HELIX
Environmental Planning

Brightwater Ranch Biological Open Space Preserve

Resource Management Plan

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1.0 INTRODUCTION

This Resource Management Plan (RMP) has been prepared for the proposed 41.8-acre Brightwater Ranch Biological Open Space (BOS) Preserve in accordance with mitigation requirements identified in the project's biological technical report (HELIX Environmental Planning, Inc. [HELIX] 2015). This RMP provides direction for the permanent preservation and management of the BOS preserve in accordance with County of San Diego (County) regulations.

1.1 PURPOSE OF BIOLOGICAL RESOURCES MANAGEMENT PLAN

The purpose of this RMP is to provide guidance in which to ensure preservation of native habitats and long-term management of the BOS. This RMP:

1. Guides management of vegetation communities and habitats, plant and animal species, and programs described herein to protect and, where appropriate, enhance biological resources;
2. Serves as a descriptive inventory of vegetation communities and plant and animal species that occur within the BOS;
3. Establishes the baseline conditions from which adaptive management will be determined and success will be measured; and
4. Provides an overview of the operation, maintenance, administrative, and personnel requirements to implement management goals, and serves as a budget planning aid.

The Brightwater Ranch project site consists of an approximately 76.2-acre property (project site or site) in the unincorporated community of Lakeside, San Diego County, California. The project consists of a residential development with 66 single-family dwelling units, four Home Owner's Association (HOA) lots, a water utility line, 16-foot-wide access road, and 24-foot-wide easement over the access road and underlying utility line in the southern portions of the site, and approximately 41.8 acres of BOS. Approximately 1.2 acres of the property constitute an existing access road and water tank parcel that are not a part of the project and occur outside of the BOS.

A total of 33.8 acres of the 76.2-acre project site will be considered impacted. Of the 33.8 acres, 5.1 acres are considered impact neutral due to the presence of existing brush management allowances (i.e., areas within 100 feet of existing inhabitable residential structures that immediately abut portions of the project site), leaving a remaining balance of 28.7 acres of impacts. Of the 28.7 acres, 27.1 acres of impact would occur to Diegan coastal sage scrub (Tier II), 0.05 acre would occur to non-native grassland (Tier III), 1.3 acres would occur to disturbed habitat (Tier IV), and less than 0.1 acre would occur to both non-native vegetation (Tier IV) and developed land (Tier IV).

Project implementation would result in impacts to a single sensitive plant species: San Diego sunflower (*Bahiopsis laciniata*), a County List D species. Project impacts would be limited to three of the approximately 507 individuals of San Diego sunflower that occur on site.

Project implementation would directly impact Diegan coastal sage scrub habitat at locations where coastal California gnatcatcher (*Polioptila californica californica*), a County Group 1 animal species, has been confirmed during protocol-level surveys, including most recently in 2014. The project would also impact suitable habitat for three other County Group 1 animal species observed temporarily using habitat or flying over the project site during 2014 biological surveys: Cooper's hawk (*Accipiter cooperi*), turkey vulture (*Cathartes aura*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*).

Preservation of 41.8 acres on site will permanently protect high quality habitat suitable for numerous sensitive species.

1.1.1 Conditions and/or Mitigation Measures that Require an RMP

This RMP satisfies County requirements for public review of the project pursuant to the California Environmental Quality Act and conditions that will be part of the Resolution of Approval. Project conditions requiring an RMP include mitigation for impacts to Diegan coastal sage scrub, non-native grassland, and sensitive animals (coastal California gnatcatcher, Cooper's hawk, turkey vulture, and southern California rufous-crowned sparrow).

1.2 IMPLEMENTATION

1.2.1 Resource Manager Qualifications and Responsible Parties

Proposed Resource Manager: The project applicant will contract with a qualified entity to serve as Resource Manager. Two potential options identified at this time include the San Diego Habitat Conservancy and the Center for Natural Lands Management.

The County Planning & Development Services (PDS) and project applicant will jointly approve the selection of a Resource Manager, who must be an established conservancy group or land manager, County Department of Parks and Recreation, County Department of Public Works, a federal or state wildlife agency, or a federal land manager. Additionally, the Resource Manager must possess the following qualifications:

- Ability to carry out habitat monitoring or mitigation activities;
- Fiscal stability, including preparation of an operational budget (using an appropriate analysis technique) for the management of this RMP;
- Have at least one staff member with a biology, ecology, or wildlife management degree, or have a Memorandum of Understanding (MOU) with a qualified person with such a degree; and
- Experience with habitat management in southern California.

The BOS and/or conservation easements must be recorded prior to initiation of project impacts. Fee title of BOS must be transferred to the Resource Manager prior to the Resource Manager initiating long-term management responsibilities.

Proposed Land Owner: San Diego Habitat Conservancy

Proposed Easement Holder: County of San Diego

1.2.2 Financial Responsibility/Mechanism

The project applicant is responsible for all RMP funding requirements, including direct funds to support the RMP start-up tasks as well as an on-going funding source for annual tasks.

The proposed funding mechanism for implementation of the RMP within the BOS is an endowment.

1.2.3 Cost Estimate/Budget

A Property Analysis Record (PAR) and cost estimate will be prepared for the 41.8-acre BOS once a Resource Manager has been identified.

1.2.4 Reporting Requirements

An RMP annual report will be submitted to the County along with the submittal fee to cover County staff review time. The report will summarize the previous year's management and monitoring, as well as that anticipated for the upcoming year. The report will provide a summary of methods employed, identify new management issues, and address the success or failure of previous management approaches based on monitoring. It shall include a summary of the overall condition of vegetation communities and sensitive species in the BOS, assess any changes from the baseline or from the previous year's conditions, and address any monitoring and management limitations. All adaptive management (changes) resulting from previous monitoring results and methods for measuring the success for such adaptive management will be discussed.

The results of all updated vegetation mapping and sensitive plant and animal surveys will be included in the annual reports. For new sensitive species observations or significant changes to previously reported species, the annual report shall include copies of completed California Natural Diversity Database (CNDDB) forms with evidence that they have been submitted to the State. The report shall also include copies of invasive plant species forms submitted to the State or County.

A fee for staff's review time will be collected by PDS upon submittal of the Annual Report. The RMP may also be subject to an ongoing deposit account for staff to address management challenges as they arise. Deposit accounts, if applicable, must be replenished to a defined level as necessary.

1.2.5 Open Space Maintenance Agreement

The County requires an Agreement with the project applicant when an RMP is required. The Agreement will be executed upon County acceptance of this RMP. The Agreement will obligate

the applicant to implement the RMP and provide a source of funding to pay the cost to implement the RMP in perpetuity. The Agreement shall also provide a mechanism for the funds to be transferred to the County in the event of failure of the Resource Manager to meet the goals outlined in this RMP. The Agreement shall also provide that all RMP funding has been provided or that the funding mechanism has been established prior to the approval of grading or improvement plans, or prior to approval of the Parcel/Final Map, whichever is first.

2.0 PROPERTY DESCRIPTION

2.1 PROPERTY LOCATION

The site is located in the unincorporated community of Lakeside in San Diego County, California (Figure 1). Specifically, it is located northwest of Business Route 8/East Main Street, southwest of Los Coches Road, at the eastern terminus of Jackson Hill Drive (Figure 2) within unsectioned lands in Township 15 South, Range 1 East on the U.S. Geological Survey (USGS) 7.5-minute El Cajon quadrangle map (Figure 3). The site consists of Assessor's Parcel Number (APN) 397-180-13.

2.2 GEOGRAPHICAL SETTING

The site generally occurs in an urbanized part of the County near the communities of Lakeside and Winter Gardens. Elevations range from a high point of approximately 996 feet above mean sea level (amsl) in the west, to a low point of approximately 600 feet amsl in the north. Access to the site is currently via the terminus of Jackson Hill Drive and/or Wellington Hill Drive. Upon development of the areas not targeted for conservation on site, the applicant will ensure that the Resource Manager has access to perform management obligations.

The site is located in the Metro-Lakeside-Jamul Segment of the South County Multiple Species Conservation Program (MSCP) Subarea Plan. The majority of the site is within the MSCP's Pre-Approved Mitigation Area (PAMA). In terms of regional importance, the site is situated along one of several conceptual archipelagos or stepping stone linkages comprised of constrained undeveloped land connecting large blocks of habitat in the region. The site represents one of several fragmented undeveloped parcels in the local area. Over time, these parcels have become isolated from core habitat blocks in the region as a result of intense development. The Lakeside Crest and Lakeside Linkage preserves occur approximately 1.0 mile north of the site, and the Crestridge Ecological Reserve occurs approximately 1.0 mile southeast. Existing residential developments, fragmented undeveloped land, and transportation developments (e.g., Interstate 8) occur between the site and these preserve areas.

2.3 LAND USE

The property is undeveloped with no existing uses. The site contains split zoning, with the eastern portion zoned as RS (Single-Family Residential) and the western portion zoned as RR (Rural Residential). An existing Helix Water District (HWD) water tank and paved access road occur internal to the western portion of the site. Residential development surrounds the site,

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Regional Location Map

BRIGHTWATER RANCH

HELIX Environmental Planning

N 0 8 Miles

Figure 1

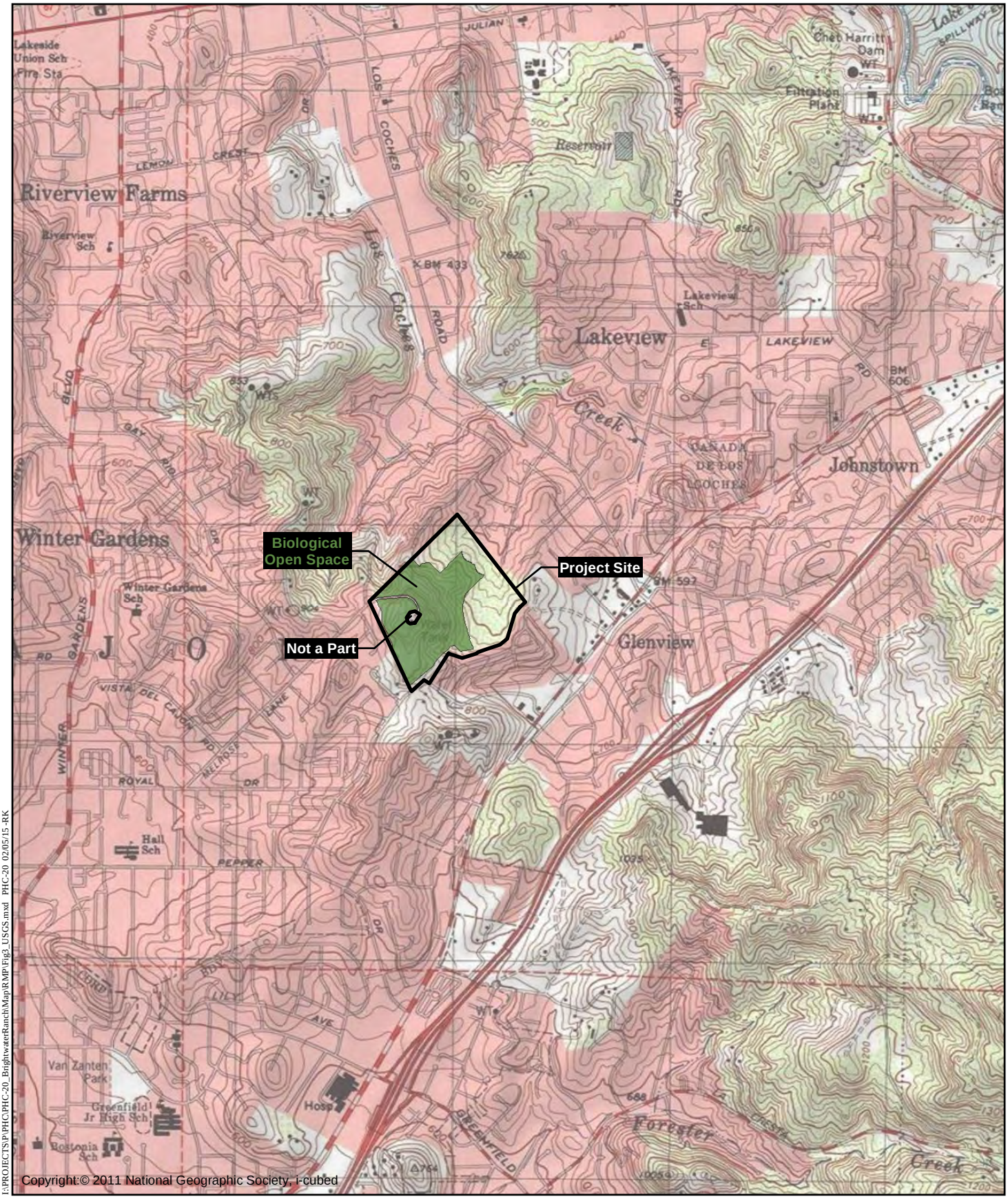
Project Vicinity Map

BRIGHTWATER RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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Project Vicinity Map

BRIGHTWATER RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 3

except for an area along the northwestern boundary that abuts constrained undeveloped land. Undeveloped land occurs about 570 feet from the southwestern boundary.

2.4 GEOLOGY, SOILS, CLIMATE, AND HYDROLOGY

The BOS is located in the Peninsular Range geomorphic province of southern California. The site is mapped as including three soil mapping units belonging to two soil series (U.S. Department of Agriculture [USDA] 2014): Ramona sandy loam, 9 to 15 percent slopes, eroded; Vista coarse sandy loam, 15 to 30 percent slopes; and Vista rocky coarse sandy loam, 30 to 65 percent slopes. Soils in the Ramona and Vista series consist of well-drained sandy loams derived from granodiorite or quartz diorite, or granitic alluvium (USDA 2014).

The climate in San Diego County is generally mild and arid. Temperatures in Lakeside are generally highest in August (average high temperature of 89˚F) and lowest in December (average low temperature is 41˚F). Average annual precipitation in Lakeside is approximately 12.4 inches, with the highest average rainfall totals occurring in January, February, and March (2.25 inches, 2.68 inches, and 2.35 inches, respectively). The driest months are May, June, July, and August with approximately 0.13, 0.07, 0.14, and 0.02 inch of rainfall per month, respectively (Weather.com 2008).

According to the Water Quality Control Plan for the San Diego Basin (Regional Water Quality Control Board [RWQCB] 1994), the site is located within the El Cajon and Coches Hydrologic Subareas (907.13 and 907.14) of the Lower San Diego Hydrologic Area of the San Diego Hydrologic Unit (HU). Site runoff is primarily to the northeast toward Los Coches Creek. Portions of several unnamed ephemeral drainages occur within the BOS, consisting of narrow, mostly unvegetated features, some of which are highly incised.

2.5 TRAILS

A number of dirt trails cross the BOS. These areas will be closed to the public following implementation of the RMP. No trails are proposed in the BOS. A regional trail connection will be constructed around the outside of the BOS, within the Limited Building Zone.

2.6 EASEMENTS OR RIGHTS

An existing HWD water tank occurs internal to the western portion of the site. The water tank parcel is surrounded by, but not a part of the BOS. An easement for the water tank access road occurs within HOA lot 71, which is surrounded on either side by the BOS.

2.7 FIRE HISTORY

The rate of fires in San Diego County coastal shrublands generally increased over the last half of the 20th century. Over 600 fires have occurred in the foothills and mountains of San Diego County between 1910 and 1999, and several major fires in excess of 50,000 acres have occurred in recent years, likely as a result of drought conditions. According to a review of the County's fire burn data and CalFire burn data, no portions of the site have burned in recent years (SanGIS 2014, CalFire 2014).

3.0 BIOLOGICAL RESOURCES DESCRIPTION

3.1 VEGETATION COMMUNITIES

A total of three vegetation communities occur within the BOS: Diegan coastal sage scrub, disturbed habitat, and developed land (Figure 4; Table 1).

Table 1
VEGETATION COMMUNITIES WITHIN THE BOS

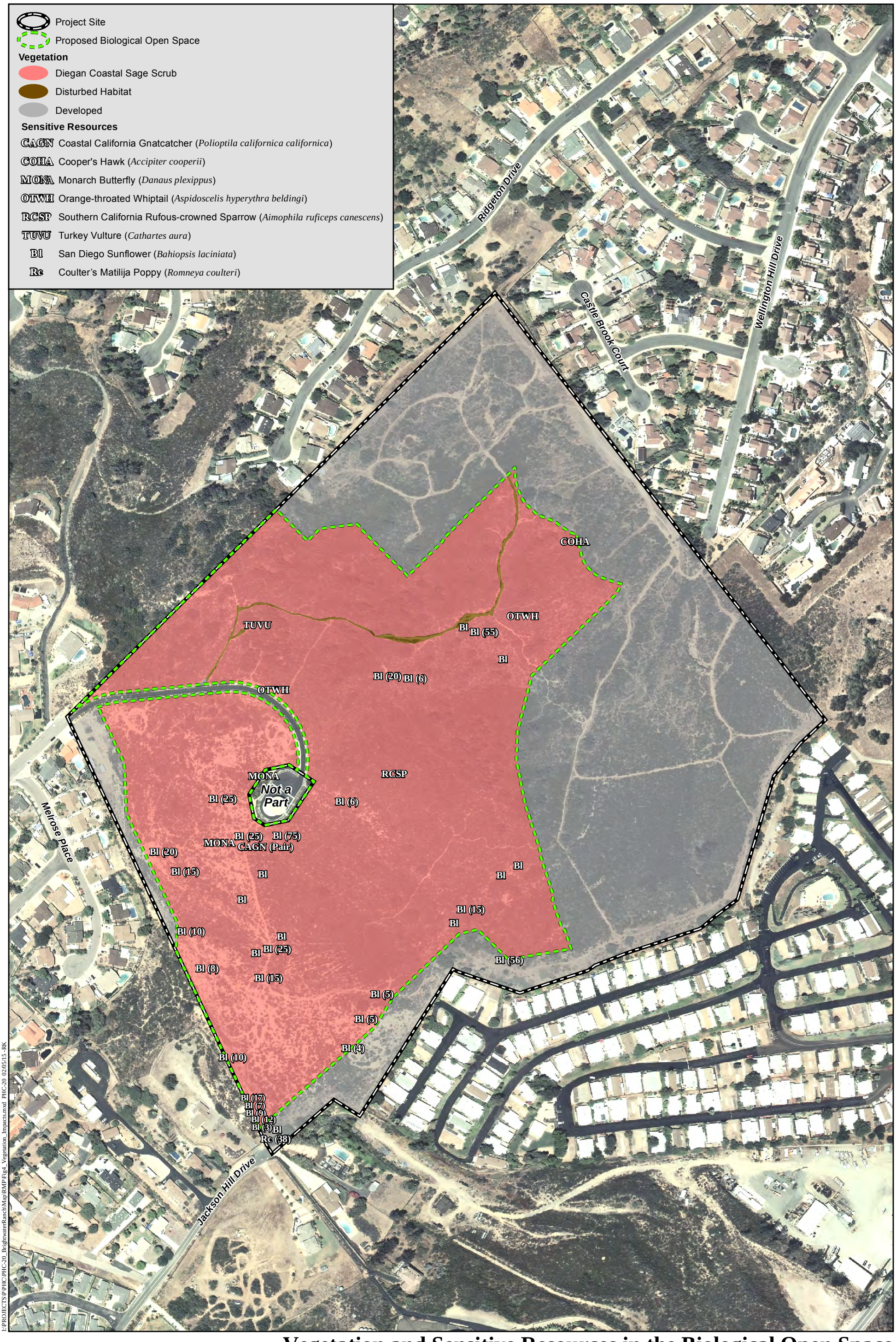
MSCP TIER*	VEGETATION COMMUNITY/HABITAT**	ACRE(S) †
II	Diegan coastal sage scrub (32500)	41.5
IV	Disturbed habitat (11300)	0.3
IV	Developed (12000)	<0.1 (0.006)
	TOTAL	**41.8**

* MSCP Tier levels rank habitat sensitivity, with Tier I being most sensitive and Tier IV being least sensitive.
**Vegetation categories and numerical codes are from Oberbauer (2008)
†Rounded to the nearest 0.1 acre; thus, total reflects rounding.

3.1.1 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is one of the major shrub communities in southern California that occupies xeric sites with shallow soils. Dominated by drought-deciduous shrubs with shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Diegan coastal sage scrub occurs in coastal southern California from Los Angeles County into northwestern Baja California, Mexico (Baja; Holland 1986), where it supports a number of threatened, endangered, and rare vascular plants, as well as several bird and reptile species that are candidates for federal listing.

Diegan coastal sage scrub is the dominant vegetation community in the BOS (Figure 4). Characteristic plant species observed within this community in the BOS include California sagebrush (*Artemisia californica*), flat-top buckwheat, broom baccharis (*Baccharis sarothroides*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). This vegetation type covers 41.5 acres (99 percent) of the BOS (Table 1). This habitat is of high quality throughout the BOS, though it has been disturbed by trails. Diegan coastal sage scrub provides habitat for many sensitive species detected on site, including San Diego sunflower, Coulter's matilija poppy, coastal California gnatcatcher, Cooper's hawk, southern California rufous-crowned sparrow, and orange-throated whiptail.



Vegetation and Sensitive Resources in the Biological Open Space

BRIGHTWATER RANCH

HELIX Environmental Planning

N 0 275 Feet

Figure 4

3.1.2 Disturbed Habitat

Disturbed habitat supports either no vegetation or a cover of non-native weedy species that are adapted to a regime of frequent disturbance. Within the BOS, disturbed habitat consists of a dirt trail that extends off of the HWD access road, totaling approximately 0.3 acre.

3.1.3 Developed Land

Developed land exists where permanent structures and/or pavement have been placed (preventing the growth of vegetation) or where landscaping is clearly tended and maintained. Less than 0.1 acre (0.006 acre) of developed land occurs within the southern tip of the BOS and consists of a small area of landscaping associated with adjacent residential development at the terminus of Jackson Hill Drive (Table 1; Figure 4).

3.2 PLANT SPECIES

3.2.1 Plant Species Present and Correlation with Habitat on Site

A total of 89 plant species were observed on the site during 2014 surveys, of which 35 are non-native (Appendix A). Habitats within which these species were observed are listed in Appendix A.

3.2.2 Rare, Threatened, or Endangered Plant Species Present or Likely to Occur

Two sensitive plant species (San Diego sunflower [*Bahiopsis laciniata*] and Coulter's matilija poppy [*Romneya coulteri*]) were observed on the site and in the BOS (Figure 4) and are discussed below.

San Diego sunflower (*Bahiopsis laciniata*)
Listing: --/--; CNPS List 4.2; County Group D
Distribution: San Diego and Orange County; Baja California, Mexico
Habitat: Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Occurs on a variety of soil types.
Status on site: Approximately 507 individuals were observed in the central and southern portions of the project site.
MSCP Management Requirements: This species is not covered under the MSCP; therefore, area specific management directives have not been established for this species.

Coulter's matilija poppy (*Romneya coulteri*)
Listing: --/--; CNPS List 4.2; CA-Endemic; County Group D
Distribution: Eastern south coastal and peninsular ranges in Los Angeles, Orange, Riverside, and San Diego counties
Habitat: Dry washes and canyons in chaparral and coastal sage scrub communities, often areas that have been burned. Open or mildly disturbed terrain is sometimes favored, and mature chaparral or sage scrub limits the expansion of this showy member of the poppy family.
Status on site: A total of 38 individuals were observed in the southern tip of the project site near the terminus of Jackson Hill Drive. Two large individuals of this species are located just off site

and appear to be planted as landscaping. This species likely spread onto the site from these adjacent off-site plantings.

MSCP Management Requirements: This species is not covered under the MSCP; therefore, area specific management directives have not been established for this species.

3.2.3 Rare, Threatened, or Endangered Plant Species Not Observed but with Potential to Occur

A list of sensitive plant species with potential to occur within the BOS is provided in Appendix B. Species with at least moderate potential to occur include paniculate tarplant (*Deinandra paniculata*), western dichondra (*Dichondra occidentalis*), golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*), and ashy spike-moss (*Selaginella cinerascens*).

3.2.4 Non-native and/or Invasive Plant Species

The BOS is dominated primarily by native plant species. However, several non-native plants were identified on site during 2014 field surveys (Appendix A), including species identified on the California Invasive Plant Council's (Cal-IPC's) inventory (2007). The ratings assigned to the species observed on site range from Limited to High. The only High-rated species observed in the BOS is fennel (*Foeniculum vulgare*). Fennel is a widespread perennial herb that is common throughout California. The BOS does not support dense stands of fennel, but rather scattered individuals within coastal sage scrub. This species, along with Cal-IPC Moderate-rated black mustard (*Brassica nigra*) and short-pod mustard (*Hirschfeldia incana*), pose the greatest management risk to the BOS because of their tendency to form tall, dense stands if suitable conditions arise.

Several non-native grasses and forbs have also been documented on site, including bromes (*Bromus* spp.), star thistle (*Centaurea melitensis*), Crete hedypnois (*Hedypnois cretica*), pineapple-weed (*Matricaria matricarioides*), and filaree (*Erodium* spp.), among others. None of these species poses a significant management risk for the BOS.

3.3 WILDLIFE SPECIES

3.3.1 Wildlife Species Present and Correlation with Habitat on Site

A total of 56 animal species were recorded on the project site during 2014 surveys, including 17 invertebrate, 4 reptile, 31 bird, and 4 mammal species (Appendix C). All animal species were identified by direct observation or vocalizations, the presence of scat and/or tracks, or other signs.

3.3.2 Rare, Threatened, or Endangered Wildlife Species Present

Six sensitive animal species (monarch butterfly [*Danaus plexippus*], orange-throated whiptail [*Aspidoscelis hyperythrus beldingi*], Cooper's hawk, turkey vulture, southern California rufous-crowned sparrow, and coastal California gnatcatcher), were observed on the site (Figure 4) and are discussed below. Coastal California gnatcatcher is the only federal or state listed animal species detected on site. No other listed species were determined to have a high potential

to occur due to lack of suitable habitat. The potential for sensitive animal species to occur on the site was assessed based on known distribution, habitat requirements, and existing site conditions (Appendix D). Listing codes are explained in Appendix E.

Monarch butterfly (*Danaus plexippus*)
Status: --/--, County Group 2
Distribution: Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.
Habitat: Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.).
Status on site: A single individual was observed flying low over the project site on two separate survey days.
MSCP Management Requirements: This species is not covered under the MSCP; therefore, area specific management directives have not been established for this species.

Orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*)
Status: --/SSC, County Group 2, MSCP Covered
Distribution: Southern Orange County and southern San Bernardino County, south through Baja California
Habitat: Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).
Status on site: Two individuals were observed in Diegan coastal sage scrub the central portion of the Project site.
MSCP Management Requirements: Area-specific management directives must address edge effects. This RMP addresses edge effects to orange-throated whiptail through implementation of management task 4.4.3, below.

Coastal California gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC; County Group 1; MSCP Covered
Distribution: In San Diego County, occurs throughout coastal lowlands
Habitat(s): Coastal sage scrub
Status on site: Two pairs were observed on site in Diegan coastal sage scrub during protocol-level surveys in 2014. Previous survey efforts at the site have confirmed gnatcatcher occupancy as well. In 2014, one pair was confirmed using habitat in the eastern half of the site and the other pair was confirmed using habitat in the western half. This species has the highest potential to use the western half of the site for permanent live-in and temporary habitat. The western half is exposed to less of an edge effect by existing development and is located along an existing conceptual linkage that facilitates north-south flight route for gnatcatchers in the local area.
MSCP Management Requirements: Area-specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat may occur between March 1 and August 15. This RMP addresses

edge effects to coastal California gnatcatcher through implementation of management task 4.4.3, below. Fire protection is addressed through implementation of management task 4.2.8 and fire management element 4.6, and habitat management is addressed through implementation of management tasks 4.2.4 and 4.2.6.

Cooper's hawk (*Accipiter cooperi*)
Listing: --/WL; County Group 1, MSCP Covered
Distribution: Throughout the continental United States, excluding Alaska and parts of Montana and the Dakotas. Winters south to Mexico and Honduras.
Habitat: In San Diego County, tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas, such as scrublands or fields.
Status on site: One individual observed perched in a large laurel sumac in the northeastern portion of the site. No suitable nesting habitat occurs, although this species could forage over the site.
MSCP Management Requirements: Area specific management directives must include 300-foot impact avoidance areas around active nests, and minimization of disturbance in oak woodlands and oak riparian forests. No nesting territories were observed in the BOS during 2014 surveys; however, future detection will be addressed through general wildlife surveys and sensitive species monitoring, as described in management tasks 4.2.2 and 4.2.4.

Turkey vulture (*Cathartes aura*)
Status: --/--; County Group 1
Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest
Habitat(s): Foraging habitat includes most open habitats with breeding occurring in crevices among boulders
Status on site: One individual was observed soaring over the northwestern portion of the project site. The site does not provide nesting habitat for this species. Although marginal foraging opportunities occur, the species would not be expected to specifically utilize the site for foraging.
MSCP Management Requirements: This species is not covered under the MSCP; therefore, area specific management directives have not been established for this species.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
Status: --/WL; County Group 1; MSCP Covered
Distribution: Observed throughout coastal lowlands and foothills of San Diego County
Habitat(s): Coastal sage scrub and open chaparral, as well as shrubby grasslands
Status on site: One individual was observed in Diegan coastal sage scrub on site. This species was not found to be nesting on site during 2014 surveys.
MSCP Management Requirements: Area specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components. The BOS currently supports areas of open coastal sage scrub suitable for this species and its presence on site will be monitored in accordance with task 4.2.4. Fuel management is not proposed for the BOS; however, thinning of vegetation for management of this species could occur if deemed necessary by the Resource Manager.

3.3.3 Rare, Threatened, or Endangered Wildlife Species with High Potential to Occur

The following five species are considered to have high potential to occur in the BOS: Coronado skink (*Eumeces skiltonianus interparietalis*), northern red-diamond rattlesnake (*Crotalus ruber ruber*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*). Suitable coastal sage scrub occurs on site to support these species. Further information can be found in Appendix D.

3.3.4 Non-native and/or Invasive Wildlife

No invasive animal species have been detected on site. Except for the European honey bee (*Apis mellifera*), no other non-native animal species were detected on site during 2014 surveys. European honey bees were introduced to North America in the 17th century and are important pollinators for many of our food crops. They also act as pollinators for a variety of native plants species, including black sage (*Salvia mellifera*). Other non-native animal species that may occur in the site vicinity include house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*), both of which were introduced to North America in the 19th century (Unitt 2004) and are widespread throughout San Diego County. None of these species poses a significant management risk for the BOS.

3.4 OVERALL BIOLOGICAL AND CONSERVATION VALUE

The majority of the BOS is within PAMA and consists primarily of land categorized as Very High value on the County's Habitat Evaluation Map (2002), with some portions characterized as Moderate and small areas as Developed. The Diegan coastal sage scrub on site is occupied by the coastal California gnatcatcher and would meet the criteria to be considered Sensitive Habitat Lands and Biological Resource Core Area (BRCA), as defined in the County's Resource Protection Ordinance and Biological Mitigation Ordinance. In addition to providing live-in habitat for gnatcatcher and other animals, it also functions to facilitate bird movement through the local area as part of a conceptual archipelago or stepping stone linkage through urbanized portions of the communities of Winter Gardens and Lakeside. In addition to coastal California gnatcatcher, five other sensitive animal species have been detected in the BOS, including monarch butterfly, orange-throated whiptail, Cooper's hawk, turkey vulture, and southern California rufous-crowned sparrow, as well as two sensitive plant species, San Diego sunflower and Coulter's matilija poppy.

4.0 BIOLOGICAL RESOURCES MANAGEMENT

4.1 MANAGEMENT GOALS

The ultimate goal of this RMP is to detail the methods to preserve and maintain the long-term viability and the functions and values of native habitats within the preserve along with the listed and sensitive species they support. In addition, this RMP establishes the following goals with regard to biological resources:

- To preserve 41.8 acres of habitat within the BOS in perpetuity;
- To ensure the continued existence of sensitive plant and animal species in the BOS and/or to facilitate their expansion within the BOS.

4.2 BIOLOGICAL MANAGEMENT TASKS

Biological monitoring will be conducted in the BOS to gather information necessary to assist the Resource Manager in making land management decisions and meeting the goals of this RMP. Biological management tasks include a baseline biological inventory, biological mapping updates, botanical inventories, sensitive species monitoring, coastal California gnatcatcher surveys, exotic plant control, predator control, and fire/flood management. These tasks are further described below (Sections 4.2.1 through 4.2.8).

The BOS will be visually inspected for changes during annual maintenance and monitoring visits, and all observations will be documented. Any substantial changes will be monitored more closely to determine the necessity of additional measures. Ongoing maintenance and administration, as further discussed in Section 4.4, is the responsibility of the Resource Manager, and will be conducted to ensure no loss of resource quality within the BOS.

4.2.1 Baseline Biological Inventory

The quantity and quality of vegetation communities within the BOS will be documented during the first year of active management. This inventory will incorporate data from the project's biological technical report (HELIX 2015) with the findings of an initial baseline inventory field survey. These data will allow the Resource Manager to measure habitat changes caused by natural and human effects and to evaluate management efforts during subsequent years.

Upon implementation of this RMP, the Resource Manager will be provided digital files containing the existing vegetation and sensitive resources data, which will be updated following the baseline inventory field survey during the start-up (first year) phase of the RMP. The intent of this update is to document current conditions in the open space areas (including graphic and tabular depictions of habitat acreages), document all species observed (either directly or indirectly by sign such as scat, tracks, etc.) within each identified habitat type, and document the locations of any sensitive plant and animal species.

The baseline inventory update will be conducted during the first year of active management. To optimize the probability of detecting sensitive species reported or expected to occur within the

BOS, this survey should be conducted between March and May, when the majority of sensitive plant and animal species are most detectable.

4.2.2 Update Biological Mapping

Vegetation and sensitive species mapping will be updated every 5 years following implementation of this RMP. A site visit should be conducted using updated aerial photography to determine vegetation communities present at the time of the survey. Any observed/detected sensitive species will be added to the biological resources maps of the BOS.

4.2.3 Botanical Inventory

An inventory of plant species observed in the BOS will be compiled every 5 years during the vegetation mapping update. The inventory will include a visual assessment of each population of sensitive plant species observed in the BOS (e.g., San Diego sunflower and Coulter's matilija poppy) in order to help track overall population trends, and specific attention will be given to any factors that may be negatively affecting those species (i.e., vandalism, mortality, etc.). Sensitive plant species observed incidentally during maintenance events or other site visits would also be documented.

4.2.4 Sensitive Species Monitoring

Preservation of sensitive plant and animal populations within the BOS is one step in achieving the overall long-term conservation of these species. Monitoring of sensitive species is another step in achieving the overall long-term conservation of these species. Sensitive species monitoring will help the Resource Manager identify long- and short-term threats and recommend any necessary protective measures. Sensitive plant and animal monitoring will occur during annual management activities, and the locations of any observed/detected sensitive species will be documented and added to the biological resources maps. Adaptive management measures may be required to intervene when either natural or man-made disturbances or effects appear to be adversely influencing a sensitive species.

It is the responsibility of the Resource Manager to evaluate the status of preserved species within the preserve and to institute protective measures if any individual species becomes threatened. Sensitive species population monitoring will vary based on the target species. In each assessment, the Resource Manager will observe and document sensitive species locations and conditions. Monitoring/reporting efforts will include all sensitive species previously documented within the BOS.

4.2.5 Coastal California Gnatcatcher Surveys

Protocol surveys for coastal California gnatcatcher will be conducted every 5 years during the gnatcatcher breeding season (February 15-August 31) within appropriate habitat in the BOS. Any gnatcatchers observed incidentally during maintenance events or other site visits would also be documented.

4.2.6 Exotic Plant Control

The Resource Manager will coordinate with land owners adjacent to the BOS to provide information regarding exotic plant species and to increase the efficiency of exotic plant control programs. A prohibition against the use of exotic plant species with a Cal-IPC rating of High or Moderate will be implemented for all landscaping efforts.

To accommodate changing growth patterns, weeding will occur as needed at the discretion of the Resource Manager. Weeding will occur by manual or mechanical means; no weed whips or chemical herbicides may be used unless specifically determined to be necessary by the Resource Manager. The Resource Manager is responsible for removal of species rated as High by the Cal-IPC within 2 weeks after discovery. General weeding events will occur twice annually, as needed, in January/February or April/May.

If the use of herbicide is deemed necessary, application should be minimal, and may only occur in compliance with all federal and state laws. Use of chemical herbicides should be determined in coordination with the County Department of Environmental Health. All herbicide use will be applied by backpack sprayers or stump painting directly on target weeds and will involve short duration, biodegradable chemicals.

4.2.7 Predator Control

A moderate tolerance for pest species will be permitted, but if the Resource Manager determines that pest eradication measures (pesticide application) are required, the County will be contacted to determine the need and appropriate methods, including potentially hiring a licensed pest control advisor. Exotic species control/eradication programs should be implemented at the appropriate time of year depending on the pest species and field conditions, and should be coordinated with efforts on adjacent properties.

4.2.8 Fire and Flood Management

Fire is an important element in the ecology of southern California but can also present potential hazards to habitat within the BOS. If a fire should occur in the BOS, vegetation within the BOS will be allowed to recover naturally; however, seeding and/or planting of container stock may be required at the discretion of the Resource Manager. Special attention to weed establishment following fire will be assessed by the Resource Manager.

Ephemeral drainages within the BOS may flood during heavy rains. Such flooding could damage habitat within the BOS through scour, erosion, sedimentation, and spread of weeds. The Resource Manager will monitor habitat areas disturbed by flooding and implement remedial efforts as needed. Flood-damaged areas should be allowed to recover naturally; however, remedial measures, including erosion control, seeding, and/or planting of container stock, may be required if natural recovery is inadequate or if unstable conditions (e.g., slope undercutting) are created. The Resource Manager will remove any exotic species introduced during flooding events.

4.3 ADAPTIVE MANAGEMENT

If the findings of regularly scheduled habitat or species monitoring reveal that the goals of this RMP are not being met (i.e., loss of one or more sensitive species or habitats), an amendment to the plan may be necessary. Any changes to this plan will require approval by the County.

4.4 OPERATIONS, MAINTENANCE, AND ADMINISTRATION TASKS

Ongoing maintenance and administration, which is the responsibility of the Resource Manager, will be conducted to ensure no loss of resource quality within the BOS. The general operations, maintenance, and administrative tasks to be conducted by the Resource Manager will include those discussed below.

4.4.1 Annual Monitoring Reports

An annual report will be submitted to the County that will summarize the overall condition of vegetation communities and sensitive species in the BOS, propose management tasks for the following year, and discuss results of management activities proposed in the previous report. Submitted annually by the end of January, this report will compare the most recent data with those collected in previous years, evaluate sensitive species status, and outline appropriate remedial measures. Funds for County review will also be included with submittal of the annual report.

The results of all updated vegetation mapping (every fifth year), botanical inventory (every fifth year), and coastal California gnatcatcher surveys (every fifth year) should be included in the appropriate annual letter reports.

The report shall include a summary of expenses during the past year and projected expenses for the next year, as well as the status of the endowment.

The report (or attached digital files) will also include photos taken each year from representative photo points within the open space, for qualitative comparison of habitat health.

4.4.2 Management Plan Review

This RMP will be reviewed every 5 years to determine the need for revisions or updates. If conditions change within the BOS, it may be necessary to revise the tasks outlined in this plan to ensure continued success of the stated goals.

4.4.3 Access Control, Fencing, and Signage

To help prevent human-induced degradation of the BOS due to illegal occupancy, trespassing, removal of resources, or dumping of trash or debris, the Resource Manager will restrict access to the BOS. The project applicant will install a fence around the outer edge of the BOS (Figure 5). Fencing, which is anticipated to be split-rail, will be maintained by the Resource Manager as needed during quarterly visits. Trails within the BOS will be allowed to passively revegetate and

permanent signage will be posted every 500 feet along the perimeter of the BOS and at locations of unauthorized trails entering the BOS. Signs will be maintained by the Resource Manager as needed during quarterly visits. All signs will be corrosion-resistant (e.g., steel), measure at minimum 6-by-9-inches in size, be posted on a metal post at least 3 feet above ground level, and provide notice in both Spanish and English that the area is an ecological preserve with trespassing prohibited. The signs will state the following:

Sensitive Environmental Resources
Disturbance Beyond this Point is Restricted by Easement
Contact Information:
County of San Diego Department of Planning & Development Services
Ref. PDS2003-3100-5306

4.4.4 Illegal Occupancy

Illegal occupancy is common in open space areas, although this is not anticipated to be an issue on this site because of the relatively open nature of the habitat and proximity of adjacent residences. The Resource Manager will survey the BOS for evidence of illegal access concurrently with other site management activities and file a report with the Sheriff and the County PDS, if necessary.

4.4.5 Removal of Resources

Removal of any plants, animals, rocks, minerals, or other natural resources from the BOS is prohibited. The Resource Manager will maintain a log of illegal collecting and will report individuals caught removing natural resources from the BOS to the USFWS, CDFW, County, and/or Sheriff's Office. The Resource Manager may allow and supervise seed collection and plant cuttings as part of revegetation efforts within the preserve and/or in nearby areas. Any such collected plant materials should be limited to that necessary to ensure successful revegetation while not adversely affecting local plant populations.

4.4.6 Trash Removal and Vandalism Repair

The Resource Manager will conduct general trash removal within the BOS during regular quarterly management site visits. Additionally, damage caused by vandalism will be repaired. Trash removal and vandalism repair will occur as needed during regular quarterly site visits.

4.4.7 Hazardous Materials Monitoring

The release of hazardous materials such as fuels, oil, vegetation clippings, trash, and landscaping related chemicals (e.g., pesticides and herbicides) has potential to affect the BOS negatively. Although no specific survey will be conducted, if such hazardous materials are observed within the BOS during regular annual site visits, remedial measures to remove the material will occur.

Proposed Biological Open Space/Conceptual Fencing and Signage

BRIGHTWATER RANCH

HELIX Environmental Planning

N 0 275 Feet

Figure 5

4.5 PUBLIC USE ELEMENT

The BOS will not have public trails or other facilities. A regional trail connector is planned along the outside of the northeast and eastern boundaries of the BOS. Existing trails within the BOS will be blocked and/or demarcated with signage to prevent continued use and no additional trails will be installed. The BOS is intended to serve as a habitat preserve and as such is not compatible with many activities. Activities that will be specifically prohibited include:

- Use of herbicides (except to remove non-native species as necessary), pesticides, biocides, fertilizers, or other agricultural chemicals;
- Weed abatement activities for fuel management or other incompatible fire protection activities;
- Use of Off Highway Vehicles (OHVs) and any other motorized vehicles except in the execution of management duties;
- Grazing or other agricultural activity of any kind;
- Recreational activities including, but not limited to, hiking, horseback riding, biking, hunting, or fishing;
- Commercial or industrial uses;
- Construction, reconstruction, or placement of any building or other improvement, billboard, or sign;
- Depositing or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other material;
- Planting, introduction or dispersal of non-native or exotic plant or animal species;
- Altering the general topography of the BOS, including but not limited to building of roads and flood control work;
- Removing, destroying, or cutting of trees, shrubs or other vegetation, except as deemed necessary by the Resource Manager for sensitive species management; or as required by federal, state or local law or by governmental order for (1) emergency fire breaks; (2) maintenance of existing roads; (3) prevention or treatment of disease; or (4) required mitigation programs; and
- Manipulating, impounding, or altering any natural watercourse, body of water or water circulation on the open space, and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters.

4.6 FIRE MANAGEMENT ELEMENT

No fire management activities (clearing, thinning, mowing, discing, blading, etc.) are allowed within the BOS. All such measures to reduce wildfire risk are to occur entirely outside of the BOS. As previously discussed, an LBZ has been established between the proposed development and the BOS so that all required fuel modification for the development would occur outside the BOS.

4.7 MANAGEMENT CONSTRAINTS

This RMP follows the regulatory and permitting requirements of the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and County. Although it anticipates measures for most foreseeable contingencies, several external constraints remain. For example, changes in rainfall patterns may affect the populations of sensitive plant and animal species within the BOS. Likewise, changes in other environmental factors such as air pollution, hazardous waste runoff, and erosion could have detrimental effects on the habitat within the BOS. A 100-foot wide LBZ will be established between the BOS and the proposed residential development, as well as along areas where existing residential development abuts the site. The LBZ will act as a buffer to protect the BOS from clearing for fire management, as well potential edge effects such as noise and dumping of trash and debris. However, portions of the BOS extend to the property boundary and these areas have greater susceptibility to edge effects from adjacent land uses.

5.0 RESOURCE MANAGEMENT PLAN SUMMARY AND BUDGET

5.1 OPERATIONS AND BUDGET SUMMARY

Table 2 provides a summary of all management tasks described above and the frequency of each task. The budget for these tasks will be provided in a PAR as an appendix to the final RMP after a Resource Manager is identified.

5.2 EXISTING STAFF AND ADDITIONAL PERSONNEL NEEDS SUMMARY

Staff and personnel requirements will be provided in the final RMP after a Resource Manager is identified.

Table 2 MANAGEMENT TASKS	
TASK	**FREQUENCY**
Biological Resources Tasks	
Baseline Inventory	One time
Update Biological Mapping	Every 5 years
Botanical Inventory	Every 5 years
Coastal California Gnatcatcher Surveys	Every 5 years
Educate Surrounding Home Owners	Annually
Exotic Plant Control	As needed; at least twice annually
Predator Control	As needed
Fire and Flood Management	As needed
Operations, Maintenance, and Administration Tasks	
Monitoring Reports	Annually
Management Plan Review	Every 5 years
Access Control	Quarterly
Trash Removal and Vandalism Repair	Quarterly
Hazardous Materials Monitoring	Annual

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Appendix A

PLANT SPECIES OBSERVED

Appendix A
PLANT SPECIES OBSERVED
BRIGHTWATER RANCH

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT†
Eudicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	DCSS, NNG
Aizoaceae	*Carpobrotus edulis**	hottentot-fig	NNV
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS
	*Schinus molle**	Peruvian pepper tree	NNV
	*Schinus terebinthifolius**	Brazilian pepper tree	DCSS
	Toxicodendron diversilobum	poison oak	DCSS
Apiaceae	*Foeniculum vulgare**	fennel	DCSS, NNG
	Lomatium dasycarpum ssp. *dasycarpum*	wooly-fruit lomatium	DCSS
Asteraceae	*Artemisia californica*	California sagebrush	DCSS
	Baccharis salicifolia	mule fat	DCSS
	Baccharis sarothroides	broom baccharis	DCSS
	Bahiopsis laciniata‡	San Diego sunflower	DCSS
	Brickellia californica	brickellbrush	DCSS
	*Carduus pycnocephalus**	Italian thistle	DCSS, NNG
	*Centaurea melitensis**	star thistle	DCSS, NNG
	Corethrogyne filaginifolia	California-aster	DCSS
	Encelia californica	California encelia	DCSS
	Eriophyllum confertiflorum	golden-yarrow	DCSS
	Gutierrezia sarothrae	San Joaquin matchweed	DCSS
	Hazardia squarrosa var. *grindelioides*	saw-toothed goldenbush	DCSS
	*Hedypnois cretica**	Crete hedypnois	DCSS
	Heterotheca grandiflora	telegraph weed	DCSS, NNG
	*Hypochaeris glabra**	smooth cat's-ear	DCSS
	*Lactuca serriola**	wild lettuce	DCSS
	*Matricaria matricarioides**	pineapple-weed	DCSS
	Pseudognaphalium californicum	California everlasting	DCSS
	*Sonchus asper**	prickly sow thistle	DCSS

Appendix A (cont.)
PLANT SPECIES OBSERVED
BRIGHTWATER RANCH

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT†
Eudicots (cont.)			
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck	DCSS
	Cryptantha sp.	cryptantha	DCSS, NNG
	Eucrypta chrysanthemifolia var. *chrysanthemifolia*	common eucrypta	DCSS
	Pectocarya sp.	pectocarya	DCSS
	Phacelia cicutaria var. *hispida*	caterpillar phacelia	DCSS
	Phacelia sp.	phacelia	DCSS
Brassicaceae	*Brassica nigra**	black mustard	DCSS, NNG
	*Hirschfeldia incana**	perennial mustard	DCSS, NNG
Cactaceae	*Opuntia ficus-indica**	Indian-fig	DCSS
	Opuntia littoralis	coastal prickly pear	DCSS
	Opuntia sp.	prickly pear	NNV
Caprifoliaceae	*Lonicera subspicata* var. *denudata*	San Diego honeysuckle	DCSS
Chenopodiaceae	*Chenopodium album**	pigweed	DH, NNG
Convolvulaceae	*Calystegia macrostegia*	morning-glory	DCSS
	Cuscuta sp.	dodder	DCSS
Crassulaceae	*Dudleya lanceolata*	coastal dudleya	DCSS
Cucurbitaceae	*Marah macrocarpa*	wild cucumber	DCSS
Euphorbiaceae	*Chamaesyce maculata**	spotted spurge	DCSS, DH
	Chamaesyce sp.*	spurge	DCSS
	Croton setigerus	dove weed	DCSS, NNG
	*Euphorbia peplus**	petty spurge	DH, NNV
Fabaceae	*Acmispon glaber*	deerweed	DCSS
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak	DCSS
Geraniaceae	*Erodium botrys**	long-beak filaree	DCSS, DH
	*Erodium cicutarium**	red-stem filaree	DCSS, NNG
Lamiaceae	*Marrubium vulgare**	horehound	DCSS, DH
	Salvia apiana	white sage	DCSS
	Salvia mellifera	black sage	DCSS
Myrsinaceae	*Anagallis arvensis**	scarlet pimpernel	DCSS, DH, NNG
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	DCSS
Nyctaginaceae	*Mirabilis laevis* ssp. *crassifolia*	wishbone bush	DCSS
Oleaceae	*Olea europaea**	olive	DCSS, NNV

Appendix A (cont.)
PLANT SPECIES OBSERVED
BRIGHTWATER RANCH

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT†
Eudicots (cont.)			
Onagraceae	*Camissoniopsis* sp.	sun cup	DCSS
Papaveraceae	*Romneya coulteri*‡	Coulter's matilija poppy	DCSS
Phrymaceae	*Mimulus aurantiacus*	bush monkey-flower	DCSS
Plantaginaceae	*Keckiella antirrhinoides*	chaparral beard-tongue	DCSS
Polemoniaceae	*Eriastrum* sp.	eriastrum	DCSS
	Navarretia hamata	skunkweed	DCSS, DH
Polygonaceae	*Eriogonum fasciculatum*	flat-top buckwheat	DCSS, NNG
Ranunculaceae	*Clematis* sp.	Virgin's bower	DCSS
Rhamnaceae	*Rhamnus crocea*	spiny redberry	DCSS
	Rhamnus ilicifolia	holly-leaf redberry	DCSS
Rosaceae	*Cercocarpus betuloides*	mountain mahogany	DCSS
	Heteromeles arbutifolia	toyon	DCSS
Rubiaceae	*Galium angustifolium* ssp. *angustifolium*	narrow-leaved bedstraw	DCSS
	Galium aparine	goosegrass	DCSS
Scrophulariaceae	*Scrophularia californica*	California figwort	DCSS
Solanaceae	*Datura wrightii*	jimson weed	DCSS
	*Nicotiana glauca**	tree tobacco	DCSS, NNG
Urticaceae	*Urtica urens**	dwarf nettle	NNG
Monocots			
Agavaceae	*Agave americana**	century plant	DCSS
	Chlorogalum parviflorum	small-flower soap-plant	DCSS
	Hesperoyucca whipplei	Our Lord's candle	DCSS
Iridaceae	*Iris* sp.*	iris	DCSS
	Sisyrinchium bellum	blue-eyed grass	DCSS
Poaceae	*Bromus diandrus**	common ripgut grass	DCSS, NNG
	*Bromus hordeaceus**	soft chess	DCSS
	*Bromus madritensis**	foxtail chess	DCSS, NNG
	*Cynodon dactylon**	Bermuda grass	DCSS
	Festuca sp.*	fescue	DCSS
	*Pennisetum setaceum**	fountain grass	DCSS
	*Schismus barbatus**	Mediterranean grass	DCSS

Appendix A (cont.)
PLANT SPECIES OBSERVED
BRIGHTWATER RANCH

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT†
Monocots (cont.)			
Themidaceae	*Dichelostemma capitatum*	blue dicks	DCSS, NNG

† DCSS=Diegan coastal sage scrub, DH=disturbed habitat; NNG=non-native grassland, NNV=non-native vegetation
‡Special-status species
*Non-native species

Appendix B

SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

Appendix B SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH				
Common Name	**Species Name**	**Status***	**Habit, Ecology and Life History**	**Potential to Occur**
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT/SE CNPS List 1B.1 County List A	Annual herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Elevation range 0-914 meters. Flowering period Apr – Jun.	**None.** Clay soils do not occur on site. Vernal pools do not occur on site.
Nuttall's acmispon	*Acmispon prostratus*	--/-- CNPS List 1B.1 County List A	Annual herb. Occurs on coastal dunes, particularly well-protected back dunes with minimal human foot traffic. Elevation range 0-10 meters. Flowering period Mar – Jul.	**None.** Coastal dunes do not occur on site and the site is outside the known elevation range of this species.
California adolphia	*Adolphia californica*	--/-- CNPS List 2B.1 County List B	Shrub. Occurs in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Usually associated with xeric locales where shrub canopy reaches 4 or 5 feet. Elevation range 45-740 meters. Flowering period Dec. – Apr.	**Low.** Suitable sage scrub habitat occurs on site. However, species was not observed during rare plant surveys conducted in 2014, and would likely have been observed if present.
San Diego bur-sage	*Ambrosia chenopodiifolia*	--/-- CNPS List 2B.1 County List B	Shrub. Occurs in low-growing, fairly open Diegan coastal sage scrub. Elevation range 55-155 meters. Flowering period Apr. – Jun.	**Low.** Suitable sage scrub habitat occurs on site. However, the site is outside the known elevation range of this species.

Appendix B (cont.) **SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH**				
Common Name	**Species Name**	**Status***	**Habit, Ecology and Life History**	**Potential to Occur**
San Diego ambrosia	*Ambrosia pumila*	FE/-- CNPS List 1B.1 County List A MSCP NE	Perennial herb. Occurs in grasslands, valley bottoms and dry drainages, also can occur on slopes, disturbed places, and in coastal sage scrub. Elevation 20-415 meters. Flowering period Apr. – Oct.	**Low**. Soils and habitat on the site are suitable; however, this species is very rare and known from fewer than 20 locations.
Aphanisma	*Aphanisma blitoides*	--/-- CNPS List 1B.2 County List A	Annual herb. Occurs in coastal bluffs near the ocean and beach dunes. Elevation 1-305 meters. Flowering period Mar. – Jun.	**None.** Site is not on a coastal bluff. Species may be extirpated in San Diego County (Reiser 2001).
San Diego sagewort	*Artemisia palmeri*	--/-- CNPS List 4.2 County List D	Shrub. Typically occurs along streams with riparian habitat, and may be found in sage scrub or mesic chaparral adjacent to these areas. Elevation 15-915 meters. Flowering period May – Sep.	**Low.** The project site supports only ephemeral stream courses; riparian habitat is not present on site.
Dean's milk-vetch	*Astragalus deanei*	--/-- CNPS List 1B.1 County List A	Perennial herb. Occurs on dry hillsides in open coastal sage scrub, chaparral, or southern oak woodland. Elevation 75-695 meters. Flowering period Feb. – May.	**Low.** Open coastal sage scrub occurs on site. Known from fewer than fifteen occurrences.
Coulter’s saltbush	*Atriplex coulteri*	--/-- CNPS List 1B.2 County List A	Perennial herb. Preferred habitat is coastal bluff scrub. Elevation 3-460 meters. Flowering period Mar. – Oct.	**Low.** Preferred habitat does not occur on site.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
South coast saltscale	*Atriplex pacifica*	--/-- CNPS List 1B.2 County List A	Annual herb. Occurs in xeric, often mildly disturbed locales of coastal bluff scrub. Usually the surrounding habitat is an open Diegan coastal sage scrub, although it is found on alkaline flats in areas devoid of taller shrubs. Elevation 0-140 meters. Flowering period Mar. – Oct.	**None.** Coastal bluff scrub does not occur on site. Lowest elevation on site is approximately 183 meters, which is outside the elevation range for this species.
Encinitas baccharis	*Baccharis vanessae*	FT/SE CNPS List 1B.1 County List A MSCP NE	Perennial herb. Occurs in mature but relatively low-growing chaparral, southern maritime and southern mixed chaparrals. Elevation50-465 meters. Flowering period Aug. – Nov.	**None.** Chaparral does not occur on site.
San Diego sunflower	*Bahiopsis laciniata*	--/-- CNPS List 4.2 County List D	Medium shrub. Occurs in coastal sage scrub, often at high density. Elevation range 0-3000 ft. Flowering period Feb – Aug, but identifiable year-round by leaves.	**Present.** Approximately 507 individuals have been documented on site.
San Diego goldenstar	*Bloomeria clevelandii*	--/-- CNPS List 1B.1 County List A	Perennial herb. Occurs on clay soils in grasslands and coastal sage scrub. Elevation range 0-2000 ft. Flowering period Apr – May.	**None.** Clay soils do not occur on site.
Thread-leaved brodiaea	*Brodiaea filifolia*	FT/CE CNPS List 1B.1 County List A MSCP NE	Perennial herb. Occurs in clay soils in vernally moist grasslands and vernal pool periphery. Elevation 25-1120 meters. Flowering period Mar. – Jun.	**None.** Clay soils do not occur on site.

Appendix B (cont.) **SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH**				
Common Name	**Species Name**	**Status***	**Habit, Ecology and Life History**	**Potential to Occur**
Orcutt's brodiaea	*Brodiaea orcuttii*	--/-- CNPS List 1B.1 County List A	Perennial herb. Occurs in vernally moist grasslands, mima mound topography, and vernal pool periphery. Elevation 30-1692 meters. Flowering period May – Jul.	**None.** Vernal pools and moist grasslands do not occur on site.
Brewer's calandrinia	*Calandrinia breweri*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in chaparral and coastal scrub; burned areas. Elevation 10-1220 meters. Flowering period Mar. – Jun.	**Low.** Potentially suitable sage scrub habitat occurs on site, however, this species is a fire-following annual, and the site has not recently burned.
Round-leaved filaree	*California macrophylla*	--/-- CNPs List 1B.1 County List B	Annual herb. Occurs in clay soils in open areas of grassland or sage scrub in coastal valleys. Elevation 15-1200 meters. Flowering period Mar. – May.	**None.** Clay soils do not occur on site.
Dunn's mariposa lily	*Calochortus dunnii*	--/CR CNPS List 1B.2 County List A MSCP NE	Perennial herb. Occurs in dry, stony ridges and fire breaks in chaparral or grassland/chaparral exotone. Elevation 185-1830 meters. Flowering period Feb. – Jun.	**None.** Chaparral does not occur on site.
Lewis' evening-primrose	*Camissoniopsis lewisii*	--/-- CNPS List 3 County List C	Annual herb. Occurs in very sandy substrates near the beach, typically on beach bluffs. Elevation 0-300 meters. Flowering period Mar. – Jun.	**None.** Project site is not near the beach and does not support very sandy substrates.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Payson's jewel-flower	*Caulanthus simulans*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in chaparral or pinyon-juniper woodland. Elevation 90-2200 meters. Flowering period Feb. – Jun.	**None.** Chaparral and pinyon-juniper woodland do not occur on site.
Lakeside ceanothus	*Ceanothus cyaneus*	--/-- CNPS List 1B.2 County List A MSCP NE	Shrub. Occurs in inland mixed chaparral. Elevation 45-1050 meters. Flowering period Apr. – Jun.	**None.** Chaparral does not occur on site.
Smooth tarplant	*Centromadia pungens* ssp. *laevis*	--/-- CNPS List 1B.1 County List A	Annual herb. Occurs in valley and foothill grasslands, particularly near alkaline locales. Elevation 0-640 meters. Flowering period Apr. – Sep.	**Low.** Site supports very little grassland, and does not have alkaline soils.
Abrams' spurge	*Chamaesyce abramsiana*	--/-- CNPS List 2.2 County List	Annual herb. Occurs on sandy flats in desert scrub. Elevation 0-915 meters. Flowering period Aug. – Nov.	**None.** Desert scrub does not occur on site.
Peninsular spineflower	*Chorizanthe leptotheca*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in xeric openings in chamise chaparral. Elevation 300-1900 meters. Flowering period May – Aug.	**None.** Chaparral does not occur on site.
Long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	--/-- CNPS List 1B.2 County List A	Annual herb. Occurs in lenses largely devoid of shrubs, occasionally seen on vernal pool and montane meadows peripheries near vernal seeps. Elevation 30-1530 meters. Flowering period Apr. – Jul.	**None.** Vernal pools do not occur on site.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Delicate clarkia	*Clarkia delicata*	--/-- CNPS List 1B.2 County List A	Annual herb. Occurs in areas or the periphery of oak woodlands and cismontane chaparral. Elevation 0-1000 meters. Flowering period Apr. – Jun.	**None.** Chaparral and oak woodland do not occur on site.
San Miguel savory	*Clinipodium chandleri*	--/-- CNPS List 1B.2 County List A	Shrub. Occurs on gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland. Elevation 120-1075 meters. Flowering period Mar. – Jul.	**Low.** Site does not support oak woodland or chaparral habitats.
Small-flowered morning-glory	*Convolvulus simulans*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in coastal clay areas in openings of chaparral, sage scrub, and grasslands. Elevation 30-700 meters. Flowering period Mar. – Jul.	**None.** Clay soils do not occur on site.
Snake cholla	*Cylindropuntia californica* var. *californica*	--/-- CNPS 1B.1 County List A MSCP NE	Stem succulent. Occurs in Diegan coastal sage scrub on xeric hillsides. Elevation 30-150 meters. Flowering period Apr. – May.	**Low.** Suitable sage scrub habitat occurs on site but the site is outside the species known elevation range.
Otay tarplant	*Deinandra conjugens*	FT/CE CNPS List 1B.1 County List A MSCP NE	Annual herb. Occurs in fractured clay soils in grasslands or lightly vegetated coastal sage scrub. Elevation 25-300 meters. Flowering period May – Jun.	**None.** Clay soils do not occur on site. Site is outside the known range for this species.

Appendix B (cont.) **SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH**				
Common Name	**Species Name**	**Status***	**Habit, Ecology and Life History**	**Potential to Occur**
Paniculate tarplant	*Deinandra paniculata*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in sparsely vegetated grasslands or open sage scrub in arid cismontane regions, grows on hard packed soils. Elevation 25-940 meters. Flowering period Apr. – Nov.	**Moderate.** Suitable sage scrub occurs on site. Species not documented in the project vicinity and most records are from northern San Diego County and Riverside County.
Western dichondra	*Dichondra occidentalis*	--/-- CNPS List 4.2 County List D	Mat-forming herb. Occurs on sandy banks in coastal sage scrub, chaparral, and oak woodland, often after fire. Elevation range 0-2000 ft. Flowering period Mar. – Jul.	**Moderate**. Suitable sage scrub habitat occurs on site, with some exposed sandy loam soils. Not observed during 2014 rare plant surveys.
Variegated dudleya	*Dudleya variegata*	--/-- CNPS List 1B.2 County List A MSCP NE	Perennial herb. Occurs on clay soils near vernal pools, and on metavolcanic rocky soils in open coastal sage scrub, chaparral, and grasslands. Elevation 3-580 meters. Flowering period Apr. – Jun.	**None.** No vernal pool habitat or clay soils occur on site.
Palmer's goldenbush	*Ericameria palmeri* var. *palmeri*	--/-- CNPS List 1B.1 County List B MSCP NE	Shrub. Occurs in coastal drainages, in mesic chaparral sites, or rarely in Diegan coastal sage scrub. Occasionally occurs as a hillside element (usually at higher elevations inland on north-facing slopes). Elevation 30-600 meters. Flowering period Jul. – Nov.	**Low**. Soils and habitat on the site are suitable but not consistent with prime habitat (drainages and mesic chaparral).

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE/CE CNPS List 1B.1 County List A	Annual/perennial herb. Occurs in vernal pools or mima mound areas with vernally moist conditions. Elevation 20-620 meters. Flowering period Apr. – Jun.	**None.** Vernal pools do not occur on site.
San Diego barrel cactus	*Ferocactus viridescens*	--/-- CNPS List 2B.1 County List B	Stem succulent. Occurs in Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Occasionally found on vernal pool periphery and mima mound topography in Otay Mesa. Elevation 3-450 meters. Flowering period May – Jun.	**Low.** Sage scrub habitat interspersed with cobbles does not occur on site. Species would likely have been observed during rare plant surveys if present.
Palmer's grapplinghook	*Harpagonella palmeri*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs on clay soils in annual grasslands and coastal sage scrub. Elevation 20-955 meters. Flowering period Mar. – May.	**None.** Clay soils do not occur on site.
Graceful tarplant	*Holocarpha virgata* ssp. *elongata*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs on coastal mesas and foothills with grassland habitats. Elevation 60-1100 meters. Flowering period Jul. – Nov.	**Low.** Very little suitable habitat (grassland) occurs on site.
Ramona horkelia	*Horkelia truncata*	--/-- CNPS List 1B.1 County List A	Perennial herb. Occurs in gabbro endemic chaparral communities (usually chamise chaparral). Elevation 400-1300 meters. Flowering period May – Jun.	**None.** Chaparral does not occur on site.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Gander's pitcher sage	*Lepechinia ganderi*	--/-- CNPS List 1B.3 County List A MSCP NE	Shrub. Occurs in metavolcanic derived soils in chaparral. Elevation 305-1005 meters. Flowering period Jun. – Jul.	**None.** Chaparral does not occur on site.
Robinson's pepper-grass	*Lepidium virginicum* var. *robinsonii*	--/-- CNPS List 4.3 County List A	Annual herb. Occurs in openings in chaparral and sage scrub at the coastal and foothill elevations. Elevation 1-885 meters. Flowering period Jan. – Jul.	**Low**. Soils and habitat on the site are suitable. This species was not observed during 2014 rare plant surveys.
California box-thorn	*Lycium californicum*	--/-- CNPS List 4.2 County List D	Shrub. Occurs in coastal bluffs and coastal sage scrub. Elevation 5-150 meters. Flowering period Dec. – Aug.	**Low.** Although suitable coastal sage scrub habitat occurs on site, the site is outside the known elevation range for the species.
Small-flowered microseris	*Microseris douglasii* ssp. *platycarpha*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in clay soils in perennial grasslands, on vernal pools periphery, or in broad openings in sage scrub. Elevation 15-1070 meters.	**None.** Clay soils do not occur on site.
Willowy monardella	*Monardella viminea*	FE/CE CNPS List 1B.1 County List A MSCP NE	Perennial herb. Occurs in riparian scrub, usually at sandy locales in seasonally dry washes. Elevation 50-225 meters. Flowering period Jun. – Aug.	**None.** Riparian habitat does not occur on site.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Dehesa nolina	*Nolina interrata*	--/SE CNPS List 1B.1 County List A MSCP NE	Perennial herb. Occurs in association with gabbro or peridotite soils, open southern mixed chaparral and chamise chaparral. Elevation 200-700 meters. Flowering period Jun. – Jul.	**None.** Chaparral does not occur on site.
Golden-rayed pentachaeta	*Pentachaeta aurea* ssp. *aurea*	--/-- CNPS List 4.2 County List D	Annual herb. Occurs in mesic montane grasslands and sage scrub. Elevation 80-1850 meters. Flowering period Mar – Jun.	**Moderate**. Habitat on the site is suitable. This species was not observed during 2014 rare plant surveys.
Nuttall's scrub oak	*Quercus dumosa*	--/-- CNPS List 1B.1 County List A	Shrub. Occurs in chaparral with a relatively open canopy cover, on north-facing slopes, may grow in dense monotypic stands, sandy or clay loam soils. Elevation 15-400 meters. Flowering period Feb. – Apr.	**None.** Chaparral does not occur on site. This species would have been observed during rare plant surveys if present on site.
Coulter's matilija poppy	*Romneya coulteri*	--/-- CNPS List 4.2 County List D	Perennial herb. Occurs in dry washes and canyons in chaparral and coastal sage scrub communities, often areas that have been burned, open or mildly disturbed terrain, and mature chaparral or sage scrub. Elevation 20-1200 meters. Flowering period Mar. – Jul.	**Present.** Suitable sage scrub habitat occurs on site. A total of 38 individuals were observed in the southernmost tip of the site.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Munz's sage	*Salvia munzii*	--/-- CNPS List 2B.2 County List B	Shrub. Occurs in chaparral and Diegan coastal sage scrub. Elevation 120-1065 meters. Flowering period Feb. – Apr.	**Low.** Although suitable sage scrub habitat is present on site, this species is known primarily from areas south of the site around Lower Otay Lake and the Jamul Mountains. Species was not observed during rare plant surveys and would likely have been observed if present.
Ashy spike moss	*Selaginella cinerascens*	--/-- CNPS List 4.1 County List D	Perennial herb. Occurs in flat mesas in coastal sage scrub and chaparral. Elevation 20-640 meters. No flowering period, as it is not a flowering plant. Above-ground all year.	**Moderate.** Suitable sage scrub habitat is present on site. Species would likely have been observed during rare plant surveys if present.
San Diego County needle grass	*Stipa diegoensis*	--/-- CNPS List 4.2 County List D	Perennial herb/tall bunchgrass. Occurs in chaparral and sage scrub ecotone, closely associated with metavolcanic soils and can been found in fine sandy loam and rocky silt loams. Peaks and upper ridgelines of mountains appear the preferred microhabitat. Elevation 10-800 meters. Flowering period Feb. – Jun.	**Low**. Soils and habitats on the site are marginally suitable. Site does not contain ridgelines or mountains. Not observed during rare plant surveys.

Appendix B (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

Common Name	Species Name	Status*	Habit, Ecology and Life History	Potential to Occur
Parry's tetracoccus	*Tetracoccus dioicus*	--/-- CNPS List 1B.2 County List A	Shrub. Occurs on gabbro soils in low growing chamise chaparral. Elevation 165-1000 meters. Flowering period Apr. – May.	**None.** Species is associated with Las Posas soils, which do not occur on site. Chaparral does not occur on site.
Rush-like bristleweed	*Xanthisma junceum*	--/-- CNPS List 4.3 No County List Designation	Perennial herb. Occurs in low-growing chamise chaparral or Diegan coastal sage scrub, exposed locations with rocky substrate that does not foster much annual understory. Elevation 240-1000 meters. Flowering period Jun. – Jan.	**Low**. Soils and habitat on the site are suitable. This perennial herb was not observed during 2014 rare plant surveys.

*Status codes are as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

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

County of San Diego Sensitive Plant Lists: A – rare, threatened, or endangered in California and elsewhere; B – rare, threatened, or endangered in California but more common elsewhere; C – may be quite rare but need more information; D – limited distribution and may be uncommon, but not presently endangered.

Appendix C

ANIMAL SPECIES OBSERVED OR DETECTED

Appendix C
ANIMAL SPECIES OBSERVED OR DETECTED
BRIGHTWATER RANCH

ORDER	FAMILY	SCIENTIFIC NAME	COMMON NAME
INVERTEBRATES			
Hymenoptera	Apidae	*Apis mellifera*	European honey bee
	Formicidae	*Pogonomyrmex* sp.	harvester ant
	Pompilidae	*Pepsis* sp.	tarantula hawk
Lepidoptera	Papilionidae	*Papilio rutulus*	western tiger swallowtail
	Pieridae	*Pontia sisymbrii*	spring white
		Colias eurytheme	orange sulphur
	Lycaenidae	*Callophrys dumetorum affinis*	bramble's hairstreak
		Strymon melinus pudica	gray hairstreak
		Leptotes marina	marine blue
		Icaricia acmon acmon	Acmon blue
		--	unidentified blue
	Riodinidae	*Apodemia mormo virgulti*	Behr's metalmark
	Nymphalidae	*Nymphalis antiopa*	mourning cloak
		Vanessa cardui	painted lady
		Danaus plexippus†	monarch
		Danaus gilippus thersippus	queen
	Hesperiidae	*Erynnis funeralis*	funereal duskywing
VERTEBRATES			
Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
		Sceloporus orcutti	granite spiny lizard
		Uta stansburiana	common side-blotched lizard
	Teiidae	*Aspidoscelis hyperythra*†	orange-throated whiptail

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED
BRIGHTWATER RANCH

ORDER	FAMILY	SCIENTIFIC NAME	COMMON NAME
VERTEBRATES (cont.)			
Birds			
Accipitriformes	Accipitridae	*Accipiter cooperii*†	Cooper's hawk
		Buteo jamaicensis	red-tailed hawk
	Cathartidae	*Cathartes aura*†	turkey vulture
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
		Calypte costae	Costa's hummingbird
Columbiformes	Columbidae	*Zenaida macroura*	mourning dove
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Cardinalidae	*Pheucticus melanocephalus*	black-headed grosbeak
	Corvidae	*Aphelocoma californica*	western scrub jay
		Corvus brachyrhynchos	American crow
		Corvus corax	common raven
	Emberizidae	*Aimophila ruficeps canescens*†	southern California rufous-crowned sparrow
		Melospiza melodia	song sparrow
		Melozone crissalis	California towhee
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Fringillidae	*Haemorhous mexicanus*	house finch
		Spinus psaltria	lesser goldfinch
	Hirundinidae	*Petrochelidon pyrrhonota*	cliff swallow
	Icteridae	*Icterus cucullatus*	hooded oriole
	Mimidae	*Mimus polyglottos*	northern mockingbird
		Toxostoma redivivum	California thrasher
	Parulidae	*Setophaga coronata*	yellow-rumped warbler
	Polioptilidae	*Polioptila californica californica*†	coastal California gnatcatcher
	Ptilogonatidae	*Phainopepla nitens*	phainopepla

Appendix C (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED
BRIGHTWATER RANCH

ORDER	FAMILY	SCIENTIFIC NAME	COMMON NAME
VERTEBRATES (cont.)			
Birds (cont.)			
Passeriformes (cont.)	Sylviidae	*Chamaea fasciata*	wrentit
	Troglodytidae	*Thryomanes bewickii*	Bewick's wren
		Troglodytes aedon	house wren
	Tyrannidae	*Tyrannus vociferans*	Cassin's kingbird
Piciformes	Picidae	*Colaptes auratus*	northern flicker
Mammals			
Carnivora	Canidae	*Canis latrans clepticus*	coyote
Rodentia	Sciuridae	*Spermophilus beecheyi*	California ground squirrel
	Geomyidae	*Thomomys bottae*	Botta’s pocket gopher
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail

†special-status species

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Appendix D

SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Appendix D
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Insects				
Hermes copper	*Lycaena hermes*	--/-- County Group 1	Southern mixed chaparral and coastal sage scrub at western edge of Laguna mountains. Requires host plant *Rhamnus crocea* in close proximity to *Eriogonum fasciculatum* or other nectar sources.	**Low**. Suitable host plant associations occur on the site, and the site is within the species' range. Focused surveys conducted May through July 2014 were negative.
Quino checkerspot butterfly	*Euphydryas editha quino*	FE/-- County Group 1	Sunny openings within chaparral and coastal sage shrublands. Host plants include *Plantago erecta, Cordylanthus rigidus, Collinsia* spp., *Plantago patagonica, Antirrhinum coulterianum,* and *Castilleja exserta.*	**Low**. Much of the sage scrub on site is considered too dense to support this species. The site occurs outside of the USFWS Recommended Survey Area. However, some suitable habitat occurs on the site.
Monarch butterfly	*Danaus plexippus*	--/-- County Group 2	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	**Present.** Species observed flying over the site. Suitable roosting locations and larval host plant species do not occur on the site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Reptiles and Amphibians				
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	--/SSC County Group 2	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	**Moderate**. Suitable brushy habitat occurs on the site, with a few rock outcrops.
Coastal rosy boa	*Lichanura trivirgata roseofusca*	--/-- County Group 2	Rocky outcrops in coastal sage scrub, chaparral, and desert scrub.	**Moderate**. Suitable sage scrub habitat occurs on site, with a few rock outcrops.
Coronado skink	*Eumeces skiltonianus interparietalis*	--/SSC County Group 2	Found in most terrestrial habitats except the desert. Often in more open habitats under rocks, logs, and debris. Habitats include grassland, sage scrub, chaparral, pinyon-juniper woodland, and pine-oak forests.	**High**. Suitable sage scrub habitat occurs on site.
Northern red diamond rattlesnake	*Crotalus ruber ruber*	--/SSC County Group 2	Chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**High**. Suitable habitat and prey resources occur on the site.
Orange-throated whiptail	*Cnemidophorus hyperythrus*	--/SSC County Group 2 MSCP Covered	Coastal scrub, chaparral, and valley and foothill hardwood habitats. Prefers washes and sandy areas with patches of brush and rocks. Perennial plants required to support its primary prey termites.	**Present**. Species has been observed on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Reptiles and Amphibians (cont.)				
San Diego banded gecko	*Coleonyx variegatus abbottii*	--/-- County Group 1	Chaparral and coastal sage scrub in areas with rock outcrops.	**Moderate**. Suitable coastal sage scrub and rocky outcrop habitats occur on the site.
San Diego horned lizard	*Phrynosoma coronatum blainvillei*	--/SSC County Group 1 MSCP Covered	Coastal sage scrub and chaparral in arid and semiarid climate conditions.	**High**. Suitable coastal sage scrub habitat occurs on the site.
San Diego ringneck snake	*Diadophis punctatus similis*	--/-- County Group 2	Moist habitats such as oak woodlands and canyon bottoms, occasionally grassland, chaparral, and coastal sage scrub.	**Low**. No oak woodland or moist habitats occur on site.
Silvery legless lizard	*Anniella pulchra pulchra*	--/SSC County Group 2	Areas with loose soil, particularly in sand dunes and or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, sage scrub, and pinyon-juniper woodland. Some reports have occurred in desert flats, as well as dunes and beaches under sparse vegetation.	**Moderate**. Suitable sage scrub habitat and sandy loam soils occur on site.
Two-striped garter snake	*Thamnophis hammondii*	--/SSC County Group 1	Occurs along permanent and intermittent streams bordered by dense riparian vegetation, but occasionally associated with vernal pools or stock ponds.	**None.** No permanent or intermittent streams occur on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Reptiles and Amphibians (cont.)				
Western spadefoot toad	*Scaphiopus hammondii*	--/SSC County Group 2	Burrows in loose soils 1 meter in depth. Requires temporary rainpools and vernal pools (for breeding) lasting three weeks with cool to warm temperatures and absence of predators (crayfish, bullfrogs, etc.).	**None**. No vernal pools or basins are present on site.
Birds				
American peregrine falcon	*Falco peregrines anatum*	BCC/SE County Group 1 MSCP Covered	Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.	**Low.** Cliffs near water where prey is concentrated do not occur on the site.
Bell's sage sparrow	*Amphispiza belli belli*	BCC/WL County Group 1	Chaparral and sage scrub with modest leaf litter on the ground (e.g., after a fire or in gabbro-based soil areas).	**Low**. Coastal sage scrub habitat occurs on the site, but there is no recent history of fire, and soils on the site are not gabbroic.
Burrowing owl	*Athene cunicularia*	BCC/SSC County Group 1	Grassland or open scrub habitats with sufficient small mammal prey and mammal burrows.	**Low**. Very little grassland and open scrub habitat is present on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Birds (cont.)				
Coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	BCC/SSC County Group 1 MSCP Covered	Habitat consists of cactus thickets in coastal lowlands of San Diego County.	**Low.** No cactus thickets occur on site.
Coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC County Group 1 MSCP Covered	Coastal sage scrub below 2500 ft in southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Present**. Species has been documented on site.
Cooper's hawk	*Accipiter cooperi*	--/SSC County Group 1 MSCP Covered	(Nesting) Open, uninterrupted, or marginal woodland. Nest sites mainly found in riparian growths of deciduous trees, live oaks.	**Present**. Species has been documented on site.
Golden eagle	*Aquila chrysaetos*	--/FP County Group 1	(Nesting and Wintering) Rolling foothills and mountain areas, juniper-sage flats, and deserts. Primarily associated with cliff-walled canyons and large trees in open habitats for nesting.	**None**. No suitable nesting habitat occurs on the site. The site does not contain mountain areas or large trees for nesting. The site is adjacent to dense development, which is typically avoided by this species.
Grasshopper sparrow	*Ammodramus savannarum*	--/SSC County Group 1	Grassland.	**Low.** Very little grassland occurs on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Birds (cont.)				
Horned lark	*Eremophila alpestris actis*	--/WL County Group 2	Coastal strand, arid grasslands, and sandy desert floors.	**Low**. Grassland habitat is very limited on site.
Least Bell's vireo	*Vireo bellii pusillus*	FE, BCC/SE County Group 1 MSCP Covered	Riparian woodland, typically with a dense understory.	**None.** No riparian habitat occurs on site.
Loggerhead shrike	*Lanius ludovicianus*	BCC/SSC County Group 1	Grassland, open sage scrub, chaparral, and desert scrub.	**Moderate**. Some open sage scrub occurs on site.
Northern harrier	*Circus cyaneus hudsonius*	--/SSC County Group 1 MSCP Covered	Coastal salt and freshwater marsh. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Low**. No marsh habitat or extensive grasslands occur on site.
Prairie falcon	*Falco mexicanus*	--/-- County Group 1	Inhabits dry, open terrain, either level or hilly.	**Low**. Marginal foraging habitat occurs on site.
Red-shouldered hawk	*Buteo lineatus*	--/-- County Group 1	Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.	**Moderate**. A few suitable perching trees occur on site.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	--/-- County Group 1 MSCP Covered	Found in coastal sage scrub and sparse mixed chaparral.	**Present**. An individual was observed within coastal sage scrub habitat on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Birds (cont.)				
Sharp-shinned hawk	*Accipiter striatus*	--/WL County Group 1	Winter visitor to San Diego County. Usually observed in areas with tall trees or other vegetative cover but can be observed in a variety of habitats.	**Moderate.** Project site mostly devoid of trees. Suitable foraging habitat present.
Turkey vulture	*Cathartes aura*	--/-- County Group 2	Found in open country, woodlands, and near farms.	**Present**. Observed soaring over the site during biological surveys.
White-tailed kite	*Elanus leucurus*	--/FP County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland.	**Low**. Riparian woodlands, oaks, and sycamores are not present on site. There is low potential for this species to forage on site.
Yellow-breasted chat	*Ictera virens*	--/SSC County Group 1	Mature riparian woodland.	**None**. Riparian habitat is not present on site.
Mammals				
American badger	*Taxidea taxus*	--/SSC County Group 2 MSCP Covered	Open plains and prairies, farmland, and sometimes edges of woods.	**None**. Suitable habitat not present on site.
Big free-tailed bat	*Nyctinomops macrotis*	--/SSC County Group 2	Rocky areas, in day they roost in rocky cliffs, sometimes caves, buildings, or tree holes.	**Low**. Suitable cliff habitat for roosting does not occur on the site, and only a few trees are present, occurring along the perimeter of the site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Mammals (cont.)				
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	--/SSC County Group 2	Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Associated with grass-chaparral edges.	**Moderate**. Suitable grassland and coastal sage scrub habitat occurs on the site. Sandy loam soils are not highly suitable. Chaparral is not present on site.
Greater western mastiff bat	*Eumops perotis californicus*	--/SSC County unlisted	Lower and upper Sonoran desert scrub near cliffs, preferring rugged rocky canyons with abundant crevices. Prefers crowding into tight crevices.	**None**. No desert scrub occurs on site.
Mexican long-tongued bat	*Choeronycteris mexicana*	--/SSC County Group 2	Arid scrub, mixed forest, and canyons in mountain ranges rising from the desert. By day, usually in caves and mines, but sometimes in buildings.	**None**. No arid scrub, mixed forest, or mountain canyons occur on site.
Mountain lion	*Felis concolor*	--/-- County Group 2 MSCP Covered	Rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat. Also, need both vertical and horizontal cover components, such as rocks and downed logs to bed.	**Moderate**. No cliffs, ledges, or riparian corridors occur on site. Transient individuals possible, given the regional setting and proximity of large tracts of open space further east of the site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Mammals (cont.)				
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	--/SSC County Group 2	Open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**Moderate**. Suitable coastal sage scrub and weedy habitats occur on site. Sandy loam soils are not highly suitable.
Pallid bat	*Antrozous pallidus*	--/SSC County Group 2	Rocky, mountainous areas and near water; also found over more open, sparsely vegetated grasslands, and prefers foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks.	**Low**. Limited rocky terrain and grasslands occur on site, but the site is not mountainous, nor is open water available.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	--/SSC County Group 2	Semiarid desert lands. Day-roosts in caves, crevices in cliffs, and under the roof tiles of buildings. Uses a variety of arid habitats in southern California: pine-juniper woodlands, desert scrub, palm oases, desert wash, desert riparian, etc. Prefers rocky areas with high cliffs.	**None**. Suitable desert habitats do not occur on the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH**				
COMMON NAME	**SPECIES NAME**	**STATUS***	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Mammals (cont.)				
Ringtail	*Bassariscus astutus*	--/-- County Group 2	Various riparian habitats and in brush stands of moist forest and shrub habitats at low to middle elevations. Less common in wooded areas with hollow trees, sometimes around buildings.	**Low**. Site does not contain riparian habitat.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	--/SSC County Group 2	Primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High**. Suitable coastal sage scrub and grassland habitats occur on site.
San Diego desert woodrat	*Neotoma lepida intermedia*	--/SSC County Group 2	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**High**. Suitable coastal sage scrub habitat with some rock outcrops occurs on site.
Southern grasshopper mouse	*Onychomys torridus ramona*	--/SSC County Group 2	Arid habitats including various types of scrublands, low desert with creosote bush, mesquite, and yucca.	**None**. No desert scrub habitat occurs on the site.
Southern mule deer	*Odocoileus hemionus*	--/-- County Group 2 MSCP Covered	Mule deer occupy to some extent almost all types of habitat within their range but, in general, they seem to prefer the more arid, open situations.	**Moderate**. Open habitat is limited on site, but suitable habitat is present.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR – BRIGHTWATER RANCH

COMMON NAME	SPECIES NAME	STATUS*	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Mammals (cont.)				
Yuma myotis	*Myotis yumanensis*	--/-- County Group 2	Open water near woodlands and forests. Also uses caves and mines.	**None**. Open water is not available on the site.

*Listing codes are as follows: FE = Federally Endangered; FT = Federally Threatened; BCC = Birds of Conservation Concern; SE = State of California Endangered; FP = State of California Fully Protected; WL = State of California Watch List; SSC = State of California Species of Special Concern.
County of San Diego Sensitive Animal List: Group 1 = Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met; Group 2 = Animals that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action; these species tend to be prolific within their suitable habitat types.
MSCP Covered: Species covered under the County of San Diego Multiple Species Conservation Program Subarea Plan.

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Appendix E

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FT	Federally listed threatened

California Department of Fish and Wildlife (CDFW)

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

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

County of San Diego

Plant sensitivity:

List A	Plants rare, threatened, or endangered in California or elsewhere
List B	Plants rare, threatened, or endangered in California but more common elsewhere
List C	Plants that may be quite rare, but more information is needed to determine rarity status
List D	Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal sensitivity:

Group 1	Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.
Group 2	Animals that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

Multiple Species Conservation Program (MSCP) Covered

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

MSCP Narrow Endemic (NE)

Narrow endemic species are native species that have "restricted geographic distributions, soil affinities, and/or habitats." The MSCP participants' subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.

OTHER CODES AND ABBREVIATIONS

California Native Plant Society (CNPS) Codes

Lists

1A = Presumed extinct.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.

4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.