



**Biological Resources Report for the
Beyer Park Development Project,
San Diego, California
WBS# S-00752.02.02**

Prepared for

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A handwritten signature in black ink, appearing to read "Wendy Loeffler".

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- 1: Plant Species Observed
- 2: Wildlife Species Observed
- 3: Sensitive Plant Species Observed or with the Potential to Occur
- 4: Sensitive Wildlife Species Occurring or with the Potential to Occur

Acronyms and Abbreviations

ACOE	U.S. Army Corps of Engineers
ADD	Administrator Deputy Director
APN	Assessor's Parcel Number
BBS	Busby Biological Services
BCME	Biological Construction Mitigation/Monitoring Exhibit
BLA	Boundary Line Adjustment
BMPs	Best Management Practices
Cal-IPC	California Invasive Plant Council
CD	construction document
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of San Diego
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CSVR	Consultant Site Visit Record
CWA	Clean Water Act
dB(A)	A-weighted decibels
ESA	Endangered Species Act
ESL	Environmentally Sensitive Lands
GPS	Global Positioning System
LDC	Land Development Code
LUAG	Land Use Adjacency Guidelines
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Area
MMC	Mitigation Monitoring Coordination
MSCP	Multiple Species Conservation Program
OHV	off-highway vehicle
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SDNHM	San Diego Natural History Museum
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VPHCP	City of San Diego Vernal Pool Habitat Conservation Plan

Management Summary

The City of San Diego (City) proposes the Beyer Park Development Project (project), which entails development and operation of a new community park with turf sports fields, picnic/gathering spaces, trails, a children's play area, a skate park, a fitness area, a half basketball court, a dog park, a comfort station, and other associated amenities and facilities. The project is located on three City-owned parcels (i.e., project parcels), southeast of the eastern terminus of Beyer Boulevard in the community of San Ysidro in the city of San Diego.

The following eight vegetation communities or land cover types were mapped within the project parcels and surrounding 100-foot buffer: mule fat scrub, maritime succulent scrub, disturbed maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, disturbed land, ornamental plantings, and urban/developed. The project would result in direct impacts to 11.47 acres of sensitive vegetation communities, including 0.91 acre of maritime succulent scrub (Tier I), 4.86 acres of disturbed maritime succulent scrub (Tier I), 1.41 acres of Diegan coastal sage scrub (Tier II), and 4.29 acres of disturbed Diegan coastal sage scrub (Tier II). These impacts would be mitigated through enhancement of 10.42 of maritime succulent scrub and disturbed maritime succulent scrub and restoration of 3.70 acres of disturbed land in the eastern project parcel, which includes both Multi-Habitat Planning Area (MHPA) and non-MHPA lands. A total of 13.55 acres of occupied western burrowing owl habitat will be directly impacted and will require mitigation at the same ratios as required for impacts to the underlying sensitive vegetation communities.

Thirteen sensitive plant species were observed within the project parcels. The project would directly impact the following eight sensitive plant species: San Diego barrel cactus (*Ferocactus viridescens*), beach goldenaster (*Heterotheca sessiliflora* ssp. *sessiliflora*), south coast saltscale (*Atriplex pacifica*), San Diego bur-sage (*Ambrosia chenopodiifolia*), Palmer's grapplehook (*Harpagonella palmeri*), California box-thorn (*Lycium californicum*), small-flowered microseris (*Microseris douglasii* var. *platycarpha*), and San Diego County viguiera (*Bahiopsis laciniata*). Direct impacts to beach goldenaster would be considered significant and would be mitigated through restoration of beach goldenaster within the project parcels. Indirect impacts to the sensitive plant species would be minimized and/or avoided by implementation of MHPA land use adjacency guidelines and would not be significant.

Thirteen sensitive wildlife species were observed within or adjacent to the project parcels, and four additional sensitive wildlife species were identified as having a high or moderate potential to occur. The project would result in significant direct impacts to western burrowing owl. Direct impacts to western burrowing owl and its habitat would be mitigated through preparation and/or implementation of a habitat restoration plan to preserve occupied habitat which will include a burrowing owl mitigation plan, a burrow exclusion plan, pre-construction surveys, grading restrictions, and construction monitoring. Indirect construction-related impacts to San Diego fairy shrimp would be avoided through implementation of avoidance measures and minimization measures in compliance with the

City's Vernal Pool Habitat Conservation Plan. These measures would reduce the level of impact to less than significant.

Indirect noise impacts to least Bell's vireo, California coastal gnatcatcher, and coastal cactus wren would be mitigated through implementation of noise attenuation measures and/or noise monitoring, if construction occurs during the nesting season.

Within the project parcels, jurisdictional wetlands and waters were delineated in Moody Canyon and a small depression near the western edge of the project parcels. These include 0.07 acre of U.S. Army Corps of Engineers non-wetland waters of the U.S./California Department of Fish and Wildlife (CDFW) streambed/Regional Water Quality Control Board (RWQCB) unvegetated streambed in Moody Canyon, 0.36 acre of CDFW riparian habitat/City Wetlands in Moody Canyon, and 0.02 acre of RWQCB isolated waters within the small depression. No direct impacts to jurisdictional wetlands or waters are proposed as part of the project.

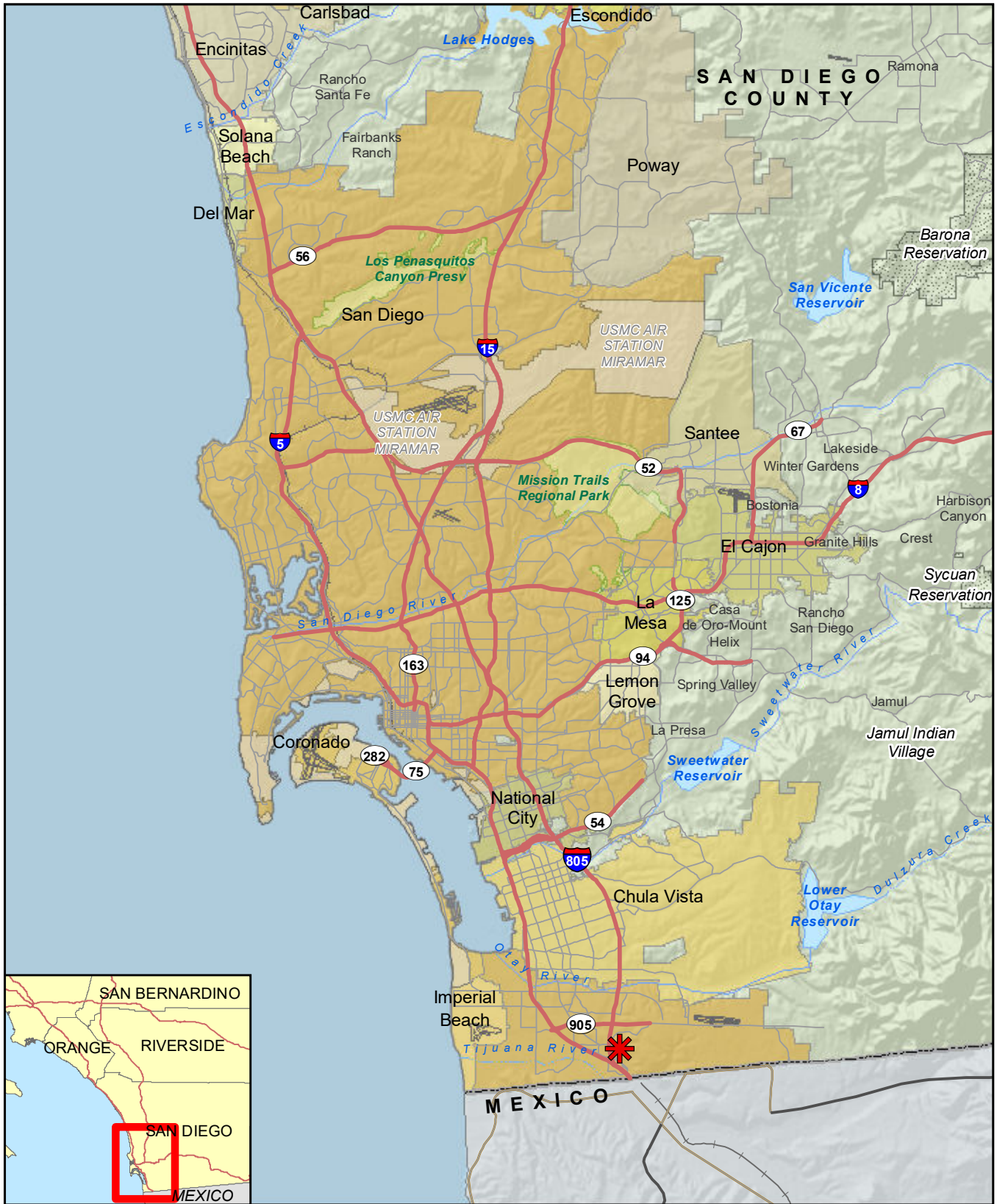
The project has been designed in conformance with the MHPA Land Use Adjacency Guidelines pertaining to drainage, lighting, noise, invasive plants, and grading/land development, as described in Section 1.4.3 of the City's MSCP Subarea Plan.

1.0 Introduction

The purpose of this biological resources report is to (1) document the existing biological conditions within the project survey area; (2) evaluate the survey area and the vicinity for the potential to support sensitive biological resources, including Environmentally Sensitive Lands (ESL); (3) provide an impact analysis based on the potential impacts associated with the proposed project; and (4) provide a discussion of potential avoidance, minimization, and mitigation measures that may be required to reduce potential impacts to sensitive biological resources to below a level of significance.

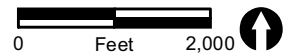
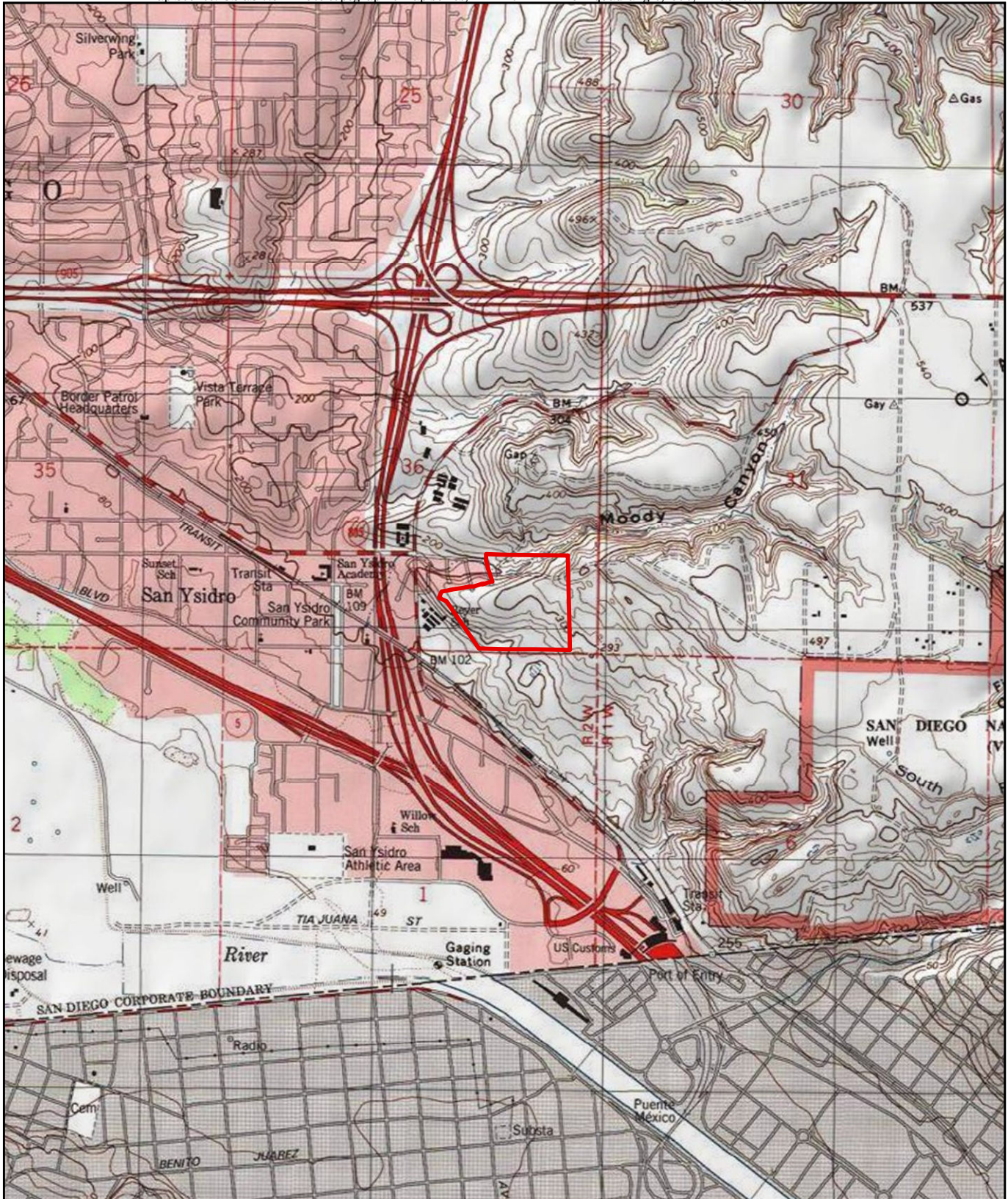
1.1 Project Location

The project site is located on undeveloped City of San Diego (City) park land, southeast of the eastern terminus of Beyer Boulevard in the community of San Ysidro, city of San Diego (Figures 1–3). The project site is found in the southeast quarter of Section 36, Township 18 South, Range 02 West, of the U.S. Geological Survey (USGS) 7.5-minute topographic map, Imperial Beach quadrangle (Figure 2; USGS 1996). The project site is situated on three parcels, Assessor's Parcel Numbers (APNs) 6381701800, 6381701900, and 6380707100, referred to hereafter as the "project parcels," which total 43.9 acres (Figure 4). Excluding developed areas, the surrounding 500-foot (approximate 150-meter) buffer, which accounts for all biological survey areas used for this report, includes portions of APNs 63807068, 63807074, 64506110, 66701001, 66613009, 66613007, 66613028, 63817014, and 63828017; as well as the entirety of APNs 66613006, 66613005, 66613004, and 66613008 (see Figure 4). An aerial view of the project parcels is also provided on Figure 4.



***** Project Location

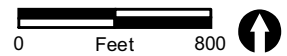
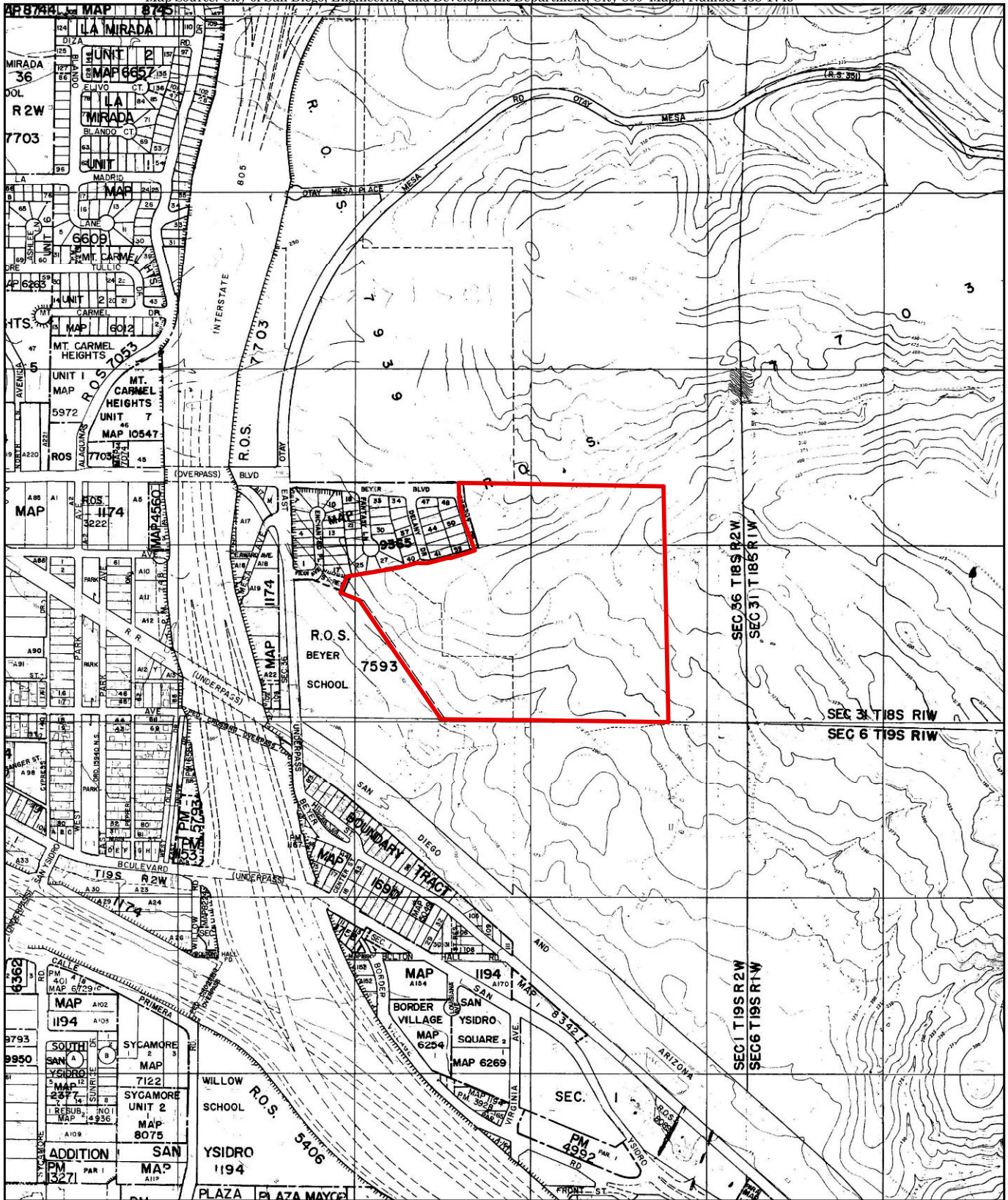
FIGURE 1
Regional Location



 Project Parcels Boundary

FIGURE 2

Project Location on USGS Map












 Project Parcels Boundary

FIGURE 3

Project Location on City 800' Map



-  Project Parcels Boundary
-  Project Impact Area
-  MSCP Habitrak Lands
-  100-foot Survey Buffer
-  300-foot Survey Buffer
-  500-foot (approximate 150-meter) Survey Buffer
-  Parcels
-  City of San Diego MHPA
-  County Preserve

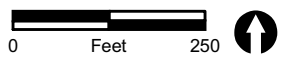


FIGURE 4
Project Location and MSCP
Preserve Area on Aerial Photograph

The project parcels are situated within the City's Multiple Species Conservation Program (MSCP) Subarea Plan boundary. Portions of the eastern project parcel are located within the City's Multi-Habitat Planning Area (MHPA) boundary (see Figure 4).

1.2 Project Description

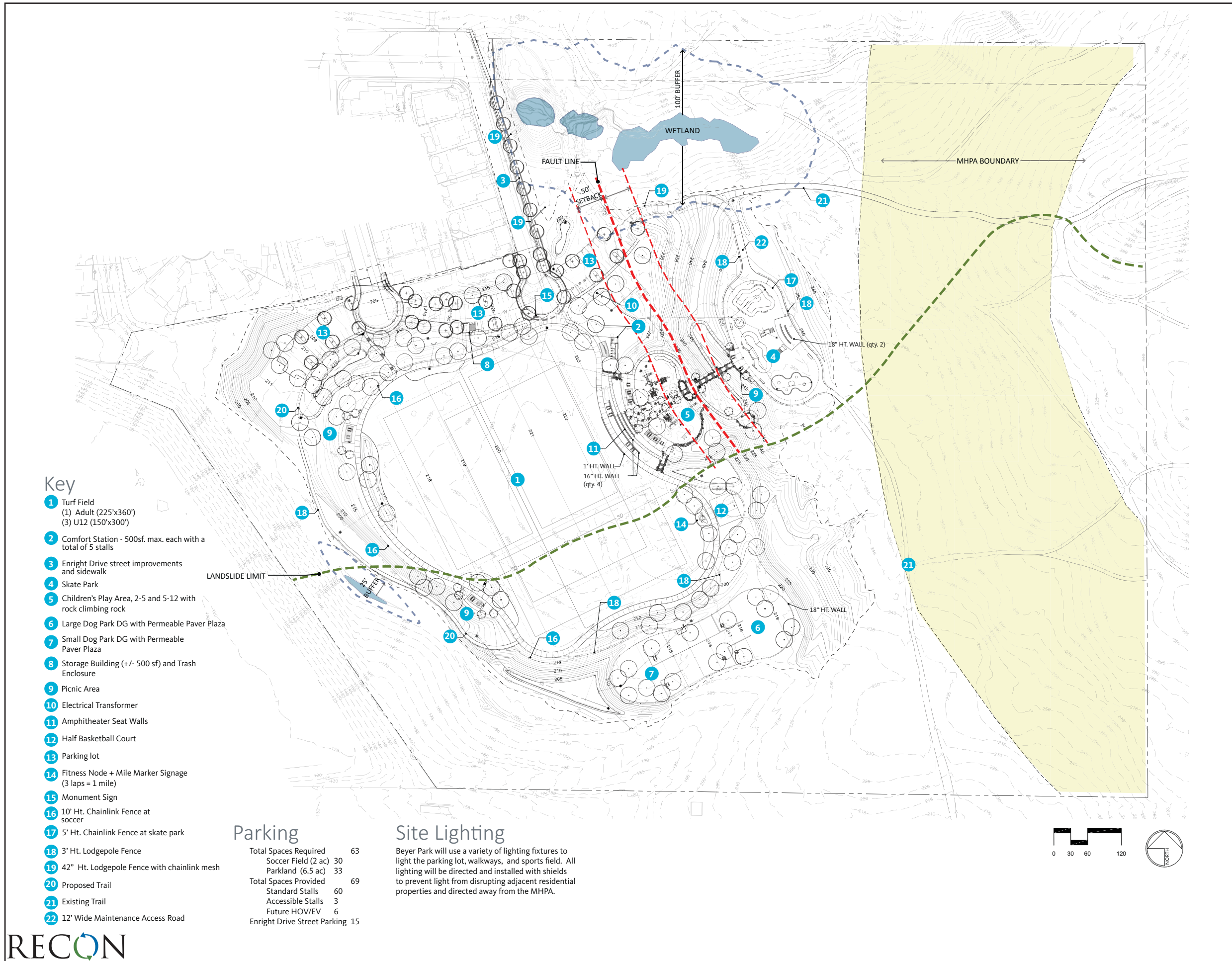
The project proposes to construct a community park, approximately 15 acres in size, in the community of San Ysidro. The park will consist of lighted turf sports fields, picnic/gathering spaces, concrete walkways, trails, and landscaped areas, along with a children's play area, skate park, fitness area, half basketball court, dog park, comfort station, storage building, parking, and biofiltration Best Management Practices (BMPs), i.e., planted storm water treatment basins and underground detention system (Figure 5). The park will be open to the public 24 hours a day with the exception of the skate park, which will be closed by locked gate between dusk and dawn. Access to the project site will be from Beyer Boulevard via Enright Drive and Delany Drive, which are existing cul-de-sacs. The parking lot will intersect the existing southern end of Delany Drive and a new extended cul-de-sac at the south end of Enright Drive. The east side of Enright Drive will be improved with a new sidewalk, fencing, and landscaping.

Overall, the park will include a mix of surfaces including concrete, pavement, permeable pavers, decomposed granite, and planted areas. The dog park, located at the southern end of the park, will be part decomposed granite and part permeable pavers. Concrete will be used for the skate park and central walkways. Trails will be constructed with a decomposed granite trailbed. Landscaped areas (except the turf sports fields) and storm water treatment basins will be planted with a mix of native and non-invasive ornamental species, with only native plantings where the park transitions into the surrounding natural vegetation.

The storm water treatment basins will have four discharge points along the perimeter of the park. The storm water treatment basins west of the dog park will outfall to the south. The basins in the northeastern portion of the park will outfall to the north, just south of Moody Canyon. The basin at the west edge of the turf field will outfall to the west, and the basin in the northwest portion of the park will tie into an existing concrete brow ditch along the northwestern edge of the park.

Fencing will be installed around the majority of the park perimeter and within the park to demarcate use areas. Five-foot-high chain-link fencing will also be installed around the skate park perimeter. Ten-foot-high chain-link fence will be installed around the north, south, and west sides of the turf sports fields, and three-and-one-half-foot-high fencing will be installed around the dog park. Three-foot-high lodge-pole fencing will be installed along trails, and two connections to existing trails, which are consistent with the trail alignments identified in the Otay Mesa Community Plan, will be provided.

Directed and/or shielded lighting will be installed at the sports fields, along concrete walkways, and at the parking lots. The skate park will not be lighted.



Key

- 1 Turf Field
(1) Adult (225'x360')
(3) U12 (150'x300')
- 2 Comfort Station - 500sf. max. each with a total of 5 stalls
- 3 Enright Drive street improvements and sidewalk
- 4 Skate Park
- 5 Children's Play Area, 2-5 and 5-12 with rock climbing rock
- 6 Large Dog Park DG with Permeable Paver Plaza
- 7 Small Dog Park DG with Permeable Paver Plaza
- 8 Storage Building (+/- 500 sf) and Trash Enclosure
- 9 Picnic Area
- 10 Electrical Transformer
- 11 Amphitheater Seat Walls
- 12 Half Basketball Court
- 13 Parking lot
- 14 Fitness Node + Mile Marker Signage (3 laps = 1 mile)
- 15 Monument Sign
- 16 10' Ht. Chainlink Fence at soccer
- 17 5' Ht. Chainlink Fence at skate park
- 18 3' Ht. Lodgepole Fence
- 19 42" Ht. Lodgepole Fence with chainlink mesh
- 20 Proposed Trail
- 21 Existing Trail
- 22 12' Wide Maintenance Access Road

Parking

Total Spaces Required	63
Soccer Field (2 ac)	30
Parkland (6.5 ac)	33
Total Spaces Provided	69
Standard Stalls	60
Accessible Stalls	3
Future HOV/EV	6
Enright Drive Street Parking	15

Site Lighting

Beyer Park will use a variety of lighting fixtures to light the parking lot, walkways, and sports field. All lighting will be directed and installed with shields to prevent light from disrupting adjacent residential properties and directed away from the MHPA.

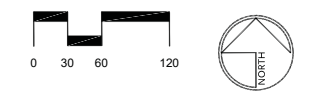


FIGURE 5

Draft Site Plan for Beyer Park

The estimated duration of construction is two years. Construction equipment will likely include but not be limited to the following: grader, dozer, two excavators, two backhoes, two scrapers, pickup trucks, generators, and power and manual hand tools.

This project proposes on-site mitigation within and adjacent to the MHPA that occurs within the project parcels; on-site mitigation is discussed in detail in Section 6.0 of this report.

2.0 Methods and Survey Limitations

Biological resource data for the project was obtained from a combination of literature review, general biological survey (i.e., biological constraints survey), and focused biological surveys. Focused surveys were conducted for the following resources/species: rare plants, fairy shrimp, Quino checkerspot butterfly (*Euphydryas editha quino*; Quino), coastal California gnatcatcher (*Polioptila californica californica*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), least Bell's vireo (*Vireo bellii pusillus*), western burrowing owl (*Athene cunicularia hypugaea*), and jurisdictional wetland/waters (Table 1). The literature review and survey methods are discussed further below.

The biological surveys were conducted at appropriate times of year to detect presence/absence of target species. However, surveys were limited by temporal factors, as all surveys were conducted during the day. Nocturnal animals were only detected by sign such as tracks, scat, and/or burrows.

Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (2015) and Unitt (2004); for mammals with Baker et al. (2003); for amphibians and reptiles with Crother et al. (2012); and for invertebrates with San Diego Natural History Museum (SDNHM; 2002), Evans (2007), and Eriksen and Belk 1999. Floral nomenclature for common plants follows Baldwin (2012) as updated by the Jepson Online Interchange (University of California 2017) and for sensitive plants the California Native Plant Society online database (CNPS 2017). If a plant's common name was not provided in these resources, common names were obtained from Rebman and Simpson (2014), or the U.S. Department of Agriculture (USDA) maintained database (USDA 2013) or the Sunset Western Garden Book (Brenzel 2001) for ornamental/horticultural plants.

2.1 Literature Review

RECON conducted an analysis of existing sensitive species data recorded within one mile of the project site. This analysis included searches of the California Natural Diversity Database (CNDDDB; California Department of Fish and Wildlife [CDFW] 2017a), the All Species Occurrences Database (U.S. Fish and Wildlife Service [USFWS] 2017), and SanBIOS (County of San Diego 2017). Additional maps, imagery, and databases reviewed included U.S. Geological Survey topographic maps (USGS 1997), soils survey maps (San Diego Association of Governments [SANDAG] 1995, USDA 2017), online aerial satellite imagery (Google Earth 2018), the Consortium of California Herbaria (2018), and the Amphibian and Reptile Atlas of Peninsular California (SDNHM 2017).

Table 1 Biological Survey Schedule Summary		
Date	Survey Type and Number	Surveyor(s)
6/13/2016	Biological Constraints	B. Ogg, JR Sundberg
12/29/2016	FS Wet 1	K. Valenti
1/5/2017	FS Wet 2	K. Valenti
1/9/2017	Wetland/Waters Delineation	JR Sundberg
1/12/2017	FS Wet 3	K. Valenti
1/19/2017	FS Wet 4	E. LaCoste
1/26/2017	FS Wet 5	E. LaCoste
2/2/2017	FS Wet 6	E. LaCoste
2/9/2017	FS Wet 7	E. LaCoste
	QCB Site Assessment	B. Ogg
2/16/2017	FS Wet 8	D. Busby
2/21/2017	QCB 1	B. Parker
2/23/2017	FS Wet 9	E. LaCoste
3/1/2017	QCB 2	B. Parker
3/2/2017	FS Wet 10	E. LaCoste
3/6/2017, 3/9/2017	BUOW Habitat Assessment	E. LaCoste, D. Busby, A. Kort
3/9/2017	QCB 3	B. Parker, D. Saucedo
	FS Wet 11	E. LaCoste
3/14/2017	QCB 4	B. Parker
3/15/2017	FS Wet 12	E. LaCoste
3/21/2017	QCB 5	B. Parker, D. Saucedo
3/28/2017	QCB 6	D. Saucedo, A. Fromer
3/29/2017	FS Wet 13 (hydrology check only)	E. LaCoste
	CACW Habitat Assessment	E. LaCoste, G. Huffman
	BUOW 1	E. LaCoste, G. Huffman
4/4/2017	QCB 7	D. Saucedo, A. Fromer
4/5/2017	CAGN 1	B. Ogg, D. Saucedo
	CACW 1	B. Ogg, D. Saucedo
4/6/2017	Rare Plants 1	A. Smisek, JR Sundberg
4/11/2017	QCB 8	B. Parker, D. Saucedo
4/13/2017	CACW 2	E. LaCoste
	LBVI 1	G. Huffman
4/18/2017	QCB 9	B. Parker
4/24/2017	QCB 10	B. Parker, D. Saucedo
4/27/2017	CAGN 2	B. Ogg, D. Saucedo
	CACW 3	B. Ogg, D. Saucedo
	LBVI 2	B. Ogg
5/1/2017	QCB 11	B. Parker, D. Saucedo
5/4/2017	BUOW 2	B. Ogg, D. Saucedo
5/10/2017	Rare Plants 2	A. Smisek, JR Sundberg
5/11/2017	FS Wet 14 (hydrology check only)	B. Parker
	QCB 12	B. Parker, D. Saucedo
	LBVI 3	D. Saucedo
5/23/2017	CAGN 3	B. Ogg, D. Busby, K. Valenti
	LBVI 4	D. Busby
5/30/2017	Rare Plants 3	A. Smisek, JR Sundberg
6/8/2017	LBVI 5	B. Ogg
	BUOW 3	B. Ogg, K. Valenti
6/22/2017	LBVI 6	B. Ogg
7/6/2017	LBVI 7	B. Ogg
	BUOW 4	B. Ogg, S. Vargas
7/18/2017	LBVI 8	B. Ogg
8/7/2017	FS Dry	K. Valenti, A. Smisek, JR Sundberg, M. Weston

Date	Survey Type and Number	Surveyor(s)
5/15/19	Update BUOW habitat assessment and relocate beach goldenaster*	W. Loeffler, M. Olson, K. Clark, M. Mazon, S. Paver, D. Genova
6/18/19	Beach goldenaster reconnaissance	R. West
FS = fairy shrimp; QCB = Quino checkerspot butterfly; BUOW = western burrowing owl; CACW = coastal cactus wren; CAGN = coastal California gnatcatcher; LBVI = least Bell's vireo. *Site conditions were verified as unchanged except that beach goldenaster populations could not be relocated.		

RECON also conducted a review of existing literature relevant to the biological resources known from the vicinity of the project site. Site-specific literature reviewed included, but was not limited to, the following:

- Biological Constraints Analysis for the Beyer Athletic Field Proposed Project Area (Tierra Environmental Services 2007);
- Biological Technical Report for the Beyer Hills Project (RECON 2001); and
- Year 5 Annual Report for Dennery Canyon Vernal Pool, Coastal Sage Scrub, and Mule Fat Scrub Restoration and Preservation Plan (RECON 2005).

Additional species not found during the records search were assessed if the range for that species extended into the project site and habitat conditions within the project site were potentially suitable for that species. Determination of the potential occurrence for sensitive species was based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; CDFW 2017a; California Native Plant Society [CNPS] 2017; Reiser 2001; Tremor et al. 2017; Western Bat Working Group 2017; Harvey et al. 2011).

2.2 Biological Constraints Study

Biological surveys began with a biological constraints study to inventory plant and wildlife species, map vegetation, document potential jurisdictional wetland/water features, assess the suitability of habitat for special-status species identified as having potential to occur based on the literature review discussed above, and provide biological constraints for preliminary project design. The survey area for this constraints study was defined as all land within the project parcels and the surrounding 100-foot buffer, which total 58.2 acres.

RECON biologists Brenna Ogg and JR Sundberg conducted the biological constraints survey on June 13, 2016 between 08:00 and 12:30. Weather conditions during the survey consisted of 100 percent cloud cover clearing to five percent, calm to 13-mile-per-hour winds, and air temperatures between 68 and 78 degrees Fahrenheit. Ms. Ogg and Mr. Sundberg conducted the biological survey on foot, mapped vegetation communities and land cover types on a 1 inch equals 150 feet scale aerial photograph (flown July 2016) of the survey area, with the aid of a sub-meter-accurate global positioning system (GPS) unit.

Dominant plant species within each vegetation community were noted, and sensitive plant species, wildlife species, and potentially jurisdictional wetland/water locations were

hand-mapped or recorded using GPS. Vegetation community classifications follow Holland (1986) as modified by Oberbauer et al. (2008). However, in this report, “disturbed habitat” as defined by Oberbauer is classified as “disturbed land” for consistency with the Biology Guidelines (City of San Diego 2012). Digital photographs of representative areas were taken during the reconnaissance survey.

2.3 Rare Plants Survey

Prior to scheduling the focused rare plant surveys, an analysis of the rare plant species with potential to occur within the project parcels was done as part of the literature review described above.

RECON biologists Andrew Smisek and JR Sundberg conducted a total of three rare plant surveys within the 43.9-acre project parcels in spring/summer 2017 (see Table 1). Surveys were conducted between 09:00 and 16:30, and an approximate total of 17 hours was devoted to these surveys. The known blooming periods for potentially occurring species were taken into account when scheduling the focused rare plant surveys so that the detectability of these species was maximized. Additionally, timing was adjusted to account for the observed phenology of target species, such as Otay tarplant (*Deinandra conjugens*), which was provided by biologists conducting other focused biological surveys on site during spring and summer of 2017.

The survey area for the focused rare plant surveys was limited to the project parcels. The project parcels were traversed on foot during the surveys, with a focus on different portions of the site during each survey depending on the blooming status of the rare plant species present. Some portions of the site, such as the southwestern corner, contained steep slopes and dense vegetation, which slightly decreased the ability to detect small, inconspicuous species in those areas. Surveyors recorded the location of all rare plant species when encountered via a combination of hand-mapping on an aerial map and using a sub-meter accurate handheld Trimble® GeoXH unit. In addition, a species list of all plants observed was compiled during the course of the survey.

On May 15, 2019, RECON staff, Wendy Loeffler and Meagan Olson, Kevin Clark from the San Diego Natural History Museum, and Maya Mazon, Sean Paver, and Darren Genova, from the City of San Diego met on-site to discuss project mitigation, and included an attempt to re-locate individuals of beach goldenaster (*Heterotheca sessiliflora* ssp. *sessiliflora*). In addition, RECON staff Ryan West conducted a follow-up reconnaissance of the beach goldenaster locations on June 18, 2019 to inform discussions regarding mitigation and seed collection.

2.4 Fairy Shrimp Surveys

Although the project parcels neither support nor are adjacent to any known vernal pool complexes, areas showing sign of ponding were observed during the biological constraints survey. Therefore, focused fairy shrimp surveys were recommended.

A total of 17 ponded depressions were surveyed by RECON biologist Kayo Valenti and Busby Biological Services, Inc. (BBS) biologists Erik LaCoste and Darin Busby between December 29, 2016 and May 11, 2017 (see Table 1). Following survey authorization from the City and USFWS, in accordance with the USFWS Survey Guidelines for the Listed Large Branchiopods (USFWS 2015), each visit took place within one week following a substantial rain event and continued on a weekly basis until the features were dry. During each wet season survey conducted, sampling for vernal pool branchiopods occurred at depressions that had held water for more than 7 days. However, with USFWS's approval, once the presence of a listed vernal pool branchiopod species was confirmed, sampling of that feature was temporarily suspended until the duration of ponding reached 48 days or more in order to allow for development and detection of the other potentially occurring listed fairy shrimp species, Riverside fairy shrimp (*Streptocephalus woottoni*), if present. Complete survey methods are provided in *Post-survey Report for 2016-2017 Wet Season Fairy Shrimp Surveys for the Beyer Park Development Project, San Diego, California* (RECON 2017a).

Soil samples for the dry season survey were collected by RECON biologist Kayo Valenti on August 7, 2017, with the assistance of RECON biologists Andrew Smisek, JR Sundberg, and Mandy Weston, each under supervision. Sixteen of the 17 depressions were sampled in accordance with the current USFWS Survey Guidelines for the Large Listed Branchiopods (USFWS 2015). With USFWS authorization, one depression with positive listed vernal pool branchiopod observation was excluded from the dry season survey. Equipment used during sampling was disinfected between depression complexes or isolated depressions. No more than 10 percent of the sampled feature's surface area was disturbed. Soil samples were shipped to ECORP Consulting, Inc. for analysis. Complete survey methods are provided in *Results of the 2017 Dry Season Fairy Shrimp Survey for the Beyer Park Development Project in the City of San Diego, California* (RECON 2017b).

2.5 Quino Checkerspot Butterfly Survey

The project site is within Quino Survey Area as designated by the USFWS survey guidelines (USFWS 2014). Therefore, RECON biologist Brenna Ogg conducted a site assessment within the project parcels and surrounding 100-foot buffer on February 9, 2017, to identify suitable Quino checkerspot butterfly survey areas, as defined in the USFWS survey guidelines and the recovery plan (USFWS 2014 and 2003, respectively). Suitable Quino survey areas and populations of larval host plants were mapped in the field, using either a sub-meter accuracy GPS unit or by hand on a one-inch-equals-200-feet color aerial photograph of the site flown in July 2016.

Presence/absence adult flight season surveys for Quino were conducted in accordance the Quino Checkerspot Butterfly Survey Guidelines (USFWS 2014) by RECON biologists Brian Parker, Alex Fromer, and Diana Saucedo. Weekly surveys were conducted starting the third week of February 2017. As no Quino were observed, surveys continued weekly until the end of the season, which is defined as the second Saturday in May (see Table 1).

At the start of the survey period, right-of-entry had not been provided for any off-site properties. On March 3, 2017 (prior to Survey 3), right-of-entry was provided for the County of San Diego's Furby–North Preserve parcel; however, right-of-entry was not granted for any other adjacent parcels, which are all private property. Thus, for Surveys 1 and 2, the survey area consisted of 43.5 acres of suitable Quino habitat within the 44-acre project site, and thereafter, the survey area increased to 48.6 acres of suitable habitat within the project site and surrounding 100-foot buffer to the north and east. All potentially suitable Quino habitat was surveyed while walking at a slow pace, and all butterfly species and blooming plant species were noted during each visit. Complete survey methods are provided in *Results of the 2017 Quino Checkerspot Butterfly Presence/Absence Survey for the Beyer Park Development Project* (RECON 2017c).

2.6 Coastal California Gnatcatcher Survey

Using vegetation mapping completed as part of the constraints survey and aerial imagery, potentially suitable habitat for coastal California gnatcatcher within the project parcels and a surrounding 300-foot buffer was identified. During the focused survey visits, species composition, height, and density of the vegetation communities within the suitable habitat areas were further assessed for their potential to support the species.

RECON biologists Brenna Ogg and Diana Saucedo and BBS biologist Darin Busby conducted three survey visits to 52.4 acres of habitat considered suitable for coastal California gnatcatcher within the project parcels and a surrounding 300-foot buffer (see Table 1). RECON biologist Kayo Valenti assisted under supervision during one of the survey visits. In accordance with USFWS protocol survey guidelines for this species (USFWS 1997a), the surveying biologists walked all accessible portions of suitable habitat and periodically used taped gnatcatcher vocalizations in an attempt to elicit initial calls. However, the areas within the 300-foot buffer south and west of the project parcels could not be directly accessed; therefore, these areas were surveyed by using binoculars and listening from the edge of the project parcels. An approximate total of 24.5 hours of field effort was devoted to the survey. The surveying biologists compiled lists of wildlife species detected and recorded the location of any observed sensitive wildlife species on a one-inch-equals-150-foot aerial map or using a hand-held global positioning system unit.

Per the protocol survey guidelines (USFWS 1997a), three survey visits were conducted for coastal California gnatcatcher. Because the project area is within the City MSCP Subarea Plan boundary, the survey area is considered part of an active Natural Community Conservation Planning area. The three surveys were conducted a minimum of seven days apart. Complete survey methods are provided in *Results of the 2017 Coastal California Gnatcatcher Presence/Absence Survey for the Beyer Park Development Project* (RECON 2017d).

2.7 Coastal Cactus Wren Surveys

Using vegetation mapping completed as part of the constraints survey and aerial imagery, potentially suitable habitat for coastal cactus wren within the project parcels and

surrounding 300-foot buffer was identified. On March 29, 2017, between the hours of 09:45 and 10:30, BBS biologists Erik LaCoste and Garrett Huffman further evaluated and mapped this potentially suitable cactus wren habitat. Each stand of suitable habitat was characterized using the “Classification of Cactus Resources” section from the San Diego County Coastal Cactus Wren Volunteer Training Manual (Coastal Cactus Wren Network 2012) as a guide, as well as personal knowledge and experience with the species. In accordance with the manual, the suitable habitat was categorized in one of four ways:

- Cactus Scrub Type 1: highest quality, greater than 1 contiguous acre with greater than 20 percent cactus coverage, generally greater than 1 meter tall;
- Cactus Scrub Type 2: cactus scrub greater than 1 acre with well-developed cactus patches but contains less than 1 contiguous acre of cactus with greater than 20 percent cactus coverage, generally greater than 1 meter tall;
- Cactus Scrub Type 3: cactus scrub that covers less than 1 acre and includes at least 1 cactus plant greater than 1 meter tall; or
- Cactus Scrub Type 4: cactus scrub that covers less than 1 acre and no cactus plant greater than 1 meter tall.

Cactus scrub was further characterized by the presence or absence of cholla and the maturity of the cholla on site, as follows:

- Cholla Type 1: high quality, at least one cholla cluster is fully developed, standing greater than 1.3 meters tall, in good health with extensive branching;
- Cholla Type 2: medium quality, at least one plant or cluster greater than 1 meter tall, with branching capable of holding a nest; or
- Cholla Type 3: poor quality, cholla plant greater than 1 meter tall, but no plant or cluster appears to have branching extensive enough to hold a nest.

RECON biologists Brenna Ogg and Diana Saucedo and BBS biologist Erik LaCoste conducted three survey visits to 7.1 acres of habitat considered suitable for coastal cactus wren within the project parcels and a surrounding 300-foot buffer based on the habitat assessment described above (see Table 1). In accordance with the “Methods for Surveying for Cactus Wren Presence or Absence” (Coastal Cactus Wren Network 2012), the surveying biologists conducted surveys between March 1 and June 30, during morning hours, and in fair weather. Surveys were conducted on April 5, 13, and 27, 2017, between 06:00 and 12:00 and with air temperatures between 50 and 70 degrees Fahrenheit, wind speeds between 0 and 6 miles per hour, and cloud cover between 0 and 100 percent. Only one short period of light drizzle occurred during the latter portion of the third survey.

The biologists walked all accessible portions of suitable nesting habitat, at a minimum, walking the perimeter of each stand of habitat. The biologists searched for cactus wrens and their nests, spending at least 10 minutes at each stand of suitable habitat and “pish”ing in an attempt to elicit responses. An approximate total of 3.2 hours of field effort was devoted to the survey. The surveying biologists compiled lists of wildlife species

detected and recorded the location of any observed sensitive wildlife species and cactus wren nests on a one-inch-equals-150-foot aerial map or using a hand-held GPS unit.

2.8 Least Bell's Vireo Survey

Using vegetation mapping completed as part of the constraints survey and aerial imagery, potentially suitable habitat for least Bell's vireo was identified within the project parcels and surrounding 300-foot buffer. The habitat assessment was further refined during the focused survey visits, based on species composition, height, and density of the vegetation within the suitable habitat areas.

RECON biologists Brenna Ogg and Diana Saucedo and BBS biologists Darin Busby and Garrett Huffman conducted eight survey visits to 0.4 acre of habitat considered suitable for vireo within the project parcels (see Table 1). No suitable habitat for vireo was mapped within a 300-foot buffer surrounding the project parcels. In accordance with USFWS survey guidelines for this species (USFWS 2001), the biologists conducted each survey between dawn and 11:00 and avoided periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather conditions. A total of 5 hours and 55 minutes of field effort was devoted to the survey. The surveying biologists compiled lists of wildlife species detected and recorded the location of any observed sensitive wildlife species on a one-inch-equals-150-foot aerial map or using a hand-held GPS unit. Complete survey methods are provided in *Results of the 2017 Least Bell's Vireo Presence/Absence Survey for the Beyer Park Development Project* (RECON 2017e).

2.9 Burrowing Owl Surveys

Using vegetation mapping completed as part of the constraints study and aerial imagery, 127.4 acres of potentially suitable habitat for burrowing owl within the project parcels and surrounding 150-meter buffer was identified. BBS biologists Erik LaCoste, Darin Busby, and Andrew Kort conducted a focused burrowing owl habitat assessment on March 6 and 9, 2017 (see Table 1; BBS 2017).

Based on the habitat assessment results, RECON biologists Brenna Ogg, Diana Saucedo, Kayo Valenti, and Sonya Vargas, and BBS biologists Erik LaCoste and Garrett Huffman conducted four survey visits to 68.9 acres of habitat considered suitable for burrowing owl within the habitat assessment area (see Table 1). In accordance with CDFW breeding season survey guidelines for this species (CDFW 2012), each survey was conducted between morning civil twilight and 10:00, and the surveying biologists walked line transects within all accessible portions of suitable habitat, stopping at the start of each transect and approximately every 100 meters to scan the survey area with binoculars. Transects were typically spaced approximately 15 to 20 meters apart, as much of the suitable habitat areas support open and low-growing vegetation, allowing for good visibility. Transect spacing was narrowed in areas of denser and/or taller vegetation.

Direct access was only available to 37.6 acres of the survey area, which included the project parcels and one adjacent parcel, APN 63807074, in the 150-meter buffer. Therefore, all

remaining areas within the 150-meter buffer were surveyed only by using binoculars from the outside boundaries of the project parcels. Topography and low-lying vegetation allowed for good visibility and survey coverage in the western 150-meter buffer. However, due to the presence of dense stands of garland daisy (*Glebionis coronaria*), visibility in some of the buffer area in the southeast portion of the survey area was partially obstructed.

An approximate total of 30 hours and 25 minutes of field effort was devoted to the breeding season surveys. The surveying biologists recorded any burrowing owl and other sensitive wildlife species observations, active owl burrows, and potentially suitable burrows and compiled lists of wildlife species detected. Locations of sensitive species were recorded on a one-inch-equals-150-feet aerial map or using a hand-held GPS unit. Complete survey methods are provided in *Results of the 2017 Burrowing Owl Breeding Season Surveys for the Beyer Park Development Project* (RECON 2017f).

On May 15, 2019, RECON staff, Wendy Loeffler and Meagan Olson, Kevin Clark from the San Diego Natural History Museum, and Maya Mazon, Sean Paver, and Darren Genova, from the City of San Diego met on-site to discuss project mitigation, beach goldenaster relocation, and habitat suitability for burrowing owl within the proposed mitigation area. This included an updated survey to verify the boundaries of the burrowing owl suitable habitat. The location of the beach goldenaster could not be relocated, otherwise, it was confirmed that site conditions had not changed from previous surveys.

2.10 Jurisdictional Wetland/Waters Survey

A routine jurisdictional wetland/waters delineation, following the guidelines set forth by the U.S. Army Corps of Engineers (ACOE; 1987, 2008), was performed to gather field data at potential jurisdictional waters in the survey area. The survey area is defined as the project parcels (APNs 63817018, 63817019, and 63807071) and surrounding 100-foot buffer, which total 58.2 acres. RECON biologist J.R. Sundberg conducted the routine delineation fieldwork on January 9, 2017 (see Table 1). Prior to conducting the delineation, aerial photographs and USGS topographic maps of the site were examined. Once on-site, the potential federal, state, and City jurisdictional areas were examined to determine the presence and extent of any jurisdictional waters. Complete survey methods are provided in *Jurisdictional Waters/Wetland Delineation Report for the Beyer Park Development Project, San Diego, California* (RECON 2017g).

3.0 Survey Results/Existing Conditions

This section describes the existing physical and biological conditions of the project parcels and surrounding area. This includes a summary of land use, topographical features, soils, and hydrological features observed during biological surveys conducted between June 13, 2016, and August 7, 2017.

3.1 Physical Characteristics

3.1.1 Existing Land Use

The project parcels consist of undeveloped City park land, with residential development immediately adjacent to the northwest, a graded but currently undeveloped field (i.e., previous school site) to the west, and undeveloped land to the north, south, and east. A large portion of the vegetation within the project parcels has been subjected to recent and historic disturbance and unauthorized activity (e.g., off-highway vehicle [OHV] use, pedestrian traffic, transient camps, radio controlled [RC] car running and course building).

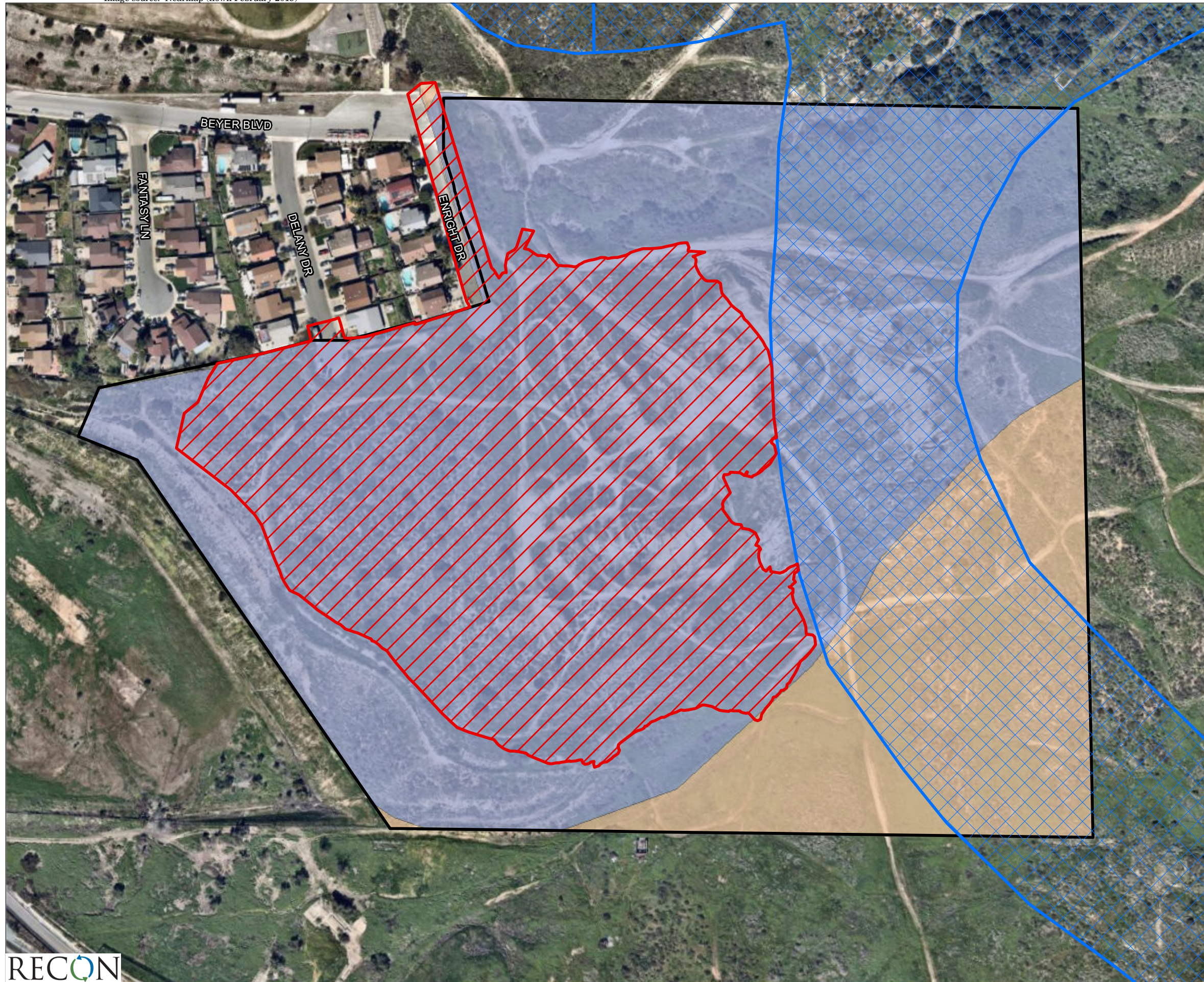
3.1.2 Topography and Soils






Elevations within the project parcels range from 120 feet above mean sea level in a drainage in the northwestern portion of the northern parcel to 396 feet above mean sea level on a hill in the eastern portion of the survey area. The northern and eastern portions of the project parcels are characterized by two large hills, separated by Moody Canyon, which runs east-west through the northern portion of the northern parcel. The steep north-, south-, and west-facing slopes associated with these hills transition in the south and west into multiple terraces, with a steep manufactured slope along the western edge.

Two soil types occur within the project parcels: Olivenhain cobbly loam, 9 to 30 percent slopes (ohE), in the southeastern corner and Olivenhain cobbly loam, 30 to 50 percent slopes (ohF) in the majority of the site (Figure 6; USDA 2017). Olivenhain cobbly loam soils formed in ancient cobbly and gravelly alluvium and are located on marine terraces and mesas. The topsoil is typically well-drained cobbly loam with a very cobbly clay subsoil. Low slopes tend to form mima mounds on the surface, whereas steeper areas are easily eroded and tend to form gullies and cut banks. Olivenhain cobbly loam soils are on the hydric soil list with potential wetlands forming in depressions (Natural Resource Conservation Service 2015).

3.1.3 Hydrology

The project parcels are located near the northern extent of the Tijuana River watershed. Moody Canyon, which contains an unnamed tributary of the Tijuana River, occurs in the northern project parcel. Within this area, the tributary exists as a natural bottom channel and exits the survey area through a three-foot-diameter culvert. It then flows approximately one half-mile southwest through storm water channels into the Tijuana River. The Tijuana River flows approximately five miles westward before emptying into the Pacific Ocean, a Traditional Navigable Waterway.



-  Project Parcels Boundary
-  Project Impact Area
-  City of San Diego MHPA
- Soil Classification**
-  Olivenhain cobbly loam, 9-30 % slopes
-  Olivenhain cobbly loam, 30-50 % slopes

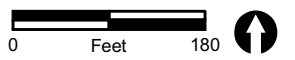


FIGURE 6
Project Location on Soils Map

Although the terraces on either side of the ephemeral stream channel in Moody Canyon may flood during peak flow, water does not likely reside long enough to develop hydric soils or primary hydrologic indicators. Hydrology indicators commonly observed in the areas along the ephemeral stream channel of the unnamed tributary included riverine sediment deposits and riverine drift deposits. Despite the wetland/waters delineation survey’s being conducted after significant rainfall, primary hydrologic indicators such as saturation or surface water were not observed. Rainfall at Brown Field (approximately three miles east) was 217 percent above the normal of 1.92 inches during December 2016, with 4.17 inches observed (NWS 2017).

One small depression was observed within disturbed coastal sage scrub near the western edge of the project parcels. This area is dominated by broom baccharis (*Baccharis sarothroides*; facultative upland [FACU] species), mule fat (*Baccharis salicifolia*; facultative [FAC] species), and curly dock (*Rumex crispus*; FAC). This area is problematic as recent years of drought may have shifted the vegetation to a more upland species composition. Recent inundation and scour has also affected the herbaceous plant stratum, eliminating the smaller species.

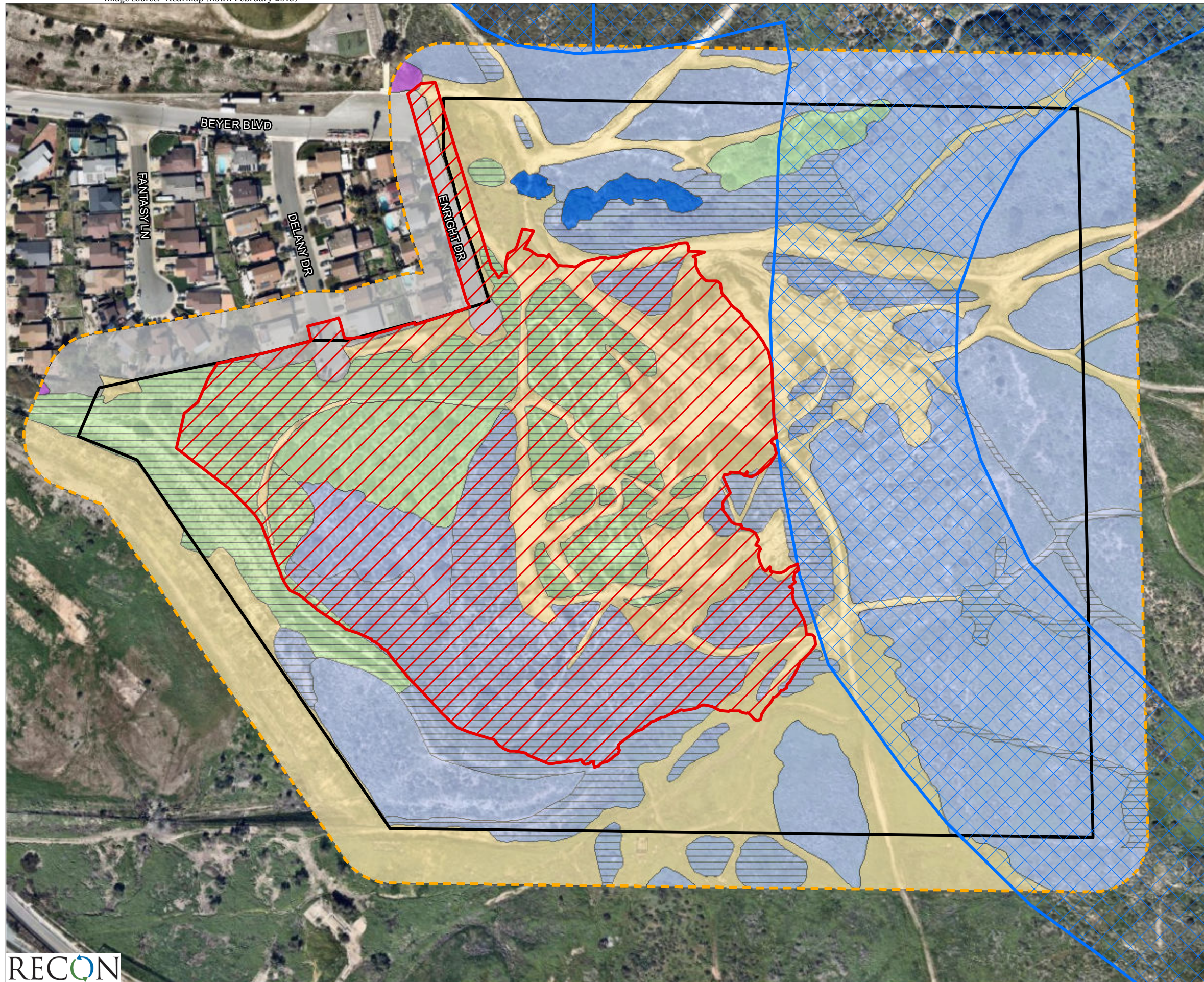
3.2 Biological Resources













3.2.1 Botanical Resources

The following eight vegetation communities or land cover types were mapped within the survey area (i.e., project parcels and surrounding 100-foot buffer): mule fat scrub, maritime succulent scrub, disturbed maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, disturbed land, ornamental plantings, and urban/developed (Figure 7a). These vegetation communities and land cover types, along with their corresponding City Tier, Holland/Oberbauer code, and acreage within the project parcels, are summarized in Table 2 below. A brief description of each community is also provided below.

Community or Type (Holland Code as modified by Oberbauer)	City of San Diego Tier	Survey Area (Acres)*.**		
		Inside MHPA†	Outside MHPA†	Total
Mule fat scrub (63310)	N/A - wetland	–	0.32	0.32
Maritime succulent scrub (32400)	I	9.68	9.98	19.67
Disturbed maritime succulent scrub (32400)	I	1.75	8.16	9.90
Diegan coastal sage scrub (32510)	II	0.32	1.62	1.94
Disturbed Diegan coastal sage scrub (32510)	II	–	6.15	6.15
Disturbed land (11300)	IV	3.15	14.39	17.53
Ornamental plantings (11000)	IV	–	0.06	0.06
Urban/developed land (12000)	N/A	–	2.66	2.66
Total		14.90	43.33	58.23

N/A = not applicable; MHPA = Multi-Habitat Planning Area
 *Survey area includes the project parcels and surrounding 100-feet.
 **Discrepancies in totals are due to rounding.
 †Prior to changes proposed as part of MHPA Boundary Line Adjustment.



-  Project Parcels Boundary
-  Project Impact Area
-  City of San Diego MHPA
-  100-foot Survey Buffer
- Vegetation Communities/Land Cover Types**
-  Mule Fat Scrub
-  Maritime Succulent Scrub
-  Disturbed Maritime Succulent Scrub
-  Disturbed Diegan Coastal Sage Scrub
-  Diegan Coastal Sage Scrub
-  Disturbed Land
-  Ornamental
-  Urban/Developed

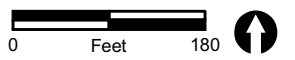


FIGURE 7a
Existing Biological Resources -
Vegetation Communities/Land
Cover Types

A total of 161 plant species was observed within the project parcels and surrounding 100-foot buffer, with 106 species (66 percent) considered native and the remaining 55 species (34 percent) considered non-native and/or naturalized into the area. Dominant plant species are discussed by vegetation community below, and a complete list of plant species detected is included as Attachment 1.

3.2.1.1 Mule Fat Scrub

Mule fat scrub occurs within the western and lower portion of Moody Canyon within the northern project parcel. The vegetation is dominated by mule fat with two willow trees at the western edge, adjacent to a dirt path (Photographs 1 and 2). The vegetation is moderately dense with the mule fat reaching approximately 15 feet in height and the taller of the two willow trees reaching approximately 25 feet in height.

3.2.1.2 Maritime Succulent Scrub

Maritime succulent scrub is the dominant vegetation community within the project parcels and surrounding 100-foot buffer. In the northwestern portion of the project parcels, the maritime succulent scrub is dominated by coast cholla (*Cylindropuntia prolifera*) with waterjacket (*Lycium andersonii*), California box-thorn (*L. californicum*), cliff spurge (*Euphorbia misera*), and jojoba (*Simmondsia chinensis*) occurring as common species (see Photographs 1 and 3). The combined vegetative cover of cactus and shrub species is at or above 75 percent, and typical shrub height is between two and four feet. Throughout the remainder of the maritime succulent scrub in the survey area, the coast cholla occurs in scattered patches; common shrub species include San Diego bur-sage (*Ambrosia chenopodiifolia*), jojoba, cliff spurge, coast prickly pear (*Opuntia littoralis*), California buckwheat (*Eriogonum fasciculatum*), San Diego viguiera (*Bahiopsis laciniata*), California sagebrush (*Artemisia californica*), and fish-hook cactus (*Mammillaria dioica*) (Photographs 4–6).

3.2.1.3 Disturbed Maritime Succulent Scrub

The disturbed maritime succulent scrub occurs throughout the project parcels and surrounding 100-foot buffer in areas that have been subjected to human-caused disturbance and non-native plant species invasion (see Photograph 6). The species composition is similar to the undisturbed stands of maritime succulent scrub. However, the overall vegetation density and height are lower, and there is a greater occurrence of non-native plant species including acacia, fountain grass (*Pennisetum setaceum*), garland daisy, and non-native grasses. These areas are also fragmented and contain evidence of anthropogenic impacts, through the presence of unauthorized trails used by pedestrians and vehicles.



PHOTOGRAPH 1

Maritime Succulent Scrub (Foreground), Mule Fat Scrub (Center), and Disturbed Maritime Succulent Scrub (Background) in Northern Portion of the Project Parcels, Facing South, Taken June 13, 2016



PHOTOGRAPH 2

Maritime Succulent Scrub (Foreground), Mule Fat Scrub (Center), and Disturbed and Developed Land (Background) in Northern Portion of the Project Parcels, Facing Southwest, Taken June 22, 2017



PHOTOGRAPH 3
Maritime Succulent Scrub in the Northern Portion of the Survey Area,
Facing North, Taken February 9, 2017



PHOTOGRAPH 4
Maritime Succulent Scrub in the Eastern Portion of the Survey Area,
Facing North, Taken April 6, 2017



PHOTOGRAPH 5
Maritime Succulent Scrub in the Southwestern Portion of the Survey Area, Facing West, Taken June 13, 2016



PHOTOGRAPH 6
Disturbed Maritime Succulent Scrub (Foreground) and Maritime Succulent Scrub in the West-Central Portion of the Project Parcels, Facing West, Taken December 29, 2016

3.2.1.4 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is present in the western portion of the project parcels and in a small portion of Moody Canyon in the northern portion of the project parcels and surrounding 100-foot buffer. In the western stands, the Diegan coastal sage scrub comprises a mix of California buckwheat, California sagebrush, broom baccharis, and laurel sumac (*Malosma laurina*) (Photographs 7 and 8). Vegetation cover is generally above 70 percent, and typical shrub height is between two and four feet with the occasional taller laurel sumac and broom baccharis. The Diegan coastal sage scrub that occurs along Moody Canyon in the northern portion of the survey area is taller, denser, and dominated by lemonade berry (*Rhus integrifolia*).

3.2.1.5 Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub occurs along the manufactured slope at the western edge of the project parcels and surrounding 100-foot buffer, in a swale at the northwestern edge of the project parcels, and in other scattered areas that show sign of previous human-caused soil disturbance and ongoing disturbance from unauthorized pedestrian activity, OHV activity, and dumping (Photograph 9). The species composition is similar to that of the undisturbed stands of Diegan coastal sage scrub. However, the overall vegetation density and height are lower, and/or there is a greater occurrence of non-native plant species including acacia (*Acacia* sp.), saltcedar (*Tamarix ramosissima*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), and non-native grasses.

3.2.1.6 Disturbed Land

Disturbed land within the project parcels consists of a complex of dirt roads (Photographs 10 and 11) and unauthorized pedestrian and off-road vehicle trails traversing the site, as well as a series of open areas characterized by exotic vegetation. Disturbed land within the surrounding 100-foot buffer also includes the manufactured slope and previously graded field associated with the former site of Beyer Elementary School. The vegetated portions of disturbed land are dominated primarily by garland daisy (Photograph 12) and Russian thistle (*Salsola tragus*), with scattered non-native grasses. A large saltcedar is present in a terminal depression at the west end of Moody Canyon in the western portion of the northern project parcel.

3.2.1.7 Ornamental Plantings

Ornamental plantings occur in the northwestern corner of the 100-foot buffer surrounding the project parcels. The vegetation comprises planted eucalyptus (*Eucalyptus* spp.) trees adjacent to Beyer Boulevard and appears to be associated with the San Ysidro Middle School site development.

3.2.1.8 Urban/Developed Land

Urban/developed land occurs along the northwestern edge of the project parcels and includes paved streets adjacent to residential development (see Photograph 2).



PHOTOGRAPH 7
Diegan Coastal Sage Scrub in the Western Portion of the Project
Parcels, Facing Northwest, Taken May 10, 2017



PHOTOGRAPH 8
Diegan Coastal Sage Scrub in the Western Portion of the Project
Parcels, Facing North, Taken April 6, 2017



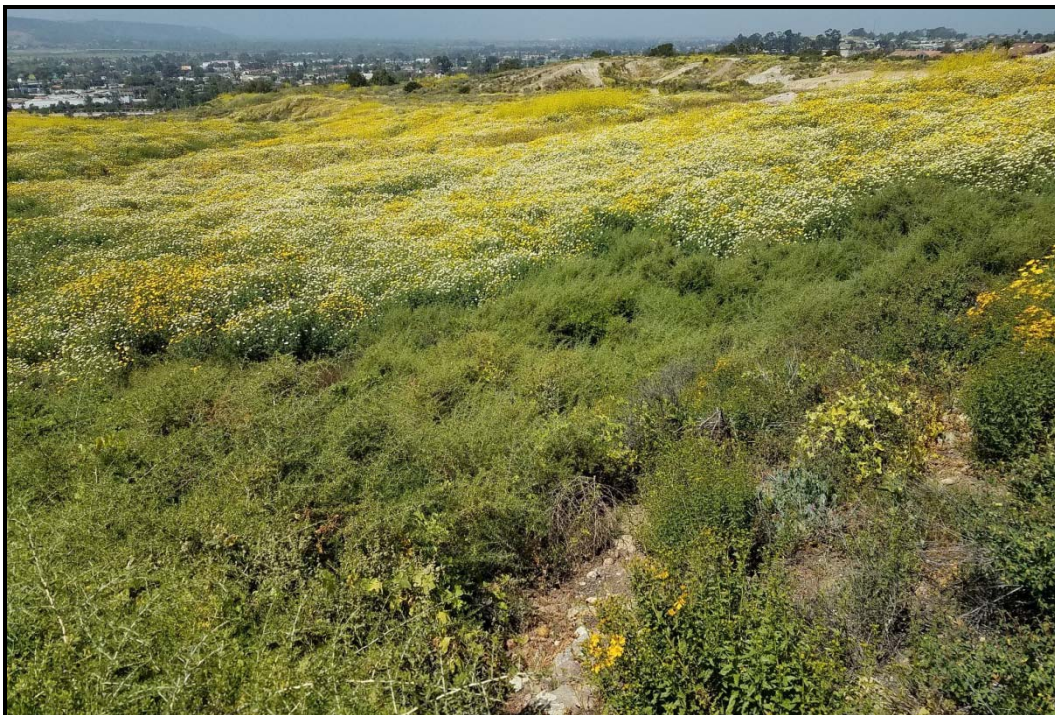
PHOTOGRAPH 9
Pockets of Disturbed Diegan Coastal Sage Scrub within the Central Survey Area, Facing East, Taken December 29, 2016



PHOTOGRAPH 10
Disturbed Land within the Central Survey Area, Facing Northeast, Taken January 9, 2017



PHOTOGRAPH 11
Disturbed Land within the Central Survey Area, Facing West,
Taken January 9, 2017



PHOTOGRAPH 12
Maritime Succulent Scrub (Foreground) and Disturbed Land
(Background) within the Southern Survey Area, Facing Southwest,
Taken April 6, 2017

3.2.2 Zoological Resources

A total of 109 animal species were detected within the project parcels and surrounding areas, including 38 invertebrates, four reptiles, 60 birds, and seven mammals. The common animal species observed on site are summarized below. A complete list of animal species detected during general and focused biological surveys conducted in 2016 and 2017 is included as Attachment 2. Sensitive animal species observed are discussed in Section 3.3.4.

3.2.2.1 Invertebrates

Invertebrate species common to urban, scrub, grassland, and riparian communities are expected to be the most common species within the project parcels. A total of 38 invertebrate species were recorded during the 2016 and 2017 biological surveys. These include, but are not limited to, common insects such as Argentine ant (*Linepithema humile*), mosquito (*Culex* sp.), darkling beetle (not identified to species), tarantula hawk (*Pepsis* sp.), and cicada (*Hadoa* sp.); one arachnid, California trapdoor spider (*Bothriocyrtum californicum*); 30 butterfly or moth species, most common of which were cabbage white (*Pieris rapae*), Pacific Sara orangetip (*Anthocharis sara sara*), and funereal duskywing (*Erynnis funeralis*); and one aquatic crustacean, San Diego fairy shrimp (*Branchinecta sandiegonensis*). As San Diego fairy shrimp is a sensitive species, it is discussed further in Section 3.3.4 below.

3.2.2.2 Amphibians and Reptiles

Reptile species observed during the 2016 and 2017 biological surveys are typical of urban areas and native scrub habitats in San Diego. The following four species were observed: western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), and Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and southern Pacific rattlesnake (*Crotalus oreganus helleri*). No amphibians were detected during field surveys. As Belding's orange-throated whiptail is a sensitive species, it is discussed further in Section 3.3.4 below.

3.2.2.3 Birds

Many avian species detected during the 2016 and 2017 biological surveys are typical of urban areas, native scrub habitat, open grassland and/or fields, or riparian habitat. A total of 60 avian species were detected. The most commonly observed species within the project parcels include Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus frontalis*), California towhee (*Melospiza crissalis*), northern mockingbird (*Mimus polyglottos polyglottos*), mourning dove (*Zenaidura macroura marginella*), Cassin's kingbird (*Tyrannus vociferans vociferans*), California scrub-jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus melanurus*), Bewick's wren (*Thryomanes bewickii*), coastal California gnatcatcher, and lesser goldfinch (*Spinus psaltria hesperophilus*). As coastal California gnatcatcher is a sensitive species, it is discussed further in Section 3.3.4 below.

3.2.2.4 Mammals

The mammal species detected during the 2016 and 2017 biological surveys are typical of urban-wildland interface areas, native scrub habitat, and/or open grassland and/or fields. The following seven mammal species were detected during the 2016 and 2017 biological surveys: desert cottontail (*Sylvilagus audubonii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), California ground squirrel (*Spermophilus beecheyi*), kangaroo rat (*Dipodomys* sp.), woodrat (*Neotoma* sp.), coyote (*Canis latrans*), and bobcat (*Lynx rufus*). As San Diego black-tailed jackrabbit is a sensitive species, it is discussed further in Section 3.3.4 below.

3.3 Sensitive Biological Resources

3.3.1 Regulatory Setting

3.3.1.1 Regulatory Framework

Various federal, state, and/or local regulations or policies apply to biological resources on or adjacent to the project parcels and are summarized below. Compliance with all state and federal laws, including the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), is anticipated.

a. Federal Regulations

The Rivers and Harbors Act of 1899 and the Clean Water Act (CWA) regulate project activities within non-marine navigable waters and/or waters of the U.S. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under the CWA's provisions is acquired. Permitting for projects that include both permanent and temporary dredging and filling in wetlands and waters of the U.S. is overseen by the ACOE under Section 404 of the CWA. Projects can be permitted on an individual basis or be covered by one of several approved nationwide or regional general permits.

The federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered 'take' under the ESA. Section 9(a) of the ESA defines 'take' as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The ESA is administered by the USFWS.

The MBTA (16 United States Code 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 Code of Federal Regulations (CFR) 10.13. The regulatory definition of "migratory bird" is broad, and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt

such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11). Pursuant to U.S. Department of the Interior Memorandum M-37050, the federal Migratory Bird Treaty Act is no longer interpreted to cover incidental take of migratory birds (U.S. Department of the Interior 2017). Therefore, impacts that are incidental to implementation of an otherwise lawful project would not be considered significant.

b. State Regulations

The California Environmental Quality Act (CEQA) requires an environmental review for projects with potentially adverse impacts on the environment. Adverse environmental impacts are typically mitigated in accordance with state laws and regulations.

The California ESA is similar to the federal ESA in that it provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction.

Section 3503 of the CFGC states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto,” and Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird” unless authorized (State of California 1991).

The CFGC (Sections 1600 through 1603) regulates project activities within wetlands and riparian habitats. The CDFW can issue a Streambed Alteration Agreement for projects affecting riparian and wetland habitats.

Project activities that fill or dredge within wetland waters of the U.S. and waters of the U.S. as well as wetland waters of the state and waters of the state, including isolated waters such as vernal pools and other waters showing lack of connectivity to a Traditional Navigable Waters, require a Water Quality Certification by the California Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Section 13000 et seq. of the California Water Code under the Porter-Cologne Water Quality Control Act.

c. Local Regulations

One of the primary objectives of the City’s MSCP Subarea Plan is to identify and maintain a preserve system, which allows for animals and plants to exist at both the local and regional levels. The MSCP has identified large blocks of native habitat having the ability to support a diversity of plant and animal life known as “core biological resource areas.” “Linkages” between these core areas provide for wildlife movement. These lands have been determined to provide the necessary habitat quality, quantity, and connectivity to sustain the unique biodiversity of the San Diego region. Input from responsible agencies and other interested participants resulted in creation of the City’s MHPA. The MHPA is the area within which the permanent MSCP preserve would be assembled and managed for its biological resources.

The City's Biology Guidelines (2012) were formulated to aid in the implementation and interpretation of the ESL Regulations, San Diego Land Development Code (LDC), Chapter 14, Division 1, Section 143.0101. Section III of the Guidelines (Biological Impact Analysis and Mitigation Procedures) also serves as standards for the determination of impacts and mitigation under CEQA. The ESL defines sensitive biological resources as those lands included within the MHPA as identified in the City's MSCP Subarea Plan (City of San Diego 1997), and other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I (rare uplands), II (uncommon uplands), IIIA (common uplands) or IIIB (common uplands); habitat for rare, endangered, or threatened species; or narrow endemic species.

The City of San Diego Vernal Pool Habitat Conservation Plan (VPHCP; City of San Diego 2017) provides a regulatory framework to protect, enhance, and restore vernal pool resources in specific areas within the City's jurisdiction, while improving and streamlining the environmental permitting process for impacts to threatened and endangered species associated with vernal pools. The VPHCP is a conservation plan for vernal pools and seven threatened and endangered species that do not have federal coverage under the City's MSCP Subarea Plan, including five plant and two crustacean species. The VPHCP expands the City's existing MHPA established in the MSCP Subarea Plan to conserve additional lands with vernal pools that are occupied with the vernal pool covered species. Implementation of the VPHCP occurs through permanent protection of existing City-owned land for the conservation of vernal pools, conservation of private lands through the development entitlement process, the permanent management and monitoring of these lands, and annual reporting to the Wildlife Agencies that accounts for all take authorized, conservation achieved, and compliance and effectiveness monitoring. While the City Biology Guidelines generally require the presence of a vernal pool indicator plant species for a depression to be considered a "vernal pool," the VPHCP applies to human-made seasonally flooded depressions if they contain one or more VPHCP covered plant or wildlife species (City of San Diego 2017).

3.3.1.2 Sensitivity Criteria

Sensitive vegetation communities are vegetation assemblages, associations, or subassociations that have cumulative losses throughout the region, have relatively limited distribution, support or potentially support sensitive species, have particular value to other wildlife, or have a combination of these characteristics. Typically, sensitive vegetation communities are considered sensitive whether or not they have been disturbed. Sensitive vegetation communities are regulated by various local, state, and federal resource agencies. For purposes of this report, sensitive vegetation communities include all wetland communities and upland communities identified as Tier I, II, IIIA, or IIIB by the City (2012).

In accordance with the ESL Regulations, lands within the MHPA and habitat for sensitive species will also be considered sensitive biological resources.

For purposes of this report and in accordance with the City Guidelines for Conducting Biology Surveys (City of San Diego 2002), plant and wildlife species will be considered

sensitive if they are: (1) listed by state or federal agencies as rare, threatened, or endangered or are proposed for listing; (2) designated by the City as a narrow endemic species (City of San Diego 1997, 2012); (3) covered species under the MSCP or VPHCP; (4) given a California Rare Plant Rank (CRPR) 1B (considered endangered throughout its range), 2 (considered endangered in California but more common elsewhere), 3 (more information about the plant's distribution and rarity needed), or 4 (plants of limited distribution) in the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2017); (5) considered rare, endangered, or threatened by CDFW (2017b–e); or (6) identified by another recognized conservation or scientific group as being depleted, potentially depleted, declining, rare, critical, endemic, endangered, or threatened.

3.3.2 Sensitive Vegetation Communities

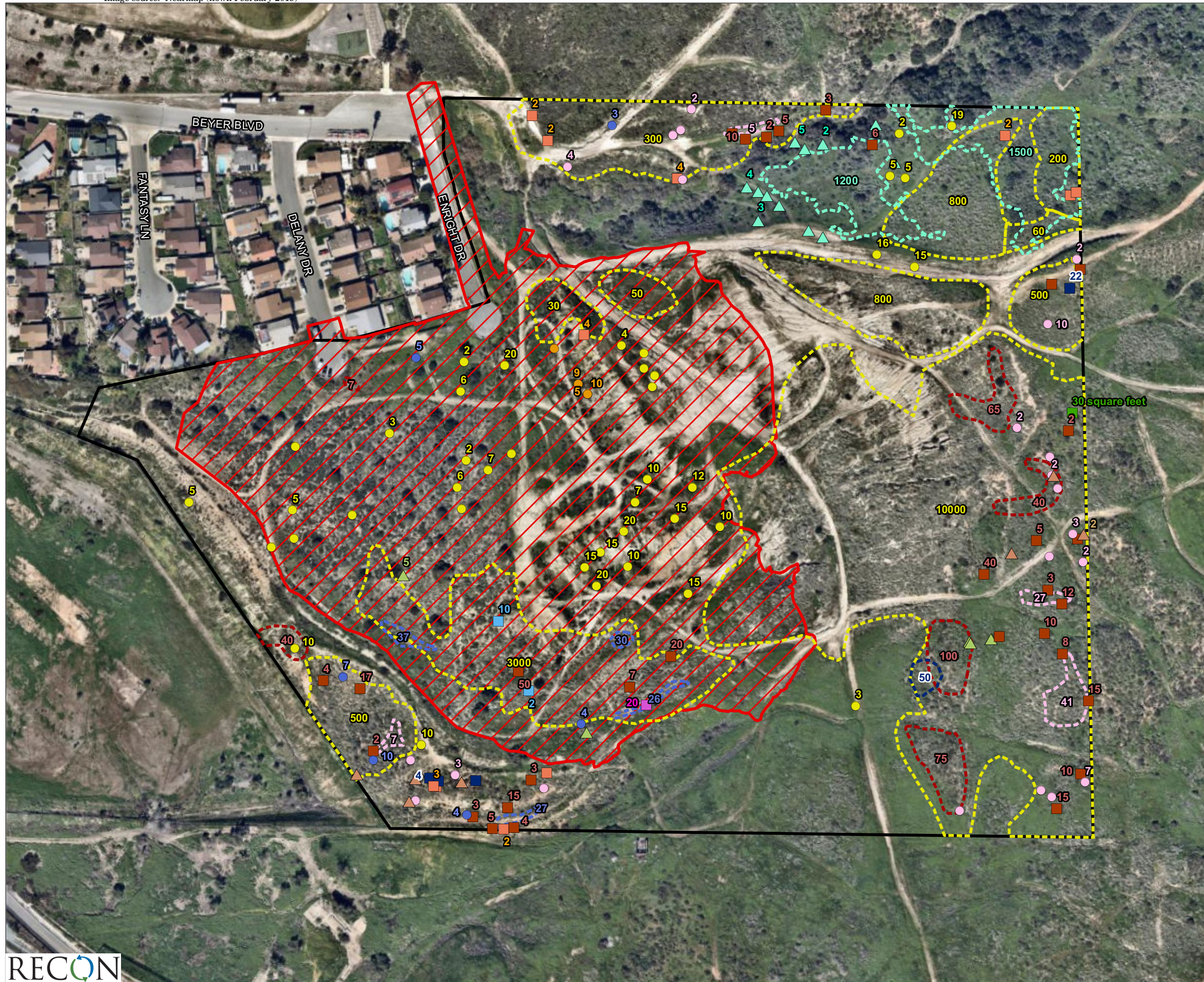
Pursuant to the City's Biology Guidelines, five sensitive vegetation communities occur within the project parcels. Mule fat scrub is considered a wetland habitat (i.e., riparian scrub). Maritime succulent scrub and disturbed maritime succulent scrub are considered Tier 1 (rare uplands) habitats, and Diegan coastal sage scrub and disturbed Diegan coastal sage scrub are considered Tier II (uncommon uplands) habitats. These are described in detail in Section 3.2.1.

3.3.3 Sensitive Plant Species

The following 13 sensitive plant species were observed during the focused rare plant surveys and other biological surveys conducted in 2016 and 2017 for this project: San Diego bur-sage (*Ambrosia chenopodiifolia*), south coast saltscale (*Atriplex pacifica*), San Diego County viguiera (*Bahiopsis laciniata*), seaside cistanthe (*Cistanthe maritima*), snake cholla (*Cylindropuntia californica* var. *californica*), Otay tarplant, cliff spurge, San Diego barrel cactus (*Ferocactus viridescens*), Palmer's grapplinghook (*Harpagonella palmeri*), beach goldenaster (*Heterotheca sessiliflora* ssp. *sessiliflora*), California box-thorn (*Lycium californicum*), small-flowered microseris (*Microseris douglasii* var. *platycarpha*), and ashy spike-moss (*Selaginella cinerascens*) (Figure 7b; Table 3). One of these species, Otay tarplant, is listed as federally-threatened, state-endangered, and a narrow endemic species under the MSCP. A second species, snake cholla, is also an MSCP covered narrow endemic species, and a third species, San Diego barrel cactus, is an MSCP covered species. The remaining 10 sensitive plant species are not federally or state listed, nor are they covered by the MSCP. However, they have a CRPR assigned by CNPS. The status and rank of each sensitive plant species observed and the estimated number of individuals within the project parcels are presented in Table 3. Descriptions of the sensitive plant species observed are provided below.

Attachment 3 summarizes these species and the other potentially occurring sensitive plant species that were assessed based on species locations records, habitat suitability, and soil preferences. No additional species have been identified as having a moderate or high potential to occur within the project parcels; although some additional sensitive plant species have a low potential to occur in the survey area.

Table 3					
Sensitive Plant Species Observed within the Project Parcels					
Scientific Name	Common Name	Federal/ State Listing	CRPR	MSCP	Estimated Number of Individuals
<i>Ambrosia chenopodiifolia</i>	San Diego bur-sage	-/-	2B.1	-	16,500
<i>Atriplex pacifica</i>	south coast saltscare	-/-	1B.2	-	153
<i>Bahioopsis laciniata</i>	San Diego County viguiera	-/-	4.3	-	600
<i>Cistanthe maritima</i>	seaside cistanthe	-/-	4.2	-	78
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla	-/-	1B.1	NE, MSCP	8
<i>Deinandra conjugens</i>	Otay tarplant	FT/CE	1B.1	NE, MSCP	2,700
<i>Euphorbia misera</i>	cliff spurge	-/-	2B.2	-	129
<i>Ferocactus viridescens</i>	San Diego barrel cactus	-/-	2B.1	MSCP	9
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	-/-	4.2	-	12
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>	beach goldenaster	-/-	1B.1	-	25
<i>Lycium californicum</i>	California box-thorn	-/-	4.2	-	23
<i>Microseris douglasii</i> var. <i>platycarpha</i>	small-flowered microseris	-/-	4.2	-	20
<i>Selaginella cinerascens</i>	ashy spike-moss	-/-	4.1	-	30 square feet
STATUS CODES					
FT = Federally listed threatened					
CE = State listed endangered					
MSCP = Multiple Species Conservation Program covered species					
NE = City of San Diego MSCP Narrow Endemic species					
California Rare Plant Ranks (CRPR)					
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.					
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.					
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.					
Threat Ranks					
0.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)					
0.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)					
0.3 = Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)					



Project Parcels Boundary
 Project Impact Area

Sensitive Plant Species Observations

MSCP Covered Species

- Otay tarplant
- Snake cholla
- San Diego barrel cactus

Not MSCP Covered Species

- Beach goldenaster
- South coast saltscale
- San Diego bur-sage
- Cliff spurge
- Ashy spike-moss
- Small-flowered microseris
- California box-thorn
- Palmer's grapplinghook
- Seaside cistanthe
- San Diego County viguiera
- Count of Individuals

Note: Each point represents one individual unless otherwise noted.

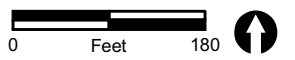


FIGURE 7b
Existing Biological Resources - Sensitive Plant Species

3.3.3.1 Sensitive Plant Species Observed

a. San Diego Bur-sage

San Diego bur-sage is a CRPR 2B.1 species (CNPS 2017). This perennial shrub in the sunflower family (Asteraceae) has hairy grayish leaves and flowers from April to June. Its range is restricted to extreme southern San Diego County, near Otay Mesa, and northern Baja California, Mexico. It is generally found in dry, fairly open, Diegan coastal sage scrub below 600 feet elevation, where it often grows in association with low-growing California sagebrush and black sage (*Salvia mellifera*). It has been found on Olivenhain cobbly loam soil and is declining in the United States with the development of western Otay Mesa (Reiser 2001).

San Diego bur-sage occurs throughout most of the project parcels. It occurs as the dominant plant species within much of the maritime succulent scrub and is scattered within the Diegan coastal sage scrub. This species also occasionally occurs within disturbed areas, such as roads and trails on-site. An estimate of 16,500 San Diego bur-sage individuals occur within the project parcels. Due to the abundance of this species on-site, this population total was calculated by estimating the density of individuals in each observed stand and extrapolating using the acreage of each stand of vegetation.

b. South Coast Saltscale

South coast saltscale is a CRPR 1B.2 species (CNPS 2017). It is a prostrate annual herb in the goosefoot family (Chenopodiaceae) that forms tangled masses up to three feet in diameter and produces inconspicuous flowers between March and October. This species is distributed along the coast from Los Angeles south to Baja California and on the Channel Islands, with disjunct populations in Arizona and Sonora, Mexico (CNPS 2017). It is found below 300 feet elevation, in coastal bluff scrub, coastal dunes, and coastal scrub; it can also occur in alkaline playas in the desert (CNPS 2017). In San Diego County, it typically grows in dry, often mildly disturbed sites in open Diegan coastal sage scrub; host soils include Linne clay loam and Huerhuero-urban land (Reiser 2001). Many populations are imperiled by foot traffic and/or development (Reiser 2001).

South coast saltscale occurs mostly toward the southern portion of the project parcels with one occurrence of three individuals occurring in the northern portion of the site. On-site, this species occurs in groups within previously disturbed areas such as old roads and areas that appear to be subjected to ongoing erosion. These areas are mapped as maritime succulent scrub and disturbed habitat. A total of 153 individuals were mapped within the project parcels. This total was calculated by counting all individuals found while traversing the project parcels during each rare plant survey. Additional individuals may occur within the project parcels, as this is a somewhat inconspicuous species. However, this total of 153 individuals likely closely represents the population within the project parcels.

c. San Diego County Viguiera

San Diego County viguiera is a CRPR 4.2 species (CNPS 2017). This shrub in the sunflower family (Asteraceae) has shiny, resinous leaves and showy yellow flowers that bloom from February to August (University of California 2017; Munz 1974). Its range extends from Sonora and Baja California, Mexico northward into San Diego and Orange County (CNPS 2017), although the population in Orange County may not be native (Reiser 2001). In San Diego County it is rare north of Highway 78, becoming increasingly common to the south, until it is the dominant shrub in coastal sage scrub in non-coastal southern San Diego County (Reiser 2001). San Diego County viguiera occurs on dry, shrubby slopes in Diegan coastal sage scrub and chaparral habitats between 200 and 2,500 feet elevation. Overall, this species is in decline due to development. However, there are many areas containing substantial populations (Reiser 2001).

San Diego viguiera occurs in many areas of the project parcels. The species occurs both as scattered individuals and in groups within maritime succulent scrub and Diegan coastal sage scrub. Central portions of the site that appear to undergo a high amount of disturbance were not found to contain this species. Approximately 600 individuals were mapped within the project parcels. This population total was calculated by counting individuals where they occurred in small numbers and estimating the number of individuals where they occurred in large groups. For large groups, the number of individuals was calculated by estimating the density within an area and extrapolating using the area of each group. This population estimate likely closely represents the population of this species within the project parcels.

d. Seaside Cistanthe

Seaside cistanthe is a CRPR 4.2 species (CNPS 2017). This low, spreading, succulent annual herb in the purslane family (Portulacaceae) flowers from March through May (Munz 1974). Its range extends along the coast from Santa Barbara County southward into Baja California and onto the Channel Islands (CNPS 2017). It is typically found on sandy bluffs and openings in coastal sage scrub flats near the beach. It has been mapped on Gaviota fine sandy loam and Terrace Escarpment soils (Reiser 2001). Seaside cistanthe is severely declining in mainland southern California, and is approaching extirpation in San Diego County and Orange County. The decline of this species is attributed primarily to loss of habitat via residential coastal development (Reiser 2001).

Seaside cistanthe occurs in groups in three areas of the project parcels within maritime succulent scrub. On-site, groups of this species generally occur on undisturbed south-facing slopes. A total of 78 individuals were mapped within the project parcels. This total was calculated by counting all individuals found while traversing the project parcels during each survey and should be an accurate representation of the population within the project parcels.

e. Snake Cholla

Snake cholla is a CRPR 1B.1 species (CNPS 2017) and is a covered species and narrow endemic species under the MSCP Subarea Plan (City of San Diego 1997). It is generally a prostrate cactus (Cactaceae family) that may grow up to 9 feet and blooms with yellow or green-yellow flowers in April and May. This variety grows only in southern San Diego County and Baja California, with the northernmost known location in Florida Canyon in Balboa Park (Reiser 2001). Snake cholla occurs in coastal sage scrub and chaparral habitats between 100 and 500 feet elevation (CNPS 2017), most often on dry hillsides. It is associated with Huerhuero loam, Gaviota fine sandy loam, and Redding cobbly loam soils (Reiser 2001). Snake cholla is substantially declining in San Diego County and imperiled by development (Reiser 2001).

A total of 8 individual snake cholla plants was mapped in the southern and eastern portions of the project parcels within undisturbed maritime succulent scrub. However, additional individuals may occur within the undisturbed maritime succulent scrub, where the high density of cactus species and/or the steepness of the slopes did not allow for 100 percent visual coverage during surveys.

f. Otay Tarplant

Otay tarplant is listed as a California endangered species and a federally threatened species (CDFW 2017b and c). It is a CRPR 1B.1 species (CNPS 2017) and is a covered species and narrow endemic species under the City's MCSP Subarea Plan (City of San Diego 1997). This small, aromatic annual herb in the sunflower family (Asteraceae) produces mostly solitary yellow flower heads in May and June (Munz 1974). It ranges from southwestern San Diego County into Baja California, in open coastal sage scrub and grassland habitats below 1,000 feet (CNPS 2017). It typically occurs in herbaceous plant communities on slopes and mesas with expansive clay soils, and may occur in non-native grasslands and fallow agricultural fields where clay soils are present (Reiser 2001). Otay tarplant is considered to be declining. Residential and commercial development and highway construction have led to this decline (Reiser 2001).

Otay tarplant occurs in the northern portion of the project parcels on a north-facing slope in areas mapped as maritime succulent scrub and Diegan coastal sage scrub. These areas contain more annual plant cover, including non-native grasses and forbs, compared to other areas of maritime succulent scrub and Diegan coastal sage scrub on-site. Here, Otay tarplant appears to be more concentrated in areas that have previously been disturbed, such as lightly used trails and a previously graded road. Areas that specifically contain a high density of black mustard (*Brassica nigra*) have very few Otay tarplant individuals. Approximately 2,700 individuals were mapped within the project parcels. This population total was calculated by counting individuals where they occurred in small numbers and by estimating the number of individuals where they occurred in large groups. For large groups, the number of individuals was calculated by estimating the density within an area and extrapolating using the area of each group. This population estimate should be an accurate representation of the population of this species within the project parcels.

However, as the expression of this annual species is influenced by rainfall and weather conditions, the population size within the project parcels may fluctuate year to year.

g. Cliff Spurge

Cliff spurge is a CRPR 2B.2 species (CNPS 2017). Cliff spurge is a spiny, low-growing shrub in the spurge family (Euphorbiaceae) that grows to about three feet tall and may flower from December to August. It is found along the coast from Orange County south to Baja California and in the Channel Islands, with a disjunct population in the Sonoran desert near the community of Whitewater, Riverside County. It typically occurs in coastal bluff scrub or maritime succulent scrub below 1,700 feet (CNPS 2017). The largest populations in San Diego County are found on Point Loma and Otay Mesa, with occurrences as far north as Carlsbad (Reiser 2001). Soil series associated with this species include Olivenhain cobbly loam and Gaviota fine sandy loam (Reiser 2001). Cliff spurge is declining with the development of the Otay Mesa (Reiser 2001).

Cliff spurge occurs in the southern, eastern, and northern portions of the project parcels within maritime succulent scrub. It was observed occurring in higher numbers on south-facing slopes and areas with little disturbance. However, some individuals within the northern portion of the site occur along existing dirt roads. A total of 129 individuals was mapped within the project parcels. All individuals observed during the surveys were recorded and counted. However, additional individuals may occur within the undisturbed maritime succulent scrub, where the high density of cactus species and/or the steepness of the slopes did not allow for 100 percent visual coverage during surveys.

h. San Diego Barrel Cactus

San Diego barrel cactus is a CRPR 2B.1 species (CNPS 2017) and is a covered species under the City's MSCP Subarea Plan (City of San Diego 1997). This globular succulent in the cactus family (Cactaceae) usually grows up to eight inches tall, with some individuals growing to 18 inches, and flowers in May and June (Baldwin et al. 2012). It is found only in coastal San Diego County and Baja California, Mexico. Although found as far north as Oceanside coastally and Poway inland, the largest populations of San Diego barrel cactus occur in Otay Mesa, Otay Valley, Point Loma, and Marine Corps Air Station Miramar (Reiser 2001). This species generally occurs in sandy, rocky or dry hills of coastal sage scrub, grassland, chaparral, and vernal pool habitats below 500 feet elevation (University of California 2017, Munz 1974). It is typically found in soil types such as San Miguel-Exchequer rocky silt loams and Redding gravelly loams and is associated with species such as variegated dudleya (*Dudleya variegata*), foothill needle grass (*Stipa lepida*), and California sagebrush (Reiser 2001). It is the only barrel cactus found in coastal areas. San Diego cactus is threatened by urbanization, off-road vehicles, and collecting (Baldwin et al. 2012).

San Diego cactus occurs grouped in three different areas within the southern half of the project parcels, all mapped as maritime succulent scrub. The locales where this species occurs show sign of very little soil disturbance. A total of 9 individuals was mapped within the project parcels. However, additional individuals may occur within the undisturbed

maritime succulent scrub, where the high density of cactus species and/or the steepness of the slopes did not allow for 100 percent visual coverage during surveys.

i. Palmer's Grapplinghook

Palmer's grapplinghook is a CRPR 4.2 species (CNPS 2017). This small herbaceous annual in the borage family (Boraginaceae) flowers from March to May, then produces spiny nutlets that look like tiny grapplinghooks. Palmer's grapplinghook is found in Los Angeles, Orange, Riverside, and San Diego Counties, and Santa Catalina Island in California; Arizona; and Baja California and Sonora, Mexico (CNPS 2017). It may be found in grasslands, coastal sage scrub, and chaparral habitats below 3,100 feet (CNPS 2017); but in San Diego, it is typically found in open grassy slopes or open coastal sage scrub habitat on clay soils. As of 2001, the largest known population in San Diego County was on Table Mountain near Jacumba, with smaller populations scattered near the coast (Reiser 2001). This inconspicuous plant can most reliably be identified in late spring or early summer, when its distinctive fruit can be observed. Palmer's grapplinghook populations are in decline in southern California, likely due to urban development and agricultural discing (Reiser 2001).

A total of 12 Palmer's grapplinghook was observed in the south-central portion of the project parcels in an area mapped as maritime succulent scrub. Ten individuals were found grouped together in an area that supported mostly undisturbed soil crusts, and two individuals were observed nearby in a similarly undisturbed area. As most individuals observed had begun to desiccate by the time of the first rare plant survey on April 6, 2017, the number of individuals observed may be an underrepresentation of the population within the project parcels. In addition, as the expression of this annual species is influenced by rainfall and weather conditions, the population size within the project parcels may fluctuate year to year.

j. Beach Goldenaster

Beach goldenaster is a CRPR 1B.1 species (CNPS 2017). This herbaceous perennial in the sunflower family (Asteraceae) grows from 7 to 50 inches in height and ranges from decumbent to erect in habit (Baldwin et al. 2012). It is found along the coast mostly in San Diego County and Baja California below 200 feet with a presumed extant population occurring in Los Angeles County (CNPS 2017). This species is found on coastal dunes and in sandy locales of coastal sage scrub and in Del Mar has soils mapped as Terrace Escarpment (Reiser 2001). San Diego County populations of beach goldenaster are nearly extirpated due to developmental impacts to habitat immediately adjacent to southland beaches (Reiser 2001).

Beach goldenaster was found in a central portion of the project parcels within especially sandy locales. This area is mapped as disturbed Diegan coastal sage scrub and occurs between a number of trails. The sandy, loose soil here is likely a result of both human disturbance and erosion of a nearby slope. A total of 25 individuals was mapped within the project parcels. This total was calculated by counting all individuals found while traversing

the project parcels during each survey and should be an accurate representation of the population within the project parcels.

During the May 15 and June 18, 2019 site visits, only one beach goldenaster individual was relocated.

k. California Box-thorn

California box-thorn is a CRPR 4.2 species (CNPS 2017). This shrub in the nightshade family (Solanaceae) has stiff, spiny branches, small fleshy leaves, and white, purple-tinged flowers that bloom from March to July (Munz 1974). California box-thorn is distributed coastally, on the Channel Islands and from Los Angeles County south to Baja California, Mexico (Munz 1974; University of California 2017). The general habitat for this species is coastal bluff scrub and coastal sage scrub below 500 feet elevation; in San Diego County it occupies a band in upper coastal salt marshes and on bluffs (Reiser 2001). California box-thorn is severely declining with coastal development in San Diego County (Reiser 2001).

California box-thorn occurs in northern and southern portions of the project parcels in areas mapped as maritime succulent scrub. Individuals were generally scattered among more dominant species of this habitat, such as San Diego bur-sage. A total of 23 individuals was mapped within the survey area. All individuals observed during the surveys were recorded. However, additional individuals may occur within the undisturbed maritime succulent scrub, where the high density of cactus species and/or the steepness of the slopes did not allow for 100 percent visual coverage during surveys.

l. Small-flowered Microseris

Small-flowered microseris is a CRPR 4.2 species (CNPS 2017). This annual herb in the sunflower family (Asteraceae) grows from one to ten inches tall and produces yellow or white flowers in March and April. A subspecies of the more widespread Douglas' microseris (*M. douglasii*), small-flowered microseris is only found in Los Angeles, Orange, Riverside, and San Diego counties and the southern Channel Islands and into Baja California (CNPS 2017). Small-flowered microseris occur in grasslands, cismontane woodland, coastal scrub, and vernal pool habitats (CNPS 2017); more specifically, in San Diego County it typically occurs on clay lenses among native bunchgrasses, on the edge of vernal pools, or in openings in sage scrub (Reiser 2001). This species is presumed to be severely declining in southern California owing to urban development (Reiser 2001).

Small-flowered microseris was observed in one location within the project parcels in an area mapped as disturbed maritime succulent scrub. Approximately 20 individuals were recorded within the project parcels. Where this species was detected, it is generally flat and appeared to have been previously graded and/or used as a road, resulting in decreased vegetation cover. Similar conditions occur in other portions of the survey area, but no other occurrences of this species were detected. This species was detected during the survey on April 6, 2017, and had mostly set seed and begun to desiccate by this date. Therefore, there is a potential for low numbers of this species to have gone undetected in other areas of the project parcels.

m. Ashy Spike-moss

Ashy spike-moss is a CRPR 4.1 species (CNPS 2017). This plant is a perennial, rhizomatous herb composed of a loose tangle of prostrate runners pale green in color and aging tan to white. This species is distributed mostly in San Diego County and northern Baja California below 1,800 feet in elevation (Baldwin et al. 2012). It is found at many sites in San Diego County, primarily south of Highway 78, on the periphery of the city of San Diego, and in the Marine Corps Air Station (MCAS) Miramar, where it can be the dominant ground cover (Reiser 2001). It occurs in sunny spots or under shrubs within chaparral and coastal sage scrub (Baldwin et al. 2012; CNPS 2017), and on many soil types (Reiser 2001). This species is a good indicator of site degradation, as it rarely inhabits disturbed soils. Ashy spike-moss is substantially declining due to urban expansion along the coast. However, it can be found in abundance in protected areas (Reiser 2001).

Ashy spike-moss was detected in the east-central portion of the site in undisturbed areas between shrubs within maritime succulent scrub. It occurred as many small mats in close proximity to each other and thus recorded as a single point. The number of individuals of this species is difficult to count without disturbing and likely destroying the individuals. Therefore, the square footage of this mat-forming species was recorded. Approximately 30 square feet of ashy spike-moss were mapped within the project parcels.

3.3.4 Sensitive Wildlife Species

The following 13 sensitive wildlife species were observed during the general and focused biological surveys conducted in 2016 and 2017 for this project: San Diego fairy shrimp, Belding's orange-throated whiptail, Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus hudsonius*), prairie falcon (*Falco mexicanus*), western burrowing owl, least Bell's vireo, California horned lark (*Eremophila alpestris actia*), coastal cactus wren, coastal California gnatcatcher, yellow warbler (*Setophaga petechia*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and San Diego black-tailed jackrabbit (Figure 7c). Three of these species, San Diego fairy shrimp, least Bell's vireo, and coastal California gnatcatcher, are federally listed as threatened or endangered. Cooper's hawk, prairie falcon, and California horned lark, southern California rufous-crowned sparrow are CDFW watch list species. Belding's orange-throated whiptail, northern harrier, western burrowing owl, coastal cactus wren, yellow warbler, and San Diego black-tailed jackrabbit are CDFW species of special concern. All but five species—San Diego fairy shrimp, prairie falcon, California horned lark, yellow warbler, and San Diego black-tailed jackrabbit—are covered by the MSCP. San Diego fairy shrimp is a covered species under the VPHCP.

Based on an assessment of species location records and habitat suitability, the following four additional sensitive wildlife species were identified as having a high or moderate potential to occur: Baja California coachwhip (*Coluber fuliginosus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego desert woodrat (*Neotoma lepida intermedia*), and southern mule deer (*Odocoileus hemionus fuliginata*). Descriptions of the observed and potentially occurring sensitive wildlife species are provided below and in Attachment 4.



- Project Parcels Boundary
- Project Impact Area
- Wildlife Survey Buffers**
- 100-foot Survey Buffer
- 300-foot Survey Buffer
- 500-foot (approximate 150-meter) Buffer
- Sensitive Wildlife Species Observations**
- MSCP Covered**
- ◻ Belding's Orange-throated Whiptail
- ▲ Coastal Cactus Wren
- ◻ Coastal Cactus Wren Nest
- ▲ Least Bell's Vireo
- ▲ Northern Harrier
- ▲ Western Burrowing Owl
- ◻ Burrowing Owl with Active Burrow
- ◻ Suitable Burrow for Western Burrowing Owl
- ▲ Southern California Rufous-crowned Sparrow
- ▲ Coastal California Gnatcatcher
- ◻ Coastal California Gnatcatcher Nest
- Gnatcatcher Observed Use Area
- VPHCP Covered**
- San Diego Fairy Shrimp
- Watershed for San Diego Fairy Shrimp
- Shrimp Occupied Depression
- Not MSCP or VPHCP Covered**
- ◊ San Diego Black-tailed Jackrabbit
- ▲ Yellow Warbler

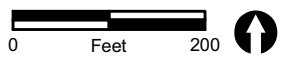


FIGURE 7c
Existing Biological Resources - Sensitive Animal Species

However, the following three observed sensitive species are only addressed in Attachment 4, as none of these species is expected to breed or roost or nest on-site: California gull (*Larus californicus*), Virginia's warbler (*Oreothlypis virginiae*), and great blue heron (*Ardea herodias*).

3.3.4.1 Sensitive Wildlife Species Observed

a. San Diego Fairy Shrimp

San Diego fairy shrimp is federally listed as endangered and is a covered species under the VPHCP (CDFW 2017d and e, City 2002). This fairy shrimp occurs in limited populations in Santa Barbara and Orange Counties and in San Diego County from San Marcos and Ramona south to Otay Mesa and into northwestern Baja California, Mexico, at Valle de Las Palmas (USFWS 1997b). The majority of San Diego fairy shrimp populations are located San Diego County. San Diego fairy shrimp are restricted to vernal pools and prefer cool water temperatures. This species can also be found in ditches and road ruts that are located in degraded vernal pool habitat. Fairy shrimp remain dormant in cysts until pools fill during the rainy season. Nauplii emerge from cysts and develop into adults sometime between mid-December and early May (Eriksen and Belk 1999). Development takes between 10 to 20 days and is dependent on water temperature. Primary threats to this species are habitat destruction and fragmentation, alterations of wetland hydrology, off-road vehicle activity, and grazing (USFWS 1997b).

As discussed in the wet season fairy shrimp survey report (RECON 2017a), San Diego fairy shrimp was observed on January 5, 2017, in only one of the 17 depressions observed holding water within the project parcels during the 2016-2017 wet season. Mature male and gravid female San Diego fairy shrimp were observed, with the total number of individuals present estimated in the 10s. The depression containing these individuals is an artificial ditch within disturbed Diegan coastal sage scrub, which occurs between an old dirt road bed and the top of a manufactured slope.

The remaining 16 depressions that were negative for fairy shrimp during the 2016-2017 wet season were subsequently surveyed for San Diego fairy shrimp using dry season survey protocol (RECON 2017b). As no San Diego fairy shrimp were detected in these 16 depressions, this species not expected to occur in any other areas of the project parcels.

b. Belding's Orange-throated Whiptail

Belding's orange-throated whiptail is a CDFW species of special concern and an MSCP covered species (CDFW 2017d; City of San Diego 1997). This species ranges from the coast to the Peninsular mountain ranges from Orange and southwestern San Bernardino counties to the tip of Baja California, Mexico (Stebbins 2003). It occurs in a variety of habitats and is most common in sandy areas of low, open sage scrub or chaparral, particularly where there is California buckwheat, sage (*Salvia* spp.), or chamise (*Adenostoma fasciculatum*; Lemm 2006). This species feeds primarily on the western subterranean termite (*Reticulitermes hesperus*) (Bostic 1966). It is active during spring and

summer, but is largely dormant during the fall and winter, when temperatures drop (Jennings and Hayes 1994). Breeding occurs from May through July. The decline of this species is attributed to habitat loss and fragmentation (McGurty 1980).

Belding's orange-throated whiptail was observed on multiple survey days in the northern and western portions of the project parcels. Adults and juveniles were observed, typically foraging in open areas of the maritime succulent scrub and disturbed Diegan coastal sage scrub. The maritime succulent scrub and Diegan coastal sage scrub (undisturbed and disturbed) throughout the project parcels provide suitable habitat for this species.

c. Cooper's Hawk

The Cooper's hawk is a CDFW watch list species (nesting) and an MSCP covered species (CDFW 2017d, City 1997). The Cooper's hawk's year-round range extends throughout most of the U.S. Its wintering range extends south to Central America, and its breeding range extends north to southern Canada (Rosenfeld and Bielefeldt 1993). Breeding birds are widespread over San Diego County's coastal slope and most abundant in lowland and foothill canyons and in urban areas. It is a common breeder in both oak and willow riparian woodlands and urban environments, with eucalyptus trees used nearly as often as oaks (Unitt 2004). Additionally, this species has been known to nest within planted trees including pine, redwood, and avocado (Unitt 2004). Breeding occurs from March to June, and nests are typically located high in the tree but under the canopy. This hawk forages primarily on medium-sized birds but is also known to eat small mammals such as chipmunks and other rodents (Rosenfeld and Bielefeldt 1993). Although urbanization and loss of habitat have contributed to the decline of this species, the Cooper's hawk acclimation to city living over the last 20 years has generously increased their numbers (Unitt 2004).

Cooper's hawk was only observed during one of the focused least Bell's vireo survey visits. This species may forage within the project parcels, as potentially suitable nest sites (e.g., mature eucalyptus trees and other ornamental tree species) are available in the development immediately northwest of the project parcels. However, this species is not expected to nest within the project parcels due to the lack of mature trees for nest sites.

d. Northern Harrier

The northern harrier is a CDFW species of special concern (nesting) and an MSCP covered species (CDFW 2017d; City of San Diego 1997). In San Diego County, the northern harrier is found year-round but is more abundant and widespread as a winter visitor than a breeding bird (Unitt 2004). Wintering birds, as well as breeding birds, are numerous in the coastal lowlands, whereas at higher elevations—such as near Lake Henshaw and Lake Cuyamaca—this species' presence is scarce. The northern harrier commonly nests on the ground in dense vegetation along the edge of marshes, grasslands, in fields, or in areas of sparse shrubs (MacWhirter and Bildstein 1996). This species' breeding habitat is characterized by tall, dense vegetation, which provides the needed concealment for their nests (Dechant et al. 2003; Unitt 2004). The largest concentration of breeding in San Diego County is within the Tijuana River Valley and estuary (Unitt 2004). Northern harriers also

rely on grasslands for foraging grounds, as well as agricultural fields, and coastal marshes (MacWhirter and Bildstein 1996). The harrier's numbers vary greatly with rainfall, which controls the abundance of their prey. The largest threat to breeding harriers is loss of breeding and foraging habitats due to urbanization, human disturbance, and agricultural practices (Shuford and Gardali 2008).

A pair of northern harriers and individual northern harriers (likely part of the pair) were observed repeatedly flying over the project parcels, foraging, and occasionally perching atop some small dirt mounds and along the dirt roads within the central and northern portions of the project parcels. Although northern harriers were repeat visitors, no sign of nesting was observed on-site. Within the project parcels, the areas of disturbed land that are dominated by garland daisy (mostly in the southeastern section of the parcels) may provide suitable dense vegetation to serve as nesting habitat for this species. All undeveloped portions of the project parcels provide suitable foraging habitat for this species.

e. Prairie Falcon

Prairie falcon is a CDFW watch list species (CDFW 2017d). The prairie falcon is a permanent resident within the inland areas of San Diego County, which include Borrego Valley and locations such as Warner, Santa Ysabel, Santa Maria Valley, and Otay Mesa, where large grasslands occur. This species' primary foraging habitat includes open perennial and annual grasslands, savannahs, rangeland, agricultural fields, and desert scrub areas (Unitt 2004). Ground squirrels (*Spermophilus* spp.) make up the bulk of the prairie falcon's diet, but they will also prey on small birds such as horned lark (*Eremophila alpestris*) and western meadowlark (*Sturnella neglecta*), especially during the winter (Steenhof 2013). This species nests directly on cliff ledges or bluffs, without building a nest, and occasionally in rock crevices that are near suitable foraging habitat. However, they are also known to reuse old raven or eagle nests. The prairie falcon will forage as far away as 20 to 25 miles from their nesting site in the Anza-Borrego Desert, where the density of prey can be low (Unitt 2004). This species tends to stay inland, with the Tijuana River Valley being the only coastal location where it is known to occur regularly (Unitt 2004). Threats to prairie falcon populations in San Diego County include human disturbance near nest sites and the loss of foraging habitat (Unitt 2004). Urbanization of foraging habitats within the desert badlands has resulted from agricultural encroachment, livestock-grazing, energy development activities, off-road vehicle use, and military training (Steenhof 2013).

Prairie falcon was only observed twice during all biological surveys conducted by RECON and BBS for this project. Each observation consisted of a fly-over. The project parcels provide suitable foraging habitat and abundant prey items (i.e., California ground squirrels). However, this species is not anticipated to nest within the project parcels due to the lack of suitable cliff ledges or bluffs. Only the tall eucalyptus or other ornamental tree species within the adjacent development have the potential to provide marginally suitable nesting habitat, as prairie falcon have been known to reuse stick nests of hawks or ravens (Unitt 2004).

f. Western Burrowing Owl

Western burrowing owl is a CDFW species of special concern and an MSCP covered species (CDFW 2017d, City 1997). Western burrowing owl is primarily restricted to the western United States and Mexico. A year-round resident in San Diego County, breeding western burrowing owls remain in only five primary areas in San Diego County including Otay Mesa, Imperial Beach, North Island Naval Air Station, Warner Valley, and Borrego Valley (Unitt 2004). Habitat for the western burrowing owl includes dry, open, short-grass areas with level to gentle topography and well-drained soils (CDFW 2012). These areas are also often associated with burrowing mammals (Haug et al. 1993). The burrowing owl is diurnal and perches during daylight at the entrance to its burrow or on low posts. Nesting occurs from March through August. Burrowing owls form a pair-bond for more than one year and exhibit high site fidelity, reusing the same burrow year after year (Haug et al. 1993). The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. Western burrowing owls are opportunistic feeders, consuming a diet that includes arthropods, small mammals, and birds, and occasionally amphibians and reptiles (Haug et al. 1993). Urbanization has greatly reduced the amount of suitable habitat for this species, thereby leading to the decline in the San Diego population (Lincher and Bloom 2007). Other contributions to the decline of this species include the poisoning of squirrels and prairie dogs, road and ditch maintenance, and collisions with automobiles (CDFW 2012).

As described in the burrowing owl breeding season survey report (RECON 2017f), one burrowing owl observation was recorded within the project parcels during focused breeding season surveys conducted between March 29 and July 6, 2017. During the first survey (March 29), one adult burrowing owl was observed using a burrow within the east-central portion of the project parcels. The owl was flushed during the survey, and a pellet was observed near the entrance of the burrow, indicating the burrow was occupied (see Figure 7c). Additionally, a single adult burrowing owl was observed incidentally in the same general area during two of the quino checkerspot butterfly surveys conducted by RECON on March 9 and April 4, 2017 (see Figure 7c). No additional owl observations were made during the remaining focused surveys or incidentally during other surveys conducted on-site. The area in the immediate vicinity of the burrowing owl observations consists of a gentle southwest-facing slope with bare soil that has eroded over time and formed many shallow to deep rills and cuts. This area lies at the edge of the central portion of the project parcels and supports a mix of open disturbed land, disturbed maritime succulent scrub, and Diegan coastal sage scrub. It has been subjected to ongoing human disturbance, such as OHV use, remote-controlled car use and course building, and pedestrian activity. Specifically, the area immediately adjacent to the observed burrow location contains a remote-controlled car course with small wooden bridges, pin flags, and sign of ongoing use.

These burrowing owl observations suggest that the central portion of the survey area is being used by a minimum of one burrowing owl as wintering habitat. The last burrowing owl observation on-site was early in the breeding season, April 4, and no burrowing owl observations were made during the remainder of the focused surveys. There was no sign of breeding burrowing owl observed on-site. This apparent use of the site correlates well with

the observed changes in vegetation throughout the seasons. Although the central portion of the survey area maintains open habitat conditions throughout the year, the dominance of garland daisy in the disturbed land in the southeastern portion of the survey area causes substantial seasonal changes in the habitat's structure. Areas dominated by garland daisy can be functionally similar to short-grass vegetation when the garland daisy plants have died back and deteriorated, typically from late summer through winter. However, these areas quickly change to dense, tall vegetation as new garland daisy plants sprout and reach full maturity, typically during spring and early summer. Especially in years with average or above-average rainfall, this may result in a decrease in suitability of the habitat for foraging burrowing owl during much of the breeding season.

g. Least Bell's Vireo

Least Bell's vireo is federally and state listed as endangered and an MSCP covered species (CDFW 2017d and e; City of San Diego 1997). Its historical breeding range once extended from northwestern Baja California, Mexico, to interior northern California, as far north as the city of Red Bluff in Tehama County, California (Franzreb 1989). The species is associated with riparian habitats, including cottonwood–willow woodlands and forests, oak woodlands, and mule fat scrub, and requires dense canopy for foraging and a dense understory for nesting (Unitt 2004; USFWS 1998). Least Bell's vireos migrate to San Diego County arriving at the breeding grounds in mid-March and remain until September or October. Populations are concentrated in the coastal lowlands of the county and are scattered within the foothills (Unitt 2004). Populations of least Bell's vireo have declined drastically due to extensive loss of riparian habitat from urban development, including flood control and damming, introduction of non-native invasive plant species such as giant reed (*Arundo donax*) and saltcedar, and nest parasitism by brown-headed cowbird (*Molothrus ater*) (USFWS 2009). The population has increased as a result of extensive brown-headed cowbird trapping programs and restoration of riparian woodland habitat (Unitt 2004).

As discussed in the least Bell's vireo survey report (RECON 2017e), one vireo was observed within the project parcels during a protocol survey visit on May 23, 2017, and one incidental vireo detection was recorded during an earlier, separate biological survey on March 29, 2017. The point location shown on Figure 7c within the 300-foot buffer represents the March detection, and the point location within the project parcels represents the May detection. No vireo were detected during any of the other seven focused survey visits, or during any of the other biological survey visits conducted by RECON and BBS during the 2017 season.

At a minimum, least Bell's vireo appears to be using the mule fat scrub in Moody Canyon (northern portion of the project parcels) during migration. Although the mule fat scrub and the tamarisk-dominated patch of disturbed Diegan coastal sage scrub may provide suitable breeding habitat for this species, no on-site breeding or nesting was confirmed during the 2017 focused surveys. The March detection coincides with the typical arrival time of vireo to their breeding grounds in southern California (USFWS 1998; Unitt 2004), indicating this

individual could have been passing through during migration to its established territory or in search of a new territory.

Least Bell's vireo males tend to be vocal. Therefore, the lack of detection between March and May could indicate that the May detection was from an unpaired mature male still looking to establish a territory or dispersal of an early-season fledgling. Although fledglings generally remain within or in close proximity to their natal territory for most of the season, immatures more than 30 days out of the nest may move over wide areas (Brown 1993). The initial dispersal distance of a juvenile vireo from its natal site has at least been documented at 1.6 kilometers (approximately 1 mile) by the time a second brood has fledged (USFWS 1998; Gray and Greaves 1984 as cited in Brown 1993). Furthermore, fledglings have been known to produce adult-like songs (Brown 1993). A section of the Tijuana River that has been known to support breeding vireo since at least 1978 (CDFW 2017a), which comes within two miles of the project parcels, may be a source of dispersing juveniles.

h. California Horned Lark

California horned lark is a CDFW watch list species (CDFW 2017d). This coastal subspecies' year-round range is fragmented in San Diego County and includes the coastal strand, arid grasslands, and sandy desert floors in Anza-Borrego Desert (Unitt 2004). Plowed fields, graded lands, and other disturbed areas attract the California horned lark. One of these habitats is the coastal strand that encompasses salt flats around lagoons and fills in Mission and San Diego bays. The coastal mesas and inland valleys, such as Warner Valley, also provide pockets of sparsely vegetated habitats suitable for this species. Substantial numbers are also found in the upper basin of Lake Cuyamaca and Santa Maria Valley (Ramona grasslands). California horned larks are typically not found in chaparral (Unitt 2004; Zeiner et al. 1988-1990). Breeding occurs during the months of March through July with peak activity occurring in May, and nests are made on the ground. California horned larks forage by walking on the ground and consume a diet of spiders, insects, snails, buds, berries, and seeds from grasses, weeds, and forbs (Zeiner et al. 1988-1990). Horned larks usually forage in flocks except during nesting. Decline of this species is attributed to general loss of habitat, urbanization, and habitat fragmentation (Unitt 2004).

California horned lark was observed only once during biological surveys conducted in 2016 and 2017, on April 13, 2017. Although no nesting activity was observed, the open areas of disturbed land within the central portion of the project parcels provide suitable nesting habitat for this species. However, the suitability of this habitat may be negatively affected by the frequent pedestrian and off-road vehicle activity.

i. Coastal Cactus Wren

Coastal cactus wren is a CDFW species of concern and an MSCP covered species (CDFW 2017d, City 1997). This subspecies ranges from southern Orange County through San Diego County into extreme northwestern Baja California (Hamilton et al. 2011). Shuford and Gardali (2008) summarize that in San Diego County the coastal cactus wren is concentrated in four core regions: southern Camp Pendleton/Fallbrook Naval Weapons

Station, Lake Hodges/San Pasqual, Lake Jennings, and Sweetwater/Otay (extending from Dictionary Hill on the north to Otay Mesa on the south, from Euclid Avenue on the west to Upper and Lower Otay Lakes on the east). However, the Lake Jennings area suffered in the 2003 Cedar Fire destroying most of the occupied habitat. Year-round residents, coastal cactus wrens inhabit coastal sage and maritime succulent scrub containing thickets of coastal cholla and two species of prickly pear, coast prickly pear and chaparral prickly pear (*Opuntia oricola*) (Rea and Weaver 1990). Coastal cactus wrens build their nests in the cacti at a height of approximately three feet (Solek and Szijj 2004), and males often build multiple nests throughout the year to be used for roosting by adults and fledglings, and nesting for subsequent broods (Unitt 2004). This species is considered a shrubby skulker, foraging for insects primarily on open areas on the ground or low in the vegetation. In high temperatures, the coastal cactus wren prefers to forage under the canopy of shrubs (Solek and Szijj 2004). The primary cause for the decline of this species is degradation and loss of breeding habitat to urbanization. Human-caused disturbance, such as increased fire frequency and intensity, is also problematic for this species. Cactus wren require cacti at least 3 feet in height for nesting, and cactus recovery after a fire can be slow (Solek and Szijj 2004).

Coastal cactus wren was observed on April 5 and 13, 2017, in cactus-dominated maritime succulent scrub in the survey buffer north of the project parcels during the first and second focused survey visits for this species and was again incidentally observed in the same general area on May 23, 2017. On April 5, one coastal cactus wren was observed pulling nesting material from an old nest, carrying the material north to another cactus, vocalizing quietly, and foraging in low within the vegetation. On April 13, an individual coastal cactus wren was observed in very close proximity to the previous observation, but no nest was detected. On May 23, coastal cactus wren was again observed traveling within the same stand of maritime succulent scrub. On this visit, a possible coastal cactus wren nest was observed within a mature coast cholla, approximately 200 feet northwest of the first observation location.

The coastal cactus wren observations described above took place in the most extensive stand of cactus-dominated maritime succulent scrub habitat that occurs in the project parcels and 300-foot survey buffer. Habitat in this area can be classified as high quality cactus scrub (i.e., Cactus Scrub Type 1 and Cholla Type 1 [Coastal Cactus Wren Network 2012]). This area is dominated by coast cholla, with many individuals greater than 1.3 meters tall. Cholla in this area appears to occupy at least 50 percent of the total shrub cover. Other representative plant species in this patch include jojoba and San Diego bur-sage.

The remaining patches of cactus-dominated maritime succulent scrub in other portions of the project parcels and 300-foot survey buffer, can be classified as lower quality cactus scrub (i.e., Cactus Scrub Type 3 or Type 4, and Cholla Type 2 or 3 [Coastal Cactus Wren Network 2012]), as these areas have small cactus scrub patches less than an acre in size, with few individual coast cholla or snake cholla that are widely spaced in each patch. The cholla in each of these areas comprises less than 20 percent of the total scrub cover. Other representative plant species in these patches include jojoba, San Diego bur-sage, California

buckwheat, cliff spurge, and coast prickly pear. Each of these areas would have a low potential for cactus wren occupancy. However, because the project area and buffer are in close proximity to the large expanse of high quality cactus scrub habitat in the northern area of the project and buffer area, each of these areas has potential to support the species.

j. Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened, a CDFW species of special concern, and an MSCP covered species (CDFW 2017d and e; City of San Diego 1997). Coastal California gnatcatcher is a non-migratory, resident species found on the coastal slopes of southern California ranging from Ventura County southward through Los Angeles, Orange, Riverside, and San Diego counties into Baja California, Mexico (Atwood and Bontrager 2001; USFWS 2010). In San Diego County the eastern limits of the coastal scrub vegetation communities used by the gnatcatcher are largely bound by mountainous areas and colder winters (Unitt 2004). Coastal California gnatcatchers typically occur in or near mature coastal sage scrub habitat (Atwood and Bontrager 2001). This vegetation generally comprises low (less than three feet in height) shrub and sub-shrub species. Gnatcatchers defend breeding territories ranging in size from two to 14 acres (USFWS 2010). This species' ideal host shrub for nesting is California sagebrush, but it is also found nesting in California buckwheat, common encelia (*Encelia californica*), and broom baccharis (Unitt 2004). Other habitats used by coastal California gnatcatcher include chaparral, grassland, and riparian scrub; disturbed habitats are used where they occur adjacent to sage scrub (Atwood and Bontrager 2001). The primary cause of decline in the coastal California gnatcatcher population is habitat loss and degradation from urban and agricultural development, wildfires, and grazing. Gnatcatcher populations in areas near agriculture or livestock may also be more susceptible to brood parasitism (Atwood and Bontrager 2001).

As discussed in the coastal California gnatcatcher survey report (RECON 2017d), a minimum of six and maximum of 11 breeding pairs of coastal California gnatcatcher is estimated to occupy the survey area. The majority of the Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, and disturbed maritime succulent scrub within the survey area is considered suitable breeding habitat for gnatcatcher. The only exception is some portions of the disturbed Diegan coastal sage scrub in the westernmost portion of the survey area, as the shrub density and height are lower than are typically preferred for nesting by this species. The entirety of the Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, and disturbed maritime succulent scrub, as well as the disturbed land and mule fat scrub, also provide suitable foraging habitat and habitat for dispersal of juveniles.

k. Yellow Warbler

Yellow warbler is a CDFW species of special concern (CDFW 2017d). Yellow warblers commonly breed in San Diego County and are considered to be a rare winter visitor (Unitt 2004). This species is an obligate riparian species, nesting and foraging almost exclusively in mature riparian corridors on the coastal slopes and within the desert in San Felipe

Valley (Unitt 2004). Shuford and Gardali (2008) describe yellow warblers as showing a high degree of site fidelity, with 60 to 64.5 percent of males and 32 to 44 percent of females returning to their previous year's territory. They are often observed in riparian habitat where surface water is evident, although it is not necessary. Nesting occurs from April through early August (Unitt 2004), and nests are typically three to five feet from the ground (Lowther et al. 1999). This species is declining due to the loss of riparian habitat and as a result of nest parasitism by brown-headed cowbirds (Unitt 2004; Zeiner et al. 2005).

One yellow warbler was observed traveling through the northern portion of the project parcels on May 23, 2017. This individual was first detected, singing, in one of the willow trees in the mule fat scrub; it then quickly flew off site to a small group of eucalyptus trees just outside the northwest corner of the project parcels. This species was not detected during any other general or focused biological survey conducted by RECON or BBS during 2016 and 2017. Therefore, yellow warbler is only expected to use the mule fat scrub within the project parcels during migration or dispersal. The project parcels do not contain mature riparian woodland or forest to provide suitable nesting habitat for this species.

l. Southern California Rufous-crowned Sparrow

Southern California rufous-crowned sparrow is a CDFW watch list species and an MSCP covered species (CDFW 2017d; City of San Diego 1997). This subspecies of rufous-crowned sparrow is a San Diego County resident which ranges throughout southern California from Los Angeles County to Baja California, Mexico (Collins 1999). Southern California rufous-crowned sparrows are found in sage scrub, broken or burned chaparral habitats, and grasslands with scattered shrubs. The species exhibits a strong preference for moderate to steep, south-facing, dry, rocky slopes with a 50 percent cover of low shrubs (Unitt 2004; Collins 1999). Breeding occurs from March through June, and pair-bonds are formed that may last year-round (Collins 1999). Loss of habitat due to urbanization and habitat fragmentation has decreased the amount of suitable habitat for southern California rufous-crowned sparrows (Unitt 2004).

Southern California rufous-crowned sparrow was detected during multiple surveys in 2016 and 2017. Each detection was within maritime succulent scrub near the eastern edge of the project parcels. The open stands of Diegan coastal sage scrub and maritime succulent scrub on south-facing slopes in the western, southern, and eastern portions of the project parcels provide potentially suitable nesting habitat for this species. Due to the repeated detection of this species and presence of suitable habitat, this species may nest within the eastern portion of the project parcels.

m. San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit is CDFW species of special concern (CDFW 2017d). It ranges from near Mount Pinos (at the Kern-Ventura county line) southward and west of the Peninsular Range into Baja California, Mexico (Hall 1981). This species can be found throughout southern California, with the exception of high-altitude mountains. It occupies

open or semi-open habitats, such as coastal sage scrub and open chaparral areas. Forested and thick, closed-canopy chaparral regions are not suitable (Bond 1977; Tremor et al. 2017). San Diego black-tailed jackrabbit breeds throughout the year, with the greatest number of births occurring from April through May. This species is strictly herbivorous, preferring habitat with ample forage such as grasses and forbs. Declines in San Diego black-tailed jackrabbit populations are due to a decline in and fragmentation of suitable habitat as a result of urban development, shooting, and depredations of dogs (Tremor et al. 2017).

San Diego black-tailed jackrabbit was frequently observed in the eastern portion of the project parcels, and observed in the southwestern portion of the project parcels on one occasion. The detections typically consisted of individuals foraging or flushing from the vegetation, although one group of three was observed foraging and traveling together at the eastern edge of the project parcels on June 8, 2017. The entirety of the project parcels provides suitable habitat for this species, as the majority of the habitat is open or patchy in density and connected to a large expanse of undeveloped land to the east.

3.3.4.2 Sensitive Wildlife Species with Moderate to High Potential to Occur

a. Baja California Coachwhip

Baja California coachwhip is a CDFW species of special concern (CDFW 2017d). The range of this species extends throughout most of Baja California, Mexico and north into southwestern San Diego County (Stebbins 2003). Records of this species have been recorded only as far north as approximately 7 miles of the U.S.–Mexico International Border (Fisher and Case 1997). Within its range, this fast-moving diurnal snake may be found in many types of arid lands, such as desert, grassland, scrubland, woodland, and farmland. As with other coachwhip species, mating is generally thought to occur in April and May with eggs being laid in June and July (Zeiner et al. 1998). Its diet includes small mammals, birds, bird eggs, lizards, snakes, amphibians, and carrion (Zeiner et al. 1998). A potential threat to this species is being struck by vehicles due to the tendency of this snake to eat road-killed carrion.

Although only one 1941 CNDDDB record of this species exists from Otay Mesa (CDFW 2017a), this species was observed in 2017 within one mile northeast of the project parcels (SDNHM 2017). This species has a high potential to occur within the project parcels due to the proximity of a recent reported occurrence and the presence of potentially suitable scrub and grassy areas. However, based on the lack of detection during 2017 biological surveys, this species likely occurs in low numbers if present within the project parcels.

b. Northwestern San Diego Pocket Mouse

Northwestern San Diego pocket mouse is a CDFW species of special concern (CDFW 2017d). It ranges from Los Angeles County and extreme southern San Bernardino County southward into west-central Baja California, Mexico (Hall 1981). In San Diego County, northwestern San Diego pocket mouse is known from Del Mar, Dulzura, Jacumba, Lake

Hodges, Pala, San Diego, and San Marcos (Bond 1977). Habitat for this species is most often sparse or disturbed coastal sage scrub or grasslands with sandy soils. Breeding occurs from March to May. The northwestern San Diego pocket mouse diet consists of seeds from forbs, shrubs, and grasses (Brylski 1983). Threats to this species include degradation of habitat and loss of habitat from development.

This species has been observed previously within two miles northeast of the project parcels (RECON 2005). Coastal sage scrub on site may provide suitable habitat; however, frequent disturbance within the project parcels may reduce habitat value for this species. Therefore, this species has a moderate potential to occur within the project parcels.

c. San Diego Desert Woodrat

The San Diego desert woodrat is a CDFW species of special concern (CDFW 2017d). Although this species has been reclassified as *Neotoma bryanti intermedia*, a species distinct from *N. lepida* (Patton et al. 2007 in Tremor et al. 2017), terminology used in this report remains consistent with the CDFW Special Animals List. Its range extends through coastal areas from the San Francisco Bay well into Baja California, inland to the desert slopes of the Transverse and Peninsular ranges (Tremor et al. 2017). The San Diego desert woodrat occurs in a variety of habitats including coastal sage scrub, chaparral, pinyon-juniper woodland, and desert scrub with a preference for rock outcrops (Bond 1977, Tremor et al. 2017). The middens (nests) of this species are small and typically found in yuccas, at the base of shrubs and cacti, or in talus or rock outcrops (Tremor et al. 2017). Middens can be occupied by multiple generations and have been documented as old as 200 to 400 years of age. The breeding season for the San Diego desert woodrat is from October to May. Their diet consists of a variety of plant species and many parts of the plant including buds, fruits, seeds, bark, leaves, and young shoots (Brylski 1983). Threats to this species include habitat degradation and loss of habitat.

This species has been observed previously within two miles northeast of the project parcels (RECON 2005), and a woodrat midden was observed within the project parcels during the 2016 and 2017 biological surveys. Although the project parcels lack large rock outcrops preferred by this species for midden sites, the parcels provide suitable scrub habitat with cactus stands. Therefore, this species has a moderate potential to occur within the project parcels.

d. Southern Mule Deer

Southern mule deer is an MSCP covered species (City of San Diego 1997). Southern mule deer are presently widespread throughout undeveloped portions of San Diego County, ranging from Marine Corps Base Camp Pendleton to the Laguna Mountains, Sweetwater River, and Otay Lakes at elevations of 400 to 3,600 feet (Bleich and Holl 1982). Resident and migratory populations are present throughout California. This species requires relatively large, undisturbed tracts of chaparral, coastal sage scrub, and mixed grassland/shrub habitats. Breeding usually occurs between November and February, with the fawning period between June and August. The diet of the southern mule deer consists of forbs, grasses, and nuts. Although the species is not threatened with extinction within its

range, urbanization and habitat fragmentation could result in local extirpation without appropriate conservation measures.

The project site is located at the western end of a large swath of suitable habitat. Frequent human disturbance may reduce habitat value, but this species has a moderate potential to occasionally use the project site for foraging.

3.3.4.3 Sensitive Wildlife Species with Low Potential to Occur

Additional sensitive wildlife species that have a low potential or are not expected to occur within the project parcels are addressed in Attachment 4. One of these species, the federally endangered Quino checkerspot butterfly, is also addressed below to summarize focused surveys that were conducted for the species.

a. Quino Checkerspot Butterfly

Quino checkerspot butterfly is federally listed as endangered (USFWS 1997c). The Quino checkerspot butterfly's historic range includes the coastal plain and inland valleys of southern California from the Santa Monica Mountains south to northern Baja California, Mexico. Currently, the species is known from southern San Diego County and southwestern Riverside County. Quino checkerspot butterflies occur at several locations from Otay Mesa and Jacumba in southern San Diego County to Oak Grove on the northeast slopes of Cleveland National Forest, as well as near Murrieta and Temecula and eastward to Hemet and Anza in Riverside County (Faulkner and Klein 2012; USFWS 1997c). The distribution of Quino checkerspot butterflies is primarily defined by the distribution of its principal larval host plant, dot-seed plantain (*Plantago erecta*). However, female Quino checkerspot butterflies have also been observed depositing eggs on woolly plantain (*P. patagonica*), white snapdragon (*Antirrhinum coulterianum*), thread-leaved bird's beak (*Cordylanthus rigidus*), purple owl's clover (*Castilleja exserta*), and Chinese houses (*Collinsia heterophylla*) (Faulkner and Klein 2012, USFWS 2009a). Food sources for this butterfly vary from low-growing annuals including popcorn flowers (*Plagiobothrys* and *Cryptantha* sp.), lomatium (*Lomatium* sp.), goldenstar (*Bloomeria* sp.), yarrow (*Achillea millefolium*), fiddleneck (*Amsinckia* sp.), goldfields (*Lasthenia* sp.), gilia (*Gilia* sp.), and onion (*Allium* sp.) to perennial shrubs such as California buckwheat and sugar bush (*Rhus ovata*). The adult flight period typically occurs between March and May, although adults have been known to emerge as early as January and as late as April, depending on elevation, winter rains, and temperatures (Faulkner and Klein 2012). The primary threats to this species include habitat loss and habitat type conversion, resulting from urban and agricultural development. Non-native plant invasion, off-road-vehicle use, nitrogen deposition from internal combustion engines, grazing and fire management practices, and introduced exotic invertebrates (i.e., earwigs and pillbugs) also threaten this species.

As discussed in the Quino checkerspot butterfly survey report (RECON 2017c), suitable habitat for Quino checkerspot butterfly was mapped within the project parcels. However, no Quino checkerspot butterflies were observed within the project parcels during the 2017 presence/absence surveys. Although not currently occupying the site, this species has a low potential to occur within the project parcels in the future due to the presence of suitable habitat. One larval host plant species, dot-seed plantain, was observed in patches ranging

in size from approximately 50 to over 1,000 individuals throughout the project parcels and surrounding 100-foot buffer. Most of these patches were located within maritime succulent scrub on the hills in the central and eastern portion of the survey area; however, three small patches were found in disturbed Diegan coastal sage scrub in the western portion of the survey area. Generally, the dot-seed plantain was found in openings in scrub habitats, in areas with moderate native wildflower cover. Despite the many signs of disturbance, the survey area supports a substantial number of potential nectar sources, including known nectar sources such as *Allium*, *Amsinckia*, *Cryptantha*, *Dichelostemma*, *Eriogonum*, *Lasthenia*, *Linanthus*, and *Plagiobothrys* species.






3.3.5 Wildlife Movement Corridors

The project parcels occur at the western edge of a large expanse of undeveloped land on Otay Mesa. Therefore, the project parcels provide for local movement of terrestrial wildlife among stands of habitat to the north, east, and south. However, with urban residential development, commercial development, Interstate 805, and Interstate 5 interrupting any direct connection to the Tijuana River valley to the west, the project parcels do not function as a true wildlife movement corridor. The project parcels contribute to stepping-stone connections for avian and other winged species, as is evident by observations of migratory bird species such as least Bell's vireo and yellow warbler along Moody Canyon, and contributes to available habitat for terrestrial animals. However, the project parcels do not serve as a regional connection for large terrestrial wildlife.

3.3.6 Jurisdictional Wetlands and Waters

As discussed in the jurisdictional waters/wetland delineation report (RECON 2017g), jurisdictional wetlands and waters within the project parcels and surrounding 100-foot buffer are restricted to Moody Canyon and the small depression near the western edge of the project parcels. As shown in Table 4 below and on Figure 8a, a total of 0.07 acre of non-wetland waters of the U.S. was delineated within Moody Canyon. The CDFW jurisdictional area consists of 0.07 acre of streambed and 0.36 acre of riparian habitat, totaling 0.43 acre, within Moody Canyon (Figure 8b). RWQCB jurisdiction totals 0.09 acre including 0.07 acre of unvegetated streambed in Moody Canyon and 0.02 acre of isolated wetland within the small depression (see Figure 8b). The City wetlands include 0.36 acre of vegetated riparian habitat within Moody Canyon (Figure 8c).



-  Project Parcels Boundary
-  Project Impact Area
-  100-foot Survey Buffer
-  ACOE Non-wetland Waters of the U.S. (0.07 ac, 954 ft)
-  Sample Point

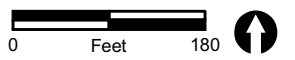









FIGURE 8a
Jurisdictional Waters -
ACOE Waters of the U.S.



-  Project Parcels Boundary
-  Project Impact Area
-  100-foot Survey Buffer
-  CDFW Riparian Only (0.36 ac)
-  CDFW and RWQCB Streambed (0.07 ac)
-  RWQCB Isolated Waters (0.02 ac)
-  Sample Point

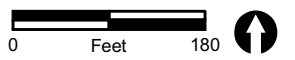








FIGURE 8b
Jurisdictional Waters - CDFW and
RWQCB Waters of the State



-  Project Parcels Boundary
-  Project Impact Area
-  100-foot Survey Buffer
-  City of San Diego Wetland (0.36 ac)
-  Sample Point
-  100-foot Wetlands Avoidance Buffer

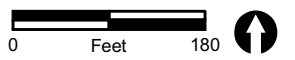


FIGURE 8c
Jurisdictional Waters -
City of San Diego Wetlands

Table 4 Existing Jurisdictional Areas within the Project Parcels and Surrounding 100-foot Buffer	
Jurisdictional Areas	Total (acres)
ACOE Jurisdictional Areas	
Non-wetland Waters of the U.S.	0.07
ACOE Total Jurisdiction (404)	0.07
CDFW	
Streambed	0.07
Riparian Habitat ²	0.36
CDFW Total Jurisdictional Areas (1602)¹	0.43
RWQCB	
Streambed	0.07
State Wetlands (Isolated)	0.02
RWQCB Total Jurisdictional Areas (401)¹	0.09
City of San Diego Wetlands	0.36
¹ CDFW/RWQCB area of jurisdiction includes all ACOE jurisdictional waters.	
² Streambed area not included in the riparian habitat, so that no area is counted twice for the same jurisdiction.	

In accordance with the City Biology Guidelines (2012), seasonally flooded depressions that are human-made and lack any vernal pool indicator plant species are typically not considered vernal pools by the City. However, these depressions may contain wildlife, such as San Diego fairy shrimp, associated with vernal pools, and the proximity of source populations can allow very ephemeral features such as road ruts to have this indicator in wet years. The small depression mentioned above in the western portion of the project parcels was shown to support San Diego fairy shrimp, but no vernal pool indicator plant species were observed. The vegetation was considered problematic due to recent years of drought, was dominated by facultative species, and would at best be considered marginally hydrophytic. The remaining 16 depressions that ponded during the 2016-2017 wet season generally lacked vegetation of any kind and did not contain wildlife associated with vernal pools. In addition, no natural vernal pool complexes were observed within the project parcels. Therefore, these depressions are not considered vernal pools in accordance with the City’s Biology Guidelines (2012).

4.0 MSCP Consistency Analysis

This section discusses project consistency with Sections 1.2.1, 1.4.2, and 1.4.3 of the City’s MSCP Subarea Plan (City of San Diego 1997).

4.1 Southern Area Multi-Habitat Planning Area Guidelines

MHPA guidelines for the Southern Area (i.e., Otay Mesa and Otay River Valley) of the City’s MSCP Subarea Plan Boundary are provided in Section 1.2.1 of the City’s MSCP

Subarea Plan. Each guideline that is relevant to the location and type of project being proposed is listed below, followed by an analysis of the project's consistency with that guideline.

- 1. Maintain and/or provide trail access for Border Patrol use around the rim of canyons, where feasible. Motorized off-road vehicle use in the MHPA should be prohibited except by Border Patrol, MHPA (Preserve) managers, or emergency vehicles.**

The project proposes no change in the footprint of the main existing trails that fall within the MHPA on the project parcels, with the exception of the closure of a few smaller trails within the habitat restoration area, and introduces no new access points for off-road vehicle use in the MHPA. Therefore, the project is consistent with this guideline.

4.2 General Planning Policies and Design Guidelines

General planning policies and design guidelines for projects within or adjacent to the MHPA are provided in Section 1.4.2 of the City's MSCP Subarea Plan. Each guideline that is relevant to the location and type of project being proposed is listed below, followed by an analysis of the project's consistency with that guideline.

4.2.1 Fencing, Lighting, and Signage

- 1. Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent land uses compatible with the MHPA. For example, use... 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).**

The majority of the project boundary will be delineated with three-foot-high lodge-pole fencing. Select areas adjacent to the MHPA will have higher or reinforced fencing to deter access into the MHPA. The skate park, which is the closest park component to the MHPA, will have a five-foot-high chain-link fence. The maintenance road south of the off-site wetland will have a 3.5-foot-tall lodge-pole fence with chain-link mesh. Educational signage will be installed along the edges of the park to emphasize the importance of using established trails. It is anticipated that trespass into the MHPA for off-leash dog use may be an issue with the increased use of the area as a park; therefore, a dog park has been included in the park design to discourage trespass into the MHPA. In addition, the park design also includes trails within the park which will feature education signage about the adjacent sensitive resources to deter trespass.

2. Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife.

Lighting adjacent to the MHPA will be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740. As no lighting will be installed for the skate park, the closest lighting source to the MHPA will be at the sports field. The lighting design for the sports field is designed to only light the field and will be shielded to prevent overspill. In addition, the sports field is more than 600 feet from the MHPA boundary with a 40-foot elevation change, which will facilitate dissipation and reduction of light overspill. A lighting study will be prepared during the construction plan phase to ensure that lighting will not have significant adverse effects on sensitive resources within the MHPA.

3. Signage will be limited to access and litter control and educational purposes.

The project signage will be limited to access, litter control, and educational purposes. The following signs are examples of the types of signage that are included in the project:

- Information signs where on-site trails connect with approved existing off-site trails.
- Information signs prohibiting trespass into habitat restoration areas.
- Educational signage along the edges of the park to emphasize the importance of using established trails for maintaining sensitive resources.
- Educational signage about the adjacent sensitive resources.

4.2.2 Materials Storage

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

Within the project impact area (i.e., park boundary), the project would incorporate measures to reduce impacts caused by the application and/or drainage of chemicals or project generated by-products such as pesticides, herbicides, and other substances that are potentially toxic or could impact native habitats/flora/fauna (including water) into the MHPA. BMPs will be implemented during construction to prevent construction-related toxins (i.e., vehicle fluids, concrete wash water) from leaving the immediate project impact area. While pesticides and herbicides may be used within the park boundary, the irrigation systems associated with landscaped areas and turf fields will be designed to be low volume, to be temporary when possible, and to prevent runoff. Any incidental irrigation runoff or storm water runoff would be detained and treated on-site via storm water treatment basins before being released outside the park boundary. No storm water treatment basins outfall upstream of or directly into the MHPA and will be directed away from the vernal depression as directed in the VPHCP.

4.3 Multi-Habitat Planning Area Land Use Adjacency Guidelines

Projects that impact or potentially impact land within the MHPA are required to address Land Use Adjacency Guidelines (LUAG) as described in Section 1.4.3 of the City MSCP Subarea Plan (City of San Diego 1997). These Land Use Adjacency Guidelines are designed to minimize direct and indirect impacts within the MHPA associated with drainage, toxics, lighting, noise, barriers, invasive, brush management, and grading/land development. Each guideline is summarized below, along with a discussion of the project's conformance with each guideline, corresponding project design features, and whether additional measures are required to ensure conformance.

4.3.1 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.

The project has been designed in conformance with this guideline. BMPs will be implemented during construction to prevent off-site runoff or sedimentation. The irrigation systems will be designed to be low volume, to be temporary when possible (i.e., within revegetation areas), and to prevent runoff. All runoff would be detained and treated on-site via storm water treatment basins with energy dissipaters before being released outside the park boundary. No storm water treatment basins outfall upstream of or directly into the MHPA.

4.3.2 Toxics

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

Within the project impact area (i.e., park boundary), the project would incorporate measures to reduce impacts caused by the application and/or drainage of chemicals or project-generated by-products such as pesticides, herbicides, and other substances that are potentially toxic or could impact native habitats/flora/fauna (including water) into the MHPA. BMPs will be implemented during construction to prevent construction-related toxins (i.e., vehicle fluids, concrete wash water) from leaving the immediate project impact area. While pesticides and herbicides may be used within the park boundary, the irrigation systems associated with landscaped areas and turf fields will be designed to be low volume, to be temporary when possible, and to prevent runoff. Any incidental irrigation runoff or storm water runoff would be detained and treated on-site through biofiltration via storm water treatment basins before being released outside the park boundary. No storm water treatment basins outfall upstream of or directly into the MHPA. Pet waste collection

dispensers and trash cans have been incorporated into the park design to deter accumulation of pet waste.

4.3.3 Lighting

Lighting of all developed areas within and 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.

The project has been designed in conformance with this guideline. No night-time lighting is proposed during construction, and night-time lighting for park operations would be shielded and/or directed to avoid or minimize spillage into adjacent habitat areas. The proposed topography of the park, the existing topography of the undeveloped project parcels, and the proposed landscaping, will provide additional shielding between the areas anticipated to have the brightest and tallest lighting fixtures (i.e., the turf fields) and the MHPA. No lighting is proposed in the skate park, which is the closest active use area to the MHPA within the park boundary. A light study will be prepared during the construction plan phase to ensure light overspill is minimized.

4.3.4 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 other uses 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.

A noise study was conducted to ensure park operations would not result in excessive noise entering the MHPA (GEPermit 2019). The noise study was based on the worst-case scenario modeled 60 A-weighted decibels dB(A) one-hour equivalent noise level (L_{eq}) noise contour. A receiver placed at the edge of the MHPA east of the skate park, was modelled at 59.8 dB(A), thus the noise study determined that park operations noise would not exceed 60 dB(A) within the MHPA.

Based on the noise modelled provided by GEPermit (2019), RECON modeled the worst-case-scenario 60 dB(A) L_{eq} noise contours for park construction, which shows the 60 dB(A) L_{eq} noise contour extending into the MHPA. The potential impact from construction noise to sensitive species within the MHPA is discussed in Section 5.3 and recommended measures for reducing the level of this impact are discussed in Section 6.0.

4.3.5 Barriers

New development within or 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. Access to the MHPA, if any, should be directed to minimize impacts and reduce impacts associated with domestic pet predation.

The majority of the project boundary will be delineated by the installation of three-foot-high lodge-pole fencing. In select areas that are adjacent to sensitive resources, taller and more reinforced fencing will be installed. A five-foot-high chain-link fence will be installed at the skate park, which is the park feature closest to the MHPA. A 3.5-foot-tall lodge-pole fence with chain-link mesh will be installed along the 12-foot-wide maintenance road that is located south of the off-site wetland. Trespass into the MHPA will be deterred by the use of signage to direct the public to the authorized trails, prohibit access into habitat restoration areas, and educate the public about adjacent sensitive resources. An on-site dog park has been included to encourage the public to utilize this park asset instead of trespass into the MHPA, which is anticipated to minimize impacts associated with domestic pet predation.

4.3.6 Invasive Plants

No invasive plant species shall be introduced into areas adjacent to the MHPA.

The project has been designed in conformance with this guideline. The planting palette for project landscaping on the perimeter slopes will not include any invasive plant species that are identified on the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory Database (Cal-IPC 2018) or in Section 1.3 of the City's Landscape Standards (City of San Diego 2009). The turf fields include two species—Bermuda grass (*Cynodon dactylon*) and rye (*Lolium* sp.)—that are listed as posing a “moderate” threat to California's natural areas by Cal-IPC. However, the location of these species is buffered from the MHPA by accent plantings and slopes/perimeter landscapes, which comprise mostly native species and native cultivars and lack invasive species, as well as the natural undeveloped slopes that occur east of the park boundary.

4.3.7 Brush Management

New development located adjacent to the MHPA must be set back to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zone 2 may be located in the MHPA except where narrow wildlife corridors require it to be located outside the MHPA. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible.

This guideline does not apply to the project, as no habitable structures are proposed.

4.3.8 Grading/Land Development

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

The project has been designed in conformance with this guideline. All grading and manufactured slopes are included in the project impact area and are, therefore, included in the impacts assessment in this report.

5.0 Project Impact Analysis

The project proposes direct impacts to 16.73 acres within the project parcels and 0.43 acre just outside the project parcels along Enright Drive and Delany Drive as a result of park construction. Indirect impacts may also occur as a result of park construction and operations. The following sections analyze the direct, indirect, and cumulative impacts to sensitive biological resources that may result from this project.

5.1 Impacts to Sensitive Vegetation Communities

The project has potential to impact five sensitive vegetation communities and occupied burrowing owl habitat occurring within the project parcels. These potential direct, indirect, and cumulative impacts are discussed in this section.

5.1.1 Direct Impacts to Sensitive Vegetation Communities

5.1.1.1 Direct Impacts to Tier I and Tier II Communities

The proposed project would result in direct impacts to 11.47 acres of sensitive vegetation communities, comprising 0.91 acre of maritime succulent scrub (Tier I), 4.86 acres of disturbed maritime succulent scrub (Tier I), 1.41 acres of Diegan coastal sage scrub (Tier II), and 4.29 acres of disturbed Diegan coastal sage scrub (Tier II) (Table 5; see Figure 7a).

Impacts to Tier I and Tier II communities would be considered significant and require mitigation. Impacts to disturbed land, ornamental plantings, and urban/developed land are not considered significant and would not require mitigation.

Table 5
Direct Project Impacts to Vegetation Communities/Land Cover Types

Community or Type (Holland Code as modified by Oberbauer)	City of San Diego Tier	Direct Impacts in Acres Outside MHPA
Mule fat scrub (63310)	N/A - wetland	–
Maritime succulent scrub (32400)	I	0.91
Disturbed maritime succulent scrub (32400)	I	4.86
Diegan coastal sage scrub (32510)	II	1.41
Disturbed Diegan coastal sage scrub (32510)	II	4.29
Disturbed land (11300)	IV	5.05
Ornamental plantings (11000)	IV	–
Urban/developed land (12000)	N/A	0.64
Total Direct Project Impact		17.16
N/A = not applicable		

5.1.1.2 Direct Impacts to Occupied Burrowing Owl Habitat

Occupied burrowing owl habitat is also considered a sensitive biological resource under ESL as it “supports plant or animal species which have been listed or proposed for listing by the federal or state government as rare, endangered, or threatened (“listed species”)” according to the City’s Biology Guidelines. A total of 13.55 acres of occupied habitat will be directly impacted by the project and will require mitigation.

5.1.2 Indirect Impacts to Sensitive Vegetation Communities

Park operation may also result in indirect impacts to the Tier I and Tier II communities listed above through existing trail access. Measures outlined for compliance with the MHPA LUAG (see Section 4.3) will minimize and/or avoid impacts; therefore, impacts would be less than significant.

5.1.3 Cumulative Impacts to Sensitive Vegetation Communities

The MSCP was designed to compensate for the regional loss of biological resources throughout the region. Projects that conform with the MSCP as specified by the Subarea Plan, and implementing ordinances, (i.e. Biology Guidelines and ESL Regulations) are not expected to result in a significant cumulative impact to vegetation communities identified as Tier I through IV. Therefore, with implementation of habitat-based mitigation required by the City Biology Guidelines (2012), no cumulative impacts to Tier I or II vegetation communities are anticipated to occur.

Impacts to occupied burrowing owl habitat are anticipated in the MSCP Subarea Plan, which specifies habitat preservation and in some cases habitat enhancement to ensure that there is no significant cumulative impact. Therefore, with implementation of mitigation

measures required by the MSCP Subarea Plan, no cumulative impacts to occupied burrowing owl habitat are anticipated to occur.

5.2 Impacts to Sensitive Plant Species

The project has potential to impact to 13 sensitive plant species occurring within the project parcels. These potential direct, indirect, and cumulative impacts are discussed for each species in this section.

5.2.1 Direct Impacts to Sensitive Plant Species

The project would result in direct impacts to eight sensitive plant species. No federally listed, state listed, or narrow endemic plant species would be directly impacted. The direct project impact area includes the full project construction footprint and areas proposed for hardscape, trails, turf, and planted areas (including native and ornamental vegetation).

The estimated total number of impacted plants for each species is provided in Table 6. Where observed population size was estimated using area and density (in place of exact point counts), the number of impacted individuals was estimated by calculating the percent of the polygon (i.e. area) impacted and multiplying that percentage by the total number of individuals represented by that polygon. The project impact area in relation to the sensitive plant species locations is shown on Figure 7b. Impacts to each species are discussed further below.

Scientific Name	Common Name	Sensitivity Listing(s)	Sensitive Plant Species Individuals		
			Directly Impacted by Project	Observed in Project Parcels	Percent of Population Impacted*
<i>Ambrosia chenopodiifolia</i>	San Diego bur-sage	2B.1	3,940	16,500	24%
<i>Atriplex pacifica</i>	south coast saltscale	1B.2	102	153	67%
<i>Bahiopsis laciniata</i>	San Diego County viguiera	4.3	84	600	14%
<i>Cistanthe maritima</i>	seaside cistanthe	4.2	–	78	–
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla	1B.1, NE, MSCP	–	8	–
<i>Deinandra conjugens</i>	Otay tarplant	FT, CE, 1B.1, NE, MSCP	–	2,700	–
<i>Euphorbia misera</i>	cliff spurge	2B.2	–	129	–
<i>Ferocactus viridescens</i>	San Diego barrel cactus	2B.1, MSCP	6	9	67%
<i>Harpagonella palmeri</i>	Palmer’s grapplinghook	4.2	12	12	100%
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>	beach goldenaster	1B.1	25	25	100%
<i>Lycium californicum</i>	California box-thorn	4.2	4	23	17%
<i>Microseris douglasii</i> var. <i>platycarpa</i>	small-flowered microseris	4.2	20	20	100%
<i>Selaginella cinerascens</i>	ashy spike-moss	4.1	–	30 square feet	–

Note: See Table 3 for Status Codes, California Rare Plant Ranks, and Threat Ranks definitions.
 * Percent of population = number directly impacted divided by number within project parcels

5.2.1.1 Direct Impacts to MSCP Covered Plant Species

One MSCP covered plant species, San Diego barrel cactus, would be directly impacted by the proposed project. The other two MSCP covered plant species, Otay tarplant and snake cholla, that were observed within the project parcels occur outside the project impact area and are not anticipated to be directly impacted by the project.

a. Direct Impacts to San Diego Barrel Cactus

Approximately 67 percent (six of nine individuals) of the population of San Diego barrel cactus mapped within the project parcels would be directly impacted by the proposed project. This percentage of the population impacted likely represents a maximum, as the lack of 100 percent visual coverage during focused surveys may have prevented detection of additional individuals in suitable habitat areas within the project parcels and outside the project footprint. The nine individual San Diego barrel cacti mapped within the project parcels are a small subset of the larger population of this species that remains extant in Otay Mesa. While the population of this species in Otay Mesa has been declining over the years (Reiser 2001; CDFW 2017a), impacts to the relatively small on-site population is not expected to threaten the regional long-term survival of this species. In addition, salvage of San Diego barrel cactus individuals within the project footprint is recommended as part of the on-site restoration efforts. Therefore, the proposed impacts would be considered less than significant and require no mitigation.

5.2.1.2 Direct Impacts to Sensitive Non-Covered Plant Species

The following seven sensitive species not covered by the MSCP or VPHCP and would be directly impacted by the proposed project:

- beach goldenaster,
- south coast saltscale,
- San Diego bur-sage,
- Palmer's grapplinghook,
- California box-thorn,
- small-flowered microseris, and
- San Diego County viguiera.

The remaining species, cliff spurge, ashy spike-moss, and seaside cistanthe, that were observed within the project parcels but outside the project impact area are not anticipated to be directly impacted by the project.

a. Direct Impacts to Beach Goldenaster

One hundred percent of the 25 beach goldenaster individuals mapped within the project parcels would be directly impacted by the project. CNPS identifies beach goldenaster as rare, threatened, or endangered in California and elsewhere; eligible for state listing; and seriously threatened in California. A few occurrences of this species have been reported

along the Tijuana River Valley west of Interstate 805 (CDFW 2017a, SDNHM 2018, Consortium of California Herbaria 2018). However, no other populations of beach goldenaster have been reported east of Interstate 805 on Otay Mesa (CDFW 2017a; SDNHM 2018). This species' known range is limited to coastal habitat in southern California, and Reiser (2001) recommends protection of all San Diego County populations due to its nearly being extirpated in this county. As the proposed project would remove an apparently isolated population of a species that has a limited range and appears to be in substantial decline, the impact would potentially threaten the local and regional long-term survival of the species and, therefore, be considered significant and require mitigation.

b. Direct Impacts to South Coast Saltscale

Approximately 67 percent of the 153 south coast saltscale individuals mapped within the project parcels would be directly impacted by the project. CNPS identifies south coast saltscale as rare, threatened, or endangered in California and elsewhere; eligible for state listing; and moderately threatened in California. Two other presumed extant populations of this species have been reported to CNDDDB within one mile of the project parcels on Otay Mesa, with one occurrence on an adjacent County of San Diego preserve. The proposed project would not impact the entire population within the project parcels, and the species is known from multiple locations in Otay Mesa. Therefore, the project impacts are not likely to threaten the regional long-term survival of this species, would be considered less than significant, and would require no mitigation.

c. Direct Impacts to San Diego Bur-sage

Approximately 24 percent of the estimated 16,500 San Diego bur-sage individuals mapped within the project parcels would be directly impacted by the project. CNPS identifies this species as rare, threatened, or endangered in California but more common elsewhere; eligible for state listing; and seriously threatened in California. Multiple presumed extant San Diego bur-sage populations have been reported to CNDDDB within one mile of the project parcels on Otay Mesa, where it is often reported in large numbers or as "common" (CDFW 2017a; SDNHM 2018). San Diego bur-sage is also a common species within the project parcels. Therefore, the impact to an approximate quarter of the population within the project impacts is not likely to threaten the regional long-term survival of this species, would be considered less than significant, and would require no mitigation.

d. Direct Impacts to Palmer's Grapplinghook, California Box-thorn, and Small-flowered Microseris

One hundred percent of the Palmer's grapplinghook population, 17 percent of the 23 California box-thorn individuals, and 100 percent of the small-flowered microseris population within the project parcels would be directly impacted by the project. CNPS identifies these species as watch-list species of limited distribution that are moderately threatened in California. No other populations of Palmer's grapplinghook have been reported to SDNHM within one mile of the project parcels in Otay Mesa, but this species is known to occur on eastern and upper Otay Mesa and is generally widespread throughout

coastal and cismontane San Diego County (SDNHM 2018, Reiser 2001). California box-thorn is listed as present alongside multiple sensitive species occurrences in the CNDDDB records within one mile of the project parcels in Otay Mesa. No other populations of small-flowered microseris have been reported to SDNHM within one mile of the project parcels in Otay Mesa, but this species has been reported on Otay Mesa and has a somewhat widespread distribution throughout coastal and cismontane San Diego County (SDNHM 2018, Reiser 2001). The impacts to Palmer's grapplinghook, California box-thorn, and small-flowered microseris are not expected to threaten the regional long-term survival of these species. Therefore, the proposed impacts would be less than significant and require no mitigation.

e. Direct Impacts to San Diego County *Viguiera*

Approximately 14 percent of the estimated 600 San Diego County *viguiera* individuals mapped within the project parcels would be directly impacted by the project. CNPS considers this species to be a watch-list species of limited distribution that is not very threatened in California. Multiple occurrences of this species have been reported on western Otay Mesa, and it occurs as a somewhat common species within the project parcels (SDNHM 2018). This species is still found at hundreds of locations throughout San Diego County (Reiser 2001, SDNHM 2018). As this species remains a wide-ranging species in San Diego County and often occurs as a common and abundant species where found, the proposed impacts are not anticipated to threaten the regional long-term survival of the species. Therefore, project impacts would be considered less than significant and require no mitigation.

5.2.2 Indirect Impacts to Sensitive Plant Species

Potential indirect impacts to the 13 sensitive plant species that occur within the project parcels are discussed in this section.

5.2.2.1 Indirect Impacts to MSCP Covered Plant Species

Project construction is not anticipated to result in a significant indirect impact to the MSCP covered plant species, Otay tarplant, snake cholla, and San Diego barrel cactus, which occur outside the project impact area within the project parcels.

Within the project site, adherence to construction BMPs (e.g., dust control, use of erosion control devices) is anticipated to prevent indirect impacts from generation and deposition of dust during construction activities. Park operation may result in indirect impacts to the three MSCP covered plant species listed above. By increasing visitation to the project site via creation of a community park and providing a formalized connection to existing, unauthorized trails outside the park boundary, the project has potential to result in an increase in pedestrian activity on and adjacent to existing paths, thereby increasing the potential for trampling and/or collection of the species and soil compaction where the species occur. However, project design components included to comply with MHPA LUAG will minimize and/or prevent indirect impacts from off-trail trespass, including fencing and

signage protecting habitat restoration and sensitive resource/open space areas and directing foot traffic to authorized trails. Therefore, indirect impacts to MSCP covered plant species would be considered less than significant and would not require mitigation.

5.2.2.2 Indirect Impacts to Sensitive Non-Covered Plant Species

Project construction is not anticipated to result in a significant indirect impact to the following seven sensitive plant species that are not covered by the MSCP or VPHCP and occur within the project parcels, outside the project impact area:

- San Diego bur-sage,
- south coast saltscale,
- San Diego County viguiera,
- seaside cistanthe,
- cliff spurge,
- California box-thorn, and
- ashy spike-moss.

Within the project site, adherence to BMPs (e.g., dust control, use of erosion control devices) is anticipated to prevent indirect impacts from generation and deposition of dust during construction activities.

Park operation may result in indirect impacts to the seven non-covered plant species listed above. By increasing visitation to the project site via creation of a community park and providing a formalized connection to existing, unauthorized trails outside the park boundary, the project has potential to result in an increase in pedestrian activity on and adjacent to existing paths, thereby increasing the potential for trampling and/or collection of the species and soil compaction where the species occur. However, project design components included to comply with MHPA LUAG will minimize and/or prevent indirect impacts from off-trail trespass, including fencing and signage protecting habitat restoration and sensitive resource/open space areas and directing foot traffic to authorized trails. Therefore, indirect impacts to non-covered plant species would be considered less than significant and would not require mitigation.

5.2.3 Cumulative Impacts to Sensitive Plant Species

The project's conformance with the MSCP is expected to prevent any cumulative impacts to MSCP covered plant species, which include San Diego barrel cactus, snake cholla, and Otay tarplant.

Adherence to the MSCP does not directly address cumulative impacts to non-MSCP covered species. However, as discussed above, the anticipated direct and indirect impacts to most of the sensitive species observed on site are less than significant and not expected to threaten survival of the local or regional populations. Therefore, no significant cumulative impact is anticipated to the following species: San Diego bur-sage, south coast saltscale, San Diego

County viguiera, seaside cistanthe, cliff spurge, Palmer's grapplinghook, California box-thorn, small-flowered microseris, and ashy spike-moss.

As significant direct impacts are anticipated to occur to beach goldenaster, the impacts would also contribute to a cumulatively significant impact to this species. Mitigation would be required to reduce the impact to a level of less than significant.

5.3 Impacts to Sensitive Wildlife Species

The project has potential to impact to 17 sensitive wildlife species occurring within the project parcels. These potential direct, indirect, and cumulative impacts are discussed for each species in this section.

5.3.1 Direct Impacts to Sensitive Wildlife Species

Potential direct impacts to sensitive wildlife species that occur or have a moderate to high potential to occur within the project impact area are discussed in this section. Direct impacts would result from incidental mortality and habitat removal within the project construction footprint, including areas proposed for hardscape, trails, turf, and planted areas (including native and non-native vegetation). The project impact area in relation to the observed sensitive wildlife species locations is shown on Figure 7c.

5.3.1.1 Direct Impacts to MSCP Covered Wildlife Species

The following MSCP covered wildlife species would potentially be directly impacted by the proposed project:

- Belding's orange-throated whiptail,
- Northern harrier,
- Western burrowing owl,
- Coastal cactus wren,
- Coastal California gnatcatcher,
- Southern California rufous-crowned sparrow, and
- Southern mule deer.

Each species is discussed in detail below. No direct impacts are anticipated to occur to Cooper's hawk or least Bell's vireo, as no removal of suitable habitat for these species is proposed as part of the project, and no suitable nesting habitat for Cooper's hawk occurs within the MHPA within 300 feet of the project site.

a. Direct Impacts to Belding's Orange-throated Whiptail

Belding's orange-throated whiptail was recorded within and adjacent to the project impact area. Therefore, the project has potential to result in direct impacts to this species through incidental mortality during construction activities (e.g., vehicle strike) and removal of approximately 11 acres of suitable habitat for this species. However, the suitable habitat

within the project impact area comprises a small fraction of the habitat available to this species both at a local level (on Otay Mesa) and on a regional scale. In addition, this species is considered adequately covered by the MSCP with habitat conserved in the MHPA. Therefore, potential direct impacts to this species would be considered less than significant, and no species-specific mitigation would be required.

b. Direct Impacts to Northern Harrier

Northern harrier was observed foraging over the project impact area and utilizing open areas at the edge of or adjacent to the project impact area. Although no nesting was observed within the project impact area during 2017 surveys, this species has potential to nest within the very southern edge of the project impact area, where seasonally dense stands of garland daisy may provide sufficient cover for a nest site. As there are no direct impacts proposed to potential nesting habitat within the MHPA and since standard avoidance and minimization measures will be implemented, there are no anticipated direct impacts to this species.

c. Direct Impacts to Western Burrowing Owl

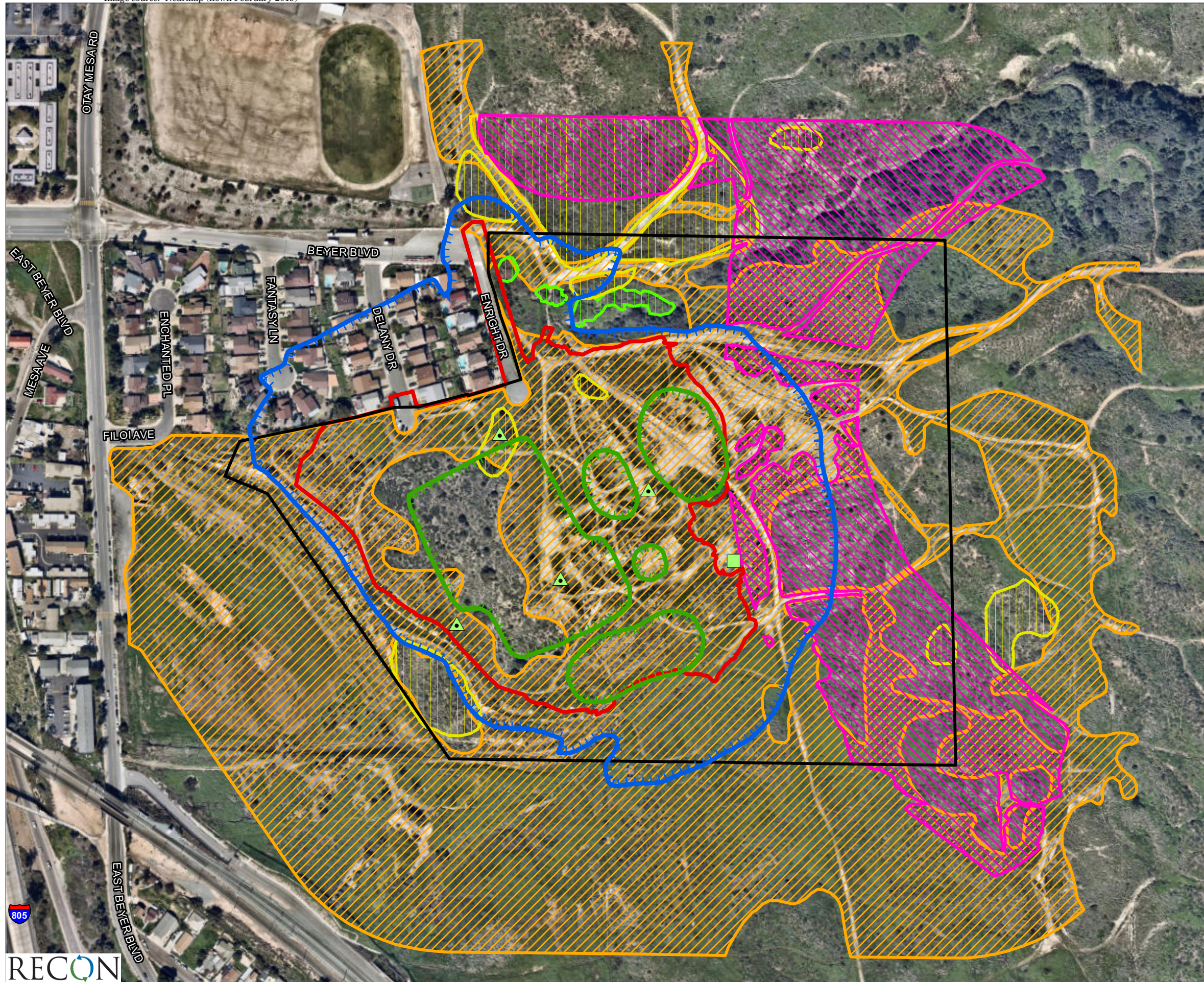
Based on 2017 breeding season surveys, suitable habitat within the project parcels and project impact area is considered occupied by western burrowing owl. An approximate total of 13.55 acres of occupied western burrowing owl habitat and at least four potentially suitable burrows would be directly impacted by the project (Figure 9). Direct removal of the one burrow documented as occupied outside the project impact area is not proposed. However, the project impact area comes within 25 to 50 feet south and west of the occupied burrow location and would result in a substantial change in topography of the site. This is expected to decrease the suitability of the burrow site for the species. These direct impacts to western burrowing owl occupied habitat, potential burrows, and occupied burrow would be considered significant and require mitigation.

d. Direct Impacts to Coastal Cactus Wren

This species was not detected on-site during the 2017 surveys. However, since this species was observed outside of the project boundary and low- and moderate-quality habitat is present this species has potential to be present on-site. Standard avoidance and minimization measures will be implemented; therefore, there are no anticipated direct impacts to this species.

e. Direct Impacts to Coastal California Gnatcatcher

The project impact area is occupied; although this species is adequately covered under the MSCP Subarea Plan and there are no restrictions to impacts to occupied habitat outside of the MHPA.



- Project Parcels Boundary
- Project Impact Area
- Western Burrowing Owl Suitable Habitat
- Suitable Burrow for Western Burrowing Owl
- Burrowing Owl with Active Burrow
- Coastal Cactus Wren Suitable Habitat
- Least Bell's Vireo Suitable Habitat
- Suitable Coastal California Gnatcatcher Habitat within MHPA
- Modeled 60 dB(A) Leq Noise Contours**
- Park Operations
- Park Construction

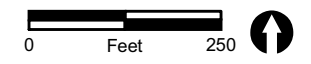


FIGURE 9
Project Location and Modeled Noise Contours in Relation to Suitable Habitat

f. Direct Impacts to Southern California Rufous-crowned Sparrow

The project impact area would directly impact suitable foraging and nesting habitat for southern California rufous-crowned sparrow; however, the most suitable habitat within the project parcels is being avoided by the project. This is a covered species under the MSCP Subarea Plan and any impacts to individuals would not be expected to reduce the population of this species regionally to a level less than self-sustaining. This would be considered less than significant and require no species-specific mitigation measures.

g. Direct Impacts to Southern Mule Deer

Based on 2017 survey results, the project impact area has potential to support southern mule deer. As individuals of this species are mobile as juveniles and adults, direct impacts to individuals during construction activities (i.e., clearing, grubbing, grading) are unlikely as biological monitoring will be occurring during construction and adherence to BMPs (e.g., covering of open trenches or holes) during construction will be required which is anticipated to avoid wildlife entrapment. In addition, the project would not limit any established habitat linkages and will result in an increase in habitat quality in the adjacent MHPA through restoration. Therefore, the impacts would be considered less than significant and require no species-specific mitigation measures.

5.3.1.2 Direct Impacts to VPHCP Covered Wildlife Species

The project has been designed to avoid direct impacts to the artificial ditch that supports San Diego fairy shrimp and the immediate surrounding watershed in the western portion of the project parcels (see Figure 7c). Therefore, no direct impacts are anticipated to occur to San Diego fairy shrimp, as no direct removal of habitat occupied by this species is proposed as part of the project.

5.3.1.3 Direct Impacts to Sensitive Non-Covered Wildlife Species

The following sensitive wildlife species not covered by the MSCP or VPHCP may be directly impacted by the proposed project:

- Baja California coachwhip,
- Prairie falcon,
- California horned lark,
- San Diego black-tailed jackrabbit,
- Northwestern San Diego pocket mouse, and
- San Diego desert woodrat.

Each species is discussed in detail below. No direct impacts are anticipated to occur to yellow warbler, as no removal of suitable habitat for this species is proposed as part of the project.

a. Direct Impacts to Baja California Coachwhip

Baja California coachwhip has potential to occur in the project impact area. Therefore, the project has potential to result in direct impacts to this species through incidental mortality during construction activities (e.g., vehicle/equipment strike) and removal of approximately 11 acres of suitable habitat. However, based on the lack of observations of this species during 2017 biological surveys, if this species is present within the project impact area, it likely occurs in low numbers. In addition, the suitable habitat within the project impact area comprises a small fraction of the habitat available to this species both at a local level (on Otay Mesa) and on a regional scale, and preservation of habitat within the eastern project parcel would help offset impacts to this species. Therefore, direct impacts to this species would be considered less than significant, and no species-specific mitigation would be required.

b. Direct Impacts to Prairie Falcon

Prairie falcon was observed flying over the project parcels but is not anticipated to nest within the project impact area. Therefore, direct impacts would result from removal of approximately 13 acres of suitable, open foraging habitat. However, the suitable habitat within the project impact area comprises a small fraction of the habitat available to this species both at a local level (on Otay Mesa) and on a regional scale, and preservation of habitat within the eastern project parcel would help offset impacts to this species. The proposed reduction in foraging habitat would be considered less than significant, and no species-specific mitigation would be required.

c. Direct Impacts to California Horned Lark

As the project impact area provides suitable nesting and foraging habitat for California horned lark, the project has potential to result in direct impacts to active nests if construction activities (i.e., clearing, grubbing, grading) occur during this species' nesting season of March 15 to July 31 (Unitt 2004). Direct impacts would also result from removal of available foraging and nesting habitat, which is largely restricted to the disturbed land and disturbed stands of native vegetation in the central portion of the project parcels. However, not all suitable habitat will be removed as part of the project. Therefore, avoidance measures would be required to prevent direct impacts to active nests, but the direct impacts to foraging habitat and suitable nesting habitat would be considered less than significant and require no species-specific mitigation measures.

d. Direct Impacts to San Diego Black-tailed Jackrabbit

Based on 2017 survey results, the project impact area is known to support San Diego black-tailed jackrabbit. As individuals of this species are mobile as juveniles and adults, direct impacts to individuals during construction activities (i.e., clearing, grubbing, grading) is unlikely. The project would reduce the acreage of available habitat for this species; however, it is not anticipated to adversely affect wildlife movement or connectivity between

adjacent expanses of suitable habitat. Therefore, the impacts would be considered less than significant and require no species-specific mitigation measures.

e. Direct Impacts to Northwestern San Diego Pocket Mouse and San Diego Desert Woodrat

Northwestern San Diego pocket mouse and San Diego desert woodrat have potential to occur in the project impact area. Therefore, the project has potential to result in direct impacts to these species through incidental mortality during construction activities including clearing, grubbing, and grading. Direct impacts would also result from removal of approximately 17 acres of suitable habitat. However, the suitable habitat within the project impact area comprises a small fraction of the habitat available to these species both at a local level (on Otay Mesa) and on a regional scale, and preservation of habitat within the eastern project parcel would help offset impacts to this species. As these are wide-ranging species in San Diego County, direct impacts to these species would be considered less than significant. No species-specific mitigation would be required.

5.3.2 Indirect Impacts to Sensitive Wildlife Species

Potential indirect impacts to the 17 sensitive wildlife species that occur or have a moderate to high potential to occur within the project parcels are discussed in this section.

5.3.2.1 Indirect Impacts to MSCP Covered Wildlife Species

The project has the potential to indirectly impact the following MSCP covered wildlife species:

- Belding's orange-throated whiptail,
- Cooper's hawk,
- Northern harrier,
- Western burrowing owl,
- Least Bell's vireo,
- Coastal cactus wren,
- Coastal California gnatcatcher,
- Southern California rufous-crowned sparrow, and
- Southern mule deer.

No night-time lighting is proposed during construction, and night-time lighting for park operations would be shielded and/or directed to avoid or minimize spillage into adjacent habitat areas, in compliance with MHPA LUAG. As the project is proposed adjacent to development, the project would result in an increase in night-time lighting in an area that is already subjected to some level of edge effects from night-time lighting. The proposed topography of the park, the existing topography of the undeveloped project parcels, and the proposed landscaping, will provide additional shielding between the sports fields and the riparian area where migratory bird species such as least Bell's vireo were observed. Therefore, potential indirect impacts to wildlife species from night-time lighting are anticipated to be less than significant.

a. Indirect Impacts to Belding's Orange-throated Whiptail and Southern Mule Deer

Indirect impacts from construction activities to Belding's orange-throated whiptail and southern mule deer are anticipated to be less than significant with adherence to proper BMPs. Adherence to the MHPA LUAG is anticipated to minimize potential edge effects related to park operation to a level of less than significant.

b. Indirect Impacts to Cooper's Hawk

No indirect noise impacts are anticipated to occur to Cooper's hawk as a result of construction activities and park operation. Within 300 feet of the project impact area, suitable nesting habitat for this species only occurs outside the MHPA within or immediately adjacent to existing developed areas and roads. In accordance with the City's Biology Guidelines (and required conditions of the Incidental Take Authorization to consider the species adequately conserved under the MSCP), a 300-foot impact avoidance area is only required for this species' nesting sites that occur inside the MHPA. Therefore, potential indirect noise impacts to nesting Cooper's hawk would require no avoidance, minimization, or mitigation measures.

c. Indirect Impacts to Northern Harrier

Indirect noise impacts to nesting northern harriers may occur if the species nests within the adjacent MHPA and construction activities are conducted during this species' nesting season of April 1 through July 31 (Unitt 2004) and active nests are identified within a 900-foot impact avoidance area inside the MHPA, in accordance with the City's Biology Guidelines (and required conditions of the Incidental Take Authorization to consider the species adequately conserved under the MSCP). Impacts to active nests within the MHPA and within the projected area that falls within the noise contour that exceeds 60 dB(A) L_{eq} could be considered significant and require mitigation.

d. Indirect Impacts to Western Burrowing Owl

Due to the proximity of the occupied western burrowing owl burrow to the project impact area, indirect noise impacts to western burrowing owl may occur if construction activities are conducted during this species' nesting season of February 1 through August 31. Construction noise modeling shows the occupied burrow location would likely be subjected to noise levels above 60 dB(A) L_{eq} (hourly noise equivalent of 60 dB(A) or less) (see Figure 9). Therefore, potential indirect construction noise impacts to western burrowing owl would require avoidance, minimization, or mitigation measures. Based on noise modeling conducted by GEPermit (2019), the occupied burrow site occurs outside the 60 dB(A) L_{eq} noise contour for park operations. Therefore, no indirect noise impacts are anticipated to occur to the occupied burrow site as a result of park operations.

e. Indirect Impacts to Least Bell's Vireo and Coastal Cactus Wren

Indirect impacts to least Bell's vireo and coastal cactus wren may occur if construction activities are conducted during these species' nesting seasons of March 15 to September 15 and February 15 to August 15, respectively. Based on noise modeling conducted by GEPermit (2019), suitable habitat for both species occurs outside the 60 dB(A) L_{eq} noise contour for park operations. Therefore, park operations would not result in indirect noise impacts to nesting least Bell's vireo or coastal cactus wren (see Figure 9). However, worst-case-scenario construction noise modeling shows that the suitable least Bell's vireo and coastal cactus wren habitats fall partially within the 60 dB(A) L_{eq} noise contour for project construction (see Figure 9). Therefore, indirect construction noise impacts to least Bell's vireo and coastal cactus wren would require avoidance, minimization, or mitigation measures.

f. Indirect Impacts to Coastal California Gnatcatcher

Indirect impacts to coastal California gnatcatcher may result from construction activities based on worst-case-scenario construction noise modeling. Indirect noise impacts to nesting coastal California gnatcatchers may occur if construction activities are conducted during this species' nesting season of March 1 to August 15. Indirect impacts to nesting coastal California gnatcatchers outside the MHPA would require no avoidance, minimization, or mitigation measures. However, indirect noise impacts to nesting coastal California gnatcatchers within the MHPA would require avoidance, minimization, or mitigation measures.

g. Indirect Impacts to Southern California Rufous-crowned Sparrow

Indirect impacts to nesting southern California rufous-crowned sparrow may occur if construction activities are conducted during this species' nesting season of March 15 to July 31 (Unitt 2004). However, the most suitable habitat within the project parcels is located in the eastern portion of the project parcels, where noise impacts from project construction and operations are anticipated to have no substantial effect. Therefore, no species-specific avoidance, minimization, or mitigation measures would be required.

5.3.2.2 Indirect Impacts to VPHCP Covered Wildlife Species

The project has been designed to avoid direct impacts to the immediate watershed of the artificial ditch that supports San Diego fairy shrimp in the western portion of the project parcels (see Figure 7c), and adherence to BMPs during construction is anticipated to avoid indirect impacts from construction-related runoff or sedimentation. The Project design is consistent with the VPHCP in that drainage from the site has been directed away from the San Diego Fairy shrimp habitat and into a storm water filtration basin. To ensure that construction-related impacts are avoided, implementation of avoidance and minimization measures in accordance with the VPHCP would be required.

5.3.2.3 Indirect Impacts to Sensitive Non-Covered Wildlife Species

The project has the potential to indirectly impact the following sensitive wildlife species not covered by the MSCP or VPHCP:

- Baja California coachwhip,
- Prairie falcon,
- California horned lark,
- Yellow warbler,
- San Diego black-tailed jackrabbit,
- northwestern San Diego pocket mouse, and
- San Diego desert woodrat.

No night-time lighting is proposed during construction, and night-time lighting for park operations would be shielded and/or directed to avoid or minimize spillage into adjacent habitat areas. As the project is proposed adjacent to development, the project would result in an increase in night-time lighting in an area that is already subjected to some level of edge effects from night-time lighting. The proposed topography of the park, the existing topography of the undeveloped project parcels, and the proposed landscaping, will provide additional shielding between the sports fields and the riparian area where migratory bird species such as yellow warbler were observed. Therefore, potential indirect impacts to wildlife species from night-time lighting are anticipated to be less than significant. Remaining potential indirect impacts are discussed by species below.

a. Indirect Impacts to Baja California Coachwhip, San Diego Black-tailed Jackrabbit, Northwestern San Diego Pocket Mouse, and San Diego Desert Woodrat

Indirect impacts from construction and operation activities to Baja California coachwhip, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and San Diego desert woodrat are anticipated to be less than significant with adherence to proper BMPs and compliance with MHPA LUAG.

b. Indirect Impacts to Prairie Falcon and Yellow Warbler

No indirect noise impacts are anticipated to occur to nesting prairie falcon or yellow warbler, as these species are not expected to nest within or adjacent to the project parcels. Therefore, no species-specific avoidance, minimization, or mitigation would be required.

c. Indirect Impacts to California Horned Lark

Indirect noise impacts to California horned lark may occur if the species nests adjacent to the project parcels during construction; however, these impacts are not expected to have a substantial effect. This would be a less than significant impact and no species-specific avoidance, minimization, or mitigation measures would be required.

5.3.3 Cumulative Impacts to Sensitive Wildlife Species

5.3.3.1 Cumulative Impacts to MSCP and VPHCP Covered Wildlife Species

The project's conformance with the MHPA LUAG, MSCP, and VPHCP is expected to prevent any cumulative impacts to MSCP and VPHCP covered wildlife species, which include San Diego fairy shrimp, Belding's orange-throated whiptail, Cooper's hawk, northern harrier, western burrowing owl, least Bell's vireo, coastal cactus wren, coastal California gnatcatcher, southern California rufous-crowned sparrow, and southern mule deer.

5.3.3.2 Cumulative Impacts to Sensitive Non-Covered Wildlife Species

Adherence to the MSCP does not directly address cumulative impacts to non-MSCP covered species. However, as discussed above, the anticipated direct and indirect impacts to the sensitive wildlife species observed on-site are less than significant and not expected to threaten survival of the local or regional populations. Therefore, no significant cumulative impact is anticipated to the following species: Baja California coachwhip, prairie falcon, California horned lark, yellow warbler, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and San Diego desert woodrat.

5.4 Impacts to Wildlife Corridors

No significant direct or indirect impacts to wildlife movement are expected to occur from implementation of the proposed project, as the project parcels do not function as a true wildlife movement corridor. MHPA will be maintained in the eastern project parcel, providing continued opportunities for localized movement of wildlife.

5.5 Impacts to Jurisdictional Wetlands and Waters

Jurisdictional wetland/waters within the project parcels are restricted to Moody Canyon and the small depression near the western edge of the project parcels. No direct impacts to these jurisdictional wetlands or waters are anticipated as a result of the project (see Figures 8a–c), and implementation of BMPs during construction is anticipated to avoid indirect impacts from construction-related runoff and/or sedimentation.

The project has been designed to avoid direct impacts to the immediate watershed of the RWQCB isolated waters in the western portion of the project parcels, and the project maintains a 100-foot avoidance buffer around the majority of the CDFW riparian habitat/City wetlands that occur in Moody Canyon in the northern portion of the project parcels (see Figures 8b and 8c). Only a small amount of encroachment into the avoidance

buffer for the Moody Canyon wetlands occurs to the south, where trail improvements and planting are proposed, and to the west, where the existing developed conditions do not allow for a 100-foot buffer. The proposed encroachment into the southern 100-foot avoidance buffer does include grading but mostly comprises areas proposed for native plantings. This would likely improve the conditions of this portion of the buffer, as the current conditions include a mix of disturbed native vegetation and eroding soils. Similarly, although the western encroachment includes minor widening of impermeable surfaces (i.e., addition of a sidewalk adjacent to Enright Drive), the associated proposed plantings would likely improve conditions within this portion of the buffer. Current conditions in this area include disturbed, weedy vegetation, which appears to be regularly clear-cut by adjacent homeowners and, therefore, susceptible to erosion. Runoff will be redirected to permanent BMPs, and native/ornamental vegetation will be planted to prevent erosion. Non-native species will be removed, and a chain-link fence will be installed to deter illegal dumping and trespass. Therefore, the proposed changes are anticipated to maintain or improve the existing functions and values of the wetlands within Moody Canyon.

6.0 Mitigation and Monitoring Recommendations

Potential impacts to biological resources were evaluated through review of the project's consistency with the City's ESL Regulations and Biology Guidelines, as well as the MSCP Subarea Plan and VPHCP. Mitigation is required for project impacts to sensitive biological resources that are considered significant under CEQA (City of San Diego 2011).

Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the following construction-related project requirements regarding biological resources are shown on the construction plans.

6.1 Mitigation and Monitoring Recommendations for General Biological Resources

As currently designed, the proposed project has the potential to result in significant direct and indirect impacts to sensitive biological resources. The following general City standard mitigation for biological resource protection during construction shall be included in the environmental document:

BIO-1. General Measures Prior to Construction

- A. **Biologist Verification** – The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist), as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter

shall include the names and contact information of all persons involved in the biological monitoring of the project.

- B. **Pre-construction Meeting** – The Qualified Biologist shall attend the pre-construction meeting, discuss the project’s biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.
- C. **Biological Documents** – The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, MSCP, ESL Ordinance, project permit conditions; CEQA; endangered species acts (ESAs); and/or other local, state or federal requirements.
- D. **Biological Construction Mitigation/Monitoring Exhibit (BCME)** – The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C, above. In addition, include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City Administrator Deputy Director (ADD)/MMC. The BCME shall include a site plan, written and graphic depiction of the project’s biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.
- E. **Avian Protection Requirements** – To avoid direct impacts to avian species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the proposed area of disturbance should occur outside the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City Development Services Department for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City’s Biology Guidelines and applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City’s MMC Section and Qualified Biologist shall verify and approve that

all measures identified in the report or mitigation plan are in place prior to and/or during construction.

- F. **Resource Delineation** – Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.
- G. **Education** – Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain avian and wetland buffers, and clarify acceptable access routes/methods and staging areas).

BIO-2. General Measures During Construction

- A. **Monitoring** – All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on “Exhibit A” and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSV). The CSV shall be e-mailed to MMC on the 1st day of monitoring, the 1st week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.
- B. **Subsequent Resource Identification** – The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (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.

BIO-3. Post-construction General Measures

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

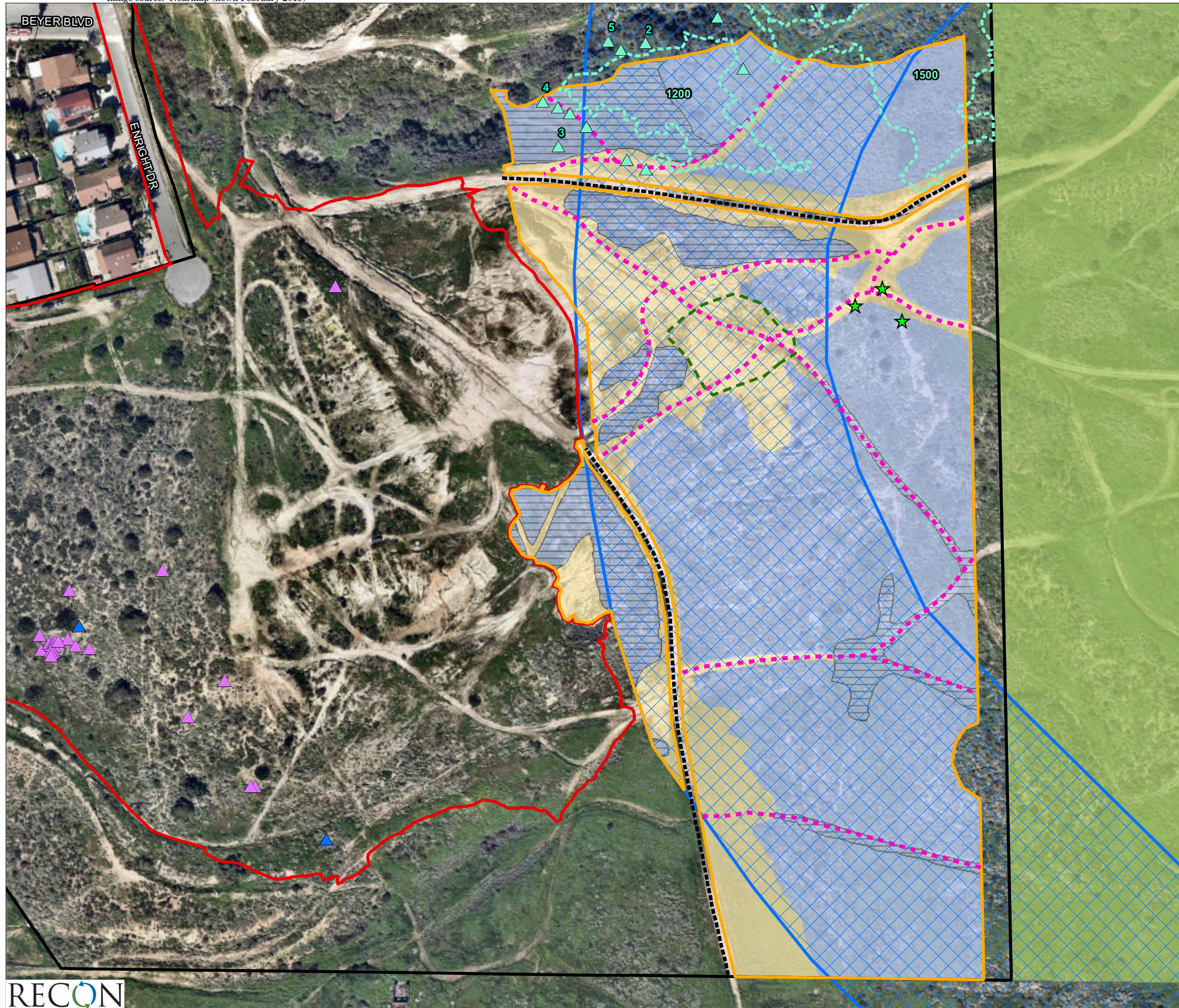
6.2 Mitigation and Monitoring Recommendations for Sensitive Vegetation Communities

Mitigation for impacts to sensitive species will be fulfilled through a combination of habitat preservation, habitat enhancement, and habitat restoration. A 14.12-acre area comprising MHPA lands and adjacent open space lands outside the MHPA has been delineated to meet the mitigation requirements for sensitive vegetation impact. Figure 10 shows the location of the proposed on-site mitigation areas.

The following measures are proposed to fulfill habitat-based mitigation requirements:

BIO-4. Habitat-based Mitigation

A. **On-site Restoration** – To fulfill the project’s mitigation requirements for impacts to Tier I and Tier II vegetation (i.e., maritime succulent scrub, disturbed maritime succulent scrub, Diegan coastal sage scrub, and disturbed Diegan coastal sage scrub), a total of 13.32 acres of mitigation is required. The following mitigation program is proposed: 6.25 acres of maritime succulent scrub and 1.54 acre of disturbed maritime succulent scrub shall be enhanced in the MHPA portion of the eastern project parcel; 2.05 acres of maritime succulent scrub and 0.59 acre of disturbed maritime succulent scrub will be enhanced outside of the MHPA; and a total of 3.70 acres of disturbed lands, both inside and outside the MHPA will be restored to maritime succulent scrub, for a total of 14.12 acres of enhancement and restoration of Tier I vegetation. Table 7 provides a breakdown of mitigation requirements and Table 8 provides a summary. A Mitigation and Restoration Plan detailing the proposed enhancement and restoration has been developed (RECON 2019).



- Mitigation Site
- Project Parcels Boundary
- Beyer Park Development Project
- City of San Diego MHPA
- County Preserve
- Sensitive Plant Species Observations**
- Otay tarplant
- Plants Recommended for Salvage**
- Fish-hook Cactus
- San Diego Barrel Cactus
- Mitigation Design**
- Enhancement**
- Existing Maritime Succulent Scrub Habitat
- Existing Disturbed Maritime Succulent Scrub Habitat
- Restoration**
- Existing Disturbed Land
- Mitigation Details**
- Trails to Remain Open
- Trails to be Closed
- Proposed Artificial Owl Burrow Locations
- Proposed Beach Goldenaster Mitigation Location

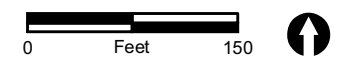


FIGURE 10
Proposed Mitigation Design

**Table 7
Direct Impacts to Vegetation and Associated Mitigation**

Vegetation Community by City of San Diego Tier	Direct Impacts to Vegetation Outside MHPA (acres)	Mitigation Ratios		Required Mitigation (acres)		Proposed Enhancement (acres)	Proposed Restoration (acres)	Total Proposed Mitigation (acres)
		Inside the MHPA	Outside the MHPA	Preserved Inside the MHPA	Preserved Outside the MHPA			
Tier I								
Maritime succulent scrub	0.91	1:1		0.91	0	0.91	0	0.91
Disturbed maritime succulent scrub	4.86	1:1		4.86	0	4.86	0	4.86
<i>Subtotal (Tier I)</i>	<i>5.77</i>			<i>5.77</i>	<i>0</i>	<i>5.77</i>	<i>0</i>	<i>5.77</i>
Tier II¹								
Diegan coastal sage scrub	1.41	1:1		1.41	0	1.41 ¹		1.41
Disturbed Diegan coastal sage scrub	4.29	1:1		0.60	5.54	0.60	0	6.14
			1.5:1			2.64	0	
			1.5:1				2.90 ²	
<i>Subtotal (Tier II)</i>	<i>5.70</i>			<i>2.01</i>	<i>5.54</i>	<i>4.65¹</i>	<i>2.90²</i>	<i>7.55</i>
Tier IV								
Disturbed land	5.05	0:1	0:1	0	0	0	0.80	0.80
Ornamental plantings	0	0:1	0:1	0	0	0	0	0
Other Land Cover Types								
Urban/Developed Land	0.64	0:1	0:1	0	0	0	0	0
<i>Subtotal (Tier IV)</i>	<i>5.69</i>			<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Subtotal (All Tiers)</i>	<i>17.16</i>			<i>7.78</i>	<i>5.54</i>	<i>10.42</i>	<i>3.70</i>	<i>0</i>
Total	17.16			13.32		10.42	3.70³	14.12

¹Tier II habitat will be mitigated with Tier I habitat. Due to surrounding MSS habitat it is likely that historically this habitat would have been MSS prior to routine disturbance.

²Restoration of Tier I maritime succulent scrub habitat will be accomplished through conversion of disturbed lands.

³An additional 0.8 acre of disturbed land will be restored in anticipation that some of the edge areas near the trails and roads may not achieve success criteria. Total mitigation will be 14.12 acres.

Mitigation Method	Fulfillment of Vegetation Mitigation (acres)
Restoration ¹	2.90
Enhancement ²	10.42
Additional restoration of disturbed land ³	0.80
Total	14.12
¹ Restoration will consist of converting disturbed lands to Tier I maritime succulent scrub appropriate for burrowing owl foraging and nesting. Restoration and enhancement acreages combined meet the required mitigation for impacts to Tier I and Tier II habitats. ² Enhancement will be focused on improving maritime succulent scrub appropriate for burrowing owl foraging and nesting. Restoration and enhancement acreages combined meet the required mitigation for impacts to Tier I and Tier II habitats. ³ An additional 0.80 acres of disturbed land will be restored in anticipation that some of the edge areas near the trails and roads may not achieve success criteria. Total mitigation will be 14.12 acres.	

This plan also documents the requirements for a 5-year maintenance and monitoring period and includes plant salvage of sensitive succulent species and seeding of beach goldenaster with the ultimate goal of creating habitat suitable for burrowing owl. Currently the maritime succulent scrub within the proposed mitigation area is fragmented and contains evidence of anthropogenic impacts, through the presence of unauthorized trails used by pedestrians and vehicles. The proposed restoration and enhancement activities will remove the fragmentation and effects of the anthropogenic impacts to create one contiguous patch of maritime succulent scrub. It is anticipated that restoration of the disturbed lands to native habitat and enhancement of the disturbed maritime succulent scrub to reduce the extent of non-native invasive plants will increase the habitat quality and resiliency of the maritime succulent scrub. In addition, the County of San Diego preserve area located immediately east of the mitigation site provides connectivity to natural open space further increasing the post-restoration quality.

- B. Preservation of Occupied Burrowing Owl Habitat** – In accordance with the City’s Biology Guidelines, mitigation for impacts to occupied burrowing owl habitat must be through the conservation of occupied burrowing owl habitat or conservation of lands appropriate for restoration, management, and enhancement of burrowing owl nesting and foraging requirements.

A Conceptual Burrowing Owl Mitigation Plan is included as a component of the project Mitigation and Restoration Plan and was prepared in accordance with the CDFW 2012 Staff Report or the most recent state and/or federal protocols/guidance for approval by MSCP and the Wildlife Agencies (RECON 2019). A total of 13.55 acres of occupied habitat will be impacted by the project and will require 10.42 acres of mitigation per Table 3 of the Land Development Code Biology Guidelines. The plan includes on-site mitigation for the loss of 10.42 acres of suitable occupied burrowing owl habitat based on the ratios presented for the impacts to the underlying vegetation communities through preservation of occupied habitat within the adjacent maritime succulent scrub. Table 9 presents the breakdown of these mitigation requirements. The quality of preserved suitable occupied burrowing owl habitat must be comparable to or better than

the habitat being impacted, otherwise enhancement of the habitat may be included as an aspect of the mitigation plan. The land to be preserved has been established to be occupied by burrowing owl (RECON 2017f) and supports fossorial mammals. The occupied habitat is maritime succulent scrub which will be enhanced/restored for impacts to vegetation as outlined in section A and the restoration design will ensure that the habitat remains appropriate for western burrowing owl. A map showing the proposed areas for artificial burrow construction can be found in Figure 10. The site will be preserved in perpetuity as part of the City MSCP Program. Prior to the issuance of any construction permits or beginning any construction-related activity on-site, the City shall provide the location of mitigation lands to the satisfaction of MSCP and the Wildlife Agencies.

In addition, long-term maintenance and monitoring of the approved mitigation land shall be conducted in accordance with the MSCP program by the City Parks and Recreation department. Funding for maintenance would occur through the operating budget for the management of Park and Recreation Open Space lands.

Table 9 Required and Proposed Mitigation for Burrowing Owl Impacts					
Vegetation Community by City of San Diego Tier	Direct Impacts to Occupied BUOW Habitat Outside MHPA (acres)	Mitigation Ratio ¹		Required Amount of Occupied Habitat to Fulfill Mitigation (acres) ²	
		Inside the MHPA	Outside the MHPA	Inside the MHPA	Outside the MHPA
Tier I					
Maritime succulent scrub	0.20	1:1	2:1	0.2	0
Disturbed maritime succulent scrub	3.91	1:1	2:1	3.91	0
Tier II					
Diegan coastal sage scrub	0.18	1:1	1.5:1	0.18	0
Disturbed Diegan coastal sage scrub	4.28	1:1	1.5:1	0.6	5.53
Tier IV					
Disturbed land	4.89	0:1	0:1	0	0
Ornamental plantings	0	0:1	0:1	0	0
Other Land Cover Types					
Urban/Developed Land	0.09	0:1	0:1	0	0
TOTAL	13.55			10.42	
¹ Mitigation ratios are consistent with Table 3 of the Land Development Code Biology Guidelines ² 10.42 acres of occupied habitat is required for mitigation. Any areas successfully preserved in excess of the required amount may be utilized by the City for BUOW mitigation.					

6.3 Mitigation and Monitoring Recommendations for Sensitive Plant Species

Recommended measures to avoid, minimize, and/or mitigate significant project impacts to sensitive plant species are provided in this section.

Although the proposed direct impacts to San Diego barrel cactus, south coast saltscale, San Diego bur-sage, San Diego County viguiera, and California box-thorn are less than significant, these species, along with one common species, fish-hook cactus, are recommended for use in the plant palette for the native “Slopes and Perimeter Landscapes” that are proposed within the park boundary (see Figure 5). These native planting areas are included in the project impact area, are not proposed as part of mitigation, but are intended to provide a transition between the developed park and the existing adjacent native vegetation.

The mitigation plan includes provisions for the salvage and translocation of San Diego barrel cactus and fish-hook cactus (see Figure 10) (RECON 2019). As south coast saltscale, San Diego bur-sage, and San Diego County viguiera can be readily grown from seed (Reiser 2001; Ryan West, RECON Native Plants General Manager, pers. comm., August 13, 2018), these species are recommended for inclusion via seed collection from the local area and dispersal and/or propagation. As seed is difficult to collect in substantial quantities from California box-thorn due to competition with birds (Ryan West, personal communication, August 13, 2018), small individuals of this species, if present, are recommended for salvage and translocation.

As direct impacts to beach goldenaster would be considered significant, the following on-site mitigation is recommended to reduce the impact to less than significant:

BIO-5. Beach Goldenaster Restoration – A pre-construction survey will be conducted to determine the number of individuals present at the time of the proposed project. Impacted beach goldenaster individuals will be mitigated in-kind through restoration. The results of this pre-construction survey may inform the number of beach goldenaster to planted. A potential restoration area has been identified based on this species’ preferred habitat conditions within the MHPA (see Figure 10). For restoration of this species, the following steps are recommended: seed collection from the on-site population, bulking of seed in an approved nursery, installation of container plants, hand-seeding within the restoration area during the appropriate time of year, installation of site protection, and implementation of a maintenance and monitoring program. The restoration approach for beach goldenaster is documented in the Mitigation and Restoration Plan (RECON 2019) and will be maintained and monitored for a 60-month period or until success standards are obtained.

6.4 Mitigation and Monitoring Recommendations for Sensitive Wildlife Species

Recommended measures to avoid, minimize, and/or mitigate significant project impacts to sensitive wildlife species are provided in this section.

Adherence to measure BIO-1 above is anticipated to avoid direct impacts to nesting birds (including coastal cactus wren, coastal California gnatcatcher, southern California rufous-crowned sparrow, and California horned lark) in the project impact area.

Compliance with the City's MHPA LUAG will reduce the potential for indirect impacts from edge-effects (e.g., habitat degradation) to sensitive wildlife species including Belding's orange-throated whiptail, Baja California coachwhip, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and San Diego desert woodrat.

Additional species-specific recommended measures to avoid, minimize, or mitigate for potentially significant direct and/or indirect impacts to western burrowing owl, coastal California gnatcatcher, least Bell's vireo, and coastal cactus wren are detailed below.

6.4.1 Mitigation and Monitoring Recommendations for Western Burrowing Owl

The following measures are recommended to mitigate for direct and indirect impacts to burrowing owl:

BIO-6. Burrowing Owl Measures Prior to Permit or Notice to Proceed Issuance

- A. As this project has been determined to be BUOW occupied or to have BUOW occupation potential, the Applicant Department or Permit Holder shall submit evidence to the ADD of Entitlements verifying that a Biologist possessing qualifications pursuant "Staff Report on Burrowing Owl Mitigation, State of California Natural Resources Agency Department of Fish and Game. March 7, 2012 (hereafter referred as CDFG 2012, Staff Report), has been retained to implement a burrowing owl construction impact avoidance program.
- B. The qualified BUOW biologist (or their designated biological representative) shall attend the pre-construction meeting to inform construction personnel about the City's BUOW requirements and subsequent survey schedule.

BIO-7. Burrowing Owl Measures Prior to Construction

- A. The Applicant Department or Permit Holder and Qualified Biologist must ensure that initial pre-construction/take avoidance surveys of the project "site" are completed between 14 and 30 days before initial construction activities, including brushing,

clearing, grubbing, or grading of the project site; regardless of the time of the year. "Site" means the project site and the area within a radius of 300 feet of the project site. The report shall be submitted and approved by the Wildlife Agencies and/or City MSCP staff prior to construction or BUOW eviction(s) and shall include maps of the project site and BUOW locations on aerial photos.

- B. The pre-construction survey shall follow the methods described in CDFG 2012, Staff Report -Appendix D (please note, in 2013, CDFG became California Department of Fish and Wildlife or CDFW).
- C. 24 hours prior to commencement of ground disturbing activities, the Qualified Biologist shall verify results of preconstruction/take avoidance surveys. Verification shall be provided to the City's Mitigation Monitoring and Coordination (MMC) and EPS Section. If results of the preconstruction surveys have changed and BUOW are present in areas not previously identified, immediate notification to the City and WA's shall be provided prior to ground disturbing activities.

BIO-8. Burrowing Owl Measures During Construction

- A. **Post Construction: Best Management Practices shall be employed as BUOWs** are known to use open pipes, culverts, excavated holes, and other burrow-like structures at construction sites. Legally permitted active construction projects which are BUOW occupied and have followed all protocol in this mitigation section, or sites within 300 feet of occupied BUOW areas, should undertake measures to discourage BUOWs from recolonizing previously occupied areas or colonizing new portions of the site. Such measures include, but are not limited to, ensuring that the ends of all pipes and culverts are covered when they are not being worked on, and covering rubble piles, dirt piles, ditches, and berms.
- B. **On-going BUOW Detection** - If BUOWs or active burrows are not detected during the pre-construction surveys, Section "A" below shall be followed. If BUOWs or burrows are detected during the pre-construction surveys, Section "B" shall be followed. **NEITHER THE MSCP SUBAREA PLAN NOR THIS MITIGATION SECTION ALLOWS FOR ANY BUOWs TO BE INJURED OR KILLED OUTSIDE OR WITHIN THE MHPA; in addition, IMPACTS TO BUOWs WITHIN THE MHPA MUST BE AVOIDED.**
 - 1. **Post Survey Follow Up if Burrowing Owls and/or Signs of Active Natural or Artificial Burrows Are Not Detected During the Initial Pre-Construction Survey** - Monitoring the site for new burrows is required using CDFW Staff Report 2012 Appendix D methods for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete (*NOTE - Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule*).
 - a. If no active burrows are found but BUOWs are observed to occasionally (1-3 sightings) use the site for roosting or foraging, they should be allowed to do so with no changes in the construction or construction schedule.

- b. If no active burrows are found but BUOWs are observed during follow up monitoring to repeatedly (4 or more sightings) use the site for roosting or foraging, the City's Mitigation Monitoring and Coordination (MMC) Section and Environmental and Permitting Support Section (EPS) of Public Works shall be notified and any portion of the site where owls have been sites and that has not been graded or otherwise disturbed shall be avoided until further notice.
- c. If a BUOW begins using a burrow on the site at any time after the initial pre-construction survey, procedures described in Section B must be followed.
- d. Any actions other than these require the approval of the City and the Wildlife Agencies.

C. Post Survey Follow Up if Burrowing Owls and/or Active Natural or Artificial Burrows are detected during the Initial Pre-Construction Survey - Monitoring the site for new burrows is required using Appendix D CDFG 2012, Staff Report for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete (*NOTE - Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule which adheres to the required number of surveys in the detection protocol*).

1. This section (B) applies only to sites (including biologically defined territory) wholly outside of the MHPA – **all direct and indirect impacts to BUOWs within the MHPA SHALL be avoided.**
2. If one or more BUOWs are using any burrows (including pipes, culverts, debris piles *etc.*) on or within 300 feet of the proposed construction area, the City's MMC and EPS Sections shall be contacted. The City's MMC Section shall contact the Wildlife Agencies regarding eviction/collapsing burrows and enlist appropriate City biologist for on-going coordination with the Wildlife Agencies and the qualified consulting BUOW biologist. No construction shall occur within 300 feet of an active burrow without written concurrence from the Wildlife Agencies. This distance may increase or decrease, depending on the burrow's location in relation to the site's topography, and other physical and biological characteristics.
 - a. **Outside the Breeding Season** - If the BUOW is using a burrow on site outside the breeding season (i.e. September 1 – January 31), the BUOW may be evicted after the qualified BUOW biologist has determined via fiber optic camera or other appropriate device, that no eggs, young, or adults are in the burrow and written concurrence from the Wildlife Agencies for eviction is obtained prior to implementation.
 - b. **During Breeding Season** – If a BUOW is using a burrow on-site during the breeding season (February 1–August 31), construction shall not occur within 300 feet of the burrow until the young have fledged and are no longer dependent on the burrow, at which time the BUOWs can be evicted. Eviction requires written concurrence from the Wildlife Agencies prior to implementation.

3. **Survey Reporting During Construction** - Details of construction surveys and evictions (if applicable) carried out shall be immediately (within 5 working days or sooner) reported to the City's MMC and EPS Section and the Wildlife Agencies and must be provided in writing (as by e-mail) and acknowledged to have been received by the required Agencies and DSD Staff member(s).
 - a. Details of the all surveys and actions undertaken on-site with respect to BUOWs (i.e. occupation, eviction, locations etc.) shall be reported to the City's MMC and EPS Section and the Wildlife Agencies within 21 days post-construction and prior to the release of any grading bonds. This report must include summaries off all previous reports for the site; and maps of the project site and BUOW locations on aerial photos.

6.4.2 Mitigation and Monitoring Recommendations for Northern Harrier

If active nests of the northern harrier are detected in the MHPA within 900-feet of the edge of construction during the pre-construction survey (see measure BIO-1), the following mitigation measure would be required to reduce the indirect impact from construction noise to less than significant.

BIO-9. If any active nests of the northern harrier are identified in the MHPA within 900-feet of construction, an impact avoidance buffer is required to be established until the young are independent of the nest. Construction activities are expected to result in noise levels exceeding 60 dB(A) L_{eq} within the adjacent MHPA lands. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; OR

At least two 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 dB(A) L_{eq} within the northern harrier 900-foot nest avoidance area. Concurrent with the commencement of construction activities and the construction of necessary attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) L_{eq} . If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

*Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . If not, other measures shall be implemented in consultation with the biologist and the

City Manager, as necessary, to reduce noise levels to below 60 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

6.4.3 Mitigation and Monitoring Recommendations for Coastal California Gnatcatcher

If nesting coastal California gnatcatcher is detected in the MHPA within the 60 dB(A) noise contour (see Figure 9) during the pre-construction survey (see measure BIO-1), the following mitigation measure would be required to reduce the indirect impact from construction noise to less than significant.

BIO-10. Noise Restrictions for Coastal California Gnatcatcher – Between March 1 and August 15, no construction activities shall occur where construction activities would result in noise levels exceeding 60 dB(A) L_{eq} at the edge of gnatcatcher-occupied MHPA habitat. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; OR

At least two 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 dB(A) L_{eq} at the edge of MHPA-habitat occupied by coastal California gnatcatcher. Concurrent with the commencement of construction activities and the construction of necessary attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) L_{eq} . If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

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

6.4.4 Mitigation and Monitoring Recommendations for Least Bell's Vireo

The following measures are recommended to avoid indirect impacts to least Bell's vireo:

BIO-11. Noise Restrictions for Least Bell's Vireo

- A. Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) L_{eq} (hourly noise equivalent of 60 A-weighted decibels [dB(A)] or less) at the edge of occupied least Bell's vireo habitat. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; OR
- B. At least two 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 dB(A) L_{eq} at the edge of habitat occupied by least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) L_{eq} . If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (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 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

6.4.5 Mitigation and Monitoring Recommendations for Coastal Cactus Wren

If nesting coastal cactus wren is detected within the project impact area during the pre-construction survey (see measure BIO-1), the following mitigation measure would be required to reduce the impact to less than significant.

BIO-12. Coastal Cactus Wren Habitat Restoration – Direct impacts to occupied habitat shall be mitigated at a ratio of 1:1. In accordance with the City's Biology Guidelines, restoration of impacted coastal cactus wren habitat shall include

salvage and transplantation of the following species if present: snake cholla, coast cholla, live-forevers (*Dudleya* spp.), San Diego barrel cactus, fish-hook cactus, coast prickly pear, chaparral prickly pear, chaparral candle (*Hesperoyucca whipplei*), and Mojave yucca (*Yucca schidigera*) to an on-site or off-site restoration site or a receiver site approved by the City.

The following mitigation measure is recommended to avoid indirect impacts to coastal cactus wren:

BIO-13. Noise Restrictions for Coastal Cactus Wren – Between February 15 and August 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) L_{eq} at the edge of occupied coastal cactus wren habitat. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; OR

At least two 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 dB(A) L_{eq} at the edge of habitat occupied by coastal cactus wren. Concurrent with the commencement of construction activities and the construction of necessary attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) L_{eq} . If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

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

6.4.6 Mitigation and Monitoring Recommendations for San Diego Fairy Shrimp

The following avoidance and minimization measures are recommended to avoid indirect construction-related and park operations-related impacts to San Diego fairy shrimp consistent with the City's VPHCP Section 5.2.1:

BIO-14. San Diego Fairy Shrimp Measures Prior to Construction

- A. Temporary fencing (with silt barriers) shall be installed along the limits of project impacts (including construction staging areas and access routes) to prevent impacts to San Diego fairy shrimp-occupied habitat and prevent the spread of silt from the construction zone into adjacent habitat. Fencing shall be installed in a manner that does not impact the habitat or watershed to be avoided. Final construction plans shall include photographs that show the fenced limits of impact and all areas of San Diego fairy shrimp habitat to be impacted or avoided. If work inadvertently occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the City. Temporary construction fencing shall be removed upon project completion.

BIO-15. San Diego Fairy Shrimp Measures During Construction

- A. Impacts from fugitive dust that may occur during construction grading shall be avoided and minimized through watering and other appropriate measures.
- B. A qualified monitoring biologist that has been approved by the City shall be on-site during project construction activities to ensure compliance with all mitigation measures identified in the environmental document. The biologist shall be knowledgeable of vernal pool species biology and ecology. The biologist shall perform the following duties:
- Oversee installation of and inspect the fencing and erosion control measures within or upslope of vernal pool restoration and/or preservation areas a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or erosion control measures are repaired immediately.
 - Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.
 - Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training shall include (1) the purpose for resource protection; (2) a description of the vernal pool species and their habitat(s); (3) the conservation measures that must be implemented during project construction to conserve the vernal pool species, including strictly limiting activities, and vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); (4) environmentally responsible construction practices as outlined in measures C, D, and E, below; (5) the protocol to resolve conflicts that

may arise at any time during the construction process; and (6) the general provisions of the project's mitigation monitoring and reporting program, the need to adhere to the provisions of the ESA, and the penalties associated with violating the ESA.

- Halt work, if necessary, and confer with the City to ensure the proper implementation of species and habitat protection measures. The biologist shall report any violation to the City within 24 hours of its occurrence.
- Submit regular (e.g., weekly) letter reports to the City during project construction and a final report following completion of construction. The final report shall include as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.

C. The following conditions shall be implemented during project construction:

- Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.
- The project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site.
- Disposal or temporary placement of excess fill, brush, or other debris shall be limited to areas within the fenced project footprint.

D. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering the vernal pools or their watersheds, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from the vernal pools or their watersheds. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. A spill kit for each piece of construction equipment shall be on-site and must be used in the event of a spill. "No fueling zones" shall be designated on construction plans.

E. Grading activities immediately adjacent to vernal pools shall be timed to avoid wet weather to minimize potential impacts (e.g., siltation) to the vernal pools unless the area to be graded is at an elevation below the pools. To achieve this goal, grading adjacent to avoided pools shall comply with the following:

- Grading shall occur only when the soil is dry to the touch both at the surface and 1 inch below. A visual check for color differences (i.e., darker soil indicating moisture) in the soil between the surface and 1 inch below indicates whether the soil is dry.
- After a rain of greater than 0.2 inch, grading shall occur only after the soil surface has dried sufficiently as described above, and no sooner than 2 days (48 hours) after the rain event ends.

- To prevent erosion and siltation from storm water runoff due to unexpected rains, best management practices (i.e., silt fences) shall be implemented as needed during grading.
 - If rain occurs during grading, work shall stop and resume only after soils are dry, as described above.
 - Grading shall be done in a manner to prevent runoff from entering preserved vernal pools.
 - If necessary, water spraying shall be conducted at a level sufficient to control fugitive dust but not to cause runoff into vernal pools.
 - If mechanized grading is necessary, grading shall be performed in a manner to minimize soil compaction (i.e., use the smallest type of equipment needed to feasibly accomplish the work).
- F. Permanent protective fencing along any interface with developed areas and/or use other measures approved by the City to deter human and pet entrance into on- or off-site habitat shall be installed. Fencing shall be shown on the development plans and should have no gates (accept to allow access for maintenance and monitoring of the biological conservation easement areas) and be designed to prevent intrusion by pets. Signage for the biological conservation easement area shall be posted and maintained at conspicuous locations. The requirement for fencing and/or other preventative measures shall be included in the project's mitigation program.

BIO-16. Post-construction San Diego Fairy Shrimp Monitoring – The San Diego fairy shrimp population that occurs in the artificial ditch in the western portion of the project parcels shall be monitored on an annual basis for a minimum period of five years. A qualified biologist holding a valid USFWS Section 10(a)(1)(A) Recovery Permit shall conduct wet season surveys in accordance with the current USFWS Survey Guidelines for the Large Listed Branchiopods (dated November 13, 2017 at the time of preparation of this report) with the following amendment: once mature San Diego fairy shrimp have been detected in any one survey period, sampling for the species shall cease; site visits shall continue following the survey schedule identified in the guidelines only to collect hydrological data. Photo-points shall also be established to capture the occupied depression's inlet(s) and outlet(s). At a minimum, photographs will be taken annually at each photo-point.

6.5 Mitigation and Monitoring Recommendations for Jurisdictional Wetlands and Waters

No direct impacts are anticipated to occur to jurisdictional wetlands or waters. Therefore, no mitigation or resource agency permitting would be required.

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ATTACHMENTS

ATTACHMENT 1
Plant Species Observed

**Attachment 1
Plant Species Observed**

Scientific Name	Common Name	Vegetation Communities	Origin
LYCOPODS			
SELAGINELLACEAE	SPIKE-MOSS FAMILY		
<i>Selaginella cinerascens</i> A.A. Eaton	ashy spike-moss	MSS	N
ANGIOSPERMS: MAGNOLIIDS-PIPERALES			
SAURURACEAE	LIZARD'S TAIL FAMILY		
<i>Anemopsis californica</i> (Nutt.) Hook. & Arn.	yerba mansa	MFS	N
ANGIOSPERMS: MONOCOTS			
AGAVACEAE	AGAVE FAMILY		
<i>Agave americana</i> L.	American century plant	DCSS	I
<i>Chlorogalum parviflorum</i> S. Watson	small-flower soap-plant, amole	MSS	N
<i>Hesperoyucca [=Yucca] whipplei</i> (Torr.) Trel.	chaparral candle	MSS	N
<i>Yucca schidigera</i> Ortgies	Mojave yucca	DL	N
ALLIACEAE	ONION FAMILY		
<i>Allium</i> sp.	onion, garlic	MSS	N
ARECACEAE	PALM FAMILY		
<i>Phoenix canariensis</i> Chabaud	Canary Island palm	DEV	I
<i>Washingtonia robusta</i> H. Wendl.	Mexican fan palm	DEV	I
IRIDACEAE	IRIS FAMILY		
<i>Sisyrinchium bellum</i> S. Watson	western blue-eyed grass	MSS	N
LILIACEAE	LILY FAMILY		
<i>Calochortus splendens</i> Benth.	splendid mariposa lily	MSS	N
POACEAE (GRAMINEAE)	GRASS FAMILY		
<i>Avena barbata</i> Pott ex Link	slender wild oat	MSS	I
<i>Brachypodium distachyon</i> (L.) P. Beauv.	purple falsebrome	DL, MSS	I
<i>Bromus diandrus</i> Roth	ripgut grass	DL	I
<i>Bromus madritensis</i> L. ssp. <i>rubens</i> (L.) Husn.	red brome	DL, MSS	I
<i>Festuca [=Vulpia] myuros</i> L.	rattail sixweeks grass	MSS	I
<i>Festuca perennis</i> (L.) Columbus & J.P. Sm. [= <i>Lolium multiflorum</i> and <i>Lolium perenne</i>]	rye grass	DL	I

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Scientific Name	Common Name	Vegetation Communities	Origin
<i>Hordeum murinum</i> L.	wall barley	DL	I
<i>Lamarckia aurea</i> (L.) Moench	golden-top	DL	I
<i>Muhlenbergia microsperma</i> (DC.) Kunth	littleseed muhly	MSS	N
<i>Pennisetum setaceum</i> (Forssk.) Chiov.	crimson fountain grass	MSS	I
<i>Schismus barbatus</i> (L.) Thell.	Mediterranean schismus	MSS	I
<i>Stipa</i> [= <i>Nassella</i>] <i>lepidata</i> Hitchc.	foothill needle grass	MSS	N
<i>Stipa</i> [= <i>Nassella</i>] <i>pulchra</i> Hitchc.	purple needle grass	MSS	N
THEMIDACEAE	BRODIAEA FAMILY		
<i>Bloomeria crocea</i> (Torr.) Coville	common goldenstar	MSS	N
<i>Dichelostemma capitatum</i> (Benth.) Alph. Wood	blue dicks	CSS, DMSS, MSS	N
ANGIOSPERMS: DICOTS			
ADOXACEAE	ADOXA FAMILY		
<i>Sambucus nigra</i> L. ssp. <i>caerulea</i> (Raf.) Bolli [= <i>Sambucus mexicana</i>]	blue elderberry	MFS	N
AIZOACEAE	FIG-MARIGOLD FAMILY		
<i>Mesembryanthemum crystallinum</i> L.	crystalline iceplant	DL	I
<i>Mesembryanthemum nodiflorum</i> L.	slender-leaved iceplant	DL	I
<i>Tetragonia tetragonioides</i> (Pall.) Kuntze	New Zealand spinach	MFS	I
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
<i>Malosma laurina</i> Nutt. ex Abrams	laurel sumac	MSS	N
<i>Rhus integrifolia</i> (Nutt.) Benth. & Hook. f. ex Rothr.	lemonade berry	MSS, DL	N
<i>Schinus molle</i> L.	Peruvian pepper tree	DL	I
APIACEAE (UMBELLIFERAE)	CARROT FAMILY		
<i>Apiastrum angustifolium</i> Nutt.	mock-parsley	MSS	N
<i>Bowlesia incana</i> Ruiz & Pav.	American bowlesia	MFS	N
<i>Daucus pusillus</i> Michx.	rattlesnake weed	MSS	N
<i>Foeniculum vulgare</i> Mill.	fennel	DL	I
ASTERACEAE	SUNFLOWER FAMILY		
<i>Amblyopappus pusillus</i> Hook. & Arn.	pineapple weed	MSS, DL	N
<i>Ambrosia chenopodiifolia</i> (Benth.) Payne	San Diego bur-sage	DCSS, MSS, DL	N
<i>Ambrosia confertiflora</i> DC.	weak-leaf bur-sage	MFS	N
<i>Artemisia californica</i> Less.	California sagebrush	MSS, DL, MFS	N
<i>Baccharis salicifolia</i> (Ruiz & Pav.) Pers. ssp. <i>salicifolia</i>	mule fat, seep-willow	DCSS, MFS	N

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Scientific Name	Common Name	Vegetation Communities	Origin
<i>Baccharis sarothroides</i> A. Gray	broom baccharis	DCSS, MSS, MFS	N
<i>Bahiopsis</i> [= <i>Viguiera</i>] <i>laciniata</i> (A. Gray) E.E. Schilling & Panero	San Diego viguiera, San Diego County viguiera	MSS, DMSS, DCSS, DL	N
<i>Centaurea melitensis</i> L.	totalote, Maltese star-thistle	DL, MSS	I
<i>Chaenactis artemisiifolia</i> (Harv. & A. Gray) A. Gray	white pincushion	DCSS	N
<i>Corethrogyne filaginifolia</i> [= all previously known <i>Lessingia filaginifolia</i> varieties in California] (Hook. & Arn.) Nutt.	California-aster	DL	N
<i>Deinandra</i> [= <i>Hemizonia</i>] <i>conjugens</i> (D.D. Keck) B.G. Baldwin	Otay tarplant	DMSS, MSS, DL	N
<i>Deinandra</i> [= <i>Hemizonia</i>] <i>fasciculata</i> (DC.) Greene	fascicled tarweed	DMSS, MSS	N
<i>Encelia californica</i> Nutt.	California encelia	MSS	N
<i>Eriophyllum confertiflorum</i> (DC.) A. Gray var. <i>confertiflorum</i>	long-stem golden-yarrow	CSS, MSS	N
<i>Glebionis coronaria</i> (L.) Spach [= <i>Chrysanthemum coronarium</i>]	garland, crown daisy	DL, MSS, MFS	I
<i>Hazardia squarrosa</i> (Hook. & Arn.) Greene	saw-toothed goldenbush	CSS	N
<i>Helminthotheca</i> [= <i>Picris</i>] <i>echioides</i> (L.) Holub	bristly ox-tongue	DL	I
<i>Heterotheca grandiflora</i> Nutt.	telegraph weed	MSS	N
<i>Heterotheca</i> [= <i>Chrysopsis</i>] <i>sessiliflora</i> (Nutt.) Shinnars ssp. <i>sessiliflora</i>	beach, false goldenaster	DCSS	N
<i>Hypochaeris glabra</i> L.	smooth cat's-ear	MSS	I
<i>Isocoma menziesii</i> (Hook. & Arn.) G.L. Nesom	coastal goldenbush	MSS, DCSS	N
<i>Lactuca serriola</i> L.	prickly lettuce	DL	I
<i>Lasthenia gracilis</i> (DC.) Greene [<i>L. californica</i> Lindley, misapplied in San Diego County]	common goldfields	MSS	N
<i>Logfia</i> [= <i>Filago</i>] <i>gallica</i> (L.) Coss. & Germ.	daggerleaf cottonrose	CSS, DCSS, MSS	I
<i>Microseris douglasii</i> (DC.) Sch. Bip. var. <i>platycarpha</i> (A. Gray) K.L. Chambers	small-flowered microseris	DMSS	N
<i>Oncosiphon piluliferum</i> (L. f.) Källersjö	stinknet, globe chamomile	MSS, DL	I
<i>Pseudognaphalium beneolens</i> [= <i>Gnaphalium canescens</i> ssp. <i>beneolens</i>] (Davidson) Anderb.	fragrant everlasting	MSS, DMSS, DL	N
<i>Pseudognaphalium biolettii</i> Anderb. [= <i>Gnaphalium bicolor</i>]	bicolor cudweed	DCSS, DL	N
<i>Pseudognaphalium</i> [= <i>Gnaphalium</i>] <i>californicum</i> (DC.) Anderb.	California everlasting, green everlasting	MSS	N
<i>Pseudognaphalium canescens</i> [= <i>Gnaphalium canescens</i> ssp. <i>canescens</i>] (DC.) Anderb.	everlasting cudweed	MSS	N

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<i>Pseudognaphalium</i> [=Gnaphalium] <i>luteoalbum</i> (L.) Hilliard & B.L. Burtt	everlasting cudweed	MSS, DL	I
<i>Pseudognaphalium microcephalum</i> [=Gnaphalium <i>canescens</i> ssp. <i>microcephalum</i>] (Nutt.) Anderb.	white everlasting	MSS	N
<i>Sonchus asper</i> (L.) Hill ssp. <i>asper</i>	prickly sow thistle	DL, MFS	I
<i>Sonchus oleraceus</i> L.	common sow thistle	DL	I
<i>Stephanomeria</i> sp.	wreath-plant	MSS	N
<i>Uropappus lindleyi</i> (DC.) Nutt.	silver puffs	MSS	N
BORAGINACEAE	BORAGE FAMILY		
<i>Amsinckia intermedia</i> Fisch. & C. A. Mey.	common fiddleneck	MSS	N
<i>Amsinckia menziesii</i> (Lehm.) A. Nelson & J.F. Macbr.	common fiddleneck, small-flowered fiddleneck, rancher's fireweed	MSS	N
<i>Cryptantha</i> sp.	cryptantha	MFS, CSS, MSS, DL	N
<i>Emmenanthe penduliflora</i> Benth.	whispering bells	CSS	N
<i>Eucrypta chrysanthemifolia</i> (Benth.) Greene	eucrypta	MFS	N
<i>Harpagonella palmeri</i> A. Gray	Palmer's grapplinghook	DMSS, MSS	N
<i>Heliotropium curassavicum</i> L. var. <i>oculatum</i> (A. Heller) I. M. Johnst. ex Tidestr.	seaside heliotrope, alkali heliotrope	MFS	N
<i>Nemophila menziesii</i> Hook. & Arn. var. <i>menziesii</i>	Menzies' baby blue-eyes	MSS	N
<i>Pectocarya</i> sp.	pectocarya	MSS	N
<i>Phacelia cicutaria</i> Greene var. <i>hispida</i> (A. Gray) J.T. Howell	caterpillar phacelia	MSS	N
<i>Phacelia grandiflora</i> (Benth.) A. Gray	giant-flowered phacelia	MSS	N
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
<i>Brassica nigra</i> (L.) W.D.J. Koch	black mustard	MSS, DL, MFS	I
<i>Brassica tournefortii</i> Gouan	Sahara mustard	MSS	I
<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat	short-pod mustard	DCSS, DMSS, DL	I
<i>Lepidium nitidum</i> Nutt.	shining peppergrass	DMSS, DL, MSS	N
<i>Sisymbrium irio</i> L.	London rocket	DL	I
CACTACEAE	CACTUS FAMILY		
<i>Cylindropuntia californica</i> (Torr. & A. Gray) F.M. Knuth var. <i>californica</i>	snake cholla	MSS, DL	N
<i>Cylindropuntia</i> [=Opuntia] <i>prolifera</i> (Engelm.) F.M. Knuth	coast cholla	MSS	N

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Scientific Name	Common Name	Vegetation Communities	Origin
<i>Ferocactus viridescens</i> (Torr. & A. Gray) Britton & Rose	San Diego barrel cactus, coast barrel cactus	MSS, DMSS	N
<i>Mammillaria dioica</i> K. Brandegee	fish-hook cactus	MSS, DMSS	N
<i>Opuntia littoralis</i> (Engelm.) Cockerell.	coast prickly-pear, shore cactus	MSS	N
CARYOPHYLLACEAE	PINK FAMILY		
<i>Cerastium glomeratum</i> Thuill.	sticky mouse-ear chickweed	MSS	I
<i>Silene gallica</i> L.	small-flower catchfly, windmill pink	DCSS, DL	I
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Atriplex canescens</i> (Pursh) Nutt.	four-wing saltbush, shad-scale	MFS	N
<i>Atriplex pacifica</i> A. Nelson	south coast saltscale, south coast saltbush	MSS	N
<i>Chenopodium murale</i> L.	nettle-leaf goosefoot	DL	I
<i>Salsola tragus</i> L.	Russian thistle, tumbleweed	DL, MSS	I
CLEOMACEAE	SPIDERFLOWER FAMILY		
<i>Peritoma [=Isomeris] arborea</i> (Nutt.) H. H. Iltis	bladderpod	MSS, MFS	N
CONVOLVULACEAE	MORNING-GLORY FAMILY		
<i>Calystegia macrostegia</i> (Greene) Brummitt	morning-glory	MSS	N
CRASSULACEAE	STONECROP FAMILY		
<i>Crassula connata</i> (Ruiz & Pav.) A. Berger	pygmy-weed	MSS, DL	N
<i>Crassula ovata</i> (Mill.) Druce	jade plant	DCSS	I
<i>Dudleya pulverulenta</i> (Nutt.) Britton & Rose	chalk lettuce, chalk dudleya	MSS	N
CUCURBITACEAE	GOURD FAMILY		
<i>Marah macrocarpa</i> (Greene) Greene	wild cucumber	MFS, MSS	N
EUPHORBIACEAE	SPURGE FAMILY		
<i>Euphorbia misera</i> Benth.	cliff spurge	MSS	N
<i>Euphorbia peplus</i> L.	petty spurge	MSS	I
<i>Ricinus communis</i> L.	castor bean	DCSS, DL, MFS	I
FABACEAE (LEGUMINOSAE)	LEGUME FAMILY		
<i>Acacia</i> sp.	acacia	MSS	I
<i>Acmispon glaber</i> (Vogel) Brouillet [= <i>Lotus scoparius</i>]	deerweed, California broom	MSS, CSS	N
<i>Acmispon maritimus</i> (Torr. & A. Gray) D.D. Sokoloff var. <i>maritimus</i> [= <i>Lotus salsuginosus</i> var. <i>salsuginosus</i>]	alkali lotus	MSS	N

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Scientific Name	Common Name	Vegetation Communities	Origin
<i>Acmispon micranthus</i> (Torr. & A. Gray) Brouillet [= <i>Lotus hamatus</i>]	grab lotus	MSS	N
<i>Acmispon strigosus</i> (Nutt.) Brouillet [= <i>Lotus strigosus</i>]	bishop's lotus, strigose lotus	MSS	N
<i>Astragalus trichopodus</i> (Nutt.) A. Gray var. <i>lonchus</i> (M.E. Jones) Barneby	ocean locoweed	MSS, DL	N
<i>Lupinus hirsutissimus</i> Benth.	stinging lupine	MSS	N
<i>Lupinus succulentus</i> Douglas ex K. Koch	arroyo lupine	MSS	N
<i>Lupinus truncatus</i> Nutt.	collar lupine	DCSS	N
<i>Medicago polymorpha</i> L.	California burclover	DL	I
<i>Melilotus</i> sp.	sweetclover	MSS	I
<i>Melilotus indicus</i> (L.) All.	sourclover	DL	I
GERANIACEAE	GERANIUM FAMILY		
<i>Erodium botrys</i> (Cav.) Bertol.	long-beak filaree	DL, DCSS	I
<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton	redstem filaree	MSS	I
LAMIACEAE	MINT FAMILY		
<i>Marrubium vulgare</i> L.	horehound	DL, MFS	I
<i>Salvia columbariae</i> Benth.	chia	MSS	N
MALVACEAE	MALLOW FAMILY		
<i>Malva parviflora</i> L.	cheeseweed, little mallow	DL	I
MONTIACEAE	MONTIA FAMILY		
<i>Calandrinia menziesii</i> [replaced <i>C. ciliata</i>] (Hook.) Torr. & A. Gray	red maids	MSS	N
<i>Cistanthe maritima</i> [= <i>Calandrinia maritima</i>] (Nutt.) Hershk.	seaside cistanthe, seaside calandrinia	MSS	N
<i>Claytonia perfoliata</i> Donn ex Willd.	miner's lettuce	MSS	N
MYRSINACEAE	MYRSINE FAMILY		
<i>Lysimachia</i> [= <i>Anagallis</i>] <i>arvensis</i> (L.) U. Manns & Anderb.	scarlet pimpernel	MSS, MFS	I
NYCTAGINACEAE	FOUR O'CLOCK FAMILY		
<i>Mirabilis laevis</i> [= <i>Mirabilis californica</i>] (Benth.) Curran var. <i>crassifolia</i> (Choisy) Spellenb.	wishbone bush	MSS	N
ONAGRACEAE	EVENING-PRIMROSE FAMILY		
<i>Camissoniopsis</i> [= <i>Camissonia</i>] <i>bistorta</i> (Torr. & A. Gray) W.L. Wagner & Hoch	California sun cup	MSS	N
<i>Clarkia purpurea</i> (Curtis) A. Nelson & J.F. Macbr. ssp. <i>quadrivulnera</i> (Douglas ex Lindl.) H. Lewis & M. Lewis	four-spot	MSS	N

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Plant Species Observed**

Scientific Name	Common Name	Vegetation Communities	Origin
OXALIDACEAE	OXALIS FAMILY		
<i>Oxalis pes-caprae</i> L.	Bermuda buttercup	DL	I
PAPAVERACEAE	POPPY FAMILY		
<i>Papaver heterophyllum</i> (Benth.) Greene [= <i>Stylomecon heterophylla</i>]	wind poppy	CSS	N
PHYTOLACCACEAE	POKEWEED FAMILY		
<i>Phytolacca americana</i> L.	pokeweed, pokeberry, pigeonberry	DCSS	I
PLANTAGINACEAE	PLANTAIN FAMILY		
<i>Antirrhinum nuttallianum</i> Benth. ex A. DC.	Nuttall's snapdragon	MSS	N
<i>Nuttallanthus texanus</i> (Scheele) D.A. Sutton [= <i>Linaria canadensis</i>]	blue toadflax	CSS	N
<i>Plantago coronopus</i> L.	cut-leaf plantain	DCSS	I
<i>Plantago erecta</i> E. Morris	dot-seed plantain	DMSS, DL, MSS	N
POLEMONIACEAE	PHLOX FAMILY		
<i>Linanthus dianthiflorus</i> (Benth.) Greene	farinose ground pink	MSS	N
POLYGONACEAE	BUCKWHEAT FAMILY		
<i>Eriogonum fasciculatum</i> Benth. var. <i>fasciculatum</i>	coast California buckwheat	MSS, DCSS, DL	N
<i>Rumex crispus</i> L.	curly dock	DCSS	I
RANUNCULACEAE	BUTTERCUP FAMILY		
<i>Clematis pauciflora</i> Nutt.	southern California clematis, few-flowered clematis	MFS	N
<i>Delphinium parryi</i> A. Gray	blue larkspur	MSS, DCSS	N
RESEDACEAE	MIGNONETTE FAMILY		
<i>Oligomeris linifolia</i> (Vahl ex Hornem.) J.F. Macbr.	narrow-leaf oligomeris	MSS	N
RHAMNACEAE	BUCKTHORN FAMILY		
<i>Rhamnus crocea</i> Nutt.	spiny redberry	MSS	N
ROSACEAE	ROSE FAMILY		
<i>Chamaebatia australis</i> (Brandege) Abrams	southern mountain misery	MSS	N
RUBIACEAE	MADDER FAMILY		
<i>Galium aparine</i> L.	goose grass, stickywilly	MFS	N
SALICACEAE	WILLOW FAMILY		
<i>Salix gooddingii</i> C.R. Ball.	Goodding's black willow	MFS	N

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Plant Species Observed**

Scientific Name	Common Name	Vegetation Communities	Origin
SIMMONDSIACEAE	JOJOBA FAMILY		
<i>Simmondsia chinensis</i> (Link) C.K. Schneid.	jojoba, goatnut	MSS, DL	N
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Datura wrightii</i> Regel	western Jimson weed	DCSS	N
<i>Lycium andersonii</i> A. Gray	waterjacket	MSS	N
<i>Lycium californicum</i> Nutt.	California box-thorn, California lycium	MSS	N
<i>Nicotiana glauca</i> Graham	tree tobacco	DCSS, DL	I
<i>Solanum americanum</i> Mill.	white nightshade	MFS	N
TAMARICACEAE	TAMARISK FAMILY		
<i>Tamarix ramosissima</i> Ledeb.	saltcedar	DCSS, DL, MFS	I
URTICACEAE	NETTLE FAMILY		
<i>Parietaria hespera</i> Hinton var. <i>californica</i> Hinton	California pellitory	MSS, MFS	N
<i>Urtica urens</i> L.	dwarf nettle	MFS	I
VERBENACEAE	VERVAIN FAMILY		
<i>Verbena mentifolia</i> Benth.	mint-leaf vervain	MFS, MSS	N
VITACEAE	GRAPE FAMILY		
<i>Vitis girdiana</i> Munson	desert wild grape	MFS	N

VEGETATION COMMUNITIES

CSS = Diegan coastal sage scrub
 DCSS = disturbed Diegan coastal sage scrub
 DEV = urban/developed
 DL = disturbed land
 DMSS = disturbed maritime succulent scrub
 MSS = maritime succulent scrub
 MFS = mule fat scrub

ORIGIN

N = Native to locality
 I = Introduced species from outside locality

ATTACHMENT 2
Wildlife Species Observed

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
INVERTEBRATES (Nomenclature for fairy shrimp from Eriksen and Belk 1999; for spiders and insects from Evans 2008; for butterflies from San Diego Natural History Museum 2002)			
BRANCHINECTIDAE	FAIRY SHRIMP		
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	DCSS	O
COLLEMBOLA	SPRINGTAILS AND ALLIES		
Not identified to species	springtail	DCSS	O
CULICIDAE	MOSQUITOS		
<i>Culex</i> sp.	mosquito	DCSS	O
FORMICIDAE	ANTS		
<i>Linepithema humile</i>	Argentine ant (I)	DL, DCSS	O
TENEBRIONIDAE	DARKLING BEETLES		
Not identified to species	darkling beetle	MSS	O
CICADIDAE	CICADAS		
<i>Hadoa</i> sp.	cicada	CSS, MSS	O
CTENIZIDAE	TRAPDOOR SPIDERS		
<i>Bothriocyrtum californicum</i>	California trapdoor spider	MSS	B
POMPILIDAE	SPIDER WASPS		
<i>Pepsis</i> sp.	tarantula hawk	MSS	O
HESPERIIDAE	SKIPPERS		
<i>Erynnis funeralis</i>	funereal duskywing	CSS, DL	O
<i>Hylephila phyleus muertovalle</i>	fiery skipper	DL	O
<i>Pyrgus communis</i>	common checkered skipper	DMSS, DL	O
PAPILIONIDAE	PARNASSIANS & SWALLOWTAILS		
<i>Papilio eurymedon</i>	pale swallowtail	MSS, DMSS, DL	O
<i>Papilio zelicaon</i>	anise swallowtail	MSS	O
<i>Papilio cressphontes</i>	giant swallowtail	DL	O
PIERIDAE	WHITES & SULPHURS		
<i>Anthocharis cethura</i>	desert [=Felder's] orangetip	MSS, DMSS	O
<i>Anthocharis sara sara</i>	Pacific Sara orangetip	MSS, DMSS, CSS, DL	O

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
<i>Colias eurytheme</i>	orange [=alfalfa] sulphur	MSS, DMSS, DL	0
<i>Pontia protodice</i>	checkered [=common] white	DCSS, DL	0
<i>Pontia sisymbrii</i>	spring [=California] white	MSS, DMSS, CSS, DCSS, DL	0
<i>Pieris rapae</i>	cabbage white (I)	MSS, DMSS, CSS, DCSS, DL	0
LYCAENIDAE	BLUES, COPPERS, & HAIRSTREAKS		
<i>Brephidium exile</i>	western pygmy-blue	DCSS, DL	0
<i>Callophrys augustinus</i>	brown elfin	MSS	0
<i>Everes amyntula</i>	western tailed-blue	DMSS, DCSS, DL	0
<i>Glaucopsyche lygdamus australis</i>	southern [=silvery] blue	MSS, DMSS, DL	0
<i>Icaricia acmon acmon</i>	Acmon blue	CSS, DCSS	0
<i>Leptotes marina</i>	marine blue	CSS, DCSS	0
<i>Strymon melinus pudica</i>	gray [=common] hairstreak	MSS, CSS, DCSS	0
RIODINIDAE	METALMARKS		
<i>Apodemia mormo virgulti</i>	Behr's metalmark	MSS, CSS, DCSS,	0
NYMPHALIDAE	BRUSH-FOOTED BUTTERFLIES		
<i>Chlosyne gabbii</i>	Gabb's checkerspot	MSS	0
<i>Coenonympha californica californica</i>	common California ringlet	MSS	0
<i>Danaus plexippus</i>	monarch	DEV, DL	0
<i>Junonia coenia grisea</i>	common buckeye	MSS, DMSS, DL	0
<i>Limenitis lorquini</i>	Lorquin's admiral	MSS	0
<i>Nymphalis antiopa</i>	mourning cloak	MSS, DMSS, MFS	0
<i>Vanessa annabella</i>	west coast lady	MSS, DMSS, DL	0
<i>Vanessa atalanta rubria</i>	red admiral	MSS	0
<i>Vanessa cardui</i>	painted lady	MSS, DMSS	0
SPHINGIDAE	HAWK MOTHS		
<i>Hyles lineta</i>	white-lined sphinx moth	CSS, DCSS, MSS, DMSS	0
REPTILES (Nomenclature from Crother et al. 2012)			
PHRYNOSOMATIDAE	SPINY LIZARDS		
<i>Sceloporus occidentalis</i>	western fence lizard	DCSS, DL	0
<i>Uta stansburiana</i>	common side-blotched lizard	DCSS, DL	0

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
TEIIDAE	WHIPTAIL LIZARDS		
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	MSS	O
CROTALIDAE	RATTLESNAKES		
<i>Crotalus oreganus helleri</i>	southern Pacific rattlesnake	MSS	O
BIRDS (Nomenclature from American Ornithologists' Union 2015 and Unitt 2004)			
ODONTOPHORIDAE	NEW WORLD QUAIL		
<i>Callipepla californica californica</i>	California quail	MSS	O, V
ARDEIDAE	HERONS & BITTERNS		
<i>Ardea herodias</i>	great blue heron	F	O
ACCIPITRIDAE	HAWKS, KITES, & EAGLES		
<i>Accipiter cooperii</i>	Cooper's hawk	F, DEV	O
<i>Buteo jamaicensis</i>	red-tailed hawk	F	O
<i>Buteo lineatus elegans</i>	red-shouldered hawk	DEV	V
<i>Circus cyaneus hudsonius</i>	northern harrier	F, DMSS	O
FALCONIDAE	FALCONS & CARACARAS		
<i>Falco mexicanus</i>	prairie falcon	F	O
<i>Falco sparverius sparverius</i>	American kestrel	DCSS	O
CHARADRIIDAE	LAPWINGS & PLOVERS		
<i>Charadrius vociferus vociferus</i>	killdeer	DCSS, DMSS, DL	V
LARIDAE	GULLS, TERNS, & SKIMMERS		
<i>Larus californicus</i>	California gull	F	O
COLUMBIDAE	PIGEONS & DOVES		
<i>Columba livia</i>	rock dove (I)	DEV	O
<i>Streptopelia decaocto</i>	Eurasian collared-dove (I)	DEV	O, V
<i>Zenaida macroura marginella</i>	mourning dove	CSS, DCSS, MSS, DMSS	O, V
CUCULIDAE	CUCKOOS & ROADRUNNERS		
<i>Geococcyx californianus</i>	greater roadrunner	MSS	O
STRIGIDAE	TYPICAL OWLS		
<i>Athene cunicularia hypugaea</i>	western burrowing owl	DL, DMSS	O, B

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
CAPRIMULGIDAE	GOATSUCKERS		
<i>Chordeiles acutipennis texensis</i>	lesser nighthawk	DCSS	O
APODIDAE	SWIFTS		
<i>Aeronautes saxatalis</i>	white-throated swift	F	V
TROCHILIDAE	HUMMINGBIRDS		
<i>Calypte anna</i>	Anna's hummingbird	CSS, DCSS, MSS, DMSS, DL, DEV	O, V
<i>Calypte costae</i>	Costa's hummingbird	DMSS	O, V
<i>Selasphorus rufus</i>	rufous hummingbird	DCSS, DL	O, V
<i>Selasphorus sasin</i>	Allen's hummingbird	MFS, DL	O, V
PICIDAE	WOODPECKERS & SAPSUCKERS		
<i>Picoides nuttallii</i>	Nuttall's woodpecker	MFS, DEV	V
TYRANNIDAE	TYRANT FLYCATCHERS		
<i>Empidonax difficilis</i>	Pacific-slope flycatcher	MSS	V
<i>Myiarchus cinerascens cinerascens</i>	ash-throated flycatcher	MSS, DMSS	O, V
<i>Sayornis nigricans semiatra</i>	black phoebe	DEV	O, V
<i>Sayornis saya</i>	Say's phoebe	DCSS	O, V
<i>Tyrannus verticalis</i>	western kingbird	DMSS	O
<i>Tyrannus vociferans vociferans</i>	Cassin's kingbird	DEV	V
VIREONIDAE	VIREOS		
<i>Vireo bellii pusillus</i>	least Bell's vireo	MFS	O, V
CORVIDAE	CROWS, JAYS, & MAGPIES		
<i>Aphelocoma californica</i>	California scrub-jay	DCSS, DEV	O, V
<i>Corvus brachyrhynchos hesperis</i>	American crow	F, DEV, DCSS	O, V
<i>Corvus corax clarionensis</i>	common raven	F	O
ALAUDIDAE	LARKS		
<i>Eremophila alpestris actia</i>	California horned lark	DL	O
HIRUNDINIDAE	SWALLOWS		
<i>Petrochelidon pyrrhonota tachina</i>	cliff swallow	F	V
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	F	O, V

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
AEGITHALIDAE	BUSHTIT		
<i>Psaltriparus minimus melanurus</i>	bushtit	CSS, MSS	O, V
TROGLODYTIDAE	WRENS		
<i>Campylorhynchus brunneicapillus sandiegensis</i>	coastal cactus wren	MSS	O, V
<i>Salpinctes obsoletus obsoletus</i>	rock wren	DL	O, V
<i>Thryomanes bewickii</i>	Bewick's wren	CSS, DCSS, MSS, DMSS	O, V
SYLVIIDAE	GNATCATCHERS		
<i>Polioptila californica californica</i>	coastal California gnatcatcher	CSS, DCSS, MSS, DMSS, DL	O, V
TIMALIIDAE	BABLERS		
<i>Chamaea fasciata henshawi</i>	wrentit	CSS, MSS, DMSS	V
MIMIDAE	MOCKINGBIRDS & THRASHERS		
<i>Mimus polyglottos polyglottos</i>	northern mockingbird	CSS, DCSS, MSS, DMSS, DEV, DL	O, V
<i>Toxostoma redivivum redivivum</i>	California thrasher	MSS	O, V
STURNIDAE	STARLINGS & MYNAS		
<i>Sturnus vulgaris</i>	European starling (I)	DEV	O, V
PTILOGONATIDAE	SILKY FLYCATCHERS		
<i>Phainopepla nitens lepida</i>	phainopepla	MSS	V
PARULIDAE	WOOD WARBLERS		
<i>Setophaga [=Dendroica] petechia</i>	yellow warbler	MFS	O, V
<i>Oreothlypis [=Vermivora] celata</i>	orange-crowned warbler	CSS, DCSS, DMSS	V
<i>Oreothlypis [=Vermivora] virginiae</i>	Virginia's warbler	DCSS	O
<i>Cardellina [=Wilsonia] pusilla</i>	Wilson's warbler	CSS, MFS	O, V
EMBERIZIDAE	EMBERIZIDS		
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	MSS	V
<i>Melospiza melodia</i>	song sparrow	DCSS, DMSS	O, V
<i>Melozona [=Pipilo] crissalis</i>	California towhee	CSS, DCSS, DMSS, DEV	O, V
<i>Pipilo maculatus</i>	spotted towhee	MSS	V
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	CSS, DCSS, DMSS	O, V
CARDINALIDAE	CARDINALS & GROSBEAKS		
<i>Passerina caerulea salicaria</i>	blue grosbeak	MFS	O

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	Evidence of Occurrence
<i>Passerina amoena</i>	lazuli bunting	DMSS, CSS	O, V
ICTERIDAE	BLACKBIRDS & NEW WORLD ORIOLES		
<i>Icterus cucullatus nelsoni</i>	hooded oriole	DEV	V
<i>Sturnella neglecta</i>	western meadowlark	DL	O, V
FRINGILLIDAE	FINCHES		
<i>Spinus [=Carduelis] psaltria hesperophilus</i>	lesser goldfinch	DEV	V
<i>Haemorhous [=Carpodacus] mexicanus frontalis</i>	house finch	CSS, DCSS, MSS, DEV	O, V, N
MAMMALS (Nomenclature from Baker et al. 2003)			
LEPORIDAE	RABBITS & HARES		
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	DMSS, DL	O
<i>Sylvilagus audubonii</i>	desert cottontail	DMSS, DL	O
SCIURIDAE	SQUIRRELS & CHIPMUNKS		
<i>Spermophilus beecheyi</i>	California ground squirrel	CSS, DCSS, MSS, DMSS, DL	O, V, B
HETEROMYIDAE	POCKET MICE & KANGAROO RATS		
<i>Dipodomys sp.</i>	kangaroo rat	DCSS	B, T
MURIDAE	MICE & RATS		
<i>Neotoma sp.</i>	woodrat	DMSS	M
CANIDAE	CANIDS		
<i>Canis latrans</i>	coyote	MFS, DL	V, T, C
FELIDAE	CATS		
<i>Lynx rufus</i>	bobcat	CSS	S

(I) = Introduced species

HABITATS

CSS = Diegan coastal sage scrub
 DCSS = disturbed Diegan coastal sage scrub
 DEV = urban/developed
 DL = disturbed land
 DMSS = disturbed maritime succulent scrub
 F = flying overhead
 MSS = maritime succulent scrub
 MFS = mule fat scrub

EVIDENCE OF OCCURRENCE

B = burrow
 C = carcass
 M = midden
 N = nest
 O = observed
 S = scat
 T = track
 V = vocalization

ATTACHMENT 3

Sensitive Plant Species Observed or with the Potential to Occur

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
BRYOPHYTES				
POTTIACEAE				
<i>Triquetrella californica</i> coastal triquetrella	1B.2	Moss; coastal bluff scrub, coastal sage scrub; elevation below 350 feet. Known in California from fewer than 10 coastal occurrences in San Diego, Contra Costa, Del Norte, Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties. Additional populations in Oregon.	L	Although potentially suitable habitat occurs on-site, this species was not observed. Surveys were conducted during times when this species would have been apparent if present.
SPHAEROCARPACEAE				
<i>Geothallus tuberosus</i> Campbell's liverwort	1B.1	Ephemeral liverwort; mesic coastal sage scrub, vernal pools; elevation below 2,000 feet. California endemic. Known from San Diego and Riverside counties. Recently reported from Camp Pendleton, likely extirpated elsewhere in urbanized San Diego County.	N	This species was not observed during focused rare plant surveys. No natural vernal pool habitat was observed within the project parcels. Although the site contains scattered man-made depressions that support ephemeral ponding, they undergo frequent disturbance and do not support plant species adapted for vernal pools. Additionally, the site contains very few suitably mesic areas. Any potentially suitable locales appear to be disturbed by human traffic and/or invaded by non-native plant species.
<i>Sphaerocarpos drewei</i> bottle liverwort	1B.1	Ephemeral liverwort; openings in chaparral and coastal sage scrub; elevation 300–2,000 feet. California endemic. Known from San Diego and Riverside counties.	N	This species was not observed during focused rare plant surveys. The site contains very few suitably mesic areas which are preferred by this species. Any potentially suitable locales appear to be disturbed by human traffic and/or invaded by non-native plant species.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
LYCOPODS				
SELAGINELLACEAE SPIKE-MOSS FAMILY				
<i>Selaginella cinerascens</i> ashy spike-moss	4.1	Perennial rhizomatous herb; chaparral, coastal scrub; elevation 65– 2,100 feet.	O	This species was observed in an approximate 30-square-foot area in undisturbed maritime succulent scrub in an east-central portion of the project parcels.
FERNS				
ASPLENIACEAE SPLEENWORT FAMILY				
<i>Asplenium vespertinum</i> western spleenwort	4.2	Perennial herb; chaparral, cismontane woodland, coastal sage scrub; rocky habitat; blooms February–June; elevation 500–3,300 feet.	N	The project parcels lack suitably mesic areas and are outside the known range of this species. Additionally, surveys were done at times when this species likely would have been apparent if present, but it was not observed.
OPHIOGLOSSACEAE ADDER'S TONGUE FAMILY				
<i>Ophioglossum californicum</i> California adder's-tongue	4.2	Perennial herb; chaparral, vernal pools, valley and foothill grasslands; blooms December–May; elevation 200–1,000 feet.	N	The project parcels lack chaparral, vernal pool, or grasslands habitat on-site. The man- made depressions on-site undergo frequent disturbance and do not support plant species adapted for vernal pools. Additionally, surveys were done at times when this species would have been apparent if present, but it was not observed.
ANGIOSPERMS: DICOTS				
CHENOPODIACEAE GOOSEFOOT FAMILY				
<i>Aphanisma blitoides</i> aphanisma	1B.2 NE MSCP	Annual herb; coastal bluff scrub, coastal sage scrub; sandy soils; blooms March–June; elevation less than 1,000 feet.	N	This species has only been recorded at the immediate coast. Surveys were done at times when this species likely would have been apparent if present, but it was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Atriplex coulteri</i> Coulter's saltbush	1B.2	Perennial herb; coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grasslands; alkaline or clay soil; blooms March–October; elevation less than 1,500 feet.	L	Although potentially suitable habitat occurs on-site, surveys were conducted during times when this species would have been apparent if present, but it was not observed.
<i>Atriplex pacifica</i> south coast saltbush	1B.2	Annual herb; coastal bluff scrub, coastal dunes, coastal sage scrub, playas; blooms March–October; elevation less than 500 feet.	O	This species was observed mainly in southwestern portions of the project parcels, often in eroded areas associated with disturbance from vehicle activity. Three individuals were observed in the northern portion of the project parcels. In total, approximately 153 individuals were recorded within the project parcels.
APIACEAE CARROT FAMILY				
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	CE/FE 1B.1 NE VPHCP	Biennial/perennial herb; vernal pools, mesic areas of coastal sage scrub and grasslands, blooms April–June; elevation less than 2,000 feet. Known from San Diego and Riverside counties. Additional populations occur in Baja California, Mexico.	N	Although there are recent records within 0.5 mile east of the site (CDFW 2017a), the locations contain mostly intact vernal pool complexes. No natural vernal pool habitat was observed within the project parcels. The project parcels contain scattered man-made depressions that support ephemeral ponding, but they are subject to regular disturbance by off-road vehicle and bicycle use. This disturbance has likely eliminated the presence of vernal pool plant species, including this species. In addition, surveys were conducted at a time when this species likely would have been apparent if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
ASTERACEAE SUNFLOWER FAMILY				
<i>Ambrosia chenopodiifolia</i> San Diego bur-sage	2B.1	Perennial shrub; coastal sage scrub; cobbly loam soils; blooms April–June; elevation 150–500 feet. Known in California from fewer than 15 occurrences all of which are in San Diego County. Additional populations in Baja California, Mexico.	O	This species was observed in most portions of the project parcels, including areas that appear to have been disturbed by vehicle activity, and often occurs as a dominant component of maritime succulent scrub. It is estimated that approximately 16,500 individuals were observed within the project parcels.
<i>Ambrosia monogyra</i> [= <i>Hymenoclea monogyra</i>] singlewhorl burrobrush	2B.2	Perennial shrub; sandy, chaparral, Sonoran desert scrub; blooms August–November; elevation 30–1,650 feet.	N	Although a record occurs within 1 mile of the project parcels (CDFW 2017a), the parcels lack sandy chaparral or riparian habitat. Additionally, this is a conspicuous perennial species that would have been apparent if present and was not observed.
<i>Ambrosia pumila</i> San Diego ambrosia	FE 1B.1 NE MSCP	Perennial herb (rhizomatous); chaparral, coastal sage scrub, valley and foothill grasslands, creek beds, vernal pools, often in disturbed areas; blooms May–September; elevation less than 1,400 feet. Many occurrences extirpated in San Diego County.	L	Potentially suitable habitat occurs within the northern portion of the project parcels, and recent records occur within 0.5 mile of the site (CDFW 2017a). However, the records indicate that they could have been misidentified. Additionally, surveys were conducted when this species likely would have been apparent if present, but it was not observed.
<i>Artemisia palmeri</i> San Diego sagewort	4.2	Perennial deciduous shrub; coastal sage scrub, chaparral, riparian, mesic, sandy areas; blooms May–September; elevation less than 3,000 feet.	N	Potentially suitable habitat occurs along Moody Canyon in the northern portion of the project parcels. However, this is a conspicuous species that would have been apparent during the surveys if present and was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Baccharis vanessae</i> Encinitas baccharis [=Encinitas coyote brush]	CE/FT 1B.1 NE MSCP	Perennial deciduous shrub; chaparral; maritime; sandstone; blooms August–November; elevation less than 2,500 feet. San Diego County endemic. Known from fewer than 20 occurrences. Extirpated from Encinitas area.	N	This species was not observed during focused rare plant surveys. The project parcels lack sandstone soils and are outside the typical range for this species.
<i>Bahiopsis</i> [=Viguiera] <i>laciniata</i> San Diego viguiera [=San Diego County viguiera]	4.3	Perennial shrub; chaparral, coastal sage scrub; blooms February–June; elevation less than 2,500 feet.	O	This species was observed in many portions of the project parcels, especially in the eastern portion. It is estimated that approximately 600 individuals occur within the project parcels.
<i>Deinandra</i> [=Hemizonia] <i>conjugens</i> Otay tarplant	CE/FT 1B.1 NE MSCP	Annual herb; clayey soils of coastal scrub openings, valley and foothill grassland; blooms April–June, elevation less than 1,000 feet.	O	This species was observed on the north-facing slope south of Moody Canyon in the northern portion of the project parcels. On-site, this species was associated with areas of open scrub, particularly in areas previously disturbed by vehicle activity. It was often found with non-native grasses and other native annuals but mostly excluded from areas dominated by mustards or containing a high density of shrubs. Approximately 2,700 individuals were observed within the project parcels.
<i>Ericameria palmeri</i> var. <i>palmeri</i> [= <i>E. palmeri</i> ssp. <i>palmeri</i>] Palmer's goldenbush [=Palmer's ericameria]	1B.1 MSCP	Perennial evergreen shrub; chaparral coastal sage scrub, typically in mesic areas; blooms July–November; elevation less than 2,000 feet. Known in California from sixteen occurrences all of which are in San Diego County. Additional populations in Baja California, Mexico.	N	This is a conspicuous perennial species that would have been apparent during the surveys if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i> beach goldenaster	1B.1	Perennial herb; chaparral (coastal), coastal dunes, coastal scrub; blooms March–December; elevation less than 4,000 feet. Known in California from 12 occurrences presumed to be extant in San Diego County. Additional populations occur in Baja California, Mexico.	O	A total of 25 individuals of this species was recorded in sandy locales within disturbed coastal sage scrub in a central portion of the project parcels. During recent site visits on 5/15/19 and 6/18/19, only 1 beach goldenaster individual was relocated.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> graceful tarplant	4.2	Annual herb; coastal sage scrub, cismontane woodland, valley and foothill grasslands, chaparral; blooms July–November; elevation 200–3,600 feet. California endemic. Known from San Diego, Riverside, and Orange counties.	L	Potentially suitable habitat occurs within the project parcels. However, surveys were conducted when this species likely would have been apparent in a vegetative form if present, but it was not observed.
<i>Isocoma menziesii</i> var. <i>decumbens</i> decumbent goldenbush	1B.2	Perennial shrub; chaparral, coastal sage scrub; sandy soils, often in disturbed areas; blooms April–November; elevation less than 500 feet.	N	Potentially suitable habitat occurs within the project parcels. However, this is a perennial species that would have been apparent if present and was not observed.
<i>Iva hayesiana</i> San Diego marsh-elder	2B.2	Perennial herb; marshes and swamps, playas, riparian areas; blooms April–September; elevation below 1,700 feet.	N	One record of this species from 1894 is attributed to “San Ysidro” (CDFW 2017a). Potentially suitable riparian areas occur within the northern portion of the project parcels. However, this is a conspicuous perennial species that would have been apparent during the surveys if present and was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Microseris douglasii</i> ssp. <i>platycarpa</i> small-flowered microseris	4.2	Annual herb; Clay lenses on perennial grasslands, vernal pools, openings in coastal sage scrub; blooms March–May; elevation 50–3,500 feet.	O	Approximately 20 individuals of this species were observed in one location in a south-central portion of the project parcels in association with an area of disturbance due to vehicle activity.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> golden-ray pentachaeta	4.2	Annual herb; cismontane woodland, coastal sage scrub, lower montane coniferous forest, perennial grasslands; blooms March–July; elevation 260–6,100 feet.	L	The project parcels provide few marginally suitable mesic, grassy areas within coastal sage scrub. Additionally, surveys were conducted when this species would have been apparent if present, but it was not observed.
<i>Senecio aphanactis</i> chaparral ragwort [=rayless ragwort and groundsel]	2B.2	Annual herb; chaparral, cismontane woodland, coastal sage scrub; blooms January–April; elevation less than 2,700 feet.	L	Potentially suitable habitat occurs within the project parcels. However, surveys were conducted when this species would have been apparent if present, and it was not observed. Additionally, the closest known population occurs approximately 7 miles east of the project parcels (Consortium of California Herbaria 2018).
<i>Xanthisma junceum</i> [= <i>Machaeranthera juncea</i>] rush-like bristleweed	4.3	Perennial herb; chaparral, coastal sage scrub; blooms June–January; elevation 800–3,300 feet.	N	Although potentially suitable habitat occurs within the project parcels, the parcels are outside the known range of this species. Additionally, this is a perennial species that would have been apparent if present and was not observed.
BORAGINACEAE BORAGE FAMILY				
<i>Harpagonella palmeri</i> Palmer's grappplinghook	4.2	Annual herb; chaparral, coastal sage scrub, valley and foothill grasslands; clay soils; blooms March–May; elevation less than 3,200 feet. Inconspicuous and easily overlooked.	O	A total of 12 individuals of this species was recorded in two locations in the south-central portion of the project parcels in disturbed maritime succulent scrub.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Nama stenocarpum</i> mud nama	2B.2	Annual/perennial herb; marshes and swamps, lake margins, riverbanks; blooms January–July; elevation less than 1,700 feet.	N	The project parcels lack suitable habitat for this species. The nearest record is from an unknown location on Otay Mesa (CDFW 2017a).
BRASSICACEAE MUSTARD FAMILY				
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's peppergrass	4.3	Annual herb; coastal sage scrub, chaparral; blooms January–July; elevation less than 2,900 feet.	L	Potentially suitable habitat occurs within the project parcels. However, surveys were conducted when this species likely would have been apparent if present, but it was not observed. Additionally, the closest known population occurs approximately 7 miles east on Otay Mountain (Consortium of California Herbaria 2018).
CACTACEAE CACTUS FAMILY				
<i>Bergerocactus emoryi</i> golden-spined cereus	2B.2	Perennial stem succulent; closed-cone coniferous forest, chaparral, coastal sage scrub; sandy soils; blooms May–June; elevation less than 1,300 feet.	N	The nearest record for this species occurs approximately 1 mile north of the project parcels (CDFW 2017a). However, this is a perennial species that likely would have been apparent if present and was not observed.
<i>Cylindropuntia californica</i> var. <i>californica</i> [= <i>Opuntia parryi</i> var. <i>serpentina</i>] snake cholla	1B.1 NE MSCP	Perennial stem succulent; chaparral, coastal sage scrub; blooms April–May; elevation 100–500 feet.	O	A total of 8 individuals of this species was recorded in the southwestern and eastern portions of the project parcels, generally in association with undisturbed maritime succulent scrub.
<i>Ferocactus viridescens</i> San Diego barrel cactus	2B.1 MSCP	Perennial stem succulent; chaparral, coastal sage scrub, valley and foothill grasslands, vernal pools; blooms May–June; elevation less than 1,500 feet.	O	A total of 9 individuals was recorded in the southeastern portion of the project parcels in maritime succulent scrub.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
CONVOLVULACEAE MORNING-GLORY FAMILY				
<i>Convolvulus simulans</i> small-flowered morning glory	4.2	Annual herb; openings in chaparral, coastal sage scrub, valley and foothill grasslands; clay substrate; blooms March–July; elevation less than 2,300 feet.	L	The project parcels may provide suitable soil for this species, as it often occurs alongside Otay tarplant. However, as surveys were conducted during this species' growing period, this species likely would have been apparent if present but was not observed.
<i>Dichondra occidentalis</i> western dichondra	4.2	Perennial herb (rhizomatous); chaparral, cismontane woodland, coastal sage scrub, valley and foothill grasslands; blooms March–July; elevation less than 200–1,650 feet.	L	A record of this species occurs within approximately 1,000 feet of the project parcels (Consortium of California Herbaria 2018), and potentially suitable habitat occurs on-site. However, this species likely would have been apparent during the surveys if present and was not observed.
CRASSULACEAE STONECROP FAMILY				
<i>Dudleya brevifolia</i> [= <i>D. blochmaniae</i> ssp. <i>brevifolia</i>] short-leaved dudleya [short- leaved live-forever]	CE 1B.1 NE MSCP	Perennial herb; southern maritime chaparral, coastal sage scrub on Torrey sandstone; blooms in April; elevation less than 1,000 feet. San Diego County endemic. Known from fewer than five occurrences in the Del Mar and La Jolla areas.	N	This species was not observed during focused rare plant surveys, and the project parcels lack suitable Torrey sandstone soils.
<i>Dudleya variegata</i> variegated dudleya	1B.2 NE MSCP	Perennial herb; openings in chaparral, coastal sage scrub, grasslands, vernal pools; blooms May–June; elevation less than 1,900 feet.	L	Recent records of this species occur within less than 1 mile of the project parcels (CDFW 2017a). However, surveys were conducted during the blooming period of this species. Therefore, it likely would have been apparent if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
EUPHORBIACEAE SPURGE FAMILY				
<i>Euphorbia misera</i> cliff spurge	2B.2	Shrub; coastal sage scrub, maritime succulent scrub, coastal bluff scrub; blooms December–August; elevation less than 2,000 feet.	O	A total of 129 individuals of this species was recorded in the southwestern, eastern, and northern portions of the project parcels, generally in association with undisturbed maritime succulent scrub.
FABACEAE LEGUME FAMILY				
<i>Astragalus deanei</i> Dean's milkvetch	1B.1	Perennial herb; chaparral, coastal sage scrub, riparian, blooms February–May, elevation 250–2,300 feet. San Diego County endemic. Known from fewer than 15 occurrences within tributaries to Otay and Sweetwater rivers.	N	Potentially suitable habitat occurs within the project parcels. However, this species likely would have been apparent if present and was not observed.
<i>Astragalus tener</i> var. <i>titi</i> coastal dunes milkvetch	CE/FE 1B.1 NE MSCP	Annual herb; coastal bluff scrub, coastal dunes, sandy soils, mesic coastal prairie; blooms March–May; elevation less than 200 feet. California endemic. Known from fewer than 10 occurrences in San Diego (presumed extirpated), Los Angeles (presumed extirpated), and Monterey counties.	N	The project parcels lack suitable coastal dune or bluff habitat.
FAGACEAE OAK FAMILY				
<i>Quercus dumosa</i> Nuttall's scrub oak	1B.1	Perennial evergreen shrub; closed-cone coniferous forest, coastal chaparral, coastal sage scrub; sandy and clay loam soils; blooms February–March; elevation less than 1,300 feet.	N	Records of this species occur within 2 miles of the site (CDFW 2017a). However, this large perennial would have been apparent during the surveys if present and was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
GERANIACEAE GERANIUM FAMILY				
<i>California macrophylla</i> round-leaved filaree	1B.2	Annual herb; cismontane woodland, grassland; clay soils; blooms March–May; elevation less than 4,000 feet.	L	The project parcels lack suitable friable clay soil. Additionally, this species likely would have been apparent during the surveys if present and was not observed.
LAMIACEAE MINT FAMILY				
<i>Acanthomintha ilicifolia</i> San Diego thornmint	CE/FT 1B.1 NE MSCP	Annual herb; chaparral, coastal sage scrub, and grasslands; friable or broken clay soils; blooms April–June; elevation less than 3,200 feet.	N	The project parcels lack suitable friable clay soil. Additionally, as surveys were conducted during this species' blooming period, this species likely would have been apparent if present but was not observed.
<i>Pogogyne abramsii</i> San Diego mesa mint	CE/FE 1B.1 NE VPHCP	Annual herb; vernal pools; blooms April–July; elevation 300–700 feet. San Diego County endemic.	N	This species was not observed during focused rare plant surveys, and the project parcels are outside the known range of this species.
<i>Pogogyne nudiuscula</i> Otay mesa mint	CE/FE 1B.1 NE VPHCP	Annual herb; vernal pools; blooms May–July; elevation 300–820 feet. In California, known from approximately 10 occurrences in Otay Mesa in San Diego County. Additional populations occur in Baja California, Mexico.	N	Although there are recent records within 0.5 mile east of the project parcels (CDFW 2017a), the locations contain mostly intact vernal pool complexes. No natural vernal pool habitat was observed within the project parcels. The project parcels contain scattered man-made depressions that support ephemeral ponding; however, they are subject to regular disturbance by off-road vehicle and bicycle use. This disturbance has likely eliminated the presence of vernal pool plant species, including this species. In addition, surveys were conducted during this species' blooming period. Therefore, this species likely would have been apparent if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
MONTIACEAE MONTIA FAMILY				
<i>Calandrinia breweri</i> Brewer's calandrinia	4.2	Annual herb; chaparral and coastal sage scrub; sandy or loamy soils, disturbed sites and burns; blooms March–June; elevation less than 4,000 feet.	L	Although the project parcels contain coastal sage scrub, no areas appear to have burned recently which is the preferred condition for this species. Additionally, this species likely would have been apparent during the surveys if present and was not observed.
<i>Cistanthe</i> [= <i>Calandrinia</i>] <i>maritima</i> seaside cistanthe	4.2	Annual herb; coastal bluff scrub, coastal sage scrub, valley and foothill grassland; blooms February–August; elevation less than 1,000 feet.	O	This species was observed in small groups in the southwestern, southeastern, and northeastern portions of the project parcels, often occurring on open, south-facing slopes. A total of 78 individuals was recorded within the project parcels.
ONAGRACEAE EVENING-PRIMROSE FAMILY				
<i>Camissoniopsis</i> [= <i>Camissonia</i>] <i>lewisii</i> Lewis's evening primrose	3	Annual herb; coastal bluff scrub, cismontane woodland, coastal dunes, coastal sage scrub, valley and foothill grasslands; sandy or clay soils; blooms March–July; elevation less than 1,000 feet.	N	The project parcels lack coastal habitats preferred by this species.
OROBANCHACEAE BROOM-RAPE FAMILY				
<i>Dicranostegia orcuttiana</i> [= <i>Cordylanthus orcuttianus</i>] Orcutt's bird's-beak	2B.1 MSCP	Annual herb (hemiparasitic); coastal sage scrub; blooms March–September; elevation less than 1,200 feet.	L	A recent record was recorded approximately 2 miles north of the project parcels along the Otay River (CDFW 2017a), and suitable habitat occurs along Moody Canyon within the northern portion of the project parcels. However, this species likely would have been apparent during the surveys if present and was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Stemodia durantifolia</i> purple stemodia	2B.1	Perennial herb; Sonoran desert scrub, mesic; sandy soils; blooms January–December; elevation 600–1,000 feet.	N	Although Moody Canyon, which occurs in the northern portion of the project parcels, could provide potentially suitable habitat for this species, the site is slightly out of the known range of this species with the nearest known records occurring on Otay Mountain (Reiser 2001). Additionally, surveys were conducted during this species' blooming period. Therefore, this species likely would have been apparent during the surveys if present but was not observed.
POLEMONIACEAE PHLOX FAMILY				
<i>Navarretia fossalis</i> spreading navarretia [=prostrate navarretia]	FT 1B.1 NE VPHCP	Annual herb; vernal pools, marshes and swamps, chenopod scrub; blooms April–June; elevation 100–4,300 feet.	N	Although there are recent records within 0.5 mile east of the project parcels (CDFW 2017a), the locations contain mostly intact vernal pool complexes. No natural vernal pools were observed within the project parcels. The project parcels contain scattered man-made depressions that support ephemeral ponding, but they are subject to regular disturbance by off-road vehicle and bicycle use. This disturbance has likely eliminated or precluded the presence of vernal pool plant species, including this species. In addition, surveys were conducted during this species' blooming period. Therefore, this species likely would have been apparent if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
POLYGONACEAE BUCKWHEAT FAMILY				
<i>Chorizanthe polygonoides</i> var. <i>longispina</i> long-spined spineflower	1B.2	Annual herb; clay soils; openings in chaparral, coastal sage scrub, near vernal pools and montane meadows, April–July; elevation 100–5,000 feet.	N	The project parcels lack undisturbed open areas with clay soil. The scattered man-made depressions on-site appear to undergo regular disturbance and do not support plant species adapted for vernal pools. Additionally, surveys were conducted during this species' blooming period. Therefore, this species likely would have been apparent during the surveys if present but was not observed.
<i>Mucronea californica</i> [= <i>Chorizanthe californica</i> var. <i>suksdorfii</i>] California spineflower	4.2	Annual herb; coastal sage scrub, chaparral, dunes, grasslands, cismontane woodlands, very sandy microhabitats; blooms March–August; elevation less than 4,600 feet. California endemic. Known from San Diego, Riverside, Los Angeles, Santa Barbara, San Bernardino, San Luis Obispo, Ventura, Kern, and Monterey counties.	N	Although small portions of the project parcels contain sandy soil, these areas are highly disturbed and unlikely to support this species. Additionally, this species is only known from the immediate coast in San Diego County and would have been apparent during the surveys if present.
<i>Nemacaulis denudata</i> var. <i>gracilis</i> slender woolly-heads	2B.2	Annual herb; coastal and desert dunes, Sonoran desert scrub; blooms March–May; elevation 170–1,300 feet.	N	One record from 1903 documents this species in the vicinity of San Ysidro and the Tijuana River (CDFW 2017a). The project parcels lack suitable coastal dune or desert scrub habitat. In addition, surveys were conducted during this species' blooming period. Therefore, this species likely would have been apparent if present but was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
RANUNCULACEAE BUTTERCUP FAMILY				
<i>Myosurus minimus</i> little mousetail	3.1	Annual herb; vernal pools, perennial grasslands; blooms March–June; elevation 70–2,100 feet.	N	Although there are recent records within 0.5 mile east of the project parcels (CDFW 2017a), the locations contain mostly intact vernal pool complexes. No vernal pools were observed within the project parcels. The project parcels contain scattered man-made depressions that support ephemeral ponding, but they are subject to regular disturbance by off-road vehicle and bicycle use. This disturbance has likely eliminated or precluded the presence of vernal pool plant species, including this species. As surveys were conducted during this species' blooming period, it likely would have been apparent if present but was not observed.
RHAMNACEAE BUCKTHORN FAMILY				
<i>Adolphia californica</i> California adolphia	2B.1	Perennial deciduous shrub; Diegan coastal sage scrub and chaparral; clay soils; blooms December–May; elevation 100–2,500 feet.	N	Records of this species occur within 0.5 mile of the project parcels (CDFW 2017a), and the parcels provide potentially suitable habitat. However, this perennial shrub likely would have been apparent during the surveys if present and was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
ROSACEAE ROSE FAMILY				
<i>Rosa minutifolia</i> small-leaved rose	CE 2B.1 MSCP	Perennial deciduous shrub; coastal sage scrub; blooms January–June; elevation 500–550 feet. Known in the U.S. from only one occurrence on Otay Mesa in San Diego county. This entire occurrence was transplanted to a new preserved location on Otay Mesa for mitigation in 1997. Additional populations occur in Baja California, Mexico.	N	This woody shrub would have been apparent during the surveys if present and was not observed.
<i>Lycium californicum</i> California box-thorn	4.2	Perennial shrub; coastal bluff scrub, coastal sage scrub; blooms March–August; elevation less than 500 feet.	O	A total of 23 individuals of this species was recorded in the southwestern, northwestern, northeastern, and central portions of the project parcels, mostly in association with undisturbed maritime succulent scrub.
ANGIOSPERMS: MONOCOTS				
AGAVACEAE AGAVE FAMILY				
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	2B.1 NE MSCP	Perennial leaf succulent; coastal bluff scrub, coastal sage scrub, maritime succulent scrub; blooms September–May; elevation less than 400 feet.	N	This conspicuous perennial species likely would have been apparent during the surveys if present and was not observed.
POACEAE GRASS FAMILY				
<i>Hordeum intercedens</i> bobtail barley [=vernal barley]	3.2	Annual herb; coastal dunes, coastal sage scrub, valley and foothill grasslands, vernal pools; blooms March–June; elevation less than 3,300 feet.	N	The project parcels lack vernal pools, which are a preferred habitat of this species. The scattered man-made depressions on-site undergo regular disturbance and do not support plant species adapted to vernal pools. Additionally, surveys were done at times when this species would have been apparent, and it was not observed.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Species' <i>Scientific Name</i> Common Name	Listing Status	Habitat Requirements/ Blooming Period	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
<i>Orcuttia californica</i> California Orcutt grass	CE/FE 1B.1 NE VPHCP	Annual herb; vernal pools; blooms April–August; elevation 50–2,200 feet.	N	Although there are recent records within 0.5 mile east of the project parcels (CDFW 2017a), the locations contain mostly intact vernal pool complexes. No vernal pools were observed within the project parcels. The project parcels contain scattered man-made depressions that support ephemeral ponding, but they are subject to regular disturbance by off-road vehicle and bicycle use. This disturbance has likely eliminated or precluded the presence of vernal pool plant species, including this species.
<i>Stipa diegoensis</i> [= <i>Achnatherum diegoense</i>] San Diego needle grass	4.2	Perennial herb; rocky soils, chaparral, coastal sage scrub, often near streams; blooms February–June; elevation less than 2,600 feet.	N	Recent records of this species occur within approximately 1,000 feet of the site (Consortium of California Herbaria 2018), and the site contains suitable coastal sage scrub near a water channel. However, this perennial species would have been apparent during the surveys if present and was not observed.
THEMIDACEAE BRODIAEA FAMILY				
<i>Bloomeria</i> [= <i>Muilla</i>] <i>clevelandii</i> San Diego goldenstar	1B.1 MSCP	Perennial herb (bulbiferous); chaparral, coastal sage scrub, valley and foothill grassland, vernal pools; clay soils; blooms May; elevation 170– 1,500 feet.	N	As surveys were conducted during the blooming period for this species, it likely would have been apparent if present.
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	1B.1 MSCP	Perennial herb (bulbiferous); closed cone coniferous forest, chaparral, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay soil; blooms May–July; elevation less than 5,600 feet.	N	As surveys were conducted during the blooming period for this species, it likely would have been apparent if present.

Attachment 3
Sensitive Plant Species
Observed or with the Potential for Occurrence

STATUS CODES

FEDERAL CANDIDATES AND LISTED PLANTS

FE = Federally listed endangered
FT = Federally listed threatened

STATE LISTED PLANTS

CE = State listed endangered

CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)

1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).

CITY OF SAN DIEGO

NE = Narrow endemic
MSCP = Multiple Species Conservation Program covered species
VPHCP = Vernal Pool Habitat Conservation Plan covered species

DETECTED/POTENTIAL TO OCCUR

O = observed
N = not expected
L = low potential
M = moderate potential
H = high potential

ATTACHMENT 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
INVERTEBRATES (Nomenclature from Eriksen and Belk 1999; San Diego Natural History Museum 2002)				
BRANCHINECTIDAE FAIRY SHRIMP				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Vernal pools.	N	This species was not detected during focused surveys conducted during the 2016-2017 wet season or 2017 dry season.
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE, VPHCP, *	Vernal pools.	O	This species has been reported previously within 1 mile of the project parcels (CDFW 2017a, USFWS 2017) and was observed within an artificial ditch in a stand of disturbed Diegan coastal sage scrub near the western edge of the project parcels.
STREPTOCEPHALIDAE FAIRY SHRIMP				
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE, VPHCP, *	Vernal pools.	N	This species has been reported previously within 1 mile of the project parcels (CDFW 2017a). However, this species was not detected during focused branchiopod surveys conducted during the 2016-2017 wet season or dry season sampling conducted in 2017. In addition, as the observed on-site ponding duration in an above-average rainfall year (2016-2017) was not sufficient to support this species, it is unlikely that any of the depressions within the project parcels provide a favorable environment for this species.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
HESPERIIDAE SKIPPERS				
Harbison dun skipper <i>Euphyes vestris harbisoni</i>	*	Woodland meadows, bogs, grasslands. Host plant <i>Carex spissa</i> . Adult emergence late May–early July.	N	No suitable habitat or host plant occurs on the subject parcels.
LYCAENIDAE BLUES, COPPERS, & HAIRSTREAKS				
Hermes copper <i>Lycaena hermes</i>	FC, *	Chaparral and coastal sage scrub where host plant <i>Rhamnus crocea</i> occurs. Adult emergence late May to July.	N	One individual <i>Rhamnus crocea</i> was observed in maritime succulent scrub; however, this plant species is not present in sufficient numbers to support a population of Hermes copper.
NYPHALIDAE BRUSH-FOOTED BUTTERFLIES				
Quino checkerspot <i>Euphydryas editha quino</i>	FE	Open, dry areas in foothills, mesas, lake margins. Larval host plant <i>Plantago erecta</i> . Adult emergence mid-January through April.	L	This species has been observed previously within 2 miles of the project parcels (RECON 2005), and suitable habitat with larval host plant dot-seed plantain was observed within the project parcels. However, this species was not observed during presence/absence Quino checkerspot butterfly surveys conducted in 2017.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
AMPHIBIANS (Nomenclature from Crother et al. 2012)				
PELOBATIDAE SPADEFOOT TOADS				
Western spadefoot <i>Spea hammondi</i>	SSC	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	L	This species has been reported previously within 1 mile of the project parcels (County of San Diego 2017). Although the project parcels contain scattered depressions that provide ephemeral water sources for breeding, no tadpoles were observed on-site during 2016-2017 wet season fairy shrimp surveys, which were conducted in an above-average rainfall year.
REPTILES (Nomenclature from Crother et al. 2012)				
San Diego banded gecko <i>Coleonyx variegatus abbotti</i>	SSC	Granite and rocky outcrops in coastal sage scrub and chaparral. Most often found in coastal foothills between 500 and 3,000 feet in elevation.	N	Although the project parcels contain coastal sage scrub, no suitable rocky outcrops are present.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
IGUANIDAE IGUANID LIZARDS				
Coast horned lizard <i>Phrynosoma blainvillii</i> [= <i>P. coronatum</i> coastal population]	SSC, MSCP, *	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	L	Moderately suitable habitat is present within the project parcels, and a large expanse of highly suitable habitat occurs off-site to the east. This species has been reported previously within 1 mile north of the project parcels (CDFW 2017a). However, no harvester ants (a primary food source for this species) were observed within the project parcels. In addition, the high number of biological surveys conducted in spring and summer of 2017 for this project would have likely resulted in a detection of this species, if present.
SCINCIDAE SKINKS				
Coronado skink <i>Plestiodon</i> [= <i>Eumeces</i>] <i>skiltonianus</i> <i>interparietalis</i>	SSC	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	L	This species has been observed previously within 2 miles northeast of the project parcels adjacent to Dennery Canyon (RECON 2005). However, potentially suitable habitats within the project parcels are somewhat splintered and disturbed.
TEIIDAE WHIPTAIL LIZARDS				
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra beldingi</i>	SSC, MSCP	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	O	This species has been reported previously within 1 mile of the project parcels (CDFW 2017a) and was repeatedly observed within the project parcels.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	SSC	Coastal sage scrub, chaparral, woodlands, and streamsides where plants are sparsely distributed.	L	Suitable coastal sage scrub habitat with a mix of shrubby and open areas occurs within the project parcels. However, this species was not observed during 2016 or 2017 surveys. The nearest record of this species is on eastern Otay Mesa, approximately 7.6 miles to the east (CDFW 2017a).
BOIDAE BOAS				
Rosy boa <i>Lichanura trivirgata roseofusca</i>	*	Coastal sage scrub, chaparral in inland and desert locales with rocky soils.	L	Only one record of this species occurs within the vicinity of the project parcels: a 1923 collection specimen found "1 mi S of San Ysidro" (County of San Diego 2017). Moderately suitable habitat occurs in the subject parcels; however, the high level of disturbance from recreational users and off-highway vehicle access greatly reduces the habitat value.
COLUBRIDAE COLUBRID SNAKES				
California glossy snake <i>Arizona elegans occidentalis</i>	SSC	Occurs in desert and other arid habitats, particularly where sandy substrates are present. In western San Diego County, one population is known from El Monte Valley.	N	Only one record of this species occurs in the project vicinity: a 1916 record from near present-day Interstate 5 at the international border (CDFW 2017a). This species is not presently known from this part of the San Diego County.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Baja California coachwhip <i>Coluber fuliginosus</i>	SSC	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub.	H	Although only one 1941 CNDDDB record of this species exists from Otay Mesa (CDFW 2017a), this species was observed in 2017 within one mile northeast of the project parcels (San Diego Natural History Museum 2017). Potentially suitable coastal sage scrub and grassy areas are present within the project parcels, including the project impact area.
San Diego ring-necked snake <i>Diadophis punctatus similis</i>	*	Rocky areas in wet locales, such as swamps, damp forests, or riparian woodlands.	L	This species is known from a 1939 collection specimen from San Ysidro, although no detailed information exists (County of San Diego 2017). Riparian areas are extremely limited and largely unsuitable within the project parcels.
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	SSC	Grasslands, chaparral, sagebrush, desert scrub. Found in sandy and rocky areas.	L	Marginally suitable habitat is present within the coastal sage scrub and maritime succulent scrub; however, current and historic disturbance have significantly reduced the habitat quality.
CROTALIDAE RATTLESNAKES				
Red diamond rattlesnake <i>Crotalus ruber</i>	SSC	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields. Typically found in areas with large rock piles or outcrops.	L	Moderately suitable habitat for this species is present within the coastal sage scrub and maritime succulent scrub. However, current and historic disturbance have significantly reduced the habitat quality, and no large rock outcrops are present on-site.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
BIRDS (Nomenclature from American Ornithologists' Union 2015 and Unitt 2004)				
ARDEIDAE HERONS & BITTERNS				
Great blue heron (rookery site) <i>Ardea herodias</i>	*	Bays, lagoons, ponds, lakes. Non-breeding year-round visitor, some localized breeding.	O (fly-over) N (nesting)	This species was observed flying over the project parcels, and this species may rarely utilize the site for foraging. However, no suitable nesting habitat is present within the project parcels.
ACCIPITRIDAE HAWKS, KITES, & EAGLES				
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	WL, MSCP	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	O	This species was observed during one survey visit in 2017. This species may forage within the project parcels, as potentially suitable nest sites (e.g., mature eucalyptus trees and other ornamental tree species) are available in the adjacent development. However, the project parcels lack suitable mature trees for nest sites.
Sharp-shinned hawk (nesting) <i>Accipiter striatus velox</i>	WL	Open deciduous woodlands, forests, edges, parks, residential areas. Migrant and winter visitor.	L (foraging) N (nesting)	The project parcels provide potentially suitable foraging grounds for this uncommon winter visitor.
Ferruginous hawk (wintering) <i>Buteo regalis</i>	WL, MSCP	Require large foraging areas. Grasslands, agricultural fields. Uncommon winter resident.	L (foraging) N (nesting)	The project parcels provide potentially suitable foraging grounds for this uncommon winter visitor.
Northern harrier (nesting) <i>Circus cyaneus hudsonius</i>	SSC, MSCP	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.	O	This species was observed repeatedly flying over and foraging within the project parcels. The project parcels provide potentially suitable nesting habitat.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
White-tailed kite (nesting) <i>Elanus leucurus</i>	CFP, *	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	M (foraging) N (nesting)	This species has been observed previously within 2 miles northeast of the project parcels (RECON 2005). The project parcels provide potentially suitable foraging habitat but lack suitable nest sites such as oaks or other mature trees with dense canopy.
FALCONIDAE FALCONS & CARACARAS				
Merlin <i>Falco columbarius</i>	WL	Rare winter visitor. Grasslands, agricultural fields, occasionally mud flats.	L (foraging) N (nesting)	The project parcels provide potentially suitable foraging grounds for this rare winter visitor.
Prairie falcon (nesting) <i>Falco mexicanus</i>	WL	Grassland, agricultural fields, desert scrub. Uncommon winter resident. Rare breeding resident.	O (fly-over) L (nesting)	This species was observed flying over the project parcels on two occasions. The project parcels provide suitable foraging habitat and abundant prey items (i.e., California ground squirrels). However, the project parcels lack suitable cliff ledges or bluffs for nesting. Only the tall ornamental tree species within the adjacent development have potential to provide nesting habitat, as this species has been known to reuse stick nests of hawks or ravens (Unitt 2004).
LARIDAE GULLS, TERNS, & SKIMMERS				
California gull (nesting colony) <i>Larus californicus</i>	WL	Common in San Diego County as a winter species, coastal waters, lakes, ponds, garbage dumps.	O (fly-over) N (nesting)	This species was observed flying over the project parcels and may occasionally visit the site to forage. However, the project parcels provide no suitable nesting habitat, and this species is only a winter visitor to San Diego County.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
STRIGIDAE TYPICAL OWLS				
Western burrowing owl (burrow sites) <i>Athene cunicularia hypugaea</i>	SSC, MSCP	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	O	This species has previously been reported within 1 mile of the project parcels (County of San Diego 2017) and was observed within the central portion of the project parcels. Suitable breeding habitat occurs within the project parcels. However, based on 2017 breeding season survey results, this species currently appears to be utilizing the site as wintering habitat.
LANIIDAE SHRIKES				
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC	Open foraging areas near scattered bushes and low trees.	L	This species has been observed previously within 2 miles northeast of the project parcels (RECON 2005). The project parcels, including the project impact area, provide potentially suitable nesting and foraging habitat due to the presence of dense thickets of thorny shrubs and cactus for nesting and adjacent open habitat for foraging. However, this species was not observed during the 2016 and 2017 surveys.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
VIREONIDAE VIREOS				
Least Bell's vireo (nesting) <i>Vireo bellii pusillus</i>	FE, CE, MSCP	Willow riparian woodlands. Summer resident.	O	This species has previously been reported within 1 mile of the project parcels (CDFW 2017a) and was observed only once within project parcels during focused surveys and once incidentally during general surveys in the adjacent survey buffer. Marginally suitable breeding habitat (riparian vegetation) occurs within Moody Canyon, located in the northern portion of the project parcels; outside of the project impact area. However, based on 2017 focused survey results, this species only appears to be utilizing the site during migration.
ALAUDIDAE LARKS				
California horned lark <i>Eremophila alpestris actia</i>	WL	Sandy shores, mesas, disturbed areas, grasslands, agricultural lands, sparse creosote bush scrub.	O	This species was observed on one occasion foraging within disturbed land in the project parcels. The open areas of disturbed land within the central portion of the project parcels and project impact area provide potentially suitable nesting habitat for this species. However, the suitability of this habitat may be negatively affected by the common occurrence of pedestrian and off-road vehicle activity.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
TROGLODYTIDAE WRENS				
Coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	SSC, MSCP, *	Maritime succulent scrub, coastal sage scrub with <i>Opuntia</i> thickets. Rare localized resident.	M	This species has previously been reported within 1 mile of the project parcels (CDFW 2017a, County of San Diego 2017) and was observed in the adjacent survey buffer north of the project parcels boundary during focused cactus wren surveys. The maritime succulent scrub at the northern edge of the project parcels supports cactus patches suitable for nesting; however, only the cactus-dominated stands of maritime succulent scrub within the southeastern and southwestern portion of the project impact area have potential to support this species.
SYLVIIDAE GNATCATCHERS				
Coastal California gnatcatcher <i>Polioptila californica californica</i>	FT, SSC, MSCP	Coastal sage scrub, maritime succulent scrub. Resident.	O	This species has previously been reported within 1 mile of the project parcels (CDFW 2017a, County of San Diego 2017, USFWS 2017) and was frequently observed during general and focused surveys within suitable habitat throughout the project parcels. Based on 2017 focused survey results, the project parcels and surrounding 300-foot buffer support a minimum of six nesting pairs; however, while the project impact area supports suitable coastal sage scrub habitat, the primary use areas were located outside of the project impact area.

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Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
PARULIDAE WOOD WARBLERS				
Yellow warbler (nesting) <i>Setophaga [=Dendroica] petechia</i>	SSC	Breeding restricted to riparian woodland. Spring and fall migrant, localized summer resident, rare winter visitor.	O N (nesting)	This species was observed on one occasion moving west through the mule fat scrub in the northern portion of the project parcels and the ornamental trees just northwest of the project parcels.
Yellow-breasted chat (nesting) <i>Icteria virens auricollis</i>	SSC	Dense riparian woodland. Localized summer resident.	N	No suitable dense riparian habitats occur within the project parcels, and this species was not detected during focused surveys for least bell's vireo.
Virginia's warbler (nesting) <i>Oreothlypis virginiae</i>	WL	Great Basin and Rocky Mountains, rare vagrant to coastal southern California	O N (nesting)	This species was observed on one occasion in the disturbed land in the southern portion of the project parcels. This species is a rare vagrant in San Diego County and is not expected to nest within the project parcels.
EMBERIZIDAE EMBERIZIDS				
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	WL, MSCP	Coastal sage scrub, chaparral, grassland. Resident.	H	This species has been reported previously within one mile of the project parcels (County of San Diego 2017) and was repeatedly detected within maritime succulent scrub in the survey buffer adjacent to the eastern boundary of the project parcels. The open stands of Diegan coastal sage scrub and maritime succulent scrub on south-facing slopes in the western, southern, and eastern portions of the project parcels, including the project impact area, provide potentially suitable nesting habitat for this species.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Grasshopper sparrow (nesting) <i>Ammodramus savannarum perpallidus</i>	SSC	Tall grass areas. Localized summer resident, rare in winter.	N	Suitable tall grasslands do not occur within the project parcels due to the invasion of non-native annual species such as garland daisy.
Bell's sage sparrow <i>Artemisiospiza [=Amphispiza] belli belli</i>	WL	Chaparral, coastal sage scrub. Localized resident.	L	This species has been reported previously within one mile of the project parcels (County of San Diego 2017). The open stands of maritime succulent scrub within and adjacent to the project parcels provide potentially suitable nesting habitat. However, the suitability of this habitat may be negatively affected by the common occurrence of pedestrian and off-road vehicle activity.
MAMMALS (Nomenclature from Baker et al. 2003)				
VESPERTILIONIDAE VESPER BATS				
Pallid bat <i>Antrozous pallidus</i>	SSC	Deserts, canyons, and grasslands below 6,000 feet. Coniferous forests above 6,000 feet. Most abundant in desert habitats. Day and night roosts are located in crevices in rock outcrops, caves, mines, and trees. Tree roosts are primarily in cavities on redwoods, sequoias, oaks, riparian trees, and fruit trees, as well under exfoliating bark.	N	No suitable roosting habitat is present within the project parcels. Arthropods are present for foraging, but much of the habitat has been historically degraded by human activities. Lack of permanent water source on site further reduces habitat quality.

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Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Pale big-eared bat <i>Corynorhinus townsendii pallescens</i>	SSC	Caves, mines, buildings. Found in a variety of habitats, arid and mesic. Individual or colonial. Extremely sensitive to disturbance	N	Suitable roosting habitat is not present within the project parcels, and suitable foraging habitat is limited.
Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i>	SSC	Day roosts in small groups, primarily in caves and mines. Very sensitive to human disturbance and may abandon roosts following human disruption. Night roosts may occur in caves, mines, or buildings. Found in a variety of habitats, arid and mesic. Primarily feeds on moths.	N	No caves or mines are present on site. Little potential foraging habitat is present on site that would be expected to attract this species. Foraging more likely to occur in longer-standing water that attracts a high density of moths and other invertebrates.
Spotted bat <i>Euderma maculatum</i>	SSC	Wide range of habitats, including desert scrubs, sub-alpine meadows, conifer forest, pinon-juniper woodland, canyon bottoms, riparian habitats, and pastures. Most often found in rough, rocky, semiarid, or arid terrain. Presence strongly tied to prominent rock features for roosting. Known from only four records in San Diego County.	N	This species is mostly reported from the eastern half of California. No suitable prominent rock features are present on-site.

Attachment 4
Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Western red bat <i>Lasiurus blossevillii</i>	SSC	Generally associated with riparian habitats, especially willows, cottonwoods, and sycamores. Roosts alone in foliage of trees and large shrubs in habitats bordering forests, rivers, cultivated fields, and urban areas.	N	Marginally suitable trees for roosting are present in the landscaped areas of the adjacent residences and at the school to the north; however, no suitable roosting trees are present on-site. The San Diego Natural History Museum has a 1946 record of this species from approximately 0.4 mile southwest of the project site, but there no other records in the vicinity (County of San Diego 2017).
Yuma myotis <i>Myotis yumanensis</i>	*	Occurs in all Pacific states, and extends east to extreme western Montana and central Texas. Found in riparian, scrublands, deserts, and forests, where there is a permanent water source.	N	SanBIOS has a 1994 record of this species from approximately 0.5 mile southwest of the project parcels (County of San Diego 2017); however, no suitable roosting or foraging habitat occurs within the project site.
MOLOSSIDAE FREE-TAILED BATS				
Western mastiff bat <i>Eumops perotis californicus</i>	SSC	Occurs in desert scrub, chaparral, oak woodland, ponderosa pine and mixed conifer forests, and meadows. Strongly tied to areas with cliffs and other significant rock features for roosting.	N	No suitable roosting habitat is present within the project parcels, and suitable roosting habitat is limited.
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	SSC	Normally roost in crevice in rocks, slopes, cliffs. Lower elevations in San Diego and Imperial Counties. Colonial. Leave roosts well after dark.	N	No suitable roosting habitat is present within the project parcels, and suitable foraging habitat is limited.

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Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Big free-tailed bat <i>Nyctinomops macrotis</i>	SSC	Rugged, rocky terrain. Roost in crevices, buildings, caves, tree holes. Forages over stock ponds and other water bodies. Very rare in San Diego County. Colonial. Migratory.	N	No suitable roosting habitat is present within the project parcels, and suitable foraging habitat is absent.
LEPORIDAE RABBITS & HARES				
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC	Open areas of scrub, grasslands, agricultural fields.	O	This species was observed numerous times within the project parcels. The project parcels provides suitable habitat for this species, as the majority of the habitat is open or patchy in density and connected to a large expanse of undeveloped land to the east.
HETEROMYIDAE POCKET MICE & KANGAROO RATS				
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	SSC	Occurs along the edges of chaparral, sage scrub, and grassland in areas with gravelly soil and sunny openings. Most common in inland valleys and foothills throughout San Diego County and on the coast in North County. Less common on the coast in the southern part of the county.	N	While sage scrub with sunny opening occurs on site, suitable gravelly soil is absent.

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Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	SSC	Found throughout San Diego County, with the exception of flat lowlands in Anza Borrego Desert. Prefers shrubby habitats with loose and sandy soils, often with rock outcrops.	M	This species has been observed previously within 2 miles northeast of the project parcels (RECON 2005). Coastal sage scrub on-site, including the project impact area, is suitable, though frequent disturbance within the project parcels may reduce habitat value for this species.
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE, CT	Grassland, open areas. Within San Diego County, known from several scattered locations in the northern portion of the County.	N	There are no records of this species in the southern portion of San Diego County. Suitable level grassland habitat is not present within the project parcels.
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	FE, SSC	Open coastal sage scrub; fine, alluvial sands near ocean. Within San Diego County, known primarily from several locations on Camp Pendleton. Historic population from the Tijuana River Valley is believed extirpated.	N	Potentially suitable habitat is present within the project parcels. However, the extant populations of this species in San Diego County are limited to northern, coastal sites (Tremor et al. 2017).

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Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
MURIDAE OLD WORLD MICE & RATS				
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	SSC	Coastal sage scrub and chaparral, where there are large rock outcrops. Middens generally made within rocky ledges or large cracks, or beneath large shrubs or cactus. Widespread throughout San Diego County, though more common in the eastern portion of the county, where habitat is less disturbed.	M	This species has been observed previously within 2 miles northeast of the project parcels (RECON 2005). Although the project parcels lack large rock outcrops preferred by this species for midden sites, the parcels provide suitable scrub habitat with cactus stands, within the project impact area.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	SSC	Found in grasslands or open coastal sage scrub west of the mountains, or in alluvial fans or desert scrub east of the mountains.	N	Open coastal sage scrub is present within the project parcels; however, coastal records of this species (including in the Tijuana river valley) are from populations believed to be extirpated (Tremor et al. 2017).
MUSTELIDAE WEASELS, OTTERS, & BADGERS				
American badger <i>Taxidea taxus</i>	SSC, MSCP,	Grasslands, Sonoran desert scrub. Generally only occurs in large areas of undeveloped land,	N	The project parcels are located adjacent to a large developed area, and habitat on-site is too frequently disturbed to be suitable for this species.

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Sensitive Wildlife Species Occurring or With the Potential to Occur

Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
FELIDAE CATS				
Mountain lion <i>Puma concolor</i>	CFP, MSCP	Widespread; occurs in many habitats, provided there is sufficient cover. Found primarily in undeveloped areas, as well as less-densely populated rural communities and suburbs. Generally avoids areas of dense urban development.	L	Mule deer, this species' preferred prey, have moderate potential to occur (see below), and the project parcels occur at the western edge of a large expanse of undeveloped land. However, the project parcels do not provide regional connectivity. In addition, due to the project parcels' adjacency to urban development, they are subjected to frequent human disturbance, which may deter this species from using the site.
CERVIDAE DEER				
Southern mule deer <i>Odocoileus hemionus fuliginata</i>	MSCP	Many habitats.	M	The project parcels are located at the western end of a large swath of suitable habitat. Frequent human disturbance may reduce habitat value, but this species may be expected to occasionally use the project site, including the project impact area for foraging.

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Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected/ Potential to Occur On Site	Basis for Determination of Occurrence Potential
STATUS CODES				
<u>Listed/Proposed</u>				
FE	=	Listed as endangered by the federal government		
FT	=	Listed as threatened by the federal government		
CE	=	Listed as endangered by the state of California		
CT	=	Listed as threatened by the state of California		
<u>Other</u>				
CFP	=	California fully protected species		
SSC	=	California Department of Fish and Wildlife species of special concern		
FC	=	Federal candidate for listing (taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list as endangered or threatened; development and publication of proposed rules for these taxa are anticipated)		
WL	=	California Department of Fish and Wildlife watch list species		
MSCP	=	City and County of San Diego Multiple Species Conservation Program covered species		
VPHCP	=	City of San Diego Vernal Pool Habitat Conservation Plan		
PSE	=	Proposed as endangered by the state of California		
*	=	Taxa listed with an asterisk fall into one or more of the following categories: <ul style="list-style-type: none"> • Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines • Taxa that are biologically rare, very restricted in distribution, or declining throughout their range • Population(s) in California that may be peripheral to the major portion of a taxon's range but which are threatened with extirpation within California • Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands) 		
DETECTED/POTENTIAL TO OCCUR				
O	=	observed		
N	=	not expected		
L	=	low potential		
M	=	moderate potential		
H	=	high potential		