcher Surveys. The project includes an approximately 1.5-mile multi-use trail on the northwestern side of the San Luis Rey River. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). Katie directly observed these listed species, mapped occurrences and potential territories, and documented behavior and habitat use.
    - *Bonsall Community Park Project.* Biologist, Coastal California Gnatcatcher Surveys, Least Bell's Vireo Surveys, and Southwestern Willow Flycatcher Surveys. The project includes the conversion of the northeastern portion of the former San Luis Rey Downs Golf Course to a recreational park (Bonsall Community Park) on an approximately 51-acre site. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher. Katie directly observed these listed species, mapped occurrences and potential territories, and documented behavior and habitat use.

- *Rio Prado Park Project***.** Biologist, Coastal California Gnatcatcher Surveys, Least Bell's Vireo Surveys, and Southwestern Willow Flycatcher Surveys. The project includes development of approximately 51 acres of the approximately 69-acre Property to a County of San Diego recreational park. Katie assisted with the protocol level surveys lead by permitted biologists for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher. Katie directly observed these listed species, mapped occurrences and potential territories, and documented behavior and habitat use.

- *Iron Mountain Property Baseline Biodiversity Inventory***.** Biologist. The purpose of the project baseline biological resources surveys is to identify and map existing resources and to provide the County Department of Parks and Recreation with information as the basis for inclusion of the Iron Mountain Property in the Preserve and development of a Resources Management Plan, including Area-Specific Management Directives. Katie conducted daytime and nighttime avian surveys and prepared technical reports documenting the results of the surveys.
- *Lakeside-Linkage Centex Property Baseline Biodiversity Inventory***.** Biologist. The purpose of the project baseline biological resources surveys is to identify and map existing resources and to provide the County Department of Parks and Recreation with information as the basis for inclusion of the Property in the existing Lakeside Linkage Preserve and development of a Resources Management Plan, including Area-Specific Management Directives. Katie conducted daytime and nighttime avian surveys and prepared technical reports documenting the results of the surveys.
- *San Diego River Conservancy Fuel Modification Nesting Bird Surveys*. Avian Biologist. The project includes San Diego River Conservancy grant-funded fuel modification efforts in 15 County Park facilities. Katie is conducting general nesting bird surveys at various County parks. Katie provides avian identification and behavioral analysis expertise to identify active nests, establish appropriate avoidance buffers, and monitor nesting activity to maintain the County's compliance with the federal Migratory Bird Treaty Act.

- **City of Murrieta.** *Los Alamos Sports Complex Soccer Park Project.* Biologist, Coastal California Gnatcatcher Surveys and Western Burrowing Owl Surveys. The City of Murrieta is proposing the construction of the Murrieta Soccer Complex Project on the 47-acre undeveloped portion of the existing Los Alamos Hills Sports Park in Murrieta, California. Katie provided general reconnaissance surveys documenting observed bird species. Katie assisted with protocol coastal California gnatcatcher surveys lead by USFWS-permitted Principal Biologist Emily Mastrelli. She assisted with western burrowing owl habitat assessments, potential burrow documentation, and presence/absence surveys. Katie prepared the biological resources technical report documenting the results of the avian protocol surveys for the project and analyzed potential impacts to the species from project implementation.
- **University of California San Diego**
  - *Hillcrest Campus 2019 LRDP Environmental Impact Report (EIR)*. Biologist, Coastal California Gnatcatcher Surveys. Katie assisted in the coastal California gnatcatcher protocol surveys lead by USFWS-permitted Senior Biologist Melissa Tu using playback calls.
  - *Hillcrest Campus 2019 LRDP Phase 1A Project.* Biologist, Coastal California Gnatcatcher Surveys. Katie assisted with the protocol coastal California gnatcatcher surveys lead by USFWS-permitted Principal Biologist Emily Mastrelli throughout project site in coastal sage scrub areas.
  - *La Jolla Campus Central Utility Plant Expansion Project.* Avian Biologist. Katie conducted nesting bird surveys during demolition, tree removal, and construction activities during the nesting bird season. She identified nests, set and checked avoidance buffers, monitored nest status, and coordinated effectively with construction personnel.
- **Chesnut Properties/City of El Cajon,** *Weld Boulevard Distribution Center Project Addendum*. Avian Biologist. The project involves the development of an approximately 142,756 SF distribution warehouse, parking, and designated product pick-up and drop-off areas. Katie assessed the project site for potential to support nesting birds and raptors and conducted pre-construction nesting bird surveys for the project.

Invertebrates

- **HomeFed Corporation**
  - *Otay Ranch Village 9*. Biologist, Quino Checkerspot Butterfly Surveys. Katie assisted with the protocol level surveys lead by permitted biologists for Quino checkerspot butterfly (*Euphydryas editha quino*).

- *Otay Ranch Village 10*. Biologist, Quino Checkerspot Butterfly Surveys. Katie assisted with the protocol level surveys lead by permitted biologists for Quino checkerspot butterfly.
- *SR-125 Interchange Project*. Biologist, Quino Checkerspot Butterfly Surveys. Katie assisted with the protocol level surveys lead by permitted biologists for Quino checkerspot butterfly.

- **City of Murrieta.** *Los Alamos Sports Complex Soccer Park Project.* Biologist, Vernal Pool Branchiopod Wet Season Surveys. Katie assisted with vernal pool branchiopod wet season surveys under USFWS-permitted Principal Biologist Emily Mastrelli. Katie prepared the biological resources technical report documenting the results of the vernal pool surveys for the project.

- **County of San Diego, Department of Parks and Recreation**
  - *Iron Mountain Property Baseline Biodiversity Inventory***.** Biologist. Katie assessed with surveys evaluating the project site for potential to support both common and sensitive butterfly species, conducted focused butterfly surveys, and prepared technical reports documenting the results of the surveys.
  - *Lakeside-Linkage Centex Property Baseline Biodiversity Inventory***.** Biologist. Katie assessed with surveys evaluating the project site for potential to support both common and sensitive butterfly species, conducted focused butterfly surveys, and prepared technical reports documenting the results of the surveys.

Amphibians/Reptiles

- **City of Palm Springs**, *Indian Canyon Road Widening and UPRR Bridge Replacement*. Biologist, Coachella Valley Fringe-Toed Lizard Focused Surveys. Katie assisted with the focused surveys for Coachella Valley fringe-toed lizard, positively identifying individuals by direct observation and sign (tracks and scat) in occupied habitat.
- **County of San Diego, Department of Parks and Recreation**
  - *San Luis Rey River Park Projects:*
    - *Middle Right-of-Way Project.* Biologist, Arroyo Toad Surveys. Katie conducted arroyo toad (*Bufo californicus*) habitat assessments and assisted with the protocol level surveys for arroyo toad. Katie prepared the biological resources technical report documenting the results of the arroyo toad protocol surveys for the project.
    - *Bonsall Community Park Project.* Biologist, Arroyo Toad Surveys. Katie conducted arroyo toad habitat assessments and assisted with the protocol level surveys for arroyo toad. Katie prepared the biological resources technical report documenting the results of the arroyo toad protocol surveys for the project.
    - *Rio Prado Park Project***.** Biologist, Arroyo Toad Surveys. Katie conducted arroyo toad habitat assessments and assisted with the protocol level surveys for arroyo toad. Katie prepared the biological resources technical report documenting the results of the arroyo toad protocol surveys for the project.

- **County of San Diego, Department of Parks and Recreation**
  - *Iron Mountain Property Baseline Biodiversity Inventory***.** Biologist. Katie assisted with the installation and running of herpetological arrays and prepared technical reports documenting the results of the surveys.
  - *Lakeside-Linkage Centex Property Baseline Biodiversity Inventory***.** Biologist. Katie assisted with the installation and running of herpetological arrays and prepared technical reports documenting the results of the surveys.

Mammals

- **City of Murrieta.** *Los Alamos Sports Complex Soccer Park Project.* Biologist, Stephens' Kangaroo Rat Surveys. Katie assisted with protocol Stephens' kangaroo rat (*Dipodomys stephensi*; SKR) live trapping. During SKR trapping, Katie assisted Heteromydae specialist Dr. Thea Wang to conduct protocol (permitted) Stephens' kangaroo rat trapping. Trapping included opening, baiting, checking, and closing traps under supervision. Katie assisted in identification of captured rodents. Katie prepared the biological resources technical report documenting the results of the SKR trapping for the project.
- **County of San Diego, Department of Parks and Recreation**
  - *Iron Mountain Property Baseline Biodiversity Inventory***.** Biologist. Katie assisted with small mammal trapping, large/medium mammal and mesocarnivore camera trapping lead by USFWS-permitted Principal Biologist Emily Mastrelli. Trapping included opening, baiting, checking, and closing traps under supervision. Katie assisted in

identification of captured rodents. She assisted with review, analysis, and species identification of camera trapping results. Katie prepared technical reports documenting the results of the small and large/medium mammal surveys.

- *Lakeside-Linkage Centex Property Baseline Biodiversity Inventory***.** Biologist. Katie assisted with small mammal trapping, large/medium mammal and mesocarnivore camera trapping lead by USFWS-permitted Principal Biologist Emily Mastrelli. Trapping included opening, baiting, checking, and closing traps under supervision. Katie assisted in identification of captured rodents. She assisted with review, analysis, and species identification of camera trapping results. Katie prepared technical reports documenting the results of the small and large/medium mammal surveys.

Rare Plants/Habitat Restoration

- **City of Palm Springs**, *Indian Canyon Road Widening and UPRR Bridge Replacement*. Biologist, Coachella Valley Milk Vetch Focused Survey. Katie assisted with the focused surveys for Coachella Valley milk vetch.

- **HomeFed Corporation**
  - *Otay Ranch Village 9*. Biologist, Rare Plant Surveys. Katie assisted with rare plant surveys lead by botanist Ryan Meszaros.
  - *Otay Ranch Village 10*. Biologist, Rare Plant Surveys. Katie assisted with rare plant surveys lead by botanist Ryan Meszaros.
  - *SR-125 Interchange Project*. Biologist, Rare Plant Surveys. Katie assisted with rare plant surveys lead by botanist Ryan Meszaros.

- **City of Chula Vista and City of San Diego,** *Otay Pipeline 2 Segment A6 Replacement Project IS/MND*. Biologist, Rare Plant Surveys. Katie assisted with rare plant surveys and prepared the biological resources technical report documenting the results of the surveys. Katie coordinated with the project engineers to incorporate avoidance and minimization measures to reduce potential impacts to sensitive plant species to the greatest extent feasible. Katie prepared the restoration plan and salvage and translocation plan for impacted sensitive plant species. She is contracted to implement the plans during and after project construction.

- **County of San Diego, Department of Parks and Recreation**
  - *Iron Mountain Property Baseline Biodiversity Inventory***.** Biologist, Rare and Invasive Plant Surveys. Katie assisted with rare plant and non-native invasive plant surveys lead by botanist Ryan Meszaros. She prepared technical reports documenting the results of the surveys.
  - *Lakeside-Linkage Centex Property Baseline Biodiversity Inventory***.** Biologist, Rare and Invasive Plant Surveys. Katie assisted with rare plant and non-native invasive plant surveys lead by botanist Ryan Meszaros. She prepared technical reports documenting the results of the surveys.
  - *Calavo Park Project*. Biologist**.** Katie conducted the rare plant survey and prepared the biological resources report to support the CEQA document for the project.

- **Chesnut Properties/City of El Cajon,** *Weld Boulevard Distribution Center Project Addendum*. Biologist, San Diego Ambrosia Restoration Technician. Katie assisted with the federally and state-listed San Diego ambrosia (*Ambrosia pumila*) translocation and habitat restoration on the project site and receiver site. Katie provides ongoing drone arial imagery surveys documenting the status of the restoration receiver site for inclusion in the 5-year monitoring period.

- **City of Vista**, *Beverly Drive Emergency Manhole Stabilization-Permitting, Construction Monitoring, and Habitat Restoration*. Biologist, Restoration Technician. Katie designed and implemented riparian habitat restoration and conducted monthly monitoring through the end of the required monitoring period.

General Biological Resources

- **City of Chula Vista and City of San Diego,** *Otay Pipeline 2 Segment A6 Replacement Project IS/MND*. Deputy Project Manager, Biologist, and CEQA Analyst. The project includes the replacement in place of approximately 4,000 linear feet of the Otay Pipeline 2 segment A6 40-inch steel pipe with an increased diameter 54-inch steel pipe. Katie served as deputy project manager and conducted the habitat assessment, vegetation mapping, rare plant surveys, and aquatic resources mapping, and prepared the Biological Resources Technical Report, Revegetation Plan, Salvage and

Translocation Plan, and IS/MND. Katie presented the project and biological resources protection measures to the wildlife agencies during two separate regulatory meetings.

- **County of San Diego, Department of Parks and Recreation,** *Calavo Park Project*. Biologist**.** Katie conducted the habitat assessment and prepared the biological resources report to support the CEQA document for the project.

- **City of San Diego**, *De Anza Natural (Amendment to the Mission Bay Park Master Plan) Project PEIR*. Biologist. The proposed project includes recommendations from the MBPMP pertaining to serve local and regional recreation needs while preserving the natural resources of the De Anza Cove area. Katie conducted biological resources surveys and reviewed previous survey results for the project area. Katie prepared the biological resources technical report to support the PEIR.

- **City of Chula Vista**, *Otay Ranch Town Center Peer Review*. Biologist. Harris provided a third-party peer review of the project. Katie provided a third-party peer review of the biological resources letter report and CEQA Addendum biological resources section for the project.

- **Chesnut Properties/City of El Cajon,** *Weld Boulevard Distribution Center Project Addendum*. Biologist. Katie conducted the biological resources surveys and prepared the biological resources technical report for the Addendum.

- **City of San Marcos,** *On-Call Consultant Services*. Biologist. Katie provides biological resources technical advisory services for the City and third-party review of biological resources technical reports for consistency with the City's General Plan and biological resources guidelines. Katie also provided consultant services to private applicants for a Washingtonia Drive residential project, Woodward lot split project, and the re-structure of a biological resources technical report for Pure Olive Oil residential project.

- **City of Santee**
  - *Cannabis Ordinance.* Biologist. The project includes analysis of undeveloped parcels throughout the City of Santee that could support cannabis activities under the new Cannabis Ordinance. Katie conducted a site survey and identified potential impacts to biological resources and mitigation at a programmatic level. Katie also prepared the IS/MND biological section.

  - *Fanita Ranch Residential Development Environmental Impact Report (EIR)*. Biologist and CEQA Analyst. The 2,600-acre Fanita Ranch project consists of phased development of a new community in the City of Santee. A major component of the project is the approximately 1,400-acre biological open space preserve that would contribute to the city's Multiple Species Conservation Program preserve. Work involved preparation of CEQA documents, resource permits, and. Katie reviewed the biological resources technical report, confirmed consistency with the County of San Diego Multiple Species Conversation Program, and prepared the biological resources EIR section.
  - *Warmington Residential Project*. Biologist. The project includes redevelopment of a rural residential project in the City of Santee. Katie led a biological reconnaissance survey and prepared a biological resources summary for the client. Katie provided biological resources and aquatic resources expertise to provide an overview of the sensitive resources on the project site for preparation of the project site design.

- **University of California San Diego**
  - *Hillcrest Campus 2019 LRDP Environmental Impact Report (EIR)*. Biologist and CEQA Analyst. The Harris project team worked with UC San Diego to prepare an EIR addressing the proposed UC San Diego Hillcrest 2019 Long Range Development Plan (LRDP). Katie conducted habitat assessments, vegetation mapping, and aquatic resources delineations. Katie prepared the biological resources technical report and provided CEQA biological resources analysis for the EIR.

- **County of San Diego, Department of General Services**, *Central Region Behavior Health Hub Project*. Biologist. The project involves the creation of an integrated health services campus that aims to offer a variety of health services and resources to residents in crisis. Katie conducted a biological resources survey and habitat assessment, and prepared the biological resources letter report.

- **County of Monterey**

- *Feather Cypress LLC*. Biologist. The project includes construction of a single-family dwelling and pool house at 3256 Seventeen Mile Drive within the Pebble Beach area in unincorporated Monterey County. Katie conducted desktop biological resources database and previous reports review and prepared the IS/MND biological resources section for the project.
- *Toro Park Water System Improvement Project*. Biologist. The project includes water system improvements at Toro Regional Park (TRP), located near the City of Salinas, California. Katie conducted a habitat assessment and prepared the IS/MND biological resources section for the project.

- **City of Santa Cruz**, *Coastal Rail Trail Segments 8 and 9 Natural Environment Study (CALTRANS)*. The Project is a 2.2-mile bicycle and pedestrian system proposed to extend along the RTC-owned railroad corridor from the Beach Street/Pacific Avenue roundabout on the west to the eastern side of 17th Avenue on the east, excluding the recently constructed San Lorenzo River Trestle Bridge Improvements. Katie reviewed biological resources technical reports to prepare the Natural Environment Study (NES) to comply with CALTRANS requirements.
- **City of El Centro,** *General Plan Update Program Environmental Impact Report*. Biologist. The project includes updates to the Land Use Element and Mobility Element of the El Centro General Plan and establishing a new Environmental Justice Element. Katie conducted desktop biological resources database review and prepared a biological resources letter report and PEIR biological resources section for the project.
- **City of Pacific Grove,** *Capital Improvement Project for Wastewater Collection System Phase 9 Project*. Biologist. The project includes the repair and replacement of the three segments of the wastewater collection system in the western portion of the City. Katie prepared the biological resources letter report consistent and IS/MND biological resources section for the project ensuring consistency with the Pacific Grove Local Coastal Program.
- **City of Vista**
  - *Tideline Kensho Residential Project*. Biologist. The project includes a new residential development that would result in the construction of 183 dwelling units, including three three-story buildings and one four-story building with covered parking included in three of the four buildings. Katie conducted a habitat assessment and prepared the biological resources letter report for the project.
  - *Vista II Residential Project.* Biologist. The project includes the development of 37 multi-family dwelling units, which is consistent with the current land use designation of Village Residential. Katie conducted a habitat assessment and prepared the biological resources letter report for the project.
- **Midway Rising, LLC**, *Midway Rising Project*. Biologist. The project includes the redevelopment of the existing 52.04-acre Sports Arena-related land owned by the City of San Diego and private parcels around the arena to allow for approximately 4,627 housing units, including 2,000 affordable units, public parks and open space, a multi-purpose Entertainment Center, and commercial uses. Katie assisted in the preparation of the biological resources constraints study. **Katie provided biological resources expertise to document and analyze impacts to sensitive species within the project development limits.**
- **OnPoint Development/County of San Diego,** *Los Coches Plaza***.** Biologist. The project includes development of a community park on an approximately 9.2-acre property northeast of the intersection of Calavo Drive and Jamacha Boulevard in the unincorporated community of Spring Valley in San Diego County, California. Katie conducted the habitat assessment, rare plant survey, vegetation communities mapping, and prepared the biological resources report.
- **Port of San Diego/Topgolf**, *East Harbor Island Redevelopment/Topgolf Project*. Biologist. The project includes redevelopment of approximately 43 acres on East Harbor Island, 9.39 acres of which would be for the Topgolf entertainment complex in addition to two 3- and 3.5-acre adjacent parcels, the realignment of Liberator Way, and Public Realm improvements. Katie conducted the biological resources reconnaissance survey and prepared the biological resources report. **Katie provided biological resources and aquatic resources expertise to document and analyze impacts to sensitive species within the project site.**
- **City of Oceanside,** *Oceanside East Shopping Center CEQA Documentation*. Biologist. The project includes 20,000 square feet of commercial space in an existing gas station site. Katie conducted a habitat assessment and rare plant survey, vegetation communities mapping, and prepared the biological resources technical report.
- **City of Arvin,** *Update to Sanitary Sewer Management Plan (SSMP) Program-level Mitigated Negative Declaration (MND).* Biologist and CEQA Analyst. The project included improvements to approximately 54,771 linear feet of sanitary sewer pipeline and 257 manholes throughout the City and comprised 17 individual capital improvement projects. Katie

conducted the biological resources surveys and prepared the biological resources technical report and CEQA analysis for the MND.

- **Ware Malcomb,** *Tepusquet Canyon Notice of Violation Remediation.* Biologist. The project involves necessary remediation on the Tepusquet Canyon property to clear the remaining NOVs issued by the CDFW. Katie conducted a biological resources survey and prepared the biological resources letter report for submittal to CDFW with the remediation plan.

Aquatic Resources/Regulatory Permitting

- **University of California San Diego**
  - *Hillcrest Campus Long Range Development Plan (LRDP) Phases 1 and 2 Aquatic Resources Delineations and Reports.* Deputy Project Manager, Aquatic Resources Specialist, and Biologist. The Harris project team worked with UC San Diego to prepare an EIR addressing the proposed UC San Diego Hillcrest 2019 Long Range Development Plan (LRDP). Katie served as deputy project manager and conducted an aquatic resources delineation and prepared the aquatic resources report.
  - *Hillcrest Campus LRDP Phase 1A Permitting.* Deputy Project Manager, Aquatic Resources Specialist, and Biologist. Katie served as deputy project manager and coordinated with the regulatory agencies, prepared the regulatory permit applications, and obtained the regulatory permits from USACE, San Diego RWQCB, and CDFW. Katie worked with UC San Diego staff and Latitude 33 engineering staff to minimize impacts to the aquatic resources and provide adequate detail to the regulatory agencies to obtain the permits. Katie prepared the mitigation plan and coordinated with the San Luis Rey River Mitigation Bank to secure mitigation credits for the permanents impacts to the aquatic resources from the implementation of Phase 1A.
  - *Hillcrest Campus LRDP North Access Road Project Aquatic Resources Delineation and Permitting.* Aquatic Resources Specialist. The project includes construction of a new north access road off Bachman Place following the slope to the northern edge of the mesa, providing an alternate vehicle, pedestrian and bicycle route to access the campus. Katie led the aquatic resources delineation survey and prepared the aquatic resources report. Katie is currently leading the regulatory agency permitting process. Katie provided aquatic resources delineation expertise to ensure the reports complied with state and federal regulatory requirements. Katie continues to provide resource agency (USACE, CDFW, RWQCB) permitting guidance, compliance, and coordination for the project.
  - *Hillcrest Campus LRDP Bachman Place Widening Project Aquatic Resources Delineation and Permitting.* Aquatic Resources Specialist. To mitigate traffic impacts, Bachman Place immediately north of the Hillcrest Campus boundary up to the intersection of Bachman Place and Hotel Circle South would be widened to three lanes during implementation of the project. Katie led the aquatic resources delineation survey and prepared the aquatic resources report. Katie is currently leading the regulatory agency permitting process. Katie provided aquatic resources delineation expertise to ensure the reports complied with state and federal regulatory requirements. Katie continues to provide resource agency (USACE, CDFW, RWQCB) permitting guidance, compliance, and coordination for the project.
- **Chesnut Properties/City of El Cajon,** *Weld Boulevard Distribution Center Project Addendum*. Aquatic Resources Specialist. Katie conducted the formal aquatic resources delineations and prepared the aquatic resources report, coordinated with the regulatory agencies, prepared the permit applications, and obtained the regulatory permits from USACE, San Diego RWQCB, and CDFW.
- **City of Murrieta.** *Los Alamos Sports Complex Soccer Park Project.* Aquatic Resources Specialist. Katie conducted a formal aquatic resources delineation documenting potentially jurisdictional waters of the U.S. and state on the project site. Katie prepared the aquatic resources delineation report for the project.
- **City of Vista**
  - *Beverly Drive Emergency Manhole Stabilization-Permitting, Construction Monitoring, and Habitat Restoration*. Aquatic Resources Specialist. Katie conducted the aquatic resources delineation, prepared the aquatic resources report, coordinated with the regulatory agencies, prepared the emergency permit applications, and obtained the emergency regulatory permits from USACE, San Diego RWQCB, and CDFW.
  - *Tideline Kensho Residential Project*. Aquatic Resources Specialist. Katie conducted a formal aquatic resources delineation and prepared an aquatic resources delineation report for the project. Katie coordinated with the

regulatory agencies and prepared and submitted the permit applications to the USACE, San Diego RWQCB, and CDFW.

  - *Vista II Residential Project.* Aquatic Resources Specialist. Katie conducted a formal aquatic resources delineation and prepared an aquatic resources delineation report for the project.

- **California American Water**, *Grove Avenue Flood Control Channel Wall Replacement.* Aquatic Resources Specialist and Biologist. The project includes replacing the damaged and undercut retaining wall of an existing flood control channel that runs along the northern side of Grove Avenue within Nestor Creek. Katie conducted biological resources and formal aquatic resources delineation surveys. Katie prepared the biological resources letter report and aquatic resources delineation report.
- **City of El Cajon,** *Broadway Earthen Channel Repairs Project*. Aquatic Resources Specialist and Biologist. The overall goal of the Broadway Earthen Channel Repair Project within El Cajon was to improve the stability of the channel and if possible, improve the flood conveyance capacity of the channel. The channel was eroding and threatened private property infrastructure. Katie conducted the biological resources survey, aquatic resources delineation, aquatic resources report, and provided analysis of sensitive habitats and specials-status plant and wildlife species. Katie also coordinated with the regulatory agencies and prepared USACE, San Diego RWQCB, and CDFW regulatory permit applications.
- **City of National City,** *Paradise Creek Water Quality and Community Enhancement Project-CEQA and Permitting*. Aquatic Resources Specialist and Biologist. The Paradise Valley Creek Water Quality and Community Enhancement project involved a dual process that was designed to treat and direct stormwater run-off along Paradise Valley Road from Paradise Avenue to 700 feet east of East Plaza Boulevard. Katie conducted the biological resources survey, aquatic resources delineation and prepared the aquatic resources report, coordinated with the regulatory agencies, prepared the regulatory permit applications, and obtained the regulatory permits from USACE, San Diego RWQCB, and CDFW.
- **City of Palm Springs.** *Indian Canyon Road Widening and UPRR Bridge Replacement.* Permitting Specialist. Katie prepared and obtained the regulatory agency emergency permits for the project when emergency repairs were required after flooding in August 2023.
- **County of Monterey, Department of Public Works, Facilities and Parks.** *Lake San Antonio South Shore Water Systems Improvements Project*. Aquatic Resources Specialist and Biologist. The project includes replacement of the lake intake water main; construction of a small 10,000-gallon welded steel water storage tank; improvements to the existing pump house; replacement of the existing 500,000-gallon welded steel water storage tank; and replacement of existing sand media. Katie conducted general biological reconnaissance for the project and authored aquatic resources and biological technical documents. Katie also prepared and obtained permit applications from the resource agencies (CDFW, RWQCB and USACE).
- **County of San Diego, Department of Public Works,** *Live Oak Springs Water System Improvements Project*. Aquatic Resources Specialist and Biologist. The County DPW proposes the project, which includes potable water distribution system upgrades and improvements. Katie conducted biological resources and aquatic resources delineation surveys. Katie also prepared biological resources technical and aquatic resources delineation reports.
- **HomeFed Corporation**
  - *Otay Ranch Village 9*. Aquatic Resources Specialist. Katie led the aquatic resources delineation survey and prepared an aquatic resources delineation report. Katie provided aquatic resources delineation expertise to ensure the reports complied with state and federal regulatory requirements.
  - *Otay Ranch Village 10*. Aquatic Resources Specialist. Katie led the aquatic resources delineation survey and prepared an aquatic resources delineation report. Katie provided aquatic resources delineation expertise to ensure the reports complied with state and federal regulatory requirements.
- **Kinder Morgan,** *LS-9 Pipeline Assessment and Repairs Project.* Aquatic Resources Specialist and Biologist. Kinder Morgan, owner and operator of the LS-9 pipeline, proposes the assessment and repairs to maintain compliance with federal regulations. Katie conducted the biological resources survey and aquatic resources delineation, prepared a biological resources letter and an aquatic resources report, and provided analysis of sensitive habitats and sensitive plant and wildlife species. Katie is prepared and submitted the permit applications to obtain the regulatory permits from USACE RWQCB, and CDFW.
- **Kinder Morgan Energy Partners,** *LS-12 Anomaly Digs Project.* Aquatic Resources Specialist and Biologist. The project includes the evaluation of ten different dig locations along the LS-12 pipeline owned, maintained, and operated by

Kinder Morgan, occur along Interstate 80 (I-80) within the Tahoe National Forest in Nevada and Placer Counties, California. Katie conducted the biological resources survey and aquatic resources delineation, provided analysis of sensitive habitats and sensitive plant and wildlife species, and prepared a biological resources letter and an aquatic resources report.

- **Orion Construction/Padre Dam Municipal Water District**, *East County Advanced Water Purification Project*. Aquatic Resources Specialist, Biologist, and CEQA Analyst. The project includes Package 2 of the ECAWP program, a collaborative effort between Padre Dam Municipal Water District, the City of El Cajon, the County of San Diego, and Helix Water District. Katie conducted aquatic resources delineations, biological resources surveys, prepared the regulatory permit applications, and reviewed the alternative pipeline alignments consistency with the project's approved CEQA documentation. Katie provided agency permitting assistance (USACE, USFWS, CDFW, RWQCB), environmental constraints analysis, environmental compliance review, CEQA review and biological expertise, and resource agency permit applications.
- **Orion Construction/City of Oceanside**, *Oceanside Sewer Improvements Program*. Aquatic Resources Specialist. The project includes multiple sewer utility improvements generally spanning a linear alignment in the City of Oceanside between the San Luis Rey Wastewater Plant and the Pacific Ocean. Katie is currently coordinating with the regulatory agencies and is preparing the regulatory permit applications from the USACE, San Diego RWQCB, and CDFW. Katie is collaborating with Orion Construction and GHD engineering staff to minimize impacts to the aquatic resources and provide adequate detail to the regulatory agencies to obtain the permits. **Katie continues to provide resource agency (USACE, CDFW, RWQCB) permitting guidance, compliance, and coordination for the project.**
- **Ware Malcomb,** *Tepusquet Canyon Notice of Violation Remediation.* Aquatic Resources Specialist and Biologist. Katie conducted an aquatic resources delineation survey and prepared the aquatic resources report for submittal to CDFW with the remediation plan.

Kelly Otto

BIOLOGIST

Kelly Otto has more than four years of experience as a professional biologist in the consulting industry in addition to years of prior field experience. She has experience performing habitat assessments, nesting bird surveys, special status species surveys, wetland delineations, construction monitoring for a variety of projects, and writing various technical documents. Ms. Otto has experience with various threatened and endangered species including blunt-nosed leopard lizard, flat-tail horned lizard, desert tortoise and several listed branchiopod species. Kelly has obtained the experience required to apply for a USFWS Section 10(a)(1)(A) permit to survey for six vernal pool branchiopods and is awaiting permit approval.

Value Statement:

"Kelly specializes biological surveys and construction monitoring and understands the need for strong foundational skills, flexibility, and communication when assessing potential impacts to biological resources for any project."

RELEVANT EXPERIENCE

HomeFed Corporation

- *Otay Ranch Village 10*. Biologist, Western Burrowing Owl Surveys. The project includes development of a single-family residential neighborhood in Chula Vista, California. Assisted with western burrowing owl habitat assessments and potential burrow documentation and wet season vernal pool branchiopod surveys.

City of Vista

- *Monte Mar Storm Drain Improvements Project.* Biologist. Performed a wetland delineation and habitat assessment for the replacement and improvement of a storm drain within the City of Vista in San Diego County, as well as draft the accompanying Aquatic Resources Delineation Report (ARDR). Assisted with aquatic permitting for United States Army Corp, Regional Water Quality Control Board, and California Department of Fish and Wildlife.
- *Tideline Kensho Residential Project*. Biologist. Conducted a wetland delineation for a new residential development that would result in the construction of 183 dwelling units, including three three-story buildings and one four-story building with covered parking included in three of the four buildings.

Terra-Gen LLC

- Bishop Battery Energy Storage System Project. Performed a habitat assessment and wrote an accompanying Biological Technical Memo for the installation of a battery energy storage system that would connect to the Pacific Gas & Electric Company (PG&E) future 500-kilovolt Manning Substation.

22nd District Agricultural Association/Del Mar Fairgrounds

- On-Call Consultant Services. Assisted with breeding season avian use surveys for the installation of a net at the Del Mar Golf Center Driving Range in Del Mar, CA.

City of Palm Springs

- *Indian Canyon Drive Widening and UPRR Bridge Replacement Project*. Biologist. Conduct construction monitoring and perform surveys for Coachella Valley Fringe-toed lizard, and species re-locations as needed during construction in Palm Springs, CA.

EDUCATION

BS, Biological Sciences, Colorado Mesa University, Grand Junction, CO, 2015.

CERTIFICATION

Level II Blunt-nosed leopard lizard surveyor, 2022

Wetland Delineation Certification, Richard Chinn Environmental Training Inc., 2021

Introduction to Desert Tortoises & Field Techniques Certification, Desert Tortoise Council, 2020

TRAINING

Vernal Pool Branchiopod, Western Section of the Wildlife Society, Workshop 2024

Botany for Wildlifers Workshop, Western Section of the Wildlife Society, 2022

AFFILIATIONS

Member, California Native Plant Society

Member, Western Section of the Wildlife Society

PUBLICATIONS

Otto, K. L., & Hampton, P. M. (2018). Advertisement call of the glass frogs Centrolene bacatum and Centrolene buckleyi (Anura: Centrolenidae) from the Napo region of Ecuador. *Herpetological Review*, 49(4), 658-659. 2018.

Hampton, P. M., & Otto, K. L. (2014). Notes on the reproductive biology of the glass frog Centrolene bacatum (Anura: Centrolenidae). *Phyllomedusa*: Journal of Herpetology, 13(2), 137-140. 2014.

County of San Diego Department of Public Works

- *South Santa Fe Avenue Realignment Project.* Biologist. Performed aquatic resources delineation and habitat assessment for the realignment and widening of a portion of South Santa Fe Avenue in an unincorporated portion of the County. Additionally, wrote the accompanying Aquatic Resources Delineation Report and the Biological Resources Letter Report.

- *Etcheverry Street Improvements Project.* Biologist. Drafted the Biological Resources Technical Report for the widening and replacement of a 2,007 linear foot asphalt street in the community of Ramona, CA.

- *Live Oak Springs Water System Improvements Project*. Biologist. Performed biological monitoring for a potable water distribution system upgrades and improvements project. The goals of the project are to bring the existing water system up to the State Water Resources Control Board's current standards and to upgrade the system to provide a reliable source of water for the community. Project components include construction of a new well, upgrade and replacement of existing water system components, installation of a backup generator for the water system, and an increase in water distribution capacity by 25 percent.

County of San Diego Department of Parks and Recreation

- *San Diego River Conservancy Fuel Modification Grant.* Biologist. Performed routine nesting bird surveys prior to vegetation clearing as part of a fuel modifications project conducted within county parks throughout San Diego County for fire prevention.
- *Kumeyaay County Park.* Biologist. Assisted with protocol least Bell's vireo surveys and drafting the Biological Resources Letter Report for the restoration of Kumeyaay County Park in an unincorporated portion of Lakeside, CA.

City of San Marcos, *On-Call Consultant Services*. Biologist. Provides biological resources technical advisory services for the City and third-party review of biological resources technical reports for consistency with the City's General Plan and biological resources guidelines.

City of San Diego

- *Campus Point Drive Storm Drain Replacement Project.* Biologist. Performed aquatic resources delineation and habitat assessment for the replacement of a broken storm drain.
- *Midway Rising Project.* Biologist. Drafted a Biological Constraints Analysis Report and performed an evening bat emergence survey with bat specialist Drew Stokes (San Diego Natural History Museum) for the re-development of the Pechanga Arena with a mix of uses including entertainment, residential, recreational, public, and park uses.

City of Oceanside

Oceanside Sewer Improvements Project. Biologist. Assisted with aquatic permitting for United States Army Corp, Regional Water Quality Control Board, and California Department of Fish and Wildlife

City of Santee

- *Warmington Santee Residential Project.* Biologist. Drafted a Biological Resources Letter Report for the development of a 5.02-acre lot with a 50-unit multi-family residential community consisting of 10 buildings in Santee, CA.

Southern California Gas Company

- *Line 85 Lake Station to Grapevine Replacement Project.* Lead Biologist. Lead field efforts for habitat assessment and wetland delineation surveys in addition to drafting the respective Biological Technical Resources Report (BTR) and Jurisdictional Delineation (JD) reports based on fielding efforts for the replacement and removal of an approximately 46-mile-long section of natural gas transmission pipeline in Kern County, California.

- *Line 235W P1 Remediation Digs Project*. Biologist. Performed a Jurisdictional Delineation (JD) assessment for the repair and replacement of an approximately 35-mile-long segment of the existing Line 235 30-inch natural gas pipeline between Victorville and Newberry Springs, CA.
- *Line 85 Elk Hills Road to Lake Station Replacement Project*. Biologist. Performed protocol-level blunt-nosed leopard lizard surveys as a Level 1 surveyor until attained qualifications as a Level 2 surveyor for the replacement of an approximately 10-mile-long section of an existing natural gas transmission pipeline in Kern County, California

San Diego Gas & Electric Company

- *Sunrise Powerlink*. Biologist. Conducted nesting bird surveys for an existing approximately 117-mile-long, 500/230 kilovolt transmission line in San Diego County. Surveys determined active raptor nests within 500 feet of Project work areas, and active non-listed, Migratory Bird Treaty Act and California Division of Wildlife-protected bird nests within 100 feet of Project work areas throughout San Diego County.
- *Line 1600 Pipeline Safety Enhancement Plan Project*. Biologist. Conducted pre-construction surveys, wetland delineations, aquatic/vernal pool monitoring, habitat assessments, vegetation mapping and assessments, nesting bird surveys, and assisted with focused surveys for special-status bats (including Townsend's big-eared bat) and rare plants for an existing 50-mile-long natural gas pipeline in San Diego County, California. The project involves replacing approximately 37 miles of 16-inch natural gas pipeline and hydrostatically testing approximately 13 miles.
- *Strategic Undergrounding Project*. Biologist and Lead Environmental Inspector. Lead construction monitoring efforts and performed nesting bird surveys and pre-construction habitat and aquatic assessments including writing Pre-activity Survey Reports (PSRs) for the undergrounding of approximately 170 miles per year of overhead powerlines with the goal of fire prevention and mitigation within eastern San Diego County, California
- ***Del** Mar Reconfiguration Project*. Biologist; Environmental Inspector, and California Public Utilities Commission (CPUC) approved project Avian Biologist. Assisted focused surveys for special-status bats and nesting bird surveys and conducted construction/aquatic monitoring for the reconfiguration of an existing 69 kilovolt power line, removal of an existing 69 kilovolt power line, and conversion of portions of existing 12 kilovolt distribution lines from an overhead to underground configuration in San Diego County, California.
- *Fire Risk Mitigation Initiative Circuit 212 Reconductoring Project*. Biologist. Performed job walks with Project engineers as well as conducted pre-construction surveys (and drafted Pre-activity survey reports/mitigation) for a nine-section wood-to-steel circuit reconductoring project in the community of Warner Springs within northeast San Diego County, California.
- *On-Call Environmental Compliance*. Biologist and Environmental Inspector. Project biologist for biological and environmental compliance monitoring on an on-call basis for various projects in San Diego County for Insignia Environmental. Performed nesting bird surveys prior to and during construction for all Migratory Bird Treaty Act protected species. Performed aquatic and vernal pool monitoring and vernal pool flagging. Conducted, analyzed, and prepared pre-construction/post-construction habitat impact reports in accordance with project mitigation requirements for overhead and underground utility projects, including gas line maintenance, transmission and distribution pole replacements, and service extensions.
- *Cleveland National Forest Power Line Replacement Projects*. Biologist and Environmental Coordinator. Coordinated fieldwork efforts with staff and assisted with surveys for the wood-to-steel conversion, line relocation, undergrounding, and reconductoring of approximately 150 miles of five 69 kilovolt transmission and six 12 kilovolt distribution lines within and around the Cleveland National Forest. Assisted with focused surveys for special-status bats (including Townsend's big-eared bat), golden eagles, and arroyo toad, as well as conducted and authored pre-construction and post-construction surveys and reports (including mitigation).
- *Tie Line 685 Warners to Santa Ysabel Fiber Optic Project.* Biologist. Performed nesting bird surveys and construction monitoring for an 11-mile fiber optic installation project in the community of Santa Ysabel within northeastern San Diego County, California.

Pacific Gas & Electric

- *Gas Transmission Linear and Point Programs Support*. Biologist. Conducted habitat assessments to determine presence/absence of desert tortoise and Mohave ground squirrel for Insignia Environmental's on-call contract land planning and resource evaluation support to execute inspection, repair, replacement, and retirement projects for gas transmission lines and point facilities in the northern and Central Valley/desert regions. Provided recommendations for focused surveys by approved biologists prior to and during construction.

- California Public Utilities Tier 2/3 Facilities Access Mapping Project. GIS mapping assistant. Analyzed LiDAR data for all Pacific Gas and Electric Company electric distribution facilities on lands within areas designated as Very High or Extreme fire danger by the California Public Utilities Commission. Used ArcMap Pro to identify, map, and provide historical access road data over classified Tier 2/3 regions within California to each Pacific Gas and Electric Company electric facility located within region boundaries.

Liberty Utilities

- *650 Line Rebuild Project*. Biologist. Conducted biological surveys—including protocol-level noxious weed surveys, nesting bird surveys, small mammal burrowing surveys, amphibian surveys and pre-construction bat surveys—in support of the reconstruction of a 0.6-mile section of the 650 Line in the Tahoe National Forest and adjacent areas in Placer County.

North Dakota State Central Grasslands Research Extension Center

- *Vegetation Survey.* Vegetation survey technician. Conducted vegetation survey on grassland species in Streeter, ND to assist in determining grazing/fire effects on plant communities. Surveys included vegetation clippings (separating out forbs and grasses) and identifying plants in frames to species level.

American Conservation Experience

- *Flat-Tail Horned Lizard Demography Surveys.* Demography survey intern. Conducted demography surveys for the flat-tail horned lizard in the Colorado Desert. Lizards were sexed, weighed, measured, and Passive Integrated Transponder (PIT) tagged.

Laura Quinn Wild Bird Sanctuary

- *Wild Bird Rehabilitation.* Sanctuary intern. Assisted with husbandry and rehabilitation of a variety of raptors, passerines, and shorebirds in Tavernier Florida.

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Appendix C. Photographic Log

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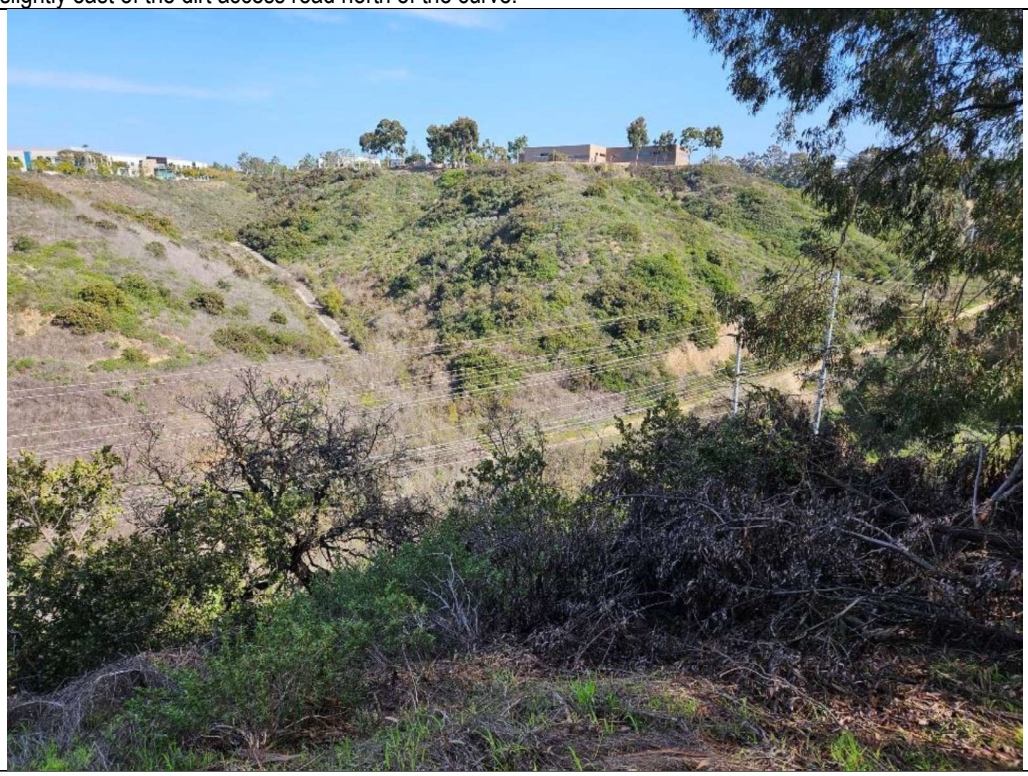
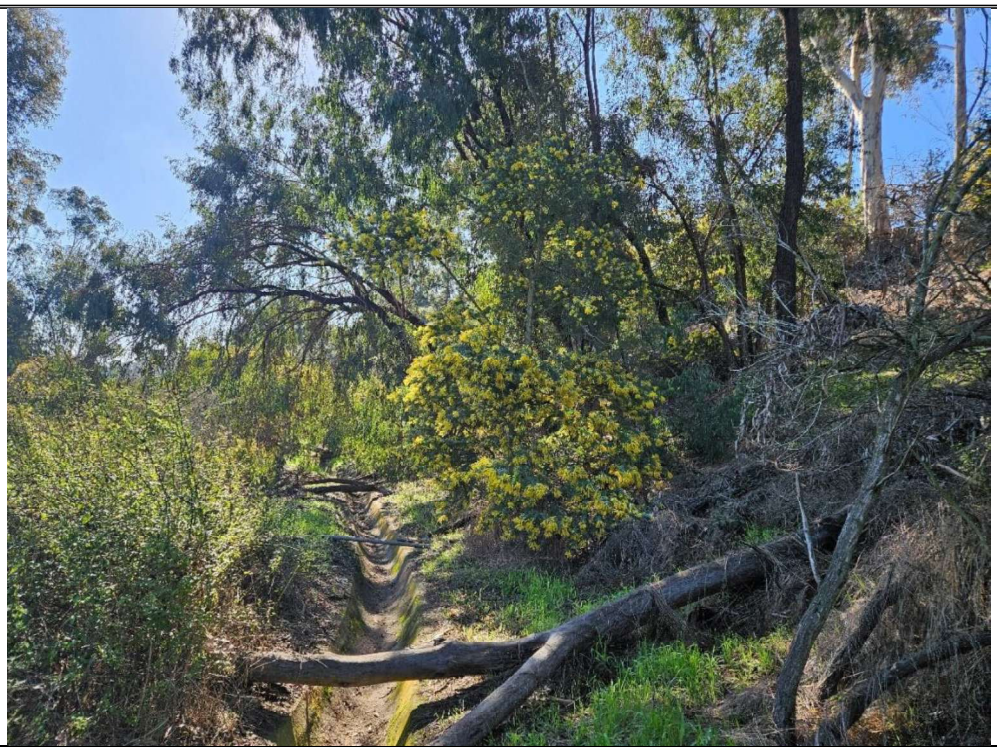
Photograph 1: North-west facing view of the dirt access road in the eastern portion of the project site. In the background, Diegan coastal sage scrub, eucalyptus woodland, and southern arroyo willow riparian habitats are visible. The project site lies west and slightly east of the dirt access road north of the curve.



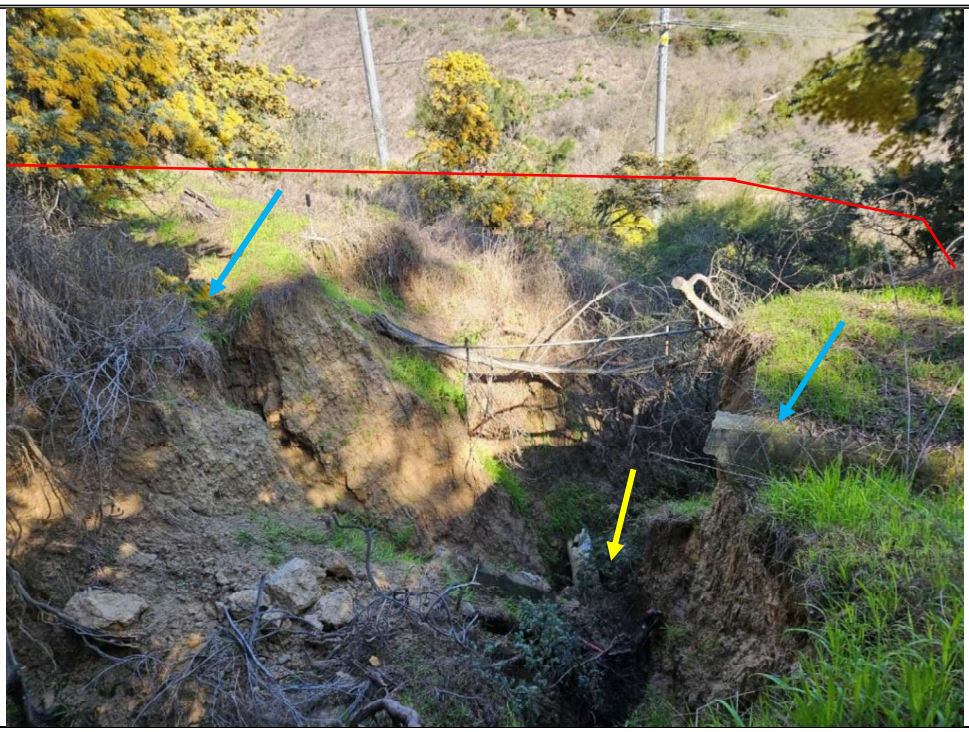
Photograph 2: View facing east of from the western edge of the survey area within the eucalyptus woodland. The hillslope shown in the background consists of Diegan coastal sage scrub.



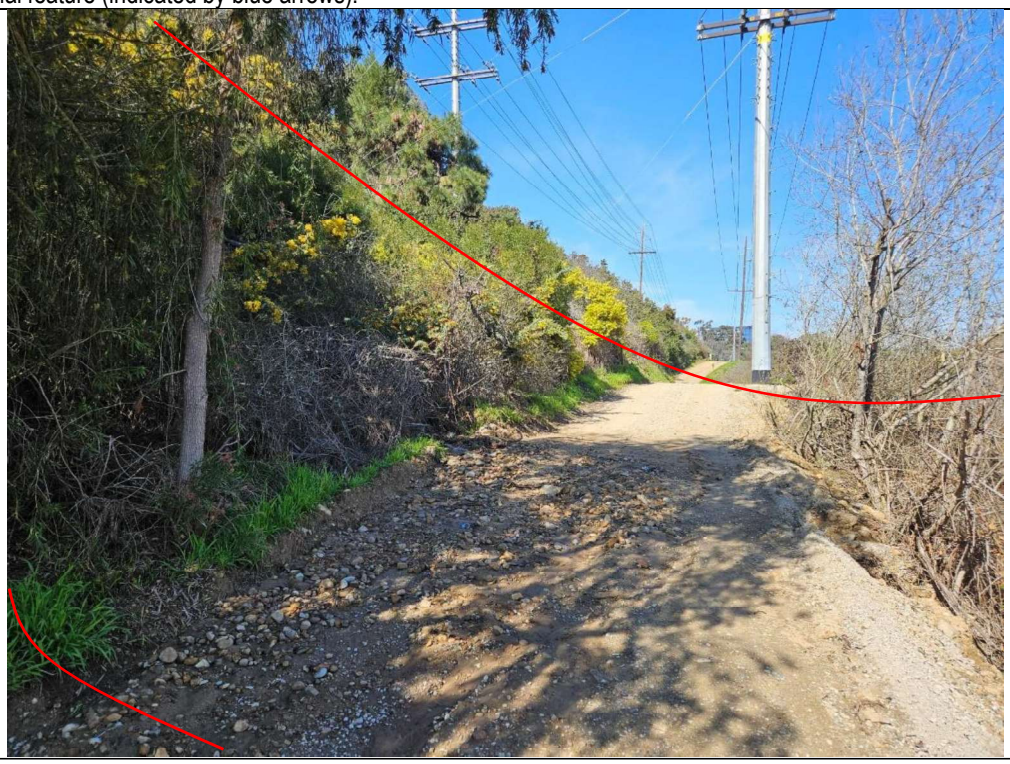
Photograph 3: South-facing view of a concrete-lined drainage channel west and upslope of the project entirely within euclayptus woodland.



Photograph 4: West-facing view of an incised erosional channel created from the broken storm drain pipe and resulting severe erosion within the eucalyptus woodland in the project site.



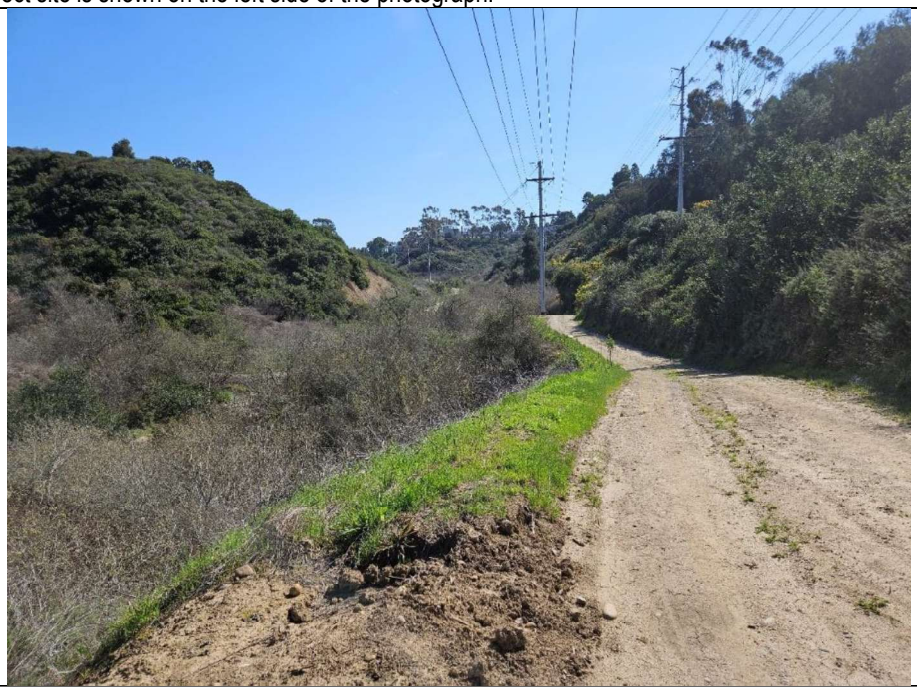
Photograph 5: East-facing view of the incised erosional channel shown in Photograph 4, taken within the project site (depicted by red lines). Part of the storm drain pipe that will be replaced is shown broken (indicated by a yellow arrow) and the portions of broken concrete-lined drainage channels that used to transport flows into this pipe are shown north and south of the erosional feature (indicated by blue arrows).



Photograph 6: North-facing view of the project site (red lines depict the northern and southern edges) and eucalyptus woodland to the west and where the site crosses over an existing unpaved access road and into southern arroyo willow riparian forest to the east, which surrounds a non-vegetated channel to the east of the project site. Diegan coastal sage scrub is shown farther north along the west side of the access road.



Photograph 7: South-facing view of the project site (indicated by red lines) where it extends through eucalyptus woodland, over the unpaved access road, and into the southern arroyo willow riparian forest. An erosional channel (indicated by a blue line) has formed to the west of the access road due to the severe erosion shown in Photographs 4 and 5 and continues until it becomes undefined where it crosses the unpaved access road. The southern arroyo willow riparian forest on the eastern edge of the project site is shown on the left side of the photograph.



Photograph 8: South-facing view of the survey area looking south toward the eastern edge of the project site. The western dirt access road is visible on the right side of the photograph, while the southern arroyo willow riparian forest and Diegan coastal sage scrub are to the east and west, respectively. The storm drain that requires replacement extends from the top of the slope in the west, down the slope and east to the western edge of the dirt access road.



Photograph 9: West-facing view of the dense southern arroyo willow riparian forest surrounding a non-vegetated channel in the eastern portion of the survey area, outside the project site. The surrounding hillslopes appear to flow into this channel.



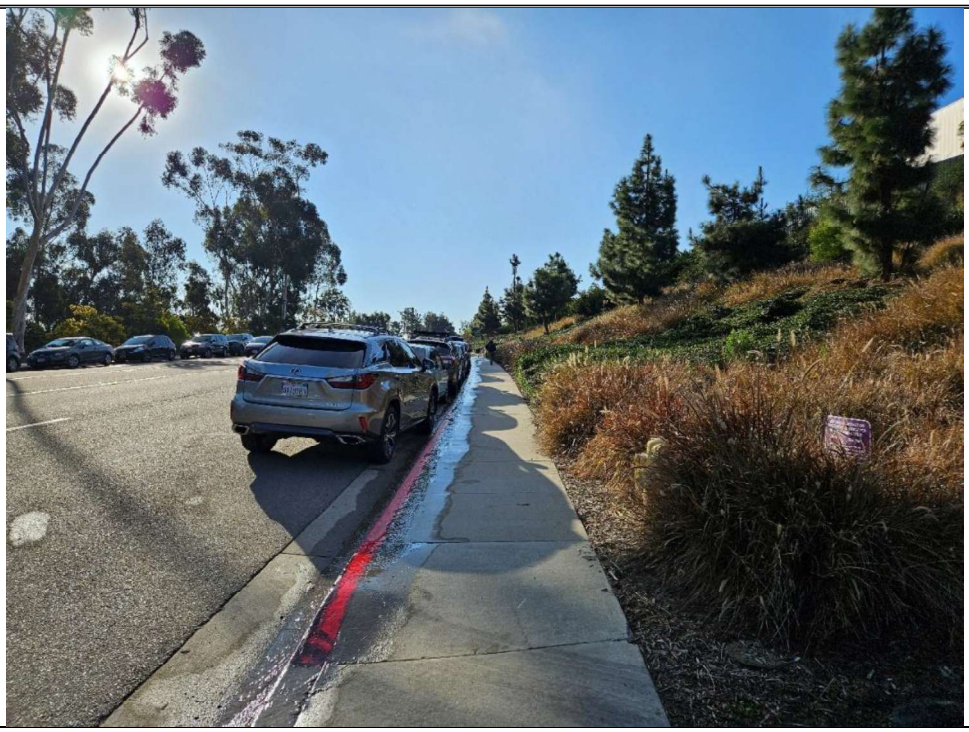
Photograph 10: North facing view of the emergent wetland that occurs beneath the top of bank of a non-vegetated channel located in the northeastern portion of the survey area, outside the project site. The emergent wetland is surrounded by southern arroyo willow riparian forest.



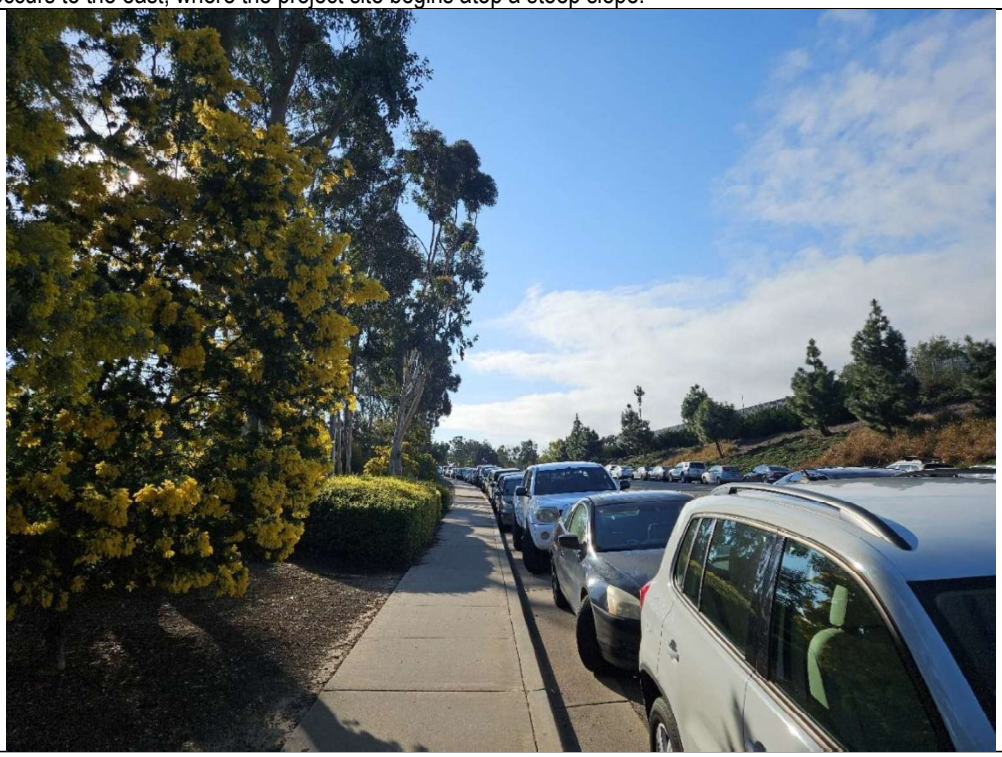
Photograph 11: North-facing view of disturbed habitat that occurs in the northeastern-most portion of the survey area, outside the project site. A non-vegetated channel surrounded by southern arroyo willow riparian forest occurs downslope to the west.



Photograph 12: East-facing view of the survey area, taken within eucalyptus woodland at the top of the slope in the northwestern half of the survey area, directly across from the disturbed hillside shown in Photograph 11.



Photograph 13: Southeast-facing view of the western-most portion of the survey area, which is developed. Eucalyptus woodland occurs to the east, where the project site begins atop a steep slope.



Photograph 14: Southeast-facing view of the western-most portion of the survey area, which is developed. Eucalyptus woodland occurs to the east, where the project site begins atop a steep slope.

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Appendix D. Plant and Wildlife Species Observed

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Plant Species Observations

	Scientific Name	Common Name	Special Status
	EUDICOTS		
	Apocynaceae - Dogbane family		
*	*Carissa macrocarpa*	Natal plum	
	GYMNOSPERMS		
	Cupressaceae - Cypress family		
	Juniperus sp.	Juniper	
	Pinaceae - Pine family		
	Pinus jeffreyi	Jeffrey pine	
*	*Pinus sp.*	Pine	
	EUDICOTS		
	Aizoaceae - Fig-marigold family		
*	*Carpobrotus edulis*	Highway iceplant	
	Anacardiaceae - Sumac Or Cashe		
	Malosma laurina	Laurel sumac	
	Rhus integrifolia	Lemonade berry	
	Rhus ovata	Sugar bush	
	Toxicodendron diversilobum	Western poison oak	
	Apiaceae - Carrot family		
*	*Conium maculatum*	Poison hemlock	
*	*Foeniculum vulgare*	Fennel	
	Asteraceae - Sunflower family		
	Ambrosia psilostachya	Western ragweed	
	Artemisia californica	California sagebrush	
	Artemisia palmeri	San Diego sagewort	CRPR 4.2
	Baccharis pilularis ssp. pilularis	Coyote brush	
*	*Carduus pycnocephalus ssp. pycnocephalus*	Italian thistle	
*	*Centaurea melitensis*	Tocalote	
	Encelia californica	California encelia	
*	*Erigeron bonariensis*	Flax-leaved horseweed	
	Eriophyllum confertiflorum	Golden woolly sunflower	
*	*Glebionis coronaria*	Garland daisy	
*	*Helminthotheca echioides*	Bristly ox-tongue	
	Heterotheca grandiflora	Telegraph weed	
	Isocoma menziesii	Coastal goldenbush	

	Scientific Name	Common Name	Special Status
*	*Matricaria discoidea*	Pineapple weed	
*	*Sonchus asper ssp. asper*	Prickly sow thistle	
	Bignoniaceae - Bignonia family		
*	*Jacaranda mimosifolia*	Blue jacaranda	
	Brassicaceae - Mustard family		
*	*Brassica nigra*	Black mustard	
*	*Sisymbrium irio*	London rocket	
	Cactaceae - Cactus family		
	Cylindropuntia prolifera	Coast cholla	
	Chenopodiaceae - Goosefoot fami		
*	*Salsola sp.*	Russian thistle	
	Cucurbitaceae - Gourd family		
	Cucurbita palmata	Coyote melon	
	Marah macrocarpa	Large fruit wild cucumber	
	Euphorbiaceae - Spurge family		
*	*Euphorbia maculata*	Spotted spurge	
*	*Ricinus communis*	Castorbean	
	Fabaceae - Legume family		
*	*Acacia baileyana*	Cootamundra wattle	
*	*Acacia longifolia*	Sydney golden wattle	
	Acmispon glaber	Deerweed	
	Fagaceae - Oak family		
	Quercus agrifolia	Coast live oak	
	Geraniaceae - Geranium family		
*	*Erodium moschatum*	Whitestem filaree	
	Geranium carolinianum	Carolina geranium	
	Lamiaceae - Mint family		
	Salvia mellifera	Black sage	
	Malvaceae - Mallow family		
	Malacothamnus fasciculatus	Chaparral bush-mallow	
*	*Malva parviflora*	Cheeseweed	
	Myrsinaceae - Myrsine family		
*	*Anagallis arvensis*	Scarlet pimpernel	
	Myrtaceae - Myrtle family		
*	*Eucalyptus camaldulensis*	Red gum	
*	*Eucalyptus sideroxylon*	Red River gum	

	Scientific Name	Common Name	Special Status
	Oxalidaceae - Oxalis family		
*	*Oxalis pes-caprae*	Bermuda buttercup	
	Phrymaceae - Lopseed family		
	Mimulus sp.	Monkeyflower	
	Plumbaginaceae - Leadwort famil		
*	*Plumbago auriculata*	Cape leadwort	
	Polygonaceae - Buckwheat family		
	Eriogonum fasciculatum	California buckwheat	
*	*Rumex crispus*	Curly dock	
	Rosaceae - Rose family		
	Heteromeles arbutifolia	Toyon	
	Prunus ilicifolia	Holly leaf cherry	
*	*Pyracantha coccinea*	Scarlet firethorn	
	Pyracantha sp.	Firethorn	
	Rubus ursinus	California blackberry	
	Rubiaceae - Madder family		
	Galium nuttallii	Nuttall's bedstraw	
	Salicaceae - Willow family		
	Salix laevigata	Red willow	
	Salix lasiolepis	Arroyo willow	
	Scrophulariaceae - Figwort family		
	Scrophularia californica	California figwort	
	Solanaceae - Nightshade family		
*	*Nicotiana glauca*	Tree tobacco	
	MONOCOTS		
	Asparagaceae - Asparagus family		
*	*Asparagus asparagoides*	African asparagus fern	
	Poaceae - Grass family		
*	*Agrostis stolonifera*	Creeping bent grass	
*	*Arundo donax*	Giant reed	
*	*Avena barbata*	Slender wild oat	
*	*Bromus diandrus*	Ripgut brome	
*	*Bromus madritensis ssp. rubens*	Red brome	
*	*Cortaderia selloana*	Pampas grass	
	Elymus condensatus	Giant wildrye	
*	*Hordeum murinum*	Wall barley	

	Scientific Name	Common Name	Special Status
*	*Pennisetum setaceum*	African fountain grass	
*	*Stipa miliacea var. miliacea*	Smilo grass	
	Typhaceae - Cattail family		
	Typha sp.	Cattail	

Legend

*= Non-native or invasive species

Special Status:

Federal:
FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened

CRPR – California Rare Plant Rank
1A. Presumed extinct in California and elsewhere
1B. Rare or Endangered in California and elsewhere
2A. Presumed extinct in California, more common elsewhere
2B. Rare or Endangered in California, more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list

Threat Ranks
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Table X. Wildlife Species Detected

Scientific Name	Common Name	Special Status
INVERTEBRATES		
Moths, Skippers and Butterflies		
**Pieris rapae rapae*	Cabbage White	
Nymphalis antiopa	Mourning Cloak	
Vanessa annabella	West Coast Lady	
VERTEBRATES		
Amphibians		
Pseudacris hypochondriaca	Baja California Treefrog	
Birds		
Accipiter cooperii	Cooper's Hawk	
Buteo jamaicensis	Red-tailed Hawk	
Zenaida macroura	Mourning Dove	
Calypte anna	Anna's Hummingbird	
Picoides nuttallii	Nuttall's Woodpecker	
Sayornis saya	Say's Phoebe	
Aphelocoma californica	California Scrub-Jay	
Corvus brachyrhynchos	American Crow	
Corvus corax	Common Raven	
Psaltriparus minimus	Bushtit	
Thryomanes bewickii	Bewick's Wren	
Chamaea fasciata	Wrentit	
Toxostoma redivivum	California Thrasher	
Mimus polyglottos	Northern Mockingbird	
Setophaga petechia	Yellow Warbler	SSC
Setophaga coronata	Yellow-rumped Warbler	
Pipilo maculatus	Spotted Towhee	
Melozone crissalis	California Towhee	
Melospiza melodia	Song Sparrow	
Haemorhous mexicanus	House Finch	
Carduelis psaltria	Lesser Goldfinch	
Mammals		
Spermophilus beecheyi	California Ground Squirrel	
Thomomys bottae	Botta's Pocket Gopher	

Scientific Name	Common Name	Special Status
Peromyscus californicus	California Mouse	

Legend

*= Non-native or invasive species

Special Status:

Federal:
FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened
CSC = California Species of Special Concern
CFP = California Fully Protected Species

Appendix E. Aquatic Resources Delineation Report

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Aquatic Resources Delineation Report

Campus Point Drive
Storm Drain Replacement Project

March 2026

Prepared for:

The City of SAN DIEGO

Owner: City of San Diego
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Acronyms and Abbreviations

°F	degrees Fahrenheit
CDFW	California Department of Fish and Wildlife
City	City of San Diego
CWA	Clean Water Act
GPS	Global Positioning System
I-	Interstate
NHD	National Hydrology Dataset
NRCS	Natural Resources Conservation Service
NW	non-wetland sampling point
NWI	National Wetlands Inventory
NWW	non-wetland water
OHWM	ordinary high water mark
OTH-	other feature
project	Campus Point Drive Storm Drain Replacement Project
RWQCB	Regional Water Quality Control Board
SDAM	Streamflow Duration Assessment Method
TNW	traditional navigable water
TOB	top of bank
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
W	wetland sampling point

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Section A Site Description, Landscape Setting

A.1 Project Overview

The City of San Diego (City) Engineering & Capital Projects Department (project applicant) is proposing the Campus Point Drive Storm Drain Replacement Project (project) in the University City neighborhood of San Diego, California. This Aquatic Resources Delineation Report documents the aquatic resources that occur on the project site and within a 300-foot survey buffer (together referred to as the survey area).

A.1.1 Project Location

The project site is in the University City neighborhood of San Diego in the City of San Diego's University Community Plan Area, which is generally bordered by La Jolla to the west, State Route 52 to the south, and Interstate (I-) 805 to the east (Attachment A, Figures; Figure 1, Regional Location). The project site is linear, beginning on the western edge of Campus Point Drive and extending northeast and down a steep canyon slope of a canyon composed of native and non-native vegetation and ending at the bottom through which dirt access roads traverse (Figure 2, Project Location). The project site is immediately surrounded on the northern, eastern, and southern sides by an undeveloped, steep-slope canyon and bordered on the western side by dense commercial development (Figure 2 and Figure 3, USGS Topographic Map).

Most of the survey area includes the undeveloped, steep-sided western slope of a canyon through which the project occurs (Figure 2). Commercial development occurs on the mesa tops of the steep-slope canyon surrounding most of the survey area.

A.1.2 Project Purpose

The primary purpose of the project is to address severe erosion that has occurred from the failure of an existing storm drain by replacing the storm drain and repairing the surrounding eroded areas.

A.1.3 Project Description

The project includes the installation of approximately 302 linear feet of 24-inch-diameter reinforced concrete pipe storm drain, including associated cut-off walls for steep terrain installations, one concrete energy dissipator, slope repair, and revegetation. One cleanout would be installed behind the concrete energy dissipator to accommodate change in pipe vertical alignment. Small sections of existing damaged reinforced concrete brow ditches in the slope would be removed and replaced. Additionally, new catch basins would be installed to intercept stormwater runoff coming down the hill and direct it into the new 24-inch storm drain pipe.

A.2 Project Site Access

The western end of the project site is on Campus Point Drive immediately north of the intersection at Genesee Avenue and east of I-5 (Figures 2 and 3). The project site is accessible from I-5 North by exiting onto Genesee Avenue (Exit 29), turning right (east) onto Genesee Avenue, and turning left (north) on Campus Point Drive or to the east via an existing dirt access road located off Eastgate Mall. The geographic coordinates for the western and eastern limits of the project site are approximately 32.884008, −117.220035 and 32.884431, −117.219011, respectively (Attachment B, Statement of Access). For access to the project site, please contact Meghan Bowen (City of San Diego) prior to entering the property.

Section B Site Alteration, Current, and Past Land Use

The project site is primarily on the western slope of a canyon in the University City neighborhood of San Diego (Figure 3). The canyon slope that makes up most of the project site contains native and non-native vegetation communities and land cover types and, other than the Campus Point Drive roadway, is largely undeveloped due to the steepness of the slope (Figures 2 and 3). Evidence of encampments of those experiencing homelessness, trash, and debris were observed at various locations along the slope. The urban areas in the western portion of the survey area include the Campus Point Drive roadway and parts of a corporate office campus, Nissan Design America, which is further surrounded by medical campuses, industrial buildings, residential areas, a Jewish Community Recreation Center, and a high school. There is evidence that the urban development immediately to the west of the project site and on the tops of the mesas to the east, including the construction and maintenance of the flood control infrastructure, has both disturbed and altered the natural flows through the project site and in the surrounding area. These alterations include diverting and directing stormwater flows into concrete drainage channels in the bottom and along the slopes of the canyon that makes up most of the survey area. Historical imagery from 1953 to 2020 suggests that development in the area began to occur between 1953 and 1964 and that the aquatic feature that traverses the east-central portion of the survey area may have had direct aboveground connectivity to Los Peñasquitos Creek prior to the development of I-5 around 1966 (Historic Aerials 2026).

B.1 Topography and Soils

The project site is on the western slope of a steep canyon extending from southwest to northeast (Figures 2 and 3). The project site is within a steep-slope canyon, development is on the mesa tops to the west and east, and the valley floor is at the eastern end of the project site extending from northwest to southeast. The on-site elevation ranges from approximately 200 to 360 feet above mean sea level. The topographic lines on Figure 3 represent the steep slope that occurs on the project site.

The survey area is underlain by three soil type: Altamont clay (30 to 50 percent slopes), Chesterton fine sandy loam (2 to 5 percent slopes), and terrace escarpments (steep slopes > 15 percent) (Figure 4, Soils; USDA 2019).

Altamont clay (30 to 50 percent slopes) represents only a small portion of the northern part of the survey area and occurs only in the survey buffer. This soil type is typically found on uplands, hillslopes, or mountain slopes and is formed by material weathered from fine-grained sandstone and shale. Altamont clay (30 to 50 percent slopes) is primarily clay soil that has intersecting slickensides and has cracks more than 1 centimeter wide to a depth of 20 inches or more that open and close once each year in April/May and November/December, respectively. When the cracks are closed, these soils have low permeability, but when open, they are well drained.

Altamont clay (30 to 50 percent slopes) is not classified as a hydric (wetland) soil or has the potential to contain hydric inclusions (USDA 2019).

Chesterton fine sandy loam (2 to 5 percent slopes) occurs in the southwestern corner of the survey area and only in the survey buffer. These soils are typically found on gently to moderately sloping hillslopes. Chesterton fine sandy loam (2 to 5 percent slopes) consists of moderately well-drained fine loamy soils that formed in material weathered from ferruginous sandstone. Chesterton fine sandy loam (2 to 5 percent slopes) is not classified as hydric (wetland) soil or has the potential to contain hydric inclusions (USDA 2019).

Terrace escarpments (steep slopes > 15 percent) form the majority of the survey area, including the entire project site, and are steep or very steep landscapes, typically with 4 to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, or gravelly sediments. Terrace escarpments are not classified as hydric (wetland) soils or have the potential to contain hydric inclusions (USDA 2019).

B.2 Hydrology

The survey area is in the Los Peñasquitos Watershed (Hydrologic Unit 906) (Project Clean Water 2026). The Los Peñasquitos Watershed encompasses 94 square miles, making it the second smallest watershed management area in San Diego County. It lies in the central portion of the San Diego County and neighbors the San Dieguito River Watershed to the north and the Mission Bay/La Jolla and San Diego River Water Management Areas to the south.

The National Wetlands Inventory (NWI) and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) results identify one mapped aquatic feature running from south to north along the east-central portion of the survey area, in the survey buffer outside the project site (Figure 5, Hydrology) (USFWS 2026; USGS 2026). The NWI results identify this aquatic feature as a freshwater forested/shrub wetland and the NHD results classify it as a riverine stream. The feature shown in the NWI and NHD database queries was observed in the survey buffer during the aquatic resources delineation survey. The riverine feature identified in the survey area has a documented hydrologic connection to the nearest traditional navigable water (TNW), Los Peñasquitos Lagoon, via its tributary, Los Peñasquitos Creek (USACE 2026a). Historical and current aerial imagery show what may have been the natural course of the aquatic feature observed in the survey buffer since as far back as 1953, prior to development of the surrounding area (Historic Aerials 2026). Alteration of the aquatic feature likely occurred between 1953 and 1964 when the dirt access roads were graded in the bottom of the canyon where the eastern end of the project site occurs. The aquatic feature may have had continuous aboveground connectivity to Los Peñasquitos Creek prior to the development of I-5 around 1961.

Two additional features that were not identified in the NWI and NHD databases query but observed during the survey include one erosional channel on the project site and one earthen channel with an in-

feature wetland in the survey buffer, outside the project site. These two aquatic resources observed in the survey area likely have a downstream connection to Los Peñasquitos Creek and Los Peñasquitos Lagoon through the documented riverine feature (discussed in the previous paragraph) and underground municipal stormwater facilities northwest of the survey area. The aquatic resources that occur in the survey area are discussed in Section E, Aquatic Resources Descriptions.

Several other aquatic features identified in both the NWI and NHD surround the survey area on all sides, including freshwater emergent wetlands, riverine, and freshwater forested/shrub wetlands to the north, east, south, and west; two freshwater ponds to the north and east; and an estuarine and marine wetland to the west. Most of these features appear to be hydrologically connected to the documented riverine feature that occurs in the survey area.

The aquatic resources and drainage patterns on and adjacent to the project site show evidence of alteration from urban stormwater discharges into the canyon from the urban development at the top of the mesas. This includes historical and recent construction of infrastructure that directs stormwater flows into the canyon, which has caused accelerated erosion and the establishment of erosional aquatic features through the canyon.

B.3 Vegetation Communities and Land Cover Types

Seven vegetation communities and land cover types were observed in the survey area: Diegan coastal sage scrub, disturbed habitat, emergent wetland, eucalyptus woodland, non-vegetated channel, southern arroyo willow riparian forest, and urban/developed land (Figure 6, Vegetation Communities and Land Cover Types) (Oberbauer et al. 2008). Three vegetation communities associated with aquatic resources in the survey area, emergent wetland, non-vegetated channel, and southern arroyo willow riparian forest, are described in the following sections.

B.3.1 Emergent Wetland (52440)

Emergent wetlands are generally persistent wetlands dominated by low-growing, perennial wetland species. These can be found in channels, seeps, and springs; floodplains; margins of lakes and rivers; and various basins, such as pools and ponds, palustrine lakes, montane meadows, and dune swales. Emergent wetlands can be freshwater or alkaline and are often but not always found in previously disturbed areas throughout San Diego County (Oberbauer et al. 2008).

Approximately 0.01 acre of emergent wetland occurs in the survey area, entirely in the survey buffer and outside the project site. Emergent wetland occurs within the degraded concrete lining of non-wetland water (NWW-) 3, beneath the top of bank (TOB), and is dominated by arroyo willow (*Salix lasiolepis*) and pampas grass (*Cortaderia* sp.) (Figure 6 and Figure 7, Aquatic Resources).

B.3.2 Non-Vegetated Channel (64200)

Non-vegetated channel consists of predominantly sandy, gravelly, or rocky channels lacking or with reduced vegetation. Variable water lines inhibit the growth of vegetation, although some

weedy species of grasses may grow along the outer edges of the channel. Vegetation may exist here, but it is usually less than 10 percent of the total cover (Oberbauer et al. 2008).

Approximately 0.09 acre of non-vegetated channel occurs in the survey area, with approximately 0.03 acre on the project site and the remaining 0.06 acre in the survey buffer outside the project site (Figure 6). The non-vegetated channel in the survey area consists of three earthen-bottom aquatic features, identified as NWW-1 through NWW-3 (Figures 6 and 7).

NWW-1 was formed by severe erosion from the failure of the underground storm drain pipe that extends through the center of the project site. The channel is unvegetated except for sparse upland grass species (*Bromus* sp.) growing along the TOB and does not support wetland dependent vegetation. NWW-1 is not a naturally occurring channel because it formed solely from erosion caused by the failure of underground municipal infrastructure and would not exist otherwise.

NWW-2 is generally unvegetated but is surrounded by southern arroyo willow riparian forest and has approximately 15 percent coverage of willows growing within the feature under and along the sides of the TOB. Similarly, NWW-3 is earthen bottom where the concrete channel lining has degraded. NWW-3 is generally non-vegetated but has an emergent wetland within the feature and is surrounded by southern arroyo willow riparian forest.

Seven concrete drainage channels occur in the survey area, identified as 'other' features (OTH-), and include OTH-1 through OTH-7 (Figure 6). These seven concrete drainage channels were constructed in and drain only uplands, do not exhibit the characteristics of non-vegetated channels or natural stream channels, and are not considered aquatic resources. Therefore, OTH-1 through OTH-7 have been mapped as urban/developed land and are not discussed further in this report.

B.3.3 Southern Arroyo Willow Riparian Forest

Southern arroyo willow riparian forests are winter-deciduous forests dominated by moderately tall broadleaf trees and by arroyo willow. These forests generally have closed canopies with an understory consisting of shrubby willows. This vegetation community is often sub-irrigated and usually occurs along perennial rivers and streams. Characteristic species for this vegetation community include California mugwort (*Artemisia douglasiana*), mule fat (*Baccharis salicifolia*), wild cucumber (*Marah macrocarpus*), willow species (*Salix* sp.), and nettle species (*Urtica* sp.) (Oberbauer et al. 2008).

Approximately 1.54 acres of southern arroyo willow riparian forest occur in the survey area, with approximately 0.06 acre on the project site and the remaining 1.48 acres in the survey buffer outside the project site (Figure 6). Southern arroyo willow riparian forest occurs along NWW-2 and surrounding NWW-3 and is dominated by arroyo willow, poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*) at both locations (Figures 6 and 7).

Section C Precipitation Data and Analysis

C.1 Climate and Growing Season

On a regional level, San Diego County has a Mediterranean climate, which is characterized by wet winters and dry summers. This is largely because of a semi-permanent high-pressure zone that sits over the Pacific Ocean during much of the year and forms a fog belt (marine layer). The project site is generally in the Peninsular Ranges. Generalized climate in the region is dry, subhumid mesothermal, with warm dry summers and cold moist winters, which pushes the growing season to the wet months of the year (late winter to early spring). Annual vegetation often goes dormant (senescent) during the later summer months until initial rainfall starts in the fall. The rainy season typically lasts from late October through April.

The closest Natural Resources Conservation Service (NRCS) weather station to the project site is the San Diego International Airport, approximately 10 miles south of the project site. As of February 2024, when the aquatic resources delineation fieldwork was conducted, total precipitation in the area was 4.58 inches, approximately 2.80 inches more than total precipitation in the area in February 2023 (NRCS 2026). Between 2004 and 2024, the average maximum temperature was 71 degrees Fahrenheit (°F), and the average minimum temperature was 58.5°F. The average annual precipitation during this time period was 9.58 inches. In 2023, the total rainfall was 14.43 inches, approximately 8.53 inches greater than 2022 (NRCS 2026).

C.2 Antecedent Precipitation Tool and NRCS WETS Table Results Summary

A typical rainfall year in the City has historically been expressed by 11 inches of annual precipitation. To calculate if the aquatic resources delineation fell into a wet, dry, or typical rainfall year, the Antecedent Precipitation Tool, Version 2 (USACE 2026b), was used, and the National Integrated Drought Information System was reviewed (NOAA 2026). The Antecedent Precipitation Tool and National Integrated Drought Information System results determined that the aquatic resources delineation was conducted in normal conditions for precipitation in the wet season during non-drought conditions (Attachment C, Antecedent Precipitation Tool and NRCS WETS Table Results). Further, according to National Integrated Drought Information System for San Diego County, 2023 was the ninth wettest year on record in the past 129 years, with the period of January to December 2023 receiving approximately 6.70 inches more precipitation than the average (NOAA 2026).

Attachment C includes the NRCS Wetland Climate Table for 2004–2024 at the San Diego International Airport, California. Average annual precipitation in the area surrounding the project site over the past 20 years was approximately 9.58 inches.

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Section D Methods

D.1 Pre-Field Review

Prior to conducting fieldwork, the following materials were reviewed:

- Topographic maps
- Aerial imagery (Google Earth from 1985–2023) (Google Earth 2026)
- Historical aerial imagery (Historic Aerials 2026)
- U.S. Fish and Wildlife Service NWI Wetlands Mapper maps (USFWS 2026)
- USGS NHD maps (USGS 2026)
- U.S. Department of Agriculture NRCS Web Soil Survey for the project site, which lists hydric soils found in San Diego County (USDA 2019)

D.2 On-Site Aquatic Resources Delineation

The aquatic resources delineation was conducted using the routine on-site determination method described in the U.S. Army Corps of Engineers' (USACE's) Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (USACE 2008). Harris & Associates wetland delineators conducted the aquatic resources delineation fieldwork on February 13 and February 14, 2024, to identify aquatic resources in the survey area. An Arid West Region ordinary high water mark (OHWM) datasheet and a USACE three-parameter wetland determination datasheet for the Arid West Region (wetland determination datasheet) were completed at each sampling point (non-wetland [NW] sampling points or wetland [W] sampling points) for each unique aquatic feature (Attachment D, Arid West Ordinary High Water Mark and Wetland Determination Datasheets).

The review area was surveyed on foot to obtain total coverage. Figures representing the results of the aquatic resources delineation were created in adherence with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program (USACE 2016) and are provided in Appendix A. Figure 7 shows the sampling points associated with the on-site aquatic resources.

Attachment E, Photographic Log, includes representative photographs of the sampling points collected in the aquatic resources observed in the survey area, including NWW-1 (Photograph 1 through 4), NWW-2 (Photographs 5 through 8), and NWW-3 (Photographs 9 through 12). Representative photographs of OTH-1 through OTH-7 (Photographs 13 through 21) are also included in Attachment E.

As detailed in the 1987 Delineation Manual, 2008 Regional Supplement, and the OHWM Guide, the wetland delineators collected and recorded data on vegetation, soil, and hydrological characteristics used as the basis for wetland and OHWM determinations. The wetland delineators

completed OHWM datasheets for each unique segment where channel topography or width varied in some substantial way (Appendix D).

The wetland delineators mapped the aquatic resources as non-tidal non-wetland waters at the OHWM, as defined in Code of Federal Regulations, Title 33, Parts 328.3 and 329.4, and in accordance with RGL 05-05. The OHWM represents the USACE geographical limit of potential regulatory authority of non-wetland waters under the authority of Section 404 of the Clean Water Act (CWA). The wetland delineators identified the OHWM in each channel reach based on field observations of OHWM indicators. This included geomorphic indicators, sediment, vegetation, and other physical indicators.

The wetland delineators collected three-parameter data points (soil, vegetation, and hydrology) where feasible to characterize and document potential wetland features within the review area. Wetland data points were not collected in the erosional feature, NWW-1, due to inaccessibility and safety issues in and around the steep and unstable canyon slope. The wetland determination data forms for the wetland and upland sampling points are provided in Appendix D.

Results of the delineation are presented in Section E.

D.3 Streamflow Duration Assessment

The Streamflow Duration Assessment Method (SDAM) for the Arid West was completed for NWW-1 through NWW-3 in the survey area (USEPA 2023) (Attachment F, SDAM for the Arid West Forms). SDAMs are rapid field assessment methods that use hydrological, geomorphological, and biological indicators, observable in a single site visit, to classify streamflow duration as perennial, intermittent, or ephemeral at the reach scale. The SDAM results for NWW-1 through NWW-3 are presented in Section E.

Section E Aquatic Resources Descriptions

E.1 Non-Wetland and Wetland Waters

NWW-1 through NWW-3 observed in the survey area were determined to be non-wetland waters. NWW-3 was determined to be a non-wetland water with an in-channel emergent wetland (wetland water). The non-wetland and wetland waters observed in the survey area are summarized in Table 1, Aquatic Resources in the Survey Area, and described in the following sections.

Table 1. Aquatic Resources in the Survey Area

Feature	Acres[1]	Linear Feet
Non-Wetland Waters		
NWW-1	0.010	118
NWW-2	0.017	665
NWW-3	0.002	59
Subtotal	*0.029*	*842*
Wetland Waters		
NWW-3 Emergent Wetland (In-Channel)	0.010	23
Subtotal	*0.010*	*23*
Total	**0.039**	**865**

Notes:

[1] Total rounded to one-thousandth of an acre; measurements are based on the OHWM.

The completed OHWM and wetland datasheets for NWW-1 (NW-1-1 and NW-1-2), NWW-2 (NW-2-1 through NW-2-3, W-2-1, and W-2-3), and NWW-3 (NW-3-1, NW-3-2, W-3-1, and W-3-2) are in Attachment D. Representative photographs of the aquatic resources and sampling points taken in the survey area are in Attachment E. The SDAM results for NWW-1 through NWW-3 are in Attachment F. Electronic spatial data of the aquatic resources in the survey area is in Attachment G, Geographic Information Systems Data. The USACE ORM Bulk Upload Aquatic Resources Spreadsheet for the aquatic resources that occur on the project site and would be impacted is in Attachment H, ORM Bulk Upload Aquatic Resources Spreadsheet.

E.1.1 NWW-1

NWW-1 is an approximately 0.010-acre (118-linear-foot) earthen-bottom channel that has formed as a result of severe erosion from a broken storm drain, which resulted in the establishment of an OHWM and TOB. The channel extends downhill and east before the OHWM becomes undefined as it flows over a dirt access road. The OHWM re-establishes briefly on the eastern side of the dirt access road before it becomes undefined again where it drops off a steep slope toward NWW-2 (Figure 7). The SDAM conducted for NWW-1 determined it is an ephemeral feature. The OHWM of NWW-1 was collected using binoculars where possible in certain portions due to unsafe and unfavorable field conditions (severe erosion has made the surrounding land unstable and dense vegetation to the south presents a physical barrier). It is estimated that width of the OHWM of

NWW-1 ranges between approximately 1 and 4.5 feet. The SDAM conducted for NWW-1 determined it is an ephemeral feature (Attachment F). A wetland delineation to determine the presence of in-channel or adjacent wetland features was not performed on the ephemeral, earthen-bottom feature, NWW-1, due to inaccessibility and safety issues.

E.1.1.1 Ordinary High Water Mark Analysis

NWW-1 is an approximately 0.010-acre (118-linear-foot) non-wetland water that occurs in the central portion of the survey area (Table 1; Figure 7). Figure 7 shows where Sampling Points NW-1-1 and NW-1-2 were collected with binoculars in the OHWM of NWW-1. Photographs 1 through 4 provide representative views of the extent of NWW-1 in the survey area. The OHWM indicators investigated at Sampling Points NW-1-1 and NW-1-2 are described below.

Sampling Point NW-1-1: The OHWM is estimated to be approximately 4.5 feet wide and 1 foot deep. The other OHWM indicators observed at Sampling Point NW-1-1 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-1-1, NWW-1 has upland grasses growing in soil along the sides of the channel and upland grasses, and eucalyptus woodland farther outside the channel banks (Photographs 1 and 2). NWW-1 has formed approximately 25 to 30 feet below the elevation of the surrounding land, which is the result of severe erosion. Due to inability to safely access the inside of the channel (because of channel depth, unstable surrounding land, and dense, impassable vegetation to the south), only the soil outside the channel was examined. Soil surrounding the earthen-bottom channel at Sampling Point NW-1-1 is sandy loam.

Sampling Point NW-1-2: The OHWM is approximately 1 foot wide and 0.25 foot deep. The other OHWM indicators observed at Sampling Point NW-1-2 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-1-2, NWW-1 is surrounded by eucalyptus woodland with a dense, impassable shrub understory (Photograph 4). Soil within this portion of the earthen-bottom channel at Sampling Point NW-1-2 is sandy loam.

E.1.2 NWW-2

NWW-2 is an approximately 0.017-acre (665-linear-foot) earthen-bottom channel that flows from south to north across the east-central portion of the survey area and is surrounded by a southern arroyo willow riparian forest corridor. It occurs at the bottom of the steep slope that makes up the majority of the survey area and is briefly directed beneath an unpaved access road through an underground culvert (Figure 7). NWW-2 is defined by an OHWM with a width that ranges between approximately 1 and 4 feet. The SDAM conducted for NWW-2 determined it is an intermittent feature (Attachment F). Ponded water, soil saturation, and hydrophytic plants were observed in NWW-2, which necessitated a wetland delineation to confirm the presence or absence of in-channel or adjacent wetland features. Aquatic resource delineation results are discussed in Section E.1.2.2.

E.1.2.1 Ordinary High Water Mark Analysis

NWW-2 is a non-wetland water that occurs in the east-central portion of the survey area (Table 1; Figure 7). Figure 7 shows where Sampling Points NW-2-1 through NW-2-3 were collected in the OHWM of NWW-2. Photographs 5 through 8 provide representative views of the extent of NWW-2 in the survey area. The OHWM indicators investigated at Sampling Points NW-2-1 through NW-2-3 are described below.

Sampling Point NW-2-1: The OHWM is approximately 1 foot wide and 0.25 foot deep. The other OHWM indicators observed at Sampling Point NW-2-1 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-2-1, NWW-2 is generally unvegetated with dense arroyo willow and poison oak along the sides and on the TOB (Photograph 5). NWW-2 is lower in elevation than the surrounding survey area, and the soil within the channel at Sampling Point NW-2-1 is sandy clay loam.

Sampling Point NW-2-2: The OHWM is approximately 4 feet wide and 0.50 foot deep. The other OHWM indicators observed at Sampling Point NW-2-2 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-2-2, NWW-2 is generally unvegetated with dense arroyo willow and poison oak along the sides and on the TOB (Photographs 5 and 6). NWW-2 is lower in elevation than the surrounding survey area, and the soil within the channel at Sampling Point NW-2-2 is sandy clay loam.

Sampling Point NW-2-3: The OHWM is approximately 1 foot wide and 0.25 foot deep. The other OHWM indicators observed at Sampling Point NW-2-3 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-2-3, NWW-2 is generally unvegetated with dense arroyo willow and poison oak along the sides and on the TOB. NWW-2 is lower in elevation than the surrounding survey area, and the soil within the channel at Sampling Point NW-2-3 is sandy clay loam.

E.1.2.2 Aquatic Resources Delineation Results

As previously discussed, ponded water, soil saturation, and wetland plant species were observed in NWW-2, which necessitated a wetland delineation to confirm presence or absence of in-channel or adjacent wetland features. The completed wetland determination datasheets for Sampling Points W-2-1 and W-2-2 are in Attachment D. Wetland indicators investigated within NWW-2 at Sampling Points W-2-1 and W-2-2 are described below.

Sampling Point W-2-1: Sampling Point W-2-1 was collected directly adjacent to the observed OHWM in the eastern portion of the channel (Figure 7; Photograph 7). The data collected at Sampling Point W-2-1 determined that wetland hydrology was present, but hydric soils and hydrophytic vegetation were not present based on specific factors. One facultative wetland plant species, arroyo willow; one facultative upland species, poison oak; one facultative species, rough cocklebur (*Xanthium*

strumarium); and two non-indicator plant species, coyote bush (*Baccharis pilularis*) and San Diego sagewort (*Artemisia palmeri*), were the dominant plant species at Sampling Point W-2-1. The plant species documented at Sampling Point W-2-1 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-2-1, but it could not be dug below 10 inches due to the presence of a restrictive rock layer at that depth. Soil was saturated, but no hydric soil indicators were observed; therefore, hydric soil was determined not to be present at Sampling Point W-2-1. The presence of one primary hydrologic indicator, soil saturation, in addition to three secondary indicators, water marks, drift deposits, and drainage patterns, were observed at Sampling Point W-2-1, resulting in a determination that wetland hydrology was present. Only hydrology was determined to be present; therefore, NWW-2 is considered a non-wetland water.

Sampling Point W-2-2: Sampling Point W-2-2 was collected above the observed OHWM and TOB of NWW-2 to document the limits of the potential wetland within NWW-2 (Figure 7; Photograph 8). The data collected at Sampling Point W-2-2 determined that wetland hydrology, hydrophytic vegetation, and hydric soils were not present based on specific factors. One facultative wetland plant species, arroyo willow; one facultative upland plant species, poison oak; and two non-indicator species, coyote bush and ripgut brome (*Bromus diandrus*), were the dominant plant species at Sampling Point W-2-2. The plant species documented at Sampling Point W-2-2 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-2-2 but did not exhibit any primary or secondary hydric soil indicators. Therefore, hydric soils are not present at Sampling Point W-2-2. No primary or secondary hydrologic indicators were observed at Sampling Point W-2-2, indicating that wetland hydrology is not present. None of the three wetland indicators were determined to be present at Sampling Point W-2-2, confirming the limits of the non-wetland feature. Sampling Point W-2-2 functions as the paired upland point to wetland point W-2-1.

E.1.3 NWW-3

NWW-3 is an approximately 0.002-acre (59-linear-foot) partially concrete-lined channel, partially earthen-bottom channel that flows from east to west in the eastern portion of the survey area. The channel begins as concrete lined until it travels briefly through an underground storm and then exits via a culvert. At this point, the channel becomes earthen bottom as the concrete lining surrounding the channel has degraded, allowing an in-channel emergent wetland to form to the north and south of the OHWM and below the TOB. The channel continues west until the OHWM no longer is defined as it flows over an unpaved access road and into NWW-2 (Figure 7). NWW-3 is defined by an OHWM with a width that ranges between approximately 1 and 2 feet. The SDAM conducted for NWW-3 determined it is an intermittent feature. Ponded water, soil saturation, and hydrophytic plants were observed in NWW-3, which necessitated a

wetland delineation to confirm the presence or absence of in-channel or adjacent wetland features. Aquatic resource delineation results are discussed in Section E.1.3.2.

E.1.3.1 Ordinary High Water Mark Analysis

NWW-3 is a non-wetland water with an approximately 0.01 acre (23-linear-foot) in-channel emergent wetland that occurs in the eastern portion of the survey area (Table 1; Figure 7). Figure 7 shows where Sampling Points NW-3-1 through NW-3-3 were collected in the OHWM of NWW-3. Photographs 9 through 12 provide representative views of the extent of NWW-3 in the survey area. The OHWM indicators investigated at Sampling Points NW-3-1 and NW-3-2 are described below.

Sampling Point NW-3-1: The OHWM is approximately 2 feet wide and 1 foot deep. The other OHWM indicators observed at Sampling Point NW-3-1 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-3-1, NWW-3 is surrounded by southern arroyo willow riparian forest and an emergent wetland (Photograph 9). NWW-3 is slightly lower in elevation than the surrounding survey area, and the soil outside the concrete-lined channel at Sampling Point NW-3-1 is sandy loam.

Sampling Point NW-3-2: The OHWM is approximately 1 foot wide and 0.5 foot deep. The other OHWM indicators observed at Sampling Point NW-3-2 include the presence of a defined bed and bank and a change in vegetative cover. At Sampling Point NW-3-2, NWW-3 is surrounded by southern arroyo willow riparian forest (Photograph 10). NWW-3 is slightly lower in elevation than the surrounding survey area, and the soil outside the concrete-lined channel at Sampling Point NW-3-2 is sandy loam.

E.1.3.2 Aquatic Resources Delineation Results

As previously discussed, ponded water, soil saturation, and wetland plant species were observed in NWW-3, which necessitated a wetland delineation to confirm the presence or absence of in-channel or adjacent wetland features. The completed wetland determination datasheet for Sampling Point W-3-1 is provided in Attachment D. A second wetland sampling point outside the TOB could not be collected due to the presence of a dirt access road immediately to the south, and dense upland vegetation to the north of NWW-3; however, due to lack of hydrophytic vegetation and hydrology observed, it is unlikely that the wetland exists beyond the mapped extent of the emergent wetland. Wetland indicators investigated within NWW-3 at Sampling Point W-3-1 are described below.

Sampling Point W-3-1: Sampling Point W-3-1 was collected directly adjacent to the observed OHWM in the portion of the channel (Figure 7; Photograph 11). The data collected at Sampling Point W-3-1 determined that wetland hydrology, hydric soils, and hydrophytic vegetation were present based on specific factors. One facultative wetland plant species, arroyo willow, and one facultative upland species, pampas grass, were the dominant plant species at Sampling Point W-3-1.

The plant species documented at Sampling Point W-3-1 met the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined to be present. A soil pit was dug at Sampling Point W-3-1, but it could not be dug below 6 inches due to the presence of a restrictive concrete layer at that depth. The soil was saturated, and one primary indicator, presence of hydrogen sulfide, was observed; therefore, hydric soil was determined to be present at Sampling Point W-3-1. The presence of one primary hydrologic indicator, soil saturation, in addition to three secondary indicators, drift deposits, drainage patterns, and a shallow aquitard, were observed at Sampling Point W-3-1, resulting in a determination that wetland hydrology is present. While all three wetland indicators were determined to be present, these indicators occur below the TOB of NWW-3. Therefore, this portion of NWW-3is considered a non-wetland water with a three-parameter wetland within the limits of the feature.

Section F Deviation from Local Wetlands Inventory or National Wetlands Inventory

The NWI and NHD mapping results identify one aquatic feature (NWW-2) running through the eastern edge of the survey area. The other aquatic resources (NWW-1 and NWW-3) observed in the survey area are not documented in the NWI or NHD mapping results. No other aquatic resources were identified in the survey area by the NWI and NHD results or observed during the aquatic resources delineation fieldwork.

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Section G Mapping Method

Limits of non-wetland, non-tidal waters were digitally mapped at the OHWM and TOB using an iSXBlue II sub-meter Global Positioning System (GPS) unit. Electronic spatial data collected in the field is in Attachment G.

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Section H Conclusions

Based on the investigation of wetland and non-wetland water indicators, the following three non-wetland waters occur in the survey area:

1. One non-wetland water (NWW-1) was observed in the central portion of the survey area. NWW-1 accounts for approximately 0.01 acre (118 linear feet) of non-wetland water. NWW-1 is an earthen-bottom channel that has formed as a result of severe erosion, forming an OHWM and TOB. The channel extends downhill and east before the OHWM becomes undefined as it flows over a dirt access road. The OHWM re-establishes briefly on the eastern side of the dirt access road before it becomes undefined again, where it drops off a steep slope toward NWW-2. The SDAM conducted for NWW-1 determined it is an ephemeral feature.
2. One non-wetland water (NWW-2) was observed in the east-central portion of the survey area. NWW-2 accounts for approximately 0.017 acre (665 linear feet) of non-wetland water. NWW-2 is an earthen-bottom channel that extends across the survey area from south to north and is surrounded by southern arroyo willow riparian forest. The feature travels briefly under an unpaved access road via culverts but is otherwise uninterrupted and appears to receive flows from the surrounding hillsides in several locations. The SDAM conducted for NWW-2 determined it is an intermittent feature.
3. One non-wetland water (NWW-3) was observed in the eastern portion of the survey area. NWW-3 accounts for approximately 0.002 acre (59 linear feet) of non-wetland water and has approximately 0.010 acre (23 linear feet) of in-channel emergent wetland (wetland water). NWW-3 is a partially concrete-lined channel, partially earthen-bottom channel that flows from east to west. The channel begins as concrete lined until it travels briefly through an underground storm and then exits via a culvert. At this point, the channel becomes earthen bottom as the concrete lining surrounding the channel has degraded, allowing an in-channel emergent wetland to form within the channel, below the TOB. The channel continues west until the OHWM is no longer defined as it flows over an unpaved access road and into NWW-2. The SDAM conducted for NWW-3 determined it is an intermittent feature.

A summary of the aquatic resources delineated in the survey area is provided in Table 2, Summary of Non-Wetland and Wetland Waters in the Survey Area. Additional information can be provided upon request.

Table 2. Summary of Non-Wetland and Wetland Waters in the Survey Area

Feature	Cowardin Type[1]	Acres[2]	Linear Feet	Coordinates	Vegetation/ Land Cover Type	Summary
NWW-1	R6	0.010	118	32.884253, −117.219504	Non-vegetated channel	Earthen-bottom non-wetland water with a defined bed and bank and change in vegetative cover. NWW-1 is generally investigated, but ripgut brome is the predominant vegetation growing along the sides and on the TOB, which is further surrounded by eucalyptus woodland. The OHWM that ranges between approximately 1 and 4.5 feet wide and 0.5 and 1 foot in depth.
NWW-2	R4	0.017	665	32.884160, −117.218849	Non-vegetated channel	Earthen-bottom non-wetland water with a defined bed and bank and change in vegetative cover. NWW-2 is generally unvegetated with dense arroyo willow and poison oak growing along the side and on the TOB. The OHWM ranges between approximately 1 and 4 feet wide and 0.25 and 1 foot in depth.
NWW-3	R4	0.002	59	32.884869, −117.218814	Non-vegetated channel	Earthen-bottom (degraded concrete lining) non-wetland water with a defined bed and bank and change in vegetative cover. An in-channel emergent wetland is also present within the OHWM of the channel. NWW-3 is surrounded by Diegan coastal sage scrub dominated by lemonade berry *(Rhus integrifolia*) and black sage (*Salvia mellifera*), and southern arroyo riparian forest dominated by southern arroyo willow. The OHWM ranges between approximately 1 and 2 feet wide and 0.25 and 1 foot in depth.
NWW-3 (In-Channel Emergent Wetland)	R6/ RP2EM	0.010	23	32.884854, −117.218858	Emergent wetland	The central portion of NWW-3 where the concrete lining has degraded, allowing a three-parameter emergent wetland to establish within the TOB of NWW-3.
	Total	**0.039**	**865**	—		

Notes: OHWM = ordinary high water mark, TOB = top of bank

[1] Cowardin Type: R4 = Intermittent, riverine; R6 = A wetland, spring, stream, river, pond, or lake that only exists for a short period of time; RP2EM = Emergent, lentic, riparian

[2] Total rounded to one-thousandths of an acre

Section I Preliminary Jurisdictional Determinations

The aquatic resources observed in the survey area include NWW-1 through NWW-3. Table 3, Potential Jurisdiction of Aquatic Resources in the Survey Area, provides a summary of the aquatic resources and potential jurisdiction of these features. It should be noted that only the resource agencies USACE, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) can make a final determination of jurisdictional boundaries.

NWW-1 was determined to be an ephemeral non-wetland water that was formed by severe erosion from the damaged underground storm drain pipe and does not have a relatively permanent flow of water. Therefore, NWW-1 is potentially not under the jurisdiction of the USACE, pursuant to the CWA Section 404 (Figure 8, Potentially Jurisdictional Waters of the U.S. and State). Despite being an ephemeral feature, NWW-1 appears to be hydrologically connected through NWW-2 and underground municipal stormwater infrastructure to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon, the nearest TNW, located approximately 1.5 miles downstream to the north. Additionally, NWW-1 conveys urban stormwater through a primarily undeveloped canyon, potentially providing water quality and habitat functions for the Los Peñasquitos Watershed. Therefore, NWW-1 is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to the CWA Section 401, and California Fish and Game Code, Section 1602 (Figure 8).

NWW-2 and NWW-3 were determined to be intermittent non-wetland waters that have a relatively permanent flow of water. Further, these features are hydrologically connected to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon. NWW-3 has an in-channel emergent wetland that is hydrologically connected to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon. Therefore, NWW-2 and NWW-3, in addition to the in-channel emergent wetland that has formed within NWW-3, are potentially under the jurisdiction of the USACE pursuant to the CWA Section 404 (Figure 8). NWW-2, NWW-3, and the in-channel emergent wetland within NWW-3 convey urban stormwater through a primarily undeveloped canyon, potentially providing water quality and habitat functions for the San Diego River Watershed, and therefore, are potentially under the jurisdiction of the RWQCB and the CDFW, pursuant to the CWA Section 401, and California Fish and Game Code, Section 1602. Additionally, the southern arroyo willow riparian forest surrounding the channels supports plants that grow wholly or partially in water and, therefore, is also potentially under the jurisdiction of the CDFW, pursuant to the California Fish and Game Code, Section 1602 (Figure 8).

Table 3. Potential Jurisdiction of Aquatic Resources in the Survey Area

Feature	Feature Type	Vegetation/ Land Cover Type	Cowardin Type[1]	Agency Jurisdiction			Description
				USACE	RWQCB	CDFW	
NWW-1	Non-wetland water	Non-vegetated channel	R6	—	X	X	Ephemeral earthen-bottom channel that has formed beneath where the replacement pipe used to occur before being destroyed and due to severe erosion. Channel flows into NWW-2 across an unpaved access road.
NWW-2	Non-wetland water	Non-vegetated channel	R4	X	X	X	Intermittent earthen-bottom channel surrounded by arroyo willow riparian forest that flows from north to south across the eastern portion of the survey area. Likely has underground connection to Los Peñasquitos Creek and subsequently Los Peñasquitos Lagoon, a TNW.
NWW-3	Non-wetland water	Non-vegetated channel	R4	X	X	X	Earthen-bottom (degraded concrete lining) channel that flows east to west. The channel eventually flows over an Arizona crossing and into NWW-2.
NWW-3 (In-Channel Emergent Wetland)	Wetland water	Emergent wetland	R6/RP2EM	X	X	X	A three-parameter emergent wetland has formed within NWW-3 beneath the TOB.

Notes: CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; TNW = traditional navigable water; TOB = top of bank; USACE = U.S. Army Corps of Engineers

[1] Cowardin Type: R4 = Intermittent, riverine; R6 = A wetland, spring, stream, river, pond, or lake that only exists for a short period of time; RP2EM = Emergent, lentic, riparian

Section J Disclaimer Statement

The aquatic resources delineation and preliminary jurisdictional determinations are subject to verification by the USACE, RWQCB, and CDFW. Harris & Associates advises all parties to treat the information in this Aquatic Resources Delineation Report as preliminary until the agencies provide written verification of their respective jurisdictional boundaries.

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Attachment A. Figures

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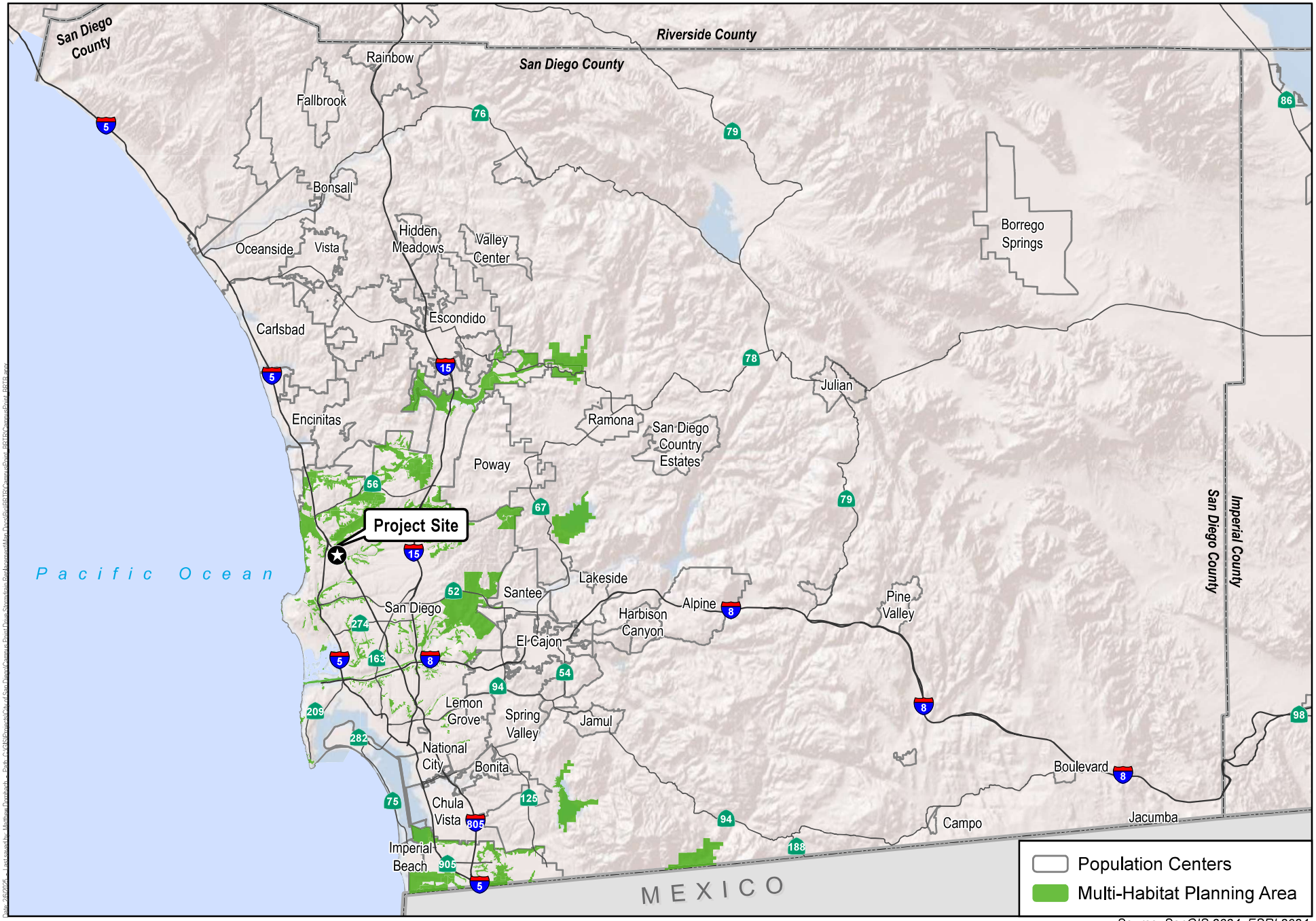

Source: SanGIS 2024; ESRI 2024.

Harris & Associates

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Figure 1

Regional Location

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

Harris & Associates

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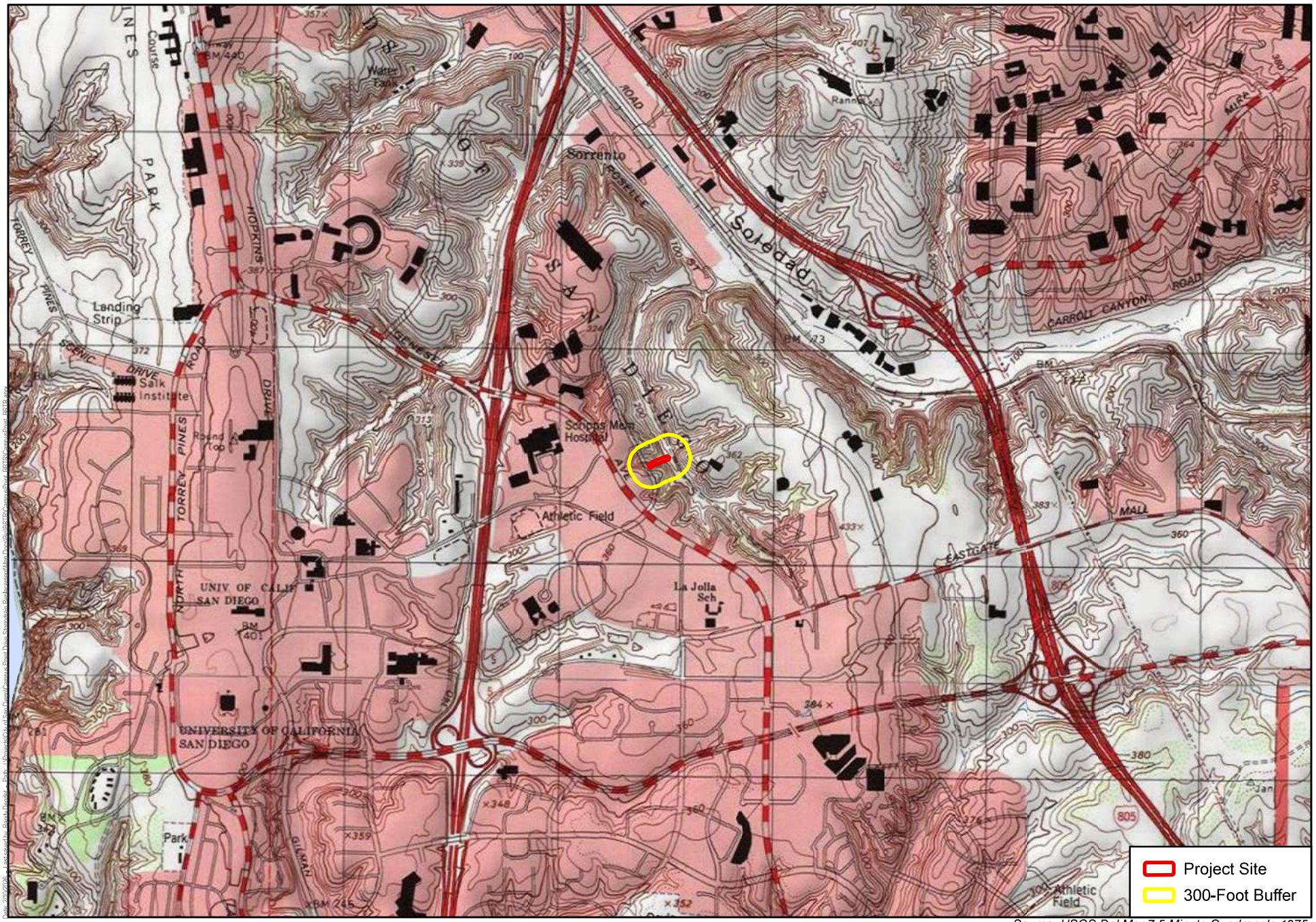
Figure 2

Project Location

Campus Point Drive Storm Drain Replacement Project



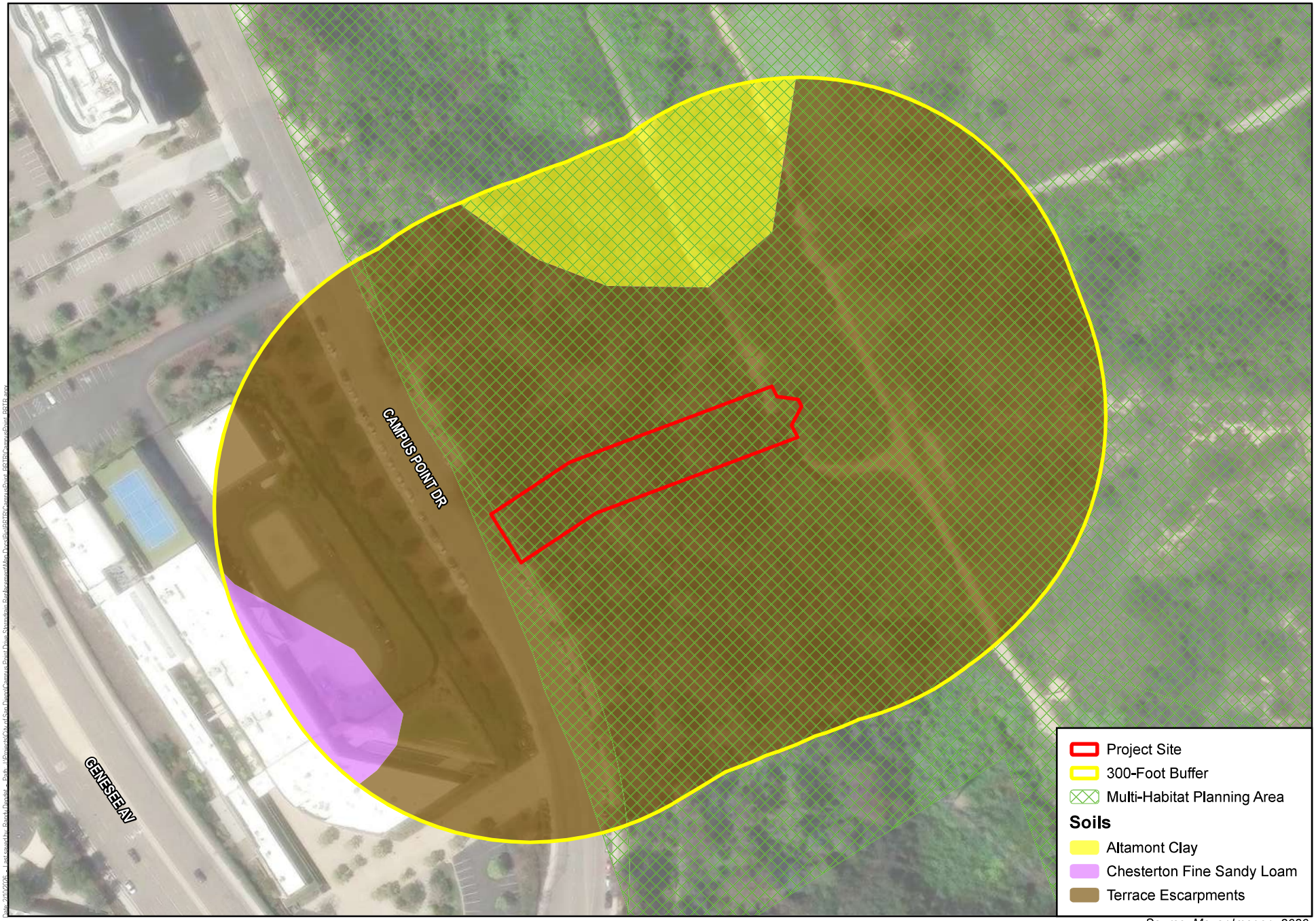
Source: USGS Del Mar 7.5 Minute Quadrangle 1975.

Harris & Associates

Figure 3

USGS Topographic Map

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

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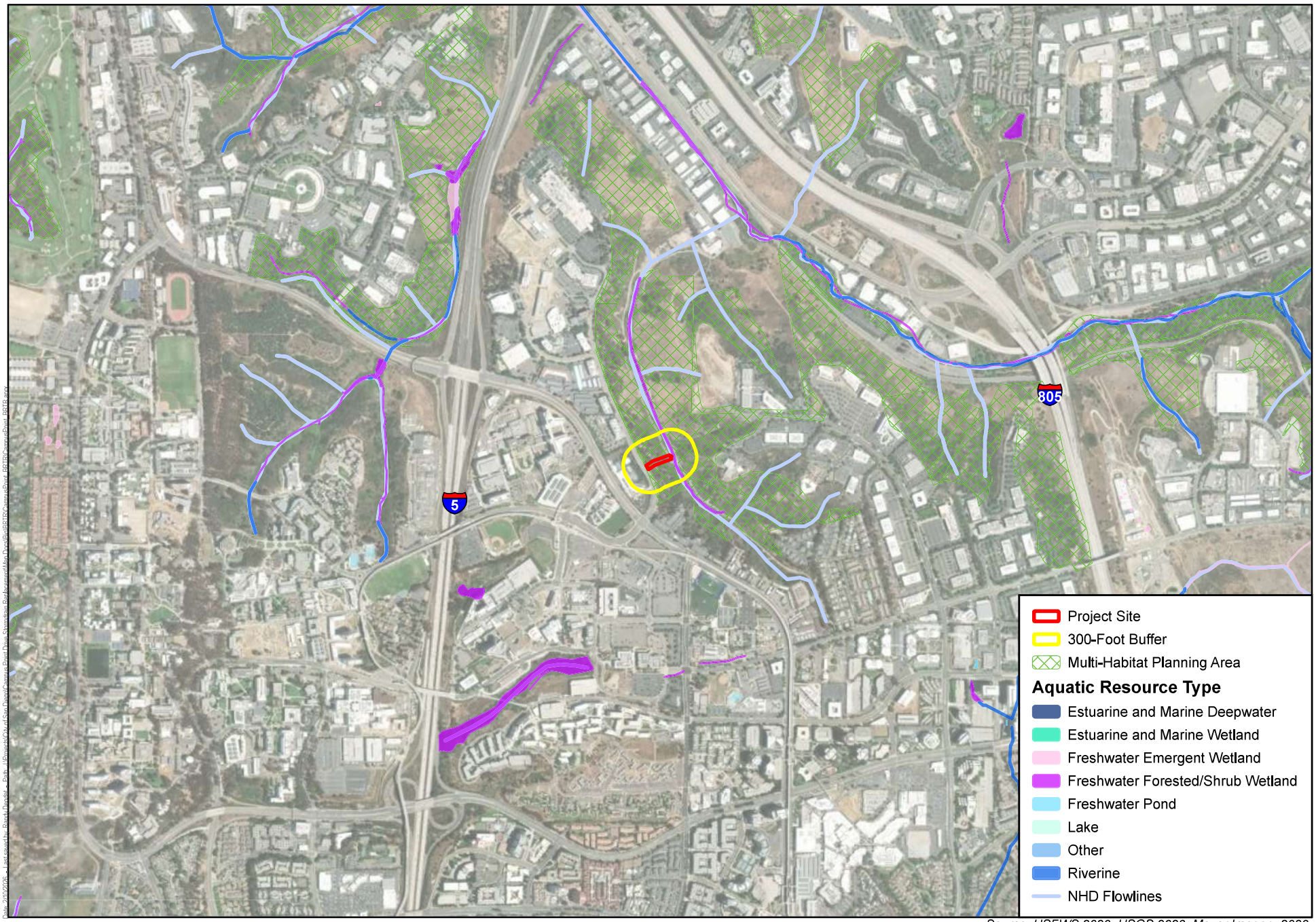
Figure 4

Soils

Campus Point Drive Storm Drain Replacement Project



Source: USFWS 2023; USGS 2023; Maxar Imagery 2023.

Harris & Associates

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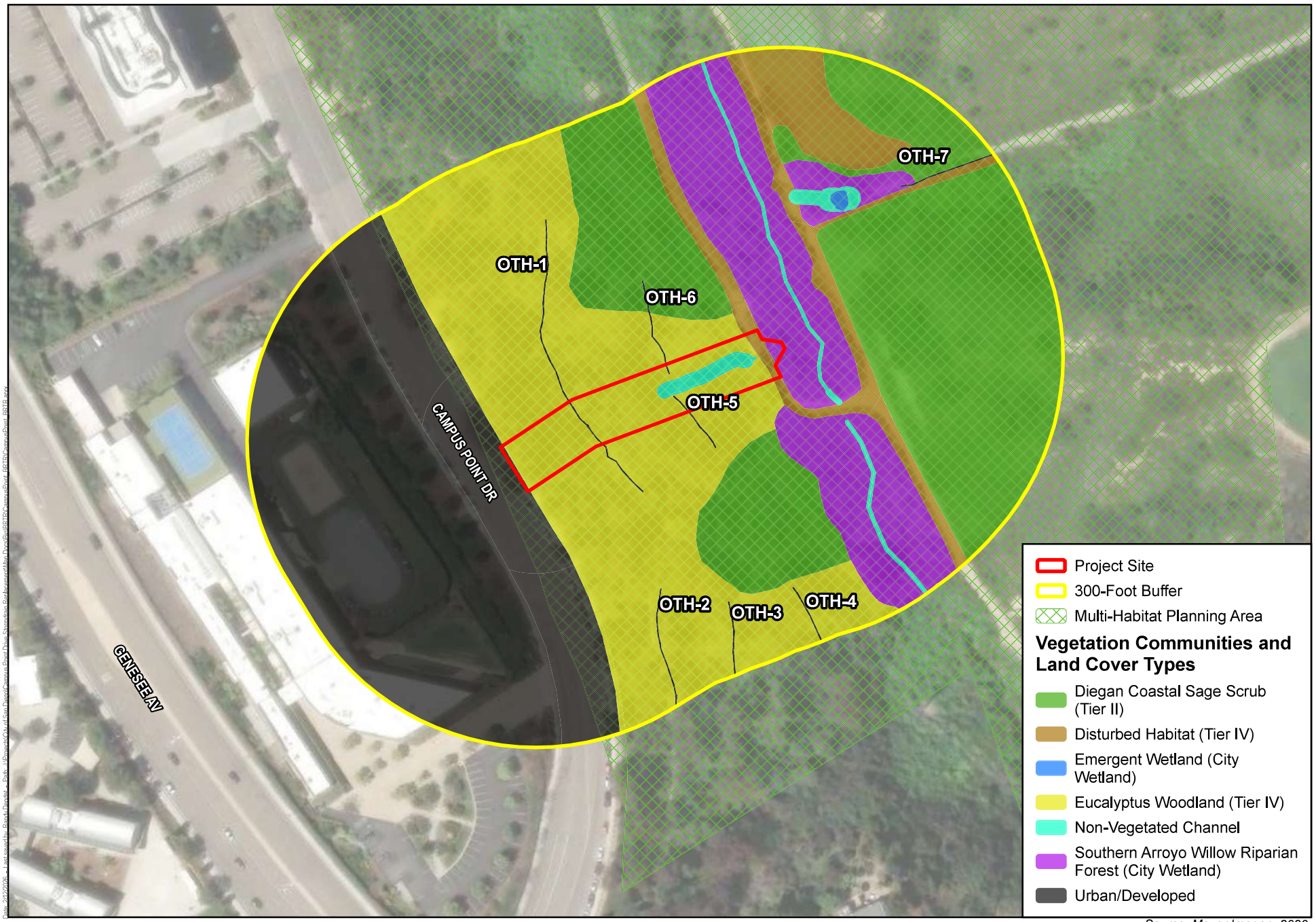
Figure 5

Hydrology

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2023.

Harris & Associates

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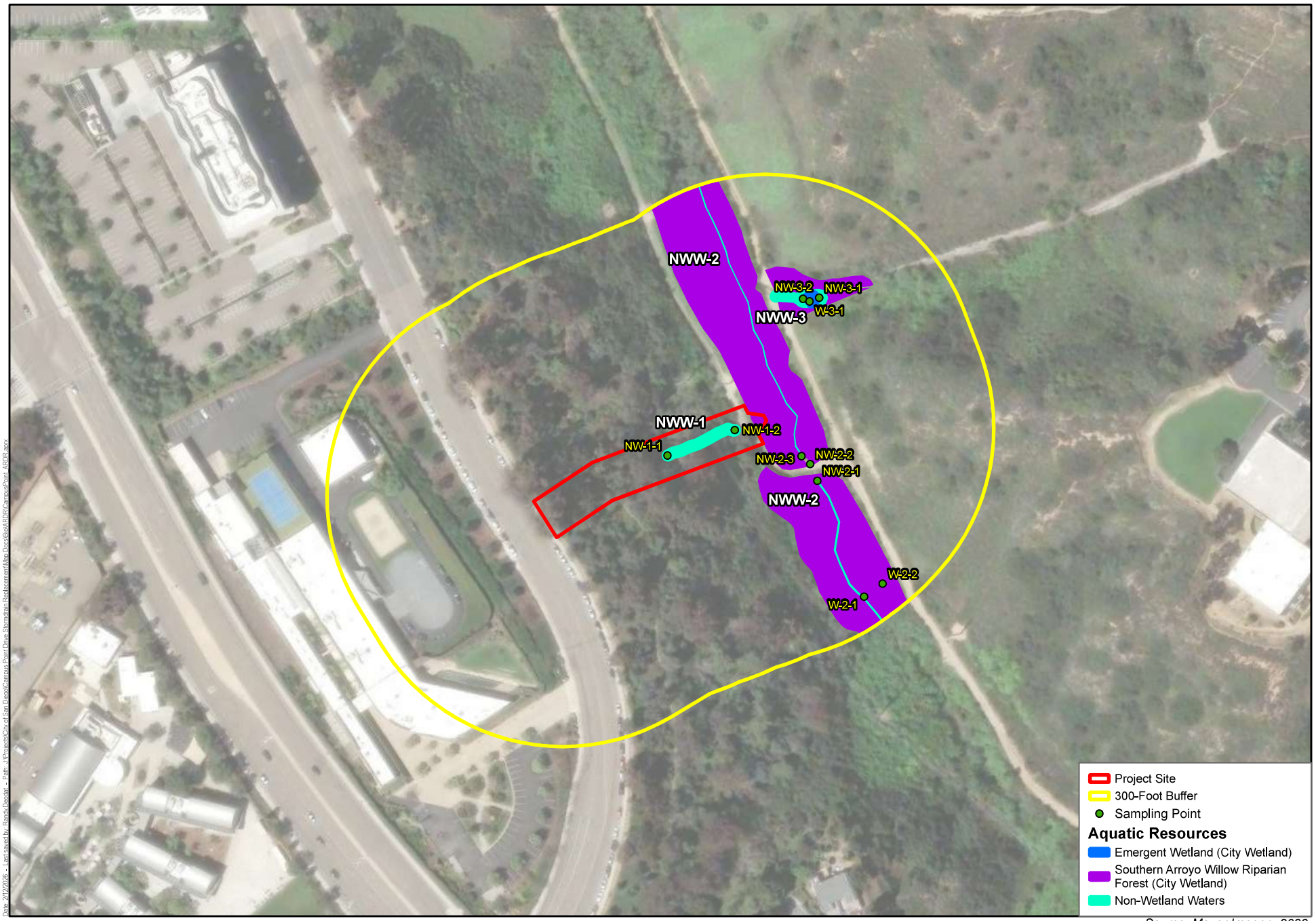
Figure 6

Vegetation Communities and Land Cover Types

Campus Point Drive Storm Drain Replacement Project



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Source: Maxar Imagery 2022.

Harris & Associates

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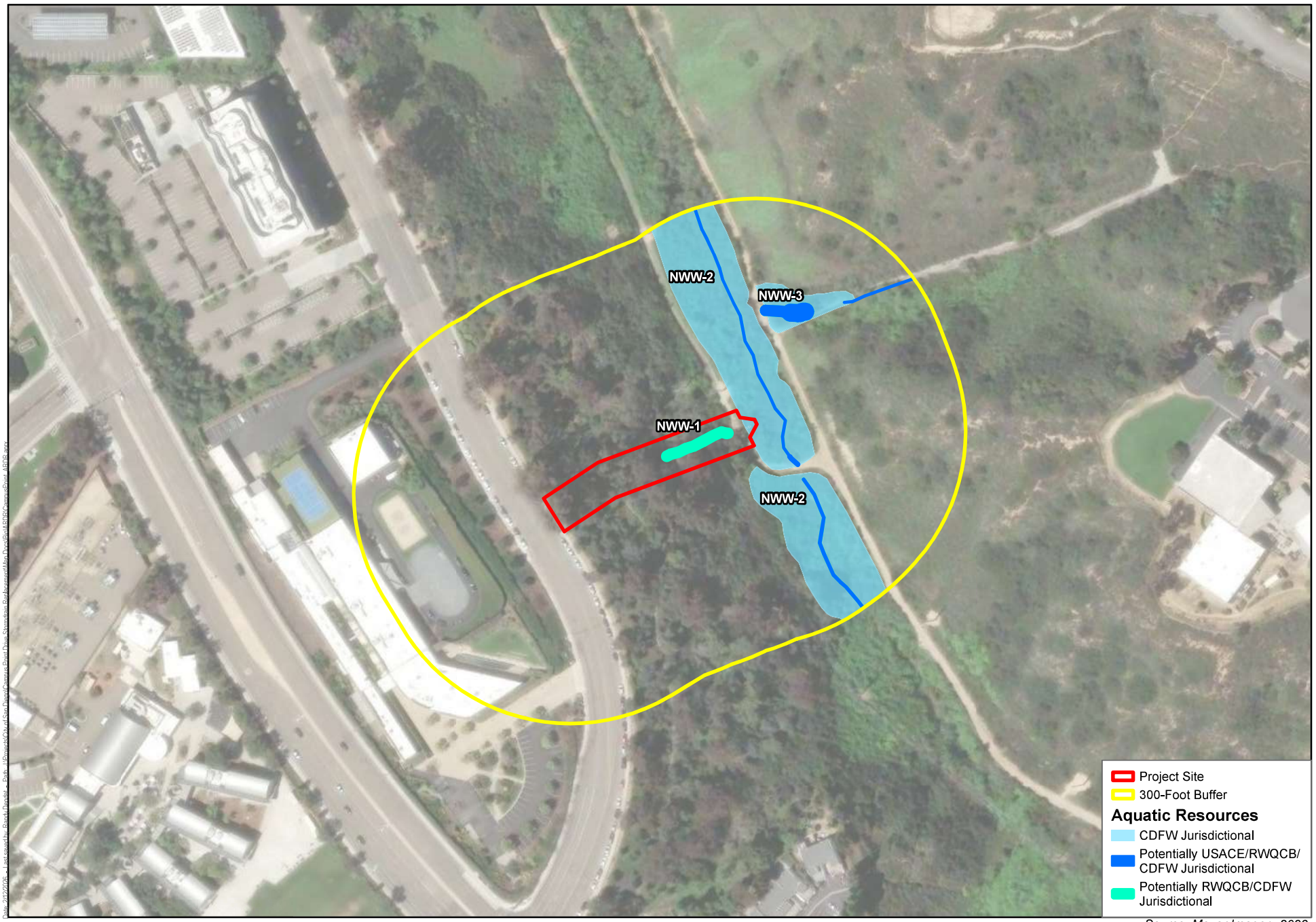
Figure 7

Aquatic Resources

Campus Point Drive Storm Drain Replacement Project



Source: Maxar Imagery 2022.

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Figure 8

Potentially Jurisdictional Waters of the U.S. and State

Campus Point Drive Storm Drain Replacement Project

Attachment B. Statement of Access

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Statement of Access

The project site is publicly accessible via public roadways and sidewalks (Attachment A, Figures; Figure 1, Regional Location; Figure 2, Project Location). The western end of the project site is accessible from Interstate 5 North by exiting onto Genesee Avenue (Exit 29), turning right (east) onto Genesee Avenue, and turning left (north) onto Campus Point Drive, or to the east via an existing dirt access road off Eastgate Mall. The geographic coordinates for the western and eastern limits of the project site are approximately 32.884008, −117.220035 and 32.884431, −117.219011, respectively. For access to the project site, please contact Meghan Bowen (City of San Diego) prior to entering the property.

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Attachment C. Antecedent Precipitation Tool and NRCS WETS Table Results

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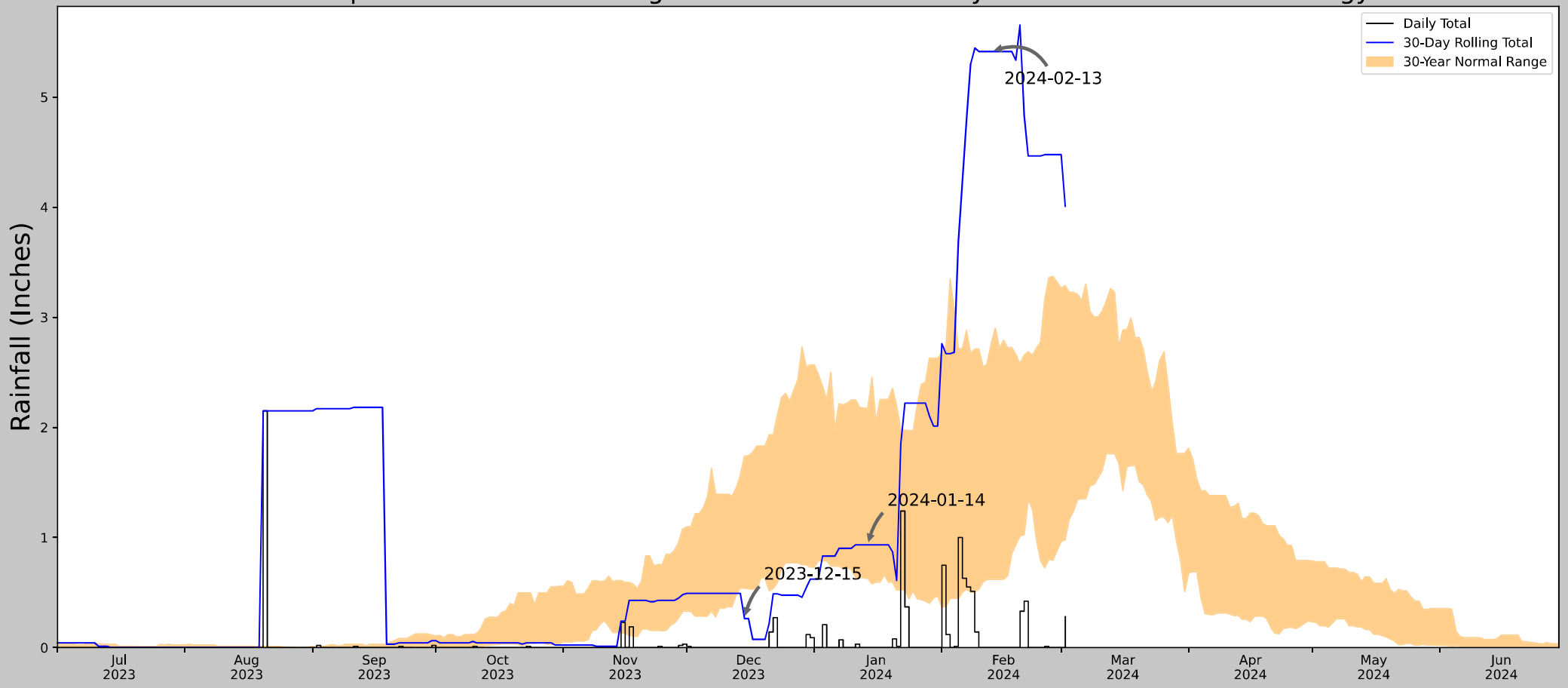
Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.884018, -117.220174
Observation Date	2024-02-13
Elevation (ft)	328.746
Drought Index (PDSI)	Incipient wetness (2024-01)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-02-13	0.618504	2.759449	5.413386	Wet	3	3	9
2024-01-14	0.626378	2.175591	0.933071	Normal	2	2	4
2023-12-15	0.540157	1.738583	0.26378	Dry	1	1	1
Result							Normal Conditions - 14

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	5.181	148.288	3.1	8273	77
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	3.091	51.181	1.549	5	0
SAN DIEGO MONTGOMERY FLD	32.8144, -117.1375	417.979	3.622	59.055	1.844	3067	13
SAN DIEGO 13.9N	32.9173, -117.1626	405.84	3.887	71.194	2.026	3	0
SAN DIEGO 7.6 NNW	32.9162, -117.188	382.874	4.666	94.16	2.539	1	0
LA MESA	32.7675, -117.0233	529.856	9.369	52.822	4.711	3	0

WETS Table

WETS Station: SAN DIEGO INTERNATIONAL AP, CA

Requested years: 2004 - 2024

Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	66.3	49.7	58.0	1.76	0.50	2.07	4	-
Feb	66.1	50.8	58.4	1.77	0.69	2.15	4	-
Mar	67.0	54.2	60.6	1.15	0.52	1.40	3	-
Apr	68.9	57.0	63.0	0.54	0.09	0.55	1	-
May	69.3	60.1	64.7	0.33	0.06	0.30	1	-
Jun	71.4	62.6	67.0	0.02	0.00	0.02	0	-
Jul	75.6	66.6	71.1	0.09	0.00	0.00	0	-
Aug	77.4	67.8	72.6	0.11	0.00	0.00	0	-
Sep	77.7	66.6	72.1	0.16	0.00	0.13	0	-
Oct	75.1	61.5	68.3	0.63	0.14	0.58	1	-
Nov	71.1	54.7	62.9	0.90	0.31	1.03	2	-
Dec	65.7	49.9	57.8	2.11	0.91	2.57	4	-
Annual:					7.28	10.80		
Average	71.0	58.5	64.7	-	-	-	-	-
Total	-	-	-	9.58			20	-

GROWING SEASON DATES

Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 1
Years with no occurrence:	24 deg = 20	28 deg = 20	32 deg = 20
Data years used:	24 deg = 20	28 deg = 20	32 deg = 20
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	No occurrence
70 percent *	No occurrence	No occurrence	No occurrence

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1939							T	T	3.14	0.62	1.13	0.54	5.43
1940	2.15	3.56	0.82	0.46	T	T	T	T	0.08	1.50	0.49	6.09	15.15
1941	2.03	5.31	5.89	3.35	T	T	0.06	0.03	0.28	2.90	2.23	2.85	24.93
1942	0.21	1.06	1.91	1.40	0.11	0.01	0.00	T	0.00	0.27	0.27	0.69	5.93
1943	6.26	1.40	1.66	0.52	0.02	0.01	0.00	T	0.04	0.20	0.03	7.60	17.74
1944	1.22	3.65	0.80	0.61	0.22	0.10	T	T	T	T	4.93	1.53	13.06
1945	0.42	1.91	2.03	0.03	0.04	0.15	T	0.87	0.03	T	0.13	3.62	9.23
1946	0.89	0.60	2.67	0.52	0.01	0.00	0.00	T	T	0.34	2.53	1.18	8.74
1947	0.35	0.43	0.97	M0.36	0.17	T	0.00	0.00	0.18	0.08	0.72	3.02	6.28
1948	T	1.07	1.60	0.13	0.01	0.02	T	0.00	T	1.32	0.10	2.38	6.63
1949	3.56	1.81	0.75	0.09	0.41	T	T	T	T	0.	1.	0.	8.87

										23	16	86	
1950	3.31	1.62	1.00	0.28	0.09	T	0.08	0.00	T	0.01	1.23	0.05	7.67
1951	1.60	0.50	0.50	1.95	0.00	T	0.00	0.85	0.04	0.68	1.23	3.87	11.22
1952	4.24	0.60	4.97	1.54	0.00	0.14	T	T	T	T	1.83	2.20	15.52
1953	0.58	0.58	0.79	0.33	0.09	0.14	T	T	T	0.07	0.80	0.03	3.41
1954	2.76	1.03	4.31	0.09	0.01	0.03	T	T	0.00	0.00	0.74	0.55	9.52
1955	3.59	0.56	0.38	0.90	0.49	T	T	0.11	T	T	0.55	0.33	6.91
1956	1.65	0.22	T	1.56	0.10	T	T	T	T	0.68	0.00	0.18	4.39
1957	4.80	0.50	0.75	0.84	0.88	0.26	T	T	0.37	1.76	0.59	1.38	12.13
1958	0.62	3.15	3.98	1.65	0.40	T	T	T	0.62	0.01	0.44	0.06	10.93
1959	0.08	3.76	T	0.31	T	T	T	T	0.04	0.23	0.02	1.44	5.88
1960	2.99	1.45	0.55	0.56	0.17	T	T	0.00	0.06	0.04	1.01	0.22	7.05
1961	1.21	0.06	0.85	T	0.01	T	T	0.04	T	0.20	0.79	1.45	4.61
1962	2.71	3.08	0.64	0.01	0.62	0.09	T	T	0.00	0.01	0.01	0.22	7.39
1963	0.11	1.22	1.33	0.71	0.09	0.28	0.00	T	1.90	0.13	1.85	0.10	7.72
1964	1.30	0.37	0.97	0.20	0.15	0.08	0.00	T	0.00	0.02	1.01	1.17	5.27
1965	0.40	0.52	1.79	3.58	T	0.01	0.02	T	0.29	T	5.82	6.60	19.03
1966	1.29	0.86	0.17	T	0.02	T	T	0.00	T	0.80	0.82	3.22	7.18
1967	2.20	0.00	1.14	2.24	0.05	0.16	0.01	0.14	0.08	0.00	3.53	1.66	11.21
1968	0.35	0.22	1.55	0.34	0.08	T	0.13	T	T	0.04	0.36	0.61	3.68
1969	4.78	4.34	0.94	0.21	0.17	0.02	T	0.01	T	0.04	0.79	0.46	11.76
1970	0.86	2.58	1.50	0.09	0.01	T	T	0.00	T	0.07	2.05	2.22	9.38
1971	0.30	1.27	0.20	0.93	0.95	0.01	T	0.03	T	1.66	0.06	3.27	8.68
1972	0.07	0.10	T	0.02	0.10	0.38	T	0.02	0.44	0.58	3.16	1.61	6.48
1973	1.68	1.63	2.26	0.05	T	T	T	T	0.02	0.01	1.63	0.19	7.47
1974	2.96	0.04	1.70	0.02	0.01	0.02	0.01	T	T	1.03	0.14	2.20	8.13
1975	0.49	0.96	3.79	2.00	0.01	0.02	T	T	T	0.09	0.64	0.37	8.37
1976	T	5.40	0.99	1.33	0.27	0.02	0.02	0.01	1.00	0.38	0.75	1.06	11.23
1977	2.36	0.06	0.61	0.01	1.79	0.03	T	2.13	T	0.50	0.05	1.67	9.21
1978	5.95	2.64	5.00	0.73	0.04	T	0.00	T	0.72	0.05	2.09	2.19	19.41
1979	5.82	0.85	3.71	0.02	0.09	0.01	0.09	0.01	0.00	0.73	0.27	0.02	11.62
1980	5.58	4.47	2.71	1.18	0.65	0.01	T	0.00	T	0.05	0.00	0.31	14.96
1981	1.48	2.26	3.74	0.22	0.04	0.00	T	0.00	0.03	0.14	1.79	0.54	10.24
1982	2.71	0.88	4.74	0.62	0.01	0.04	0.00	T	0.38	0.05	2.10	1.43	12.96
1983	2.10	3.88	6.57	1.74	0.01	T	0.01	0.39	0.	0.	1.	1.	18.

									21	40	94	53	78	
1984	0.46	0.09	0.04	0.62	0.00	0.04	0.19	0.06	T	0.29	2.37	4.55	8.71	
1985	0.52	0.77	0.58	0.32	T	T	0.00	T	0.20	0.29	4.92	1.06	8.66	
1986	0.75	2.59	3.12	1.17	0.00	T	0.01	0.00	1.04	1.39	1.16	0.95	12.18	
1987	1.68	1.53	1.04	0.78	0.03	T	0.03	0.01	0.70	1.74	1.33	2.73	11.60	
1988	0.89	1.37	0.59	3.71	0.08	0.00	T	T	T	T	1.39	2.23	10.26	
1989	0.42	0.70	0.69	0.12	0.04	0.06	0.00	T	0.23	0.47	0.09	1.01	3.83	
1990	2.52	1.13	0.25	0.76	0.51	0.87	T	0.01	T	T	0.65	0.59	7.29	
1991	1.06	2.46	6.96	0.05	0.01	T	0.24	0.01	0.28	0.69	0.05	1.70	13.51	
1992	1.81	3.34	4.42	0.28	0.07	0.04	0.03	0.05	0.00	0.18	0.03	2.56	12.81	
1993	9.09	4.73	1.22	0.00	0.01	0.41	0.03	T	T	0.22	0.77	0.78	17.26	
1994	0.70	2.75	3.67	0.93	0.07	T	0.03	0.01	T	0.01	0.46	0.80	9.43	
1995	8.06	1.93	3.81	0.96	0.59	0.46	0.05	0.00	T	T	0.30	0.88	17.04	
1996	1.52	0.88	1.10	0.36	0.02	0.00	0.09	T	0.03	0.94	1.70	0.63	7.27	
1997	3.02	0.31	0.00	0.28	T	T	T	0.00	0.85	0.02	1.17	1.35	7.00	
1998	2.68	7.65	2.21	1.11	0.64	0.10	0.20	T	0.03	0.08	0.69	0.66	16.05	
1999	1.54	0.70	1.09	1.62	0.06	0.04	T	0.00	0.02	0.00	0.04	0.32	5.43	
2000	0.17	3.67	1.00	0.54	T	T	0.00	0.01	T	1.24	0.26	0.01	6.90	
2001	3.28	2.38	0.63	0.76	0.01	0.00	T	0.00	0.00	0.00	0.95	0.46	8.47	
2002	0.32	0.17	0.46	0.63	T	T	0.00	T	0.31	0.04	0.32	1.98	4.23	
2003	0.02	4.88	1.36	1.41	0.30	T	T	0.00	T	T	0.60	0.61	9.18	
2004	0.34	2.81	0.22	0.60	T	0.00	0.00	0.00	T	4.98	0.33	4.01	13.29	
2005	4.49	5.83	2.12	0.59	0.12	0.02	0.01	T	0.10	0.46	0.12	0.25	14.11	
2006	0.36	1.11	1.36	0.88	0.77	T	0.04	0.01	0.00	0.76	0.15	0.71	6.15	
2007	0.51	1.12	0.09	0.46	T	0.00	0.00	0.00	0.05	0.37	0.97	0.80	4.37	
2008	3.34	1.21	0.26	T	0.23	0.02	0.00	T	T	0.18	2.49	3.38	11.11	
2009	0.08	2.63	0.18	0.14	0.04	0.03	0.00	T	T	T	0.12	2.28	5.50	
2010	3.38	2.28	0.68	1.78	0.01	0.02	0.02	0.00	0.03	2.18	0.88	5.00	16.26	
2011	0.30	2.10	1.46	0.26	0.36	0.03	0.00	0.00	0.13	0.46	3.12	0.86	9.08	
2012	0.40	1.19	0.97	0.88	0.02	T	T	T	T	0.70	0.29	2.19	6.64	
2013	1.21	0.63	1.22	0.01	0.26	0.00	0.05	T	T	0.25	1.48	0.46	5.57	
2014	0.01	1.00	1.28	0.53	T	0.00	T	0.08	T	T	0.37	4.50	7.77	
2015	0.42	0.28	0.93	0.02	2.39	0.04	1.71	0.01	1.24	0.43	1.54	0.88	9.89	
2016	3.21	0.05	0.76	0.55	0.44	T	T	0.00	0.32	0.07	0.61	4.22	10.23	
2017	3.01	3.71	0.08	0.01	0.92	0.02	T	T	0.	T	0.	0.	7.92	

									08		02	07	
2018	1.78	0.36	0.95	0.02	0.12	T	T	0.02	T	0.57	0.81	3.02	7.65
2019	2.80	3.42	1.23	0.16	0.80	0.01	T	0.00	0.11	0.00	2.72	4.03	15.28
2020	0.48	0.38	2.15	3.68	0.02	0.14	0.00	T	0.00	0.12	0.26	0.60	7.83
2021	1.80	0.10	1.48	0.07	0.07	0.01	T	0.23	0.50	1.01	T	2.58	7.85
2022	0.16	0.70	1.61	0.02	0.02	T	0.00	T	0.65	0.09	1.07	1.58	5.90
2023	5.14	1.78	3.97	0.12	0.09	0.03	T	1.84	0.05	0.01	0.61	0.79	14.43
2024	3.65	M4.58											8.23
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2024-02-29													

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Attachment D. Arid West Ordinary High Water Mark and Wetland Determination Datasheets

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Campus Point Drive Storm Drain Replacement **Date:** 02/13/24 **Time:** 1010
Project Number: **Town:** San Diego **State:** CA
Stream: AF-6 **Photo begin file#:** **Photo end file#:**
Investigator(s): Kelly Otto

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details: center of pro ect site, slope

Projection: **Datum:**
Coordinates: 32.884253, -117.219504

Potential anthropogenic influences on the channel system:
Severe erosion has caused this channel to form where an underground storm drain used to be intact

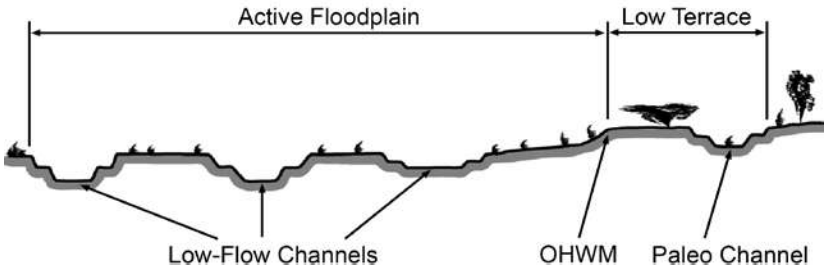
Brief site description:
Severe erosion has caused a new drainage to form, OWHM and TOB are estimated, due to safety concerns getting too close to erosion (at least 25 ft deep).

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

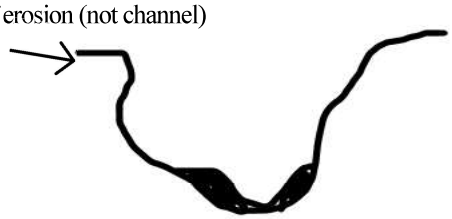
Campus Point Drive Storm Drain Replacement

Project ID: **Cross section ID:** AF-6; NW-6-1 **Date:** 02/13/24 **Time:** 1010

Cross section drawing:

TOB width =15 ft

Top of erosion (not channel)



TOB depth = 8 ft

OHWM width = 4.5 ft

OHWM depth = 1 ft

OHWM

GPS point: 32.884253, -117.219504

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884253, -117.219504

Characteristics of the floodplain unit:

Average sediment texture: sandy loam (surrounding)

Total veg cover: 30 % Tree: 0 % Shrub: 0 % Herb: 30 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Taken at beginning of where erosion has formed a channel beneath where storm drain was under ground and is now broken.

Campus Point Drive Storm Drain Replacement

Project ID: **Cross section ID:** AF-6; NW-6-2 **Date:** 02/13/24 **Time:** 1020

Cross section drawing:

TOB width = 2 ft.

TOB depth = 0.5 ft



OHWM width = 1 ft.

OHWM depth = 0.25 ft.

OHWM

GPS point: 32.884354, -117.219196

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
Taken where a defined TPB and OHWM are visible under dense euc. woodland vegetation, and then becomes undefined as flows over road and then into AF-8

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884354, -117.219196

Characteristics of the floodplain unit:

Average sediment texture: sandy loam (surrounding)

Total veg cover: 140 % Tree: 30 % Shrub: 100 % Herb: 10 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Campus Point Drive Storm Drain Replacement **Date:** 02/13/24 **Time:** 1100
Project Number: **Town:** San Diego **State:** CA
Stream: AF-8 (NW-8-1 through NW-8-3 **Photo begin file#:** **Photo end file#:**
Investigator(s): Kelly Otto

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: at bottom of steep slope

Projection: **Datum:**
Coordinates: 32.884160, -117.218815

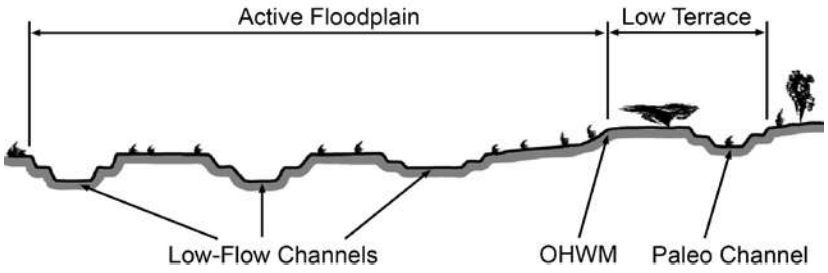
Potential anthropogenic influences on the channel system:
Multiple storm drains (underground) appear to convey stormwater flows into this feature in several locations.

Brief site description:
Earthen-bottom channel located at bottom of steep slope. Surrounding by southern arroyo willow riparian forest. Flows through culverts under an unpaved access road, south-north.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☑ GPS
   - ☐ Digitized on computer
   - ☐ Other:

Campus Point Drive Storm Drain Replacement

Project ID: **Cross section ID:** NW-8-1 **Date:** 02/13/24 **Time:** 1100

Cross section drawing:

TOB width = 3ft.

TOB depth = 0.50 ft.



OHWM width =1 ft.

OHWM depth = 0.25 ft.

OHWM

GPS point: 32.884160, -117.218815

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Taken before AF-8 widens briefly before it travels under an unpaved access road through a culvert and continues south.

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884160, -117.218815

Characteristics of the floodplain unit:

Average sediment texture: sandy clay loam

Total veg cover: 180 % Tree: 100 % Shrub: 80 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Campus Point Drive Storm Drain Replacement

Project ID: **Cross section ID:** NW-8-2 **Date:** 02/13/24 **Time:** 1110

Cross section drawing:

TOB width = 5ft.



TOB depth = 1 ft.

OHWM width = 4 ft.

OHWM depth = 0.50 ft.

OHWM

GPS point: 32.884225, -117.218849

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
Taken where the channel is slightly wider briefly before traveling beneath an unpaved dirt access road.

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884225, -117.218849

Characteristics of the floodplain unit:

Average sediment texture: sandy clay loam

Total veg cover: 180 % Tree: 100 % Shrub: 80 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: **Cross section ID:** NW-8-3 **Date:** 02/13/24 **Time:** 1120

Cross section drawing:

TOB width = 3 ft.

TOB depth = 0.5 ft.



OHWM width = 1 ft.

OHWM depth = 0.25 ft.

OHWM

GPS point: 32.884160, -117.218815

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
Taken where the OHWM and TOB are visble again after exiting the culvert and becoming apparent in the earthen bottom channel again.

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884160, -117.218815

Characteristics of the floodplain unit:

Average sediment texture: sandy clay loam

Total veg cover: 180 % Tree: 100 % Shrub: 80 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Campus Point Drive Storm Drain Replacement
Date: 02/13/24
Time: 1140
Project Number:
Town: San Dlego
State: CA
Stream: AF-9 (NW-9-1 through NW-9-3
Photo begin file#:
Photo end file#:
Investigator(s): Kelly Otto

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details:
east of AF-8 ;leads into

Projection: **Datum:**
Coordinates: 32.885018, -117.218252

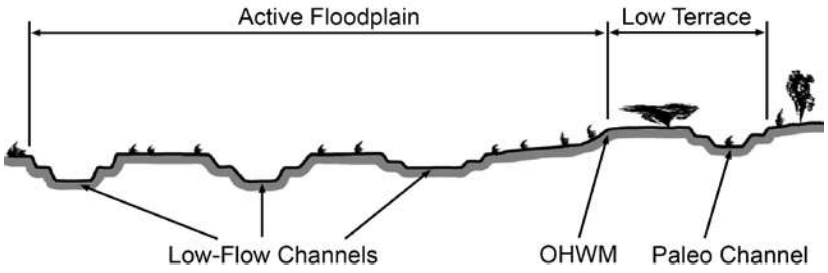
Potential anthropogenic influences on the channel system:
concrete channel is broken within portions and has become earthen bottom

Brief site description:
channel begins in east and travels northwest until becomes undergrounded briefly. Then exits through culvert where concrete lining is broken and becomes earthen bottom. Emergent weltand formed around the channel.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☑ GPS
   - ☐ Digitized on computer
   - ☐ Other:

Project ID: campus point **Cross section ID:** NW-9-2 **Date:** 02/23/24 **Time:** 1150

Cross section drawing:

TOB width = 25 ft.

TOB depth = 3 ft.



OHWM width = 2 ft.

OHWM depth =1 ft.

An emergent wetland occurs at this point

OHWM

GPS point: 32.884869, -117.218814

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Taken where culvert lets out. TOB is wide, where concrete lining appears to have been before becoming destroyed, leaving the channel earthen bottom. The OHWM is significantly smaller.

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884869, -117.218814

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 160 % Tree: 100 % Shrub: 20 % Herb: 40 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: **Cross section ID:** NW-9-3 **Date:** 02/13/24 **Time:** 1200

Cross section drawing:

TOB width = 15 ft.

TOB depth = 3 ft.



OHWM width = 1 ft.

OHWM depth = 0.5 ft.

OHWM

GPS point: 32.884864, -117.21888

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
Taken where the channel appears to narrow slightly. The measurements remain relatively consistent until the OWHM and TOB disappear as the channel flows via an Arizona crossing into AF-8.

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 32.884864, -117.21888

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 140 % Tree: 100 % Shrub: 10 % Herb: 30 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Campus Point Drive City/County: San Diego Sampling Date: 02/14/24
Applicant/Owner: City of San Diego State: CA Sampling Point: W-2-1
Investigator(s): Kelly Otte, Katie Laybourn Section, Township, Range: 27 15S 3W
Landform (hillslope, terrace, etc.): in stream Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR): Arid west Lat: 32.883714 Long: -117.218396 Datum: NAD83
Soil Map Unit Name: Terrace escarpments NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Sample adjacent to OHWM (in only location could sample due to H_2O killing most areas not over TOB.
* Atmospheric river occured previous week.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. Baccharis pilularis	5	Y	UNI
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5)			
1. Xanthium strumarium	10	Y	FAC
2. Artemesia palmeri	10	Y	UNI
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 5)			
1. Toxicodendron diversilobum	60	Y	FACU
2.			
	60 = Total Cover		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	175 (A)		545 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:
- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Sampling Point: W-8-1

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/4	100					Sandy loam	*

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 10 in

Hydric Soil Present? Yes ___ No X

Remarks: * inundation @ 10 inches

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)

- X Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- X Drift Deposits (B3) (**Riverine**)
- X 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 X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 8in

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION [illegible] Arid West Region

Project/Site: Campus Pt. Drive City/County: San Diego Sampling Date: 02/14/24
Applicant/Owner: City of San Diego State: CA Sampling Point: W-8-3
Investigator(s): Kelly Catlo, Katie Laybourn Section, Township, Range: 27 15S 3W
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): flat Slope (%): 2
Subregion (LRR): Arid west Lat: 32.883765 Long: -117.218511 Datum: NAD83
Soil Map Unit Name: Terrace Escarpments NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: taken up slope above TOB
* atmospheric river week prior.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. Baccharis pilularis	60	Y	NI
2. Artemesia californica	5	N	NI
3.			
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 5)			
1. Bromus diandrus	100	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 5)			
1. Toxicodendron diversilobum	50	Y	FACU
2.			
	50 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	165	x 5 =	825
Column Totals:	315 (A)		1225 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:
- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Sampling Point: W-8-2

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 3/4	100					sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ____ No X

Remarks:

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 X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Campus Point Dr. City/County San Diego Sampling Date: 02/14/24
Applicant/Owner: City of San Diego State: CA Sampling Point: W-9-1
Investigator(s): Kelly Otte, Katie Laybourn Section, Township, Range 27 15S 3W
Landform (hillslope, terrace, etc.): bottom of hill slope Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR): Arid West Lat: 32.884854 Long: -117.218858 Datum: NAD83
Soil Map Unit Name: Terrace escarpments. NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X	No ___	
Wetland Hydrology Present?	Yes X	No ___	

Remarks: * atmospheric river occured week prior.
- Taken adjacent to ottlwm, approx 3ft South.
- Concrete lining is degraded, emergent wetland here now under TOB.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. Cortaderia Sp.	40	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals:	2 (A)		6 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

Sampling Point: W-9-1

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 2.5/1	100					Sandy loam	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 6

Hydric Soil Present? Yes X No ___

Remarks: Rocks / broken concrete @ bottom, little veg. w/in channel wetland in TOB. Filled w/ H_2O after approx 2 mins. Taken adjacent to OHWM within

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ *Surface Water (A1)*
- ___ *High Water Table (A2)*
- X *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**)
- X Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? Yes X No ___

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

Remarks:

No algae.. Insects (few) H_2O flowing in stream that runs through area.

Attachment E. Photographic Log

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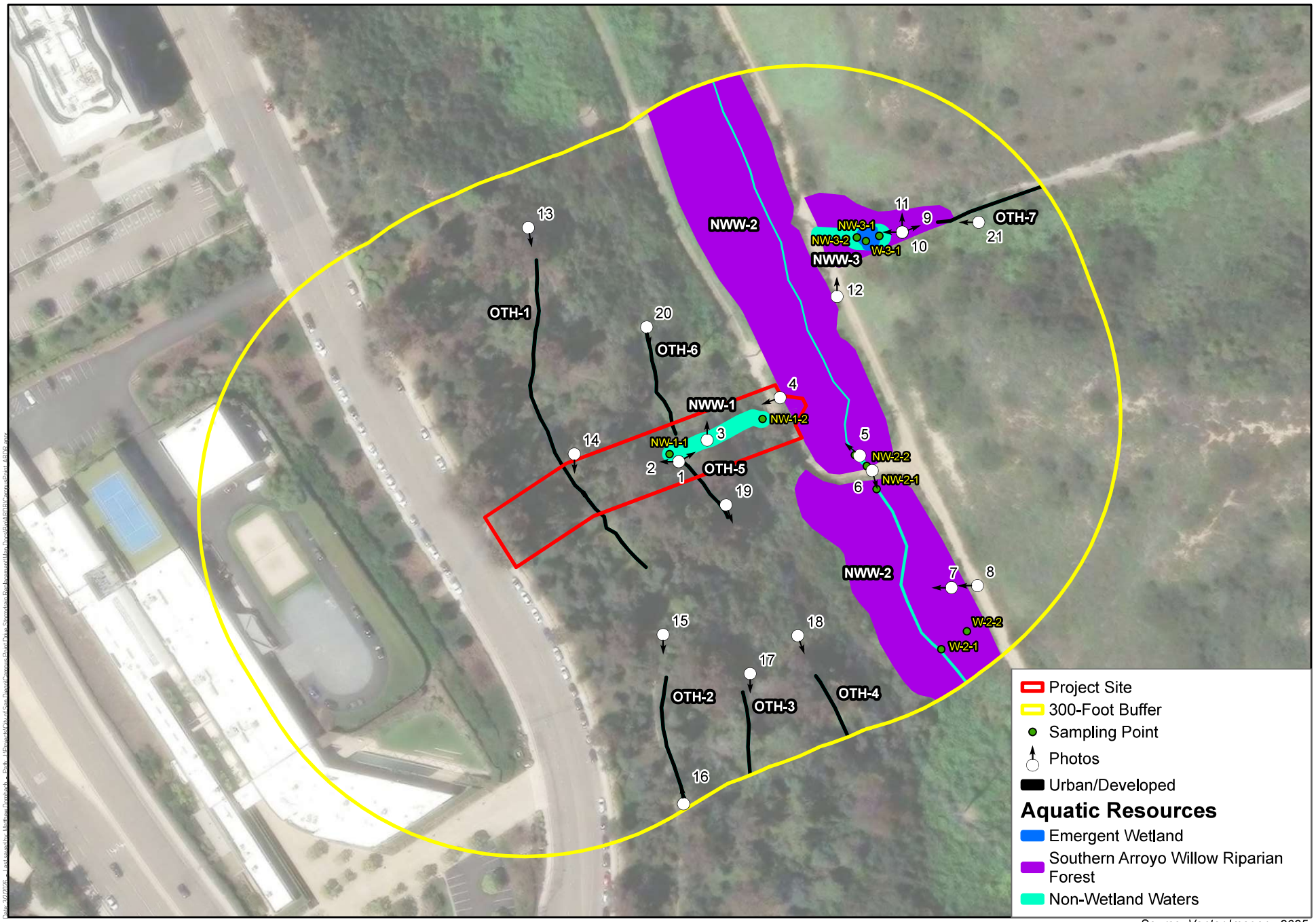

Source: Vantor Imagery, 2025.

Harris & Associates

N

0 50 100

Feet

Attachment E

Photo Locations

Campus Point Drive Storm Drain Replacement Project

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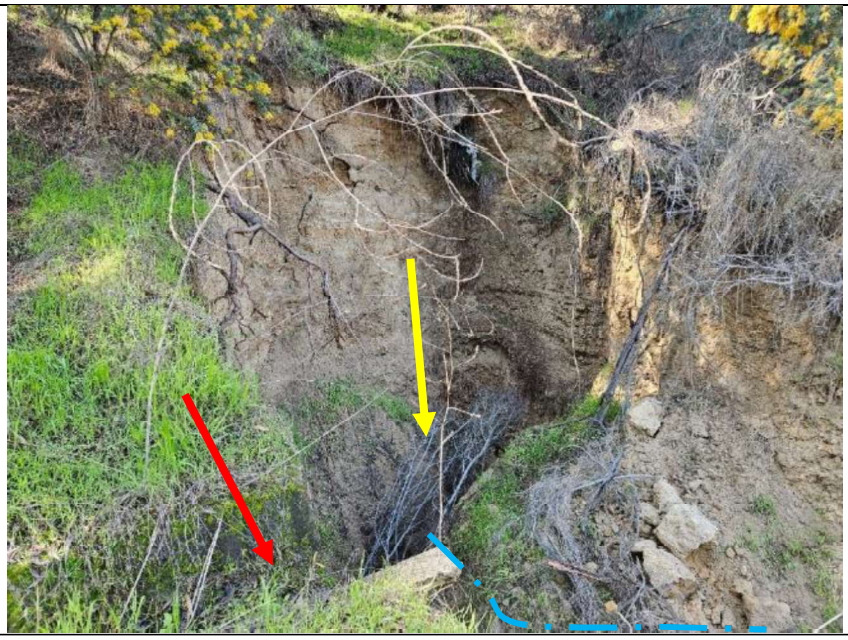
Non-Wetland Water (NWW-) 1



Photograph 1: (32.884232, −117.219472) East-facing view of the where the storm drain that will be replaced has broken and severe erosion has formed a deep, earthen-bottom channel (NWW-1; indicated by a blue dashed line). OTH-5 (indicated by a red arrow) and OTH-6 (indicated by a yellow arrow) are concrete-lined drainage channels that were likely connected before erosion occurred and the concrete lining broke apart. Both OHT-5 and OTH-6 are eroding into NWW-1 and are causing additional erosion on the northern and southern sides of NWW-1. Due to severe erosion, photos of the OHWM in the newly formed drainage, NWW-1, were unable to be safely taken.



Photograph 2: (32.884226, −117.219444) West-facing view of NWW-1 (indicated by a blue dashed line), approximately where NW-1-1 (indicated by a yellow arrow) was estimated due to inability to safely obtain accurate OHWM indicator measurements. The concrete lining of OTH-5 that is eroding into NWW-1 is shown by a red arrow.

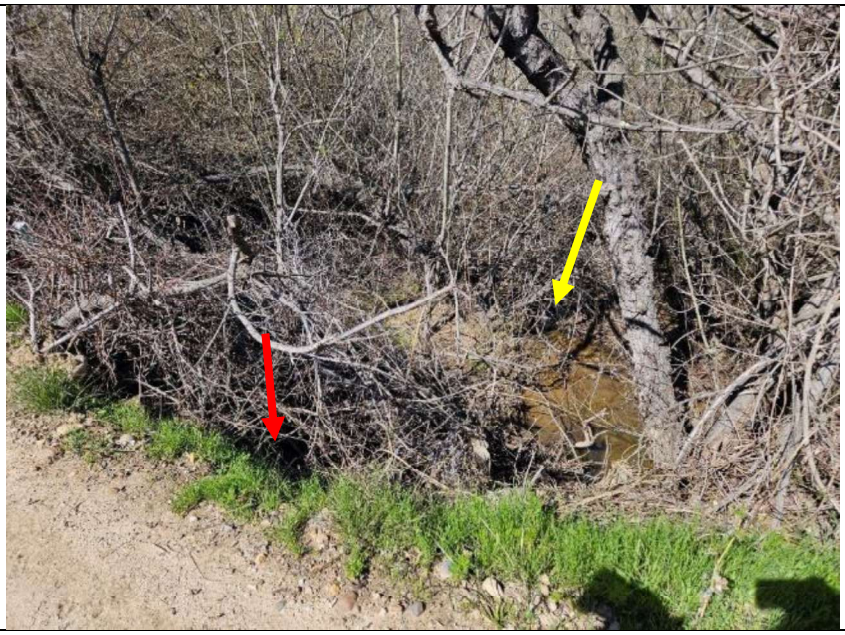


Photograph 3: (32.884226, −117.219444) North-facing view of where NWW-1 has formed due to sever erosion. A defined channel has formed with an OHWM approximately 25 to 30 feet below where the storm drain that has been destroyed was located (shown in a red circle in the bottom right of the photo).



Photograph 4: (32.884368, −117.219144) West-facing view of where the OHWM of NWW-1, an earthen-bottom channel formed from erosion, becomes undefined as it crosses an unpaved road and surface flows south and down a slope into NWW-2 at the bottom of the canyon. This photograph shows where Sampling Point NW-1-2 was collected to determine the presence of OHWM indicators and document the end of the defined erosional channel.

NWW-2



Photograph 5: (32.884211, −117.218830) Northwest-facing view of the earthen-bottom channel NWW-2 in the eastern portion of the survey area. This photograph shows where Sampling Point NW-2-1 (indicated by a red arrow) and NW-2-2 (indicated by a yellow arrow) were collected to determine the presence of OHWM indicators.



Photograph 6: (32.884170, −117.218823) South-facing view of the earthen-bottom channel NWW-2 in the eastern portion of the survey area. This photograph shows where Sampling Point NW-2-2 was collected to determine the presence of OHWM indicators.



Photograph 7: (32.883727, −117.218590) West-facing view of the earthen-bottom channel NWW-2. This photograph shows where W-2-1 was taken just outside the OHWM to determine the presence of wetland indicators. The soil pit became almost entirely inundated after approximately 2 minutes.



Photograph 8: (32.883773, −117.218483) West-facing view of where sampling point W-2-2, the paired upland sampling point to wetland sampling point W-2-2, was collected to confirm the absence of a wetland adjacent to the earthen-bottom channel NWW-2.

NWW-3



Photograph 9: (32.884864, −117.218861) East-facing view of NWW-3 where it emerges at the downstream end of a stormwater culvert. At this location, the concrete channel lining has entirely degraded, allowing an emergent wetland to form within the limits of NWW-3 beneath the top of bank (TOB). This photograph shows where Sampling Point NW-3-1 was collected to determine the presence of OHWM indicators.



Photograph 10: (32.884863, −117.218876) West-facing view of NWW-3 where it is still earthen bottom due to completely degraded concrete lining. This photograph shows where Sampling Point NW-3-2 (indicated by a red arrow) was collected to determine the presence of OHWM indicators where the channel narrows and then becomes undefined as it crosses over an Arizona crossing within an unpaved access road and into NWW-2.



Photograph 11: (32.884820, −117.218853) North-facing view of NWW-3. This photograph shows where a wetland sampling point, W-3-1 (indicated by a red arrow), was collected just above the OHWM and below the TOB to determine the presence of wetland indicators. Another wetland sampling point outside the TOB could not be taken due to a dirt access road immediately south of NWW-3 and due to dense shrubs to the north located immediately above the TOB and existing concrete lining.



Photograph 12: (32.884180, −117.219270) North-facing view of where NWW-3 becomes undefined (indicated by a yellow arrow) and surface flows to the southwest over an Arizona crossing within an unpaved dirt road and connects to NWW-2 (indicated by a red arrow).

Other Feature (OTH-) 1



Photograph 13: (32.884793, −117.219954) South-facing view of where OTH-1, an entirely concrete-lined drainage channel, originates in the central portion of the survey area within eucalyptus woodland. OTH-1 through OTH-7 (shown in this photograph and photographs 14 through 20 below) are artificial drainage features constructed within the slope of the canyon in the survey area for the purposes of stormwater control.



Photograph 14: (32.884125, −117.219821) South-facing view of OTH-1 (indicated by a solid, dark blue line) as it erodes into the storm drain system (indicated by red and yellow arrows) that would be replaced (indicated by a light blue dashed line). The storm drain that would be replaced is a pipe that travels east and down a steep slope underground.

OTH-2



Photograph 15: (32.883628, −117.219519) South-facing view of the concrete-lined drainage channel OTH-2 in the south-central portion of the survey area.



Photograph 16: (32.883274, −117.219446) North-facing view of OTH-2 where it drains into an underground storm drain before continuing farther south outside the survey area.

OTH-3



Photograph 17: (32.883607, −117.219257) South-facing view of the concrete-lined drainage channel OTH-3 (indicated by a red arrow) in the south-central portion of the survey area. This photograph also shows the upland grasses and weeds growing in the accumulated sediments within the concrete drainage channel.

OTH-4



Photograph 18: (32.883595, −117.218973) South-facing view of the concrete-lined drainage channel OTH-4 (indicated by a red arrow) in the south-central portion of the survey area. This photograph also shows the upland grasses and weeds growing in the accumulated sediment within the concrete drainage channel.

OTH-5



Photograph 19: (32. 884112, −117.219313) South-facing photograph of the concrete-lined drainage channel OTH-5 in the central portion of the survey area. This photograph also shows the upland grasses and weeds growing in the accumulated sediment within the concrete drainage channel (indicated by a red arrow).

OTH-6



Photograph 20: (32.884611, −117.219585) South-facing view of the concrete-lined drainage channel OTH-6 in the central portion of the survey area. This photograph also shows the upland grasses and weeds growing in the accumulated sediment within the concrete drainage channel (indicated by a red arrow).

OTH-7



Photograph 21: (32.884918, −117.218568) West-facing view of the concrete-lined drainage channel OTH-7 in the eastern portion of the survey area, where it terminates into an underground storm drain. NWW-3 is located to the east of OTH-7, as indicated by a red arrow, and storm water flows are directed from OTH-7, through an underground storm water pipe, into NWW-3.

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Attachment F. SDAM for the Arid West Forms

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Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: Campus Point Drive Storm Drain Replacement Project		
Site code or identifier: NWW-1	Assessor(s): Kelly Otto	
Waterway name: Unnamed earthen bottom channel		Visit date: 02/13/24
Current weather conditions (check one) ☐ Storm/heavy rain ☐ Steady rain ☐ Intermittent rain ☐ Snowing ☐ Cloudy (___ % cover) ■ Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week):	Coordinates at downstream end (decimal degrees): Lat (N): 32.884253 Long (W): -117.219504 Datum: NAD83
Surrounding land-use within 100 m (check one or two): ☐ Urban/industrial/residential ☐ Agricultural (farmland, crops, vineyards, pasture) ☐ Developed open-space (e.g., golf course) ☐ Forested ☐ Other natural ■ Other: _Eucalyptus woodland on steep slope further surrounded by coastal sage scrub and southern arroyo willow forest to the east and urban areas to the west.	Describe reach boundaries: The channel has formed due to severe erosion beneath where the replacement storm drain used to be before it broke apart. The channel now flows directly east and over an unpaved dirt access road into NWW-2. The channel is entirely within Eucalyptus woodland and occurs on a steep western slope of a canyon.	
Mean channel width (m) 5 meter	Reach length (m): 40x width; min 40 m; max 200 m. 36 meters; less than the 40 min because this is the total extent of the feature in the survey area	Enter photo ID, or check if completed Attachment E; Photographs 1 through 4
Disturbed or difficult conditions (check all that apply): ☐ Recent flood or debris flow ☐ Stream modifications (e.g., channelization) ☐ Diversions ☐ Discharges ☐ Drought ☐ Vegetation removal/limitations ■ Other (explain in notes) ☐ None	Notes on disturbances or difficult site conditions: NWW-1 is within an area of severe erosion at least 25 feet below the surrounding land elevation. The site conditions were extremely unsafe due to the erosion and dense vegetation located along the southern edge of the drainage. Therefore, OHWM and TOB were estimated due to lack of visibility and accessibility.	
Observed hydrology: __0__ % of reach with surface flow __0__ % of reach with sub-surface or surface flow ____0__ # of isolated pools	Comments on observed hydrology: The channel and surrounding area appeared dry at the time of the survey.	

Site sketch:

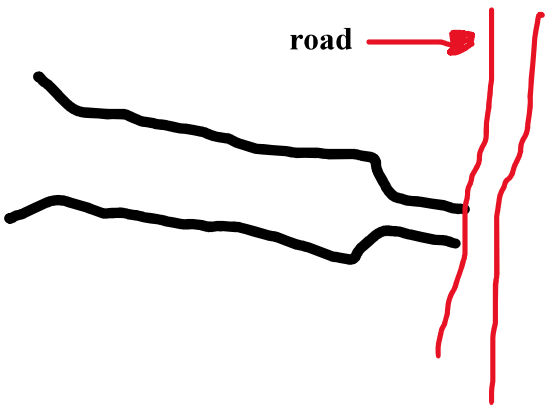
TOB width = ranges between 2ft. and 15 ft.

OHWM width= ranges between 1 ft. and 4.5 ft.



OHWM Depth = ranges between 0.25 ft. and 1 ft.

Top-Down View:



1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area ☐ No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID
N/A	N/A	N/A	N/A

Notes on hydrophytic vegetation:

No hydrophytic vegetation was observed during the fielding effort.

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

Number of individuals quantified:
- ■ None
- ☐ 1 to 19
- ☐ 20 +

(Do not count mosquitos)

Photo ID: N/A

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No



Ephemeroptera larva
Image credit: Dieter Tracey



Plecoptera larva
Tracey Saxby



Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates:

4. Algal Cover

Are algae found on the streambed?		Notes on algae cover:	Photo ID:
☐ Check if *all* observed algae appear to be deposited from an upstream source.	■ Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)	No algae observed during the survey effort	N/A

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes ■ No, no fish ☐ No, only non-native mosquitofish	N/A	N/A
Algae cover ≥ 10%	☐ Yes		

	☐ No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description
Photos 1 through 4	See Attachment E, Photographic Log, for photos and descriptions.

Additional notes about the assessment:

Classification: Ephemeral

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None	None	Absent	Absent	Absent	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: Campus Point Drive Storm Drain Replacement Project		
Site code or identifier: NWW-2	Assessor(s): Kelly Otto	
Waterway name: Unnamed earthen bottom channel		Visit date: 02/13/24
Current weather conditions (check one) ☐ Storm/heavy rain ☐ Steady rain ☐ Intermittent rain ☐ Snowing ☐ Cloudy (___ % cover) ■ Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week):	Coordinates at downstream end (decimal degrees): Lat (N): 32.884160 Long (W): -117.218815 Datum: NAD83
Surrounding land-use within 100 m (check one or two): ☐ Urban/industrial/residential ☐ Agricultural (farmland, crops, vineyards, pasture) ☐ Developed open-space (e.g., golf course) ☐ Forested ☐ Other natural ■ Other: _Southern arroyo willow riparian forest canopy surrounds the feature	Describe reach boundaries: The channel is an unvegetated earthen bottom channel that travels from south to north in the survey area. It is surrounded by dense southern arroyo willow riparian forest. It travels north through the survey area beneath an unpaved access road via culverts and continues out of the survey area. It appears flows from the surrounding slopes flow into this feature in several locations.	
Mean channel width (m) 0.6 meter	Reach length (m): 40x width; min 40 m; max 200 m. 203 metes; exceeds the max by 3 meters because the second stretch would be less than the minimum.	Enter photo ID, or check if completed Attachment E; Photographs 5 through 8
Disturbed or difficult conditions (check all that apply): ☐ Recent flood or debris flow ☐ Stream modifications (e.g., channelization) ☐ Diversions ☐ Discharges ☐ Drought ☐ Vegetation removal/limitations ■ Other (explain in notes) ☐ None	Notes on disturbances or difficult site conditions: NWW-2 is within very dense southern arroyo willow riparian forest that is heavily dominated by poison oak (*Toxicodendron divserilobum*). Additionally, this feature appears to receive flows from several concrete lined and earthen bottom channels that travel along the surrounding slopes to the east and west.	
Observed hydrology: __100__ % of reach with surface flow __0__ % of reach with sub-surface or surface flow ____0__ # of isolated pools	Comments on observed hydrology: Surface flows and soil saturation were present at the time of the survey.	

Site sketch:

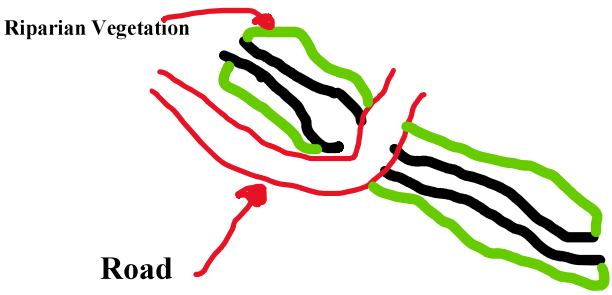
TOB width = ranges between 2 ft. and 5 ft.

OHWM width= ranges between 1 ft. and 4 ft.



OHWM Depth = ranges between 0.25 ft. and 0.50 ft.

Top-Down View:



1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area ☐ No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Dominant; FACW	5 - 8

Notes on hydrophytic vegetation:

Arroyo willow dominates an extensive riparian corridor surrounding the feature.

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

Number of individuals quantified:
☐ None
■ 1 to 19
☐ 20 +

(Do not count mosquitos)

Photo ID:_____

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No



Ephemeroptera larva
Image credit: Dieter Tracey



Plecoptera larva
Tracey Saxby



Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates: One water boatman (*Corixidae* spp.) species was observed.

4. Algal Cover

Are algae found on the streambed?		Notes on algae cover:	Photo ID:
☐ Check if *all* observed algae appear to be deposited from an upstream source.	■ Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)	No algae observed during the survey effort	N/A

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes ■ No, no fish ☐ No, only non-native mosquitofish	N/A	N/A
Algae cover ≥ 10%	☐ Yes ■ No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description
Photos 5 through 8	See Attachment E, Photographic Log, for photos and descriptions.

Additional notes about the assessment:

Classification: Intermittent

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None	None	Absent	Absent	Absent	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: Campus Point Drive Storm Drain Replacement Project		
Site code or identifier: NWW-3	Assessor(s): Kelly Otto	
Waterway name: Unnamed earthen bottom channel		Visit date: 02/13/24
Current weather conditions (check one) ☐ Storm/heavy rain ☐ Steady rain ☐ Intermittent rain ☐ Snowing ☐ Cloudy (___ % cover) ■ Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week):	Coordinates at downstream end (decimal degrees): Lat (N): 32.884910 Long (W): -117.218620 Datum: NAD83
Surrounding land-use within 100 m (check one or two): ☐ Urban/industrial/residential ☐ Agricultural (farmland, crops, vineyards, pasture) ☐ Developed open-space (e.g., golf course) ☐ Forested ☐ Other natural ■ Other: _Southern arroyo willow riparian forest canopy surrounds the feature in the western portion, and Diegan coastal sage scrub along eastern portion. Emergent wetland present beneath TOB, adjacent to OHWM.	Describe reach boundaries: The channel is a partially concrete-lined and partially unvegetated earthen bottom channel that travels from east to west in the survey area. The portion in the east is concrete-lined and surrounded by Diegan coastal sage scrub. As it travels west, it becomes undergrounded briefly as it flows into a culvert, and then emerges and becomes earthen bottom where the concrete lining has failed. An emergent wetland has formed beneath the TOB and adjacent to the OHWM to the north and south of the OHWM extent. It continues flowing west until the OHWM becomes undefined where it crosses over an unpaved access road and into NWW-2.	
Mean channel width (m) 0.4 meter	Reach length (m): 40x width; min 40 m; max 200 m. 52 meters	Enter photo ID, or check if completed Attachment E; Photographs 9 through 12
Disturbed or difficult conditions (check all that apply): ☐ Recent flood or debris flow ☐ Stream modifications (e.g., channelization) ☐ Diversions ☐ Discharges ☐ Drought ☐ Vegetation removal/limitations ■ Other (explain in notes) ☐ None	Notes on disturbances or difficult site conditions: NWW-3 was likely entirely concrete-lined, but has since degraded, allowing an emergent wetland to form within the limits of the TOB.	
Observed hydrology: __100__ % of reach with surface flow __0__ % of reach with sub-surface or surface flow ____0__ # of isolated pools	Comments on observed hydrology: Surface flows and soil saturation were present at the time of the survey.	

Site sketch:

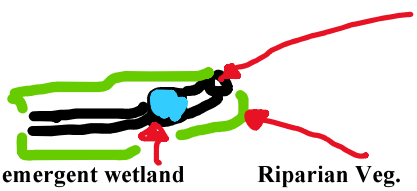
TOB width = ranges between 2 ft. and 25 ft.

OHWM width= ranges between 1 ft. and 2 ft.



OHWM Depth = ranges between 0.25 ft. and 1 ft.

Top-Down View:



1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area ☐ No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Dominant; FACW	9 through 12

Notes on hydrophytic vegetation:

Numerous arroyo willow dominate the riparian corridor surrounding the feature.

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

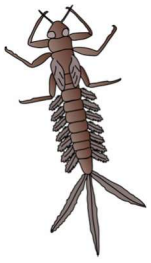
Number of individuals quantified:
☐ None
■ 1 to 19
☐ 20 +

(Do not count mosquitos)

Photo ID:_____

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No



Ephemeroptera larva
Image credit: Dieter Tracey



Plecoptera larva
Tracey Saxby



Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates:
Two paddle boatman individuals were observed (*Corixidae* sp.).

4. Algal Cover

Are algae found on the streambed?		Notes on algae cover:	Photo ID:
☐ Check if *all* observed algae appear to be deposited from an upstream source.	■ Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)	No algae observed during the survey effort	N/A

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes ■ No, no fish ☐ No, only non-native mosquitofish	N/A	N/A

Algae cover ≥ 10%	☐ Yes ■ No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description
Photos 9 through 12	See Attachment E, Photographic Log, for photos and descriptions.

Additional notes about the assessment:

Classification: Intermittent

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None	None	Absent	Absent	Absent	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

Attachment G. Geographic Information Systems Data

Available Upon Request.

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Attachment H. ORM Bulk Upload Aquatic Resources Spreadsheet

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Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
NWW-1	CALIFORNIA	R6	SLOPE	Area	0.01	ACRE	NON-WOTUS-TRIB.NEGATIVE.A3	32.88425300	-117.21950400	Los Penasquitos Creek (tributary to Los Penasquitos Lagoon
NWW-2	CALIFORNIA	R4	RIVERINE	Area	0.017	ACRE	A3.TRIB-404	32.88416000	-117.21884900	Los Penasquitos Creek (tributary to Los Penasquitos Lagoon
NWW-3	CALIFORNIA	R4	DEPRESS	Area	0.002	ACRE	A3.TRIB-404	32.88425300	-117.21950400	Los Penasquitos Creek (tributary to Los Penasquitos Lagoon

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