

**OTAY HILLS CONSTRUCTION AGGREGATE AND INERT  
DEBRIS ENGINEERED FILL OPERATION PROJECT**

**APPENDIX E**

**BIOLOGICAL TECHNICAL REPORT**

*for the*

**PUBLIC REVIEW  
DRAFT ENVIRONMENTAL IMPACT REPORT**

PDS2004-3300-04-004 (MUP);  
PDS2004-3310-04-001 (RP);  
PDS2010-3813-10-002 (SPA);  
Log No. 04-190-04

JUNE 2020

*Prepared for:*

**COUNTY OF SAN DIEGO**  
PLANNING & DEVELOPMENT SERVICES  
5510 OVERLAND AVENUE, SUITE 310  
SAN DIEGO, CALIFORNIA 92123

# Otay Hills Construction Aggregate and Inert Debris Engineered Fill Operation Project

Project Nos.: PDS2004-3300-04-004 (MUP);  
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Biological Technical Report

June 2020

Prepared for:  
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# **Biological Technical Report**

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**PDS2004-3300-04-004 (MUP); PDS2004-3310-04-001 (RP);  
PDS2010-3813-10-002 (SPA); Log No. 04-190-04**

*Submitted to:*

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**June 2020**

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## **GLOSSARY OF TERMS AND ACRONYMS**

AMA	Additional Management Area
AMSL	above mean sea level
APCD	Air Pollution Control District
BACT	best available control technology
BGEPA	Bald and Golden Eagle Protection Act
BMO	Biological Mitigation Ordinance
BRCA	Biological Resource Core Area
CAGN	coastal California gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
EOMSP	East Otay Mesa Specific Plan
ESA	Endangered Species Act
FGC	Fish and Game Code
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IDEFO	Inert Debris Engineered Fill Operation
I-	Interstate-
MSCP	Multiple Species Conservation Program
NCCP	Natural Communities Conservation Planning
NE	Narrow Endemic
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
Ogden	Ogden Environmental and Energy Service Company
OHV	off-highway vehicle
QCB	Quino checkerspot butterfly
RMP	Resource Management Plan
RPO	Resource Protection Ordinance
SDG&E	San Diego Gas & Electric
SR	State Route

## **GLOSSARY OF TERMS AND ACRONYMS (cont.)**

SSC	State Species of Special Concern
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey



## SUMMARY (ABSTRACT)

This report describes biological conditions for the proposed Otay Hills Aggregate Extraction and Inert Debris Engineered Fill Operation project (Proposed Project). The approximately 414.4-acre, undeveloped Proposed Project site is located in southwestern San Diego County (County) at the edge of Otay Mesa approximately one mile north of the border with Baja California, Mexico, one mile east of the Otay Mesa border crossing and east of the intersection of Otay Mesa and Alta roads.

The applicant proposes to establish a mineral resource recovery and processing operation and associated activities on approximately 102.7 acres (development footprint) of the 414.4-acre site. Acreage along the southern boundary of the site contains an easement and will not be impacted by the Proposed Project, but will be included in the Major Use Permit (MUP) area. The easement area is considered “impact neutral” and will result in a total MUP project area of 105.1 acres. An approximate acreage of 105 acres is used in other technical reports to describe the project area. The 414.4-acre total includes 4.7 acres of existing open space on the Otay Crossings Commerce Park project located off site to the west that will be isolated by the Proposed Project, and is therefore considered impacted and proposed for future development. In the eastern portion of the Proposed Project site, the applicant proposes to dedicate 304.6 acres to open space (including 137.8 acres as mitigation for direct and indirect impacts to sensitive vegetation communities associated with the Proposed Project as well as an additional 166.8 acres in excess of this mitigation to meet mitigation obligations for removal of Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) habitat. An additional 61-acre Additional Management Area (AMA) has an existing conservation easement in favor of the California Department of Fish and Wildlife but lacks management funding and the Project is providing funding for management of this area. The Project will require a Major Amendment to the Multiple Species Conservation Program.

In addition to developed land, 12 vegetation communities/habitats occur on the Proposed Project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat. Diegan coastal sage scrub, non-native grassland, and disturbed habitat are present on the off-site parcel. The Proposed Project would result in direct removal of approximately 98.7 acres of sensitive (Tier I through III) vegetation.

U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional areas as well as County Resource Protection Ordinance (RPO) wetlands occur on site (not on the off-site parcel). Direct impacts to USACE jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.07 acre of non-wetland Waters of the U.S. Direct removal of RWQCB jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.13 acre of streambed. Direct removal of CDFW jurisdictional areas resulting from Proposed Project implementation include 0.34 acre of wetlands and 0.16 acre of streambed. Implementation of the Proposed Project would directly impact 0.34 acre of County RPO wetlands; however, the Proposed Project is exempt from RPO requirements.

Eighteen sensitive plant species are known to occur on the Proposed Project site. One of these, Otay tarplant (*Deinandra conjugens*), is federal listed threatened and State listed endangered, and one, Dunn's mariposa lily (*Calochortus dunnii*) is California rare. Four plant species that occur on site are included in the MSCP narrow endemic plant list: Otay tarplant, Dunn's mariposa lily, variegated dudleya (*Dudleya variegata*), and Gander's pitcher sage (*Lepechinia ganderi*).

In addition to the four sensitive species discussed above, 14 species considered sensitive by the California Native Plant Society were observed on site: Tecate cypress (*Hesperocyparis* [*Cupressus*] *forbesii*), San Diego goldenstar (*Bloomeria* [*Muilla*] *clevelandii*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Orcutt's bird's beak (*Cordylanthus orcuttianus*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego marsh-elder (*Iva hayesiana*), Munz's sage (*Salvia munzii*), San Diego needlegrass (*Achnatherum diegoensis*), western dichondra (*Dichondra occidentalis*), Palmer's grapplinghook (*Harpagonella palmeri*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Coulter's matilija poppy (*Romneya coulteri*), San Diego sunflower (*Viguiera laciniata*), and ashy spike-moss (*Selaginella cinerascens*). San Diego barrel cactus, San Diego sunflower, and ashy spike-moss also occur on the off-site parcel.

The following sensitive plant species would be directly impacted by the Proposed Project: Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus, San Diego marsh-elder, San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower, and ashy spike-moss.

Nineteen sensitive animal species were observed/detected or assumed to occur on the Proposed Project site including the federal listed endangered QCB and the federal listed threatened coastal California gnatcatcher (*Poliophtila californica californica*; CAGN). Four of the sensitive animal species are listed as Birds of Conservation Concern by the U.S. Fish and Wildlife Service: Bell's sage sparrow (*Amphispiza belli belli*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), and loggerhead shrike (*Lanius ludovicianus*). Five animal species observed/detected are listed as a State Species of Special Concern (SSC): red-diamond rattlesnake (*Crotalus ruber ruber*), coast horned lizard (*Phrynosoma blainvillii*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus cyaneus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). (Note that although not observed on site, Belding's orange-throated whiptail [*Aspidoscelis hyperythra beldingi*; an SSC] is assumed to be present throughout the entire Project site.) Two species are designated as Watch List species by the American Bird Conservancy: southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) and California horned lark (*Eremophila alpestris actia*). Five County sensitive species (coastal whiptail [*Aspidoscelis tigris stejnegeri*], Cooper's hawk [*Accipiter cooperii*], turkey vulture [*Cathartes aura*], common barn owl [*Tyto alba*], and southern mule deer [*Odocoileus hemionus fuliginata*]) also occur on site.

In addition to its federal status, QCB is also a County listed rare, narrow endemic animal species. Other rare, narrow endemic animal species observed on site include burrowing owl and golden eagle.

The following sensitive animal species would be directly impacted by the Proposed Project most particularly by loss of habitat: QCB, coast horned lizard, coastal whiptail, red-diamond rattlesnake,

CAGN, burrowing owl, loggerhead shrike, grasshopper sparrow, southern California rufous-crowned sparrow, California horned lark, Bell's sage sparrow, turkey vulture, northern harrier, barn owl, southern mule deer and San Diego black-tailed jackrabbit.

In addition to direct removal of sensitive vegetation and species from the Proposed Project, indirect impacts from noise, non-native plant species, animal entrapment or pit falls, and public access to the proposed open space are indirect impacts that may occur to these sensitive resources.

Mitigation for direct significant impacts to sensitive vegetation communities would occur primarily through on-site preservation of habitat in 137.8 acres of dedicated open space, although some on or off-site restoration and/or off-site acquisition would also be necessary. Mitigation ratios for wetland community impacts would occur at a 3:1 ratio, and upland community impacts would be mitigated at ratios of 1:1 to 2:1. In addition to this mitigation, the applicant proposes to preserve an additional 166.8 acres of the Project site in dedicated open space. Removal of 104.9 acre of QCB occupied habitat will be mitigated at a 2.89:1 ratio through preservation of 303.5 acres of QCB occupied habitat on site, and provision of management funds for the 61-acre AMA.

Mitigation for direct significant removal of sensitive plant species would occur at ratios of 1:1 to 7.3:1 in accordance with Section 86.507 of the County's Biological Mitigation Ordinance, which requires that "in-kind preservation shall be required at a 1:1 to 3:1 ratio [of listed or County List A or B plant species]." Mitigation for direct significant impacts to sensitive animal species would include preservation of habitat and avoidance of impacts to nesting.

Mitigation for significant indirect noise impacts to CAGN habitat would include preservation of an additional 20.6 acres of Diegan coastal sage scrub on site at a 1:1 ratio for the area impacted by noise, as well as additional measures to minimize potential adverse noise effects on the habitat and the CAGN.

Mitigation for potential significant impacts from invasive, non-native plant species would include revegetation of impacted, but undeveloped, areas (e.g., cut and fill slopes) with native species.

Mitigation for potential animal entrapment or pitfalls would include measures to: (1) deter animals from entering the development footprint; (2) measures to exclude animals from potentially dangerous areas within the development footprint; and (3) measures to help animals escape if entrapment were to occur.

Mitigation to protect the proposed open space from public access includes implementation of a Resource Management Plan (RMP; by a conservation entity approved by the County, USFWS, and CDFW) to be funded by an endowment from the applicant for in-perpetuity management. The RMP would include stewardship measures including, but not limited to, posting and upkeep of fencing and trespassing signs along the western and southern boundaries of the open space and on alternating sides along the portion of Otay Truck Trail that traverses the open space, as well as at locations of any unauthorized trails entering the open space to preclude unauthorized access.

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

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# **1.0 INTRODUCTION**

## **1.1 PURPOSE OF THE REPORT**

This report describes biological conditions for the proposed Otay Hills Aggregate Extraction and Inert Debris Engineered Fill Operation project (Proposed Project). It provides the Proposed Project applicant (applicant; Superior Ready Mix), County of San Diego (County), resource agencies (U.S. Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]), and the public with current biological data to satisfy review of the Proposed Project under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), and to demonstrate compliance with federal, state, and County regulations. This report describes the site's current biological conditions, vegetation communities, plant and wildlife species observed or detected during the surveys, and identifies those resources that are sensitive. It also identifies sensitive species with potential to occur on the Proposed Project site. In addition, avoided resources are identified, Proposed Project impacts are assessed, and mitigation is proposed to offset the Proposed Project's unavoidable significant impacts to sensitive biological resources including to those off site.

## **1.2 PROJECT LOCATION AND DESCRIPTION**

Four alternatives are analyzed in this report: Proposed Project, Extraction to Varying Depth, Extraction to Natural Grade, and No Project Alternative, as described in Sections 1.2.2 through 1.2.5 below.

### **1.2.1 Project Location**

The approximately 414.4-acre Proposed Project site (all or portions of Assessor's Parcel Numbers 648-050-12, 648-050-17, 648-050-14, 648-040-39, 648-050-13, 648-040-40, 648-080-13, 648-080-14, 648-080-25) is located in southwestern San Diego County at the edge of Otay Mesa approximately one mile north of the border with Baja California, Mexico (Baja), one mile east of the Otay Mesa border crossing and east of the intersection of Otay Mesa and Alta Roads (Figures 1, 2a, 2b, and 3). The Proposed Project site is located in Township 18 South, Range 1 East, Sections 29, 30, 31, and 32 on the San Bernardino Base and Meridian U.S. Geological Survey (USGS) 7.5-minute Otay Mesa quadrangle map (Figure 2a). It is located within the South County Segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The site is undeveloped and has five County MSCP Subarea Plan designations: Major Amendment Area, Minor Amendment Area, Minor Amendment Area Subject to Special Consideration, Take Authorized Area, and Hardline Preserve (see Section 1.5.3, for an explanation of these designations).

An additional 61-acre Additional Management Area (AMA) has an existing conservation easement in favor of CDFW but lacks management funding, and the Project is providing funding for management of this area. This AMA is not considered part of the Proposed Project site (see Figure 3) but is included the description of areas being managed for conservation purposes. The AMA is part of APN 648-050-17.

### 1.2.2 Proposed Project Description

The applicant proposes to establish a mineral resource recovery and processing operation and associated activities on approximately 102.7 acres (development footprint) of the 414.4-acre site. With the inclusion of the “impact neutral” area along the southern boundary of the site, the total MUP project area will be approximately 105.1 acres. The 414.4-acre total includes 4.7 acres of existing open space on the Otay Crossings Commerce Park project located off site to the west that will be isolated by the Proposed Project, and is therefore considered impacted and proposed for future development (Figure 3). The total on-site and off-site impact footprint is 107.4 acres. The Proposed Project is to fulfill rising demand for construction aggregates in the south San Diego County market area for approximately 90 years. In the eastern portion of the Proposed Project site, 304.6 acres are proposed to be dedicated to open space, including 137.8 acres as mitigation for direct and indirect impacts associated with the Proposed Project as well as an additional 166.8 acres in excess of this mitigation to meet mitigation obligations for removal of Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) habitat. An additional 2.4 acres along the southern boundary of the site (south of the development footprint) would not be impacted by the Proposed Project, but are also not proposed to be dedicated to open space. This area is considered “impact neutral” (Figure 3).

During and after mineral resource recovery operations, the open pit would serve as a receiver site for inert debris such as concrete, asphalt, rock, and soil. Approximately 85.4 million tons of mineral resources would be extracted from the development footprint area and over 31 million cubic yards of inert debris would be received over an approximately 120+-year period. Prior to commencing operations, the Proposed Project would require the approval of a Specific Plan Amendment, Major Use Permit, Reclamation Plan, and financial assurance. These requirements are set forth in the County of San Diego Grading Ordinance Chapter 87.700 et seq. and the California Surface Mining and Reclamation Act PRC 2770(a) et seq.

Rock that has been processed for use in manufacturing other products (such as concrete or asphaltic concrete) is typically referred to as aggregate. Aggregates are necessary for the construction, maintenance, and renovation of buildings and existing homes, and construction of new homes and supporting infrastructure.

The aggregate extraction operation would occur within the 105.1-acre MUP area while the majority of processing activities would take place within this area on an approximately 16.1-acre pad at the northern portion of the development footprint area. Hours of operation primarily would be from 5:00 AM to 10:00 PM. Maintenance and exporting of aggregate by truck, however, could occur 24 hours per day. Following completion of resource recovery operations, the development footprint area would be reclaimed to a beneficial land use consistent with the underlying land use regulations. Slopes abutting the proposed open space would be revegetated with native upland habitat.

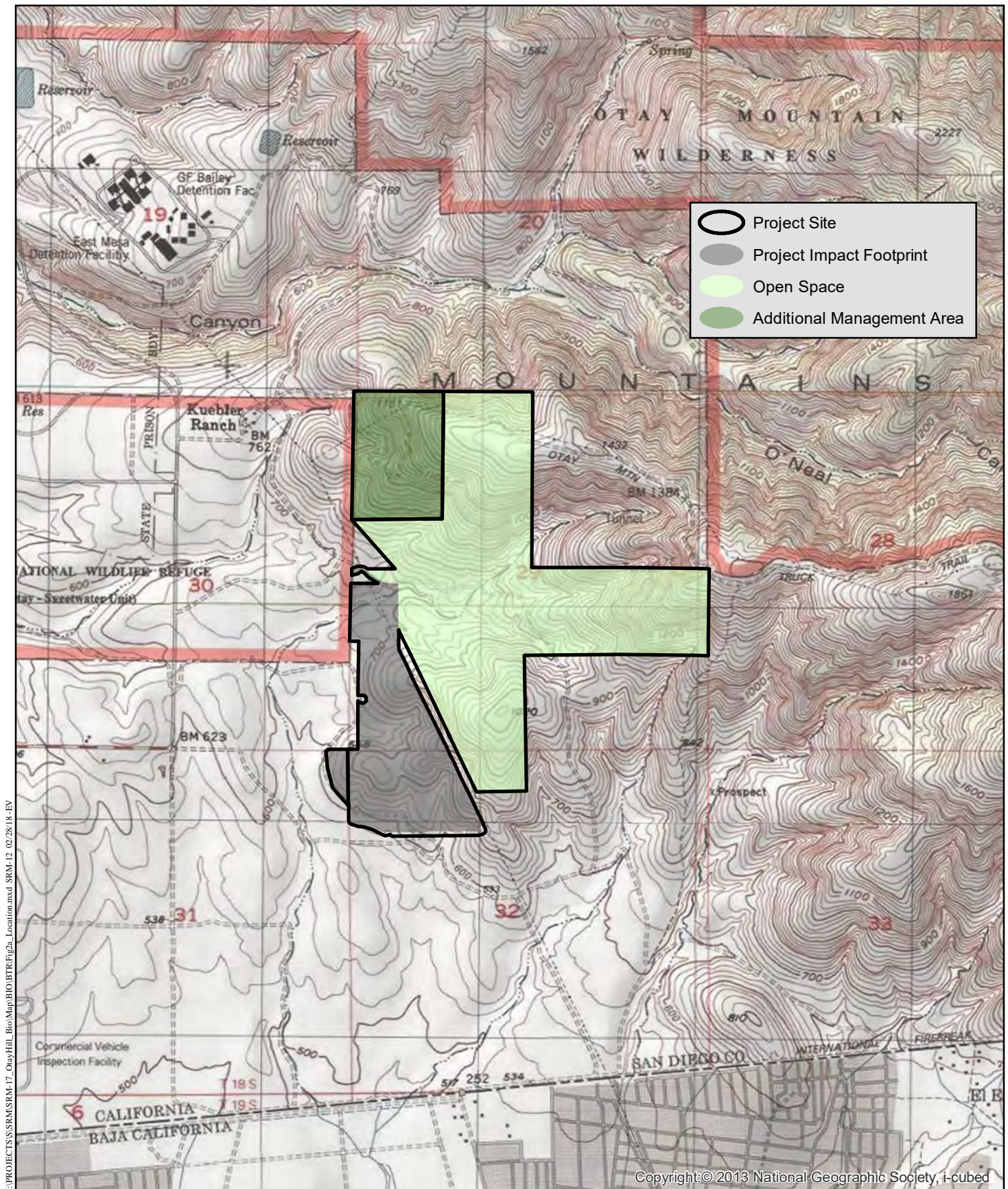
Mineral resource recovery operations would be conducted through the use of drilling and blasting to fracture rocks. Based on anticipated production levels of 0.6 to 1.6 million tons per year, blasting would occur approximately once each week. Blasting operations would be conducted by a licensed blasting contractor with all blasting materials transported to the development footprint



## Regional Location

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

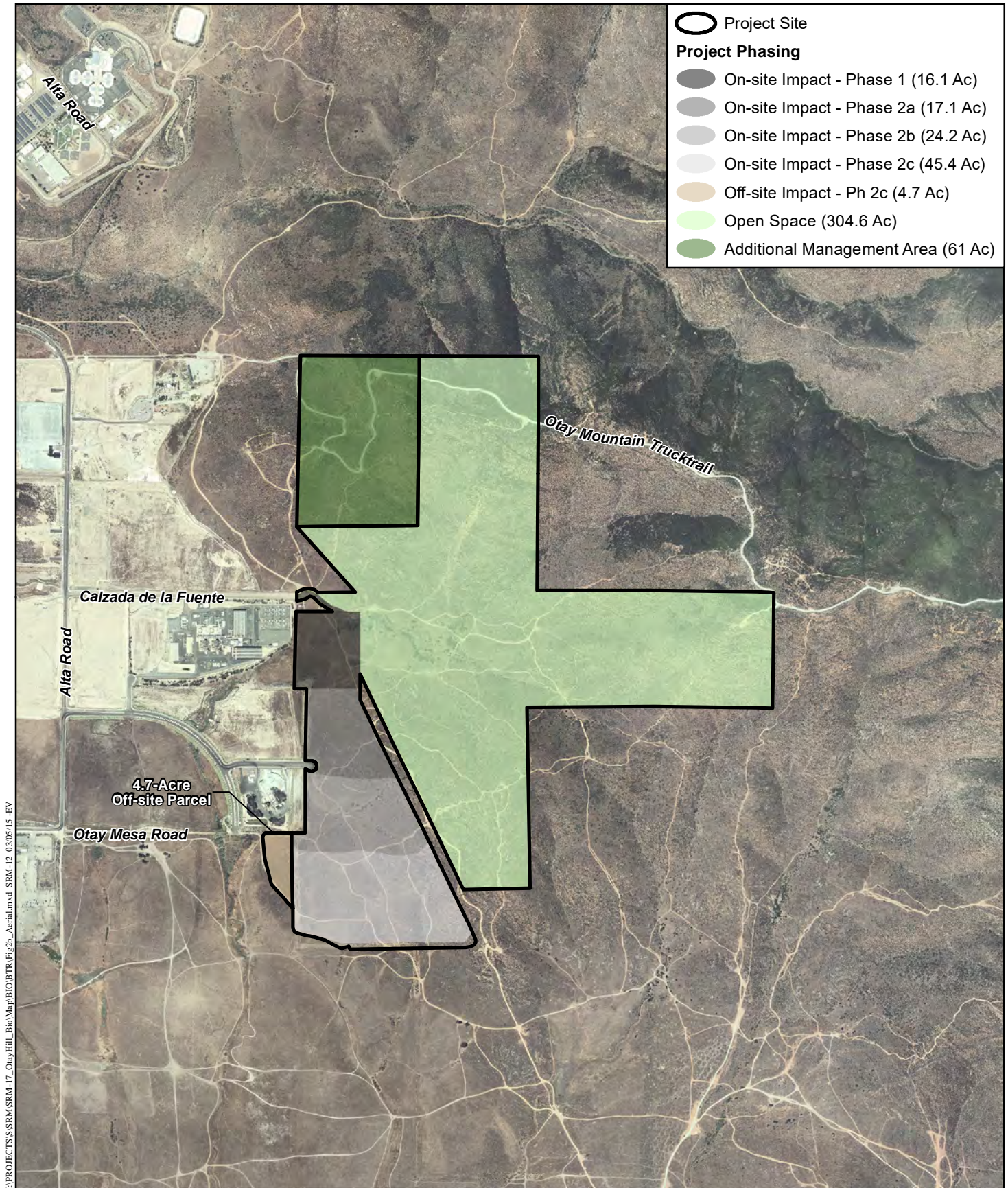




## Project Location - USGS

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

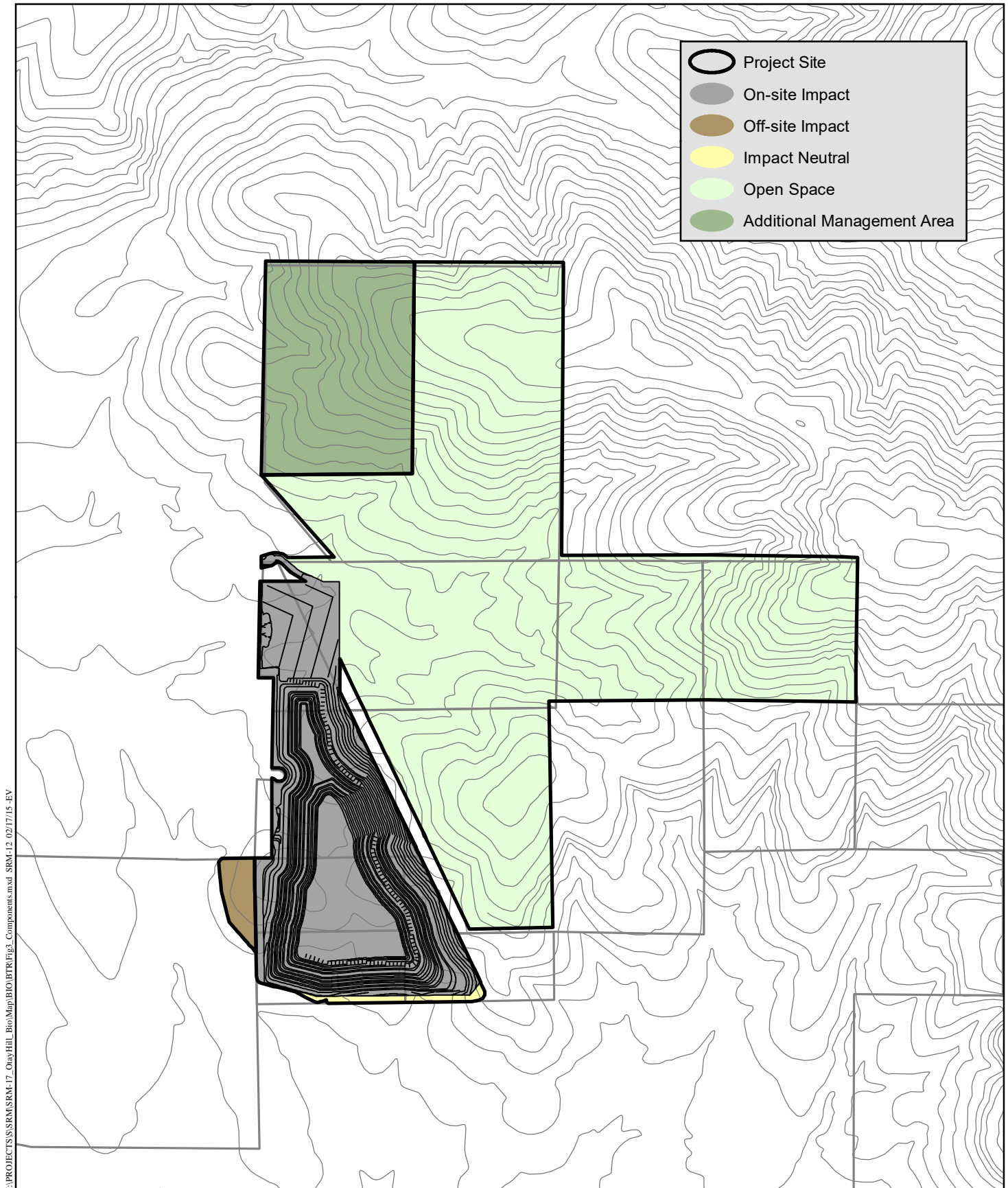




## Project Location/Phasing

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS





## Proposed Project Components

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

for each blasting sequence. No explosives would be stored at the site. A single drill rig would be used to drill a pattern of bore holes three to six inches in diameter. Typically, the pattern would be laid out in a 60- by 120-foot grid, with 45-foot deep holes. A contractor would then load the holes with carefully metered explosives. The “shot” would be timed to detonate each hole(s) in sequence. This procedure minimizes the ground vibration and noise of the blast, while maximizing fracture of the rock. Some dust would be created as a result of the blast; however, the dust would be fully dissipated within 30 to 60 seconds following the shot. The goal of the blasting program would be to fracture the rock to sizes less than 18 inches in diameter.

Following blasting, the rock resource is fractured and can be moved with conventional earthmoving equipment. A front-end loader is used to load off-highway rock trucks for transport of fractured rock to the primary processing plant.

The bulk of the processing activities would take place on an approximately 16.1-acre pad located at the northern portion of the proposed site. The primary processing (which includes the use of a jaw crusher) may be extended to the extraction areas using conveyor belts. Some crushing and screening will eventually occur below grade, within the pit area. The hot mix asphalt (HMA) plant, aggregate processing plant, and concrete ready mix plant will be stationary and, therefore, will not be relocated. Equipment shown on the southern end of the 16.1-acre pad, including the recycling plant and primary crusher, is portable and will eventually be relocated to the quarry floor as excavation progresses below grade.

### **Primary Plant**

The primary plant is loosely defined as the area required to process the raw material and crush it to a size suitable for further processing and screening. Typically, a primary plant would crush the rock, screen out unusable fines, and deposit the crushed rock in a surge pile for use by the secondary plant. The primary plant is independent of the secondary plant and can be used without operating the secondary plant. It is anticipated that the primary plant would consist of a jaw crusher, a screen, and a primary crusher. Depending upon the distance from the processing plant, it may be feasible to use a remote jaw crusher and overland conveyor to move materials to the secondary processing plant.

### **Secondary Plant**

The secondary plant would consist of two to four rock crushers to further reduce the size of the rock, three or four screens to sort the material by size, and a washer to clean dirt from certain types of material to meet end product specifications. Materials washing would require construction of a pond to recycle and store water. Finished aggregate would be stockpiled and/or stored in overhead loading bins. The stockpiles would be approximately 35 feet in height. The aggregate would then be loaded onto trucks either with a front-end loader or by gates on the bottom of overhead loading bins. Prior to leaving the development footprint area, loaded trucks would be top-watered to prevent roadway dust and would pass across a scale to determine the total weight of the truck and identify the type and weight of the aggregate.

Operation of the processing plants would require approval of permits from the San Diego Air Pollution Control District (APCD). Dust would be controlled by state-of-the-art dust control system using the best available control technology (BACT) with full review and monitoring by the APCD.

### **Concrete Batch Plant**

A concrete batch plant would be located within the development footprint. The plant would likely be set up so that materials could be conveyed directly from the aggregate stockpiles to the concrete batch plant. Within a concrete batch plant, appropriate quantities of aggregate of various types (i.e., sand and rock), cement, and water are weighed to make up a batch of concrete. These materials are then discharged into a mixer drum on a ready mix concrete truck. A concrete batch plant is relatively quiet, and compliance with the APCD permits, requiring BACT, would ensure a relatively emission- and dust-free operation.

### **Asphaltic Concrete Batch Plant**

An asphaltic concrete batch plant also would be located within the development footprint. The plant would likely be set up so that materials could be conveyed from the aggregate stockpiles for direct loading of the asphalt plant by conveyor. The asphalt plant would discharge the various types of aggregate into a large rotating drum, where the aggregate would be heated to drive off water. The heated materials would then be mixed with asphalt to make asphaltic concrete. An asphaltic concrete plant also is relatively quiet and compliance with APCD permits, requiring BACT, would ensure a relatively emission- and dust-free operation.

### **Cement Treated Base Plant**

A cement treated base plant would be located within the development footprint. Cement treated base is a rock/sand mixture that has been mixed with cement powder to provide improved strength and stability for highway and foundation projects.

### **Recycling of Concrete and Asphalt Products**

Efficient use of resources requires that all used concrete and asphalt products (also known as construction and demolition materials) are recycled for beneficial use. This process involves the import of used concrete and asphalt materials that have been salvaged from redevelopment and/or reconstruction projects. These materials are crushed and then exported for use as road base or as a foundation material. These materials may also be blended with crushed rock originating from the development footprint to improve performance characteristics.

### **Office Buildings**

Buildings associated with the aggregate plant within the development footprint would likely include an office building, a small-scale office, and a small maintenance shop. These facilities would be located near the secondary plant. Operations would likely employ approximately 10 to 15 persons, and parking within the development footprint is proposed.

## Truck Access

Operations would produce approximately 0.6 to 1.6 million tons of aggregate annually during the most active phase of activity. There would be no trips related to mining or landfilling activities during Phase 1. It is anticipated that less than 148 average daily passenger care equivalent (PCE) trips would be experienced during this time. During Phase 2, truck trips would be limited to trips required for the extraction operation and materials imports for the onsite processing facilities. There would be no trips related to landfilling activities during Phase 2. Operations would produce approximately 0.6 to 1.6 million tons of aggregate annually. This level of activity would result in 1,332 PCE trips per day, related to Phase 2 and Phase 3 activities and based on an average production scenario. During Phase 4, 390 PCE trips on an average day would result from imported material and landfilling operations. Therefore, 1,722 average daily PCE trips should be expected when both extraction and Inert Debris Engineered Fill operations are occurring (Phases 3 and 4).

Primary access to the site would be from Calzada de la Fuente, a dedicated access road that connects the northern end of the site with Alta Road. The access road connects with Alta Road approximately 0.5 mile north of the intersection with Otay Mesa Road. A number of potential truck routes are possible. Potential access routes include the following:

- Trucks leaving the site would follow Alta Road to Otay Mesa Road. Trucks would turn right (west) onto Otay Mesa Road to the intersection with Highway 905. Truck traffic would then disperse for deliveries on Otay Mesa or extend to other areas in the region via State Route (SR-) 125 or Interstates (I-) 805 and 5.
- Trucks leaving the site would follow Alta Road to Otay Mesa Road. Trucks would turn right (west) onto Otay Mesa Road to the intersection with Sanyo Avenue. Trucks would then turn south on Sanyo Avenue to the intersection with Airway Road and then turn west. Airway Road extends across Otay Mesa to the intersection with Cactus Road. Traffic would then turn north on Cactus Road to the intersection with Otay Mesa Road and then turn west to connect with I-805 and/or I-5.

## Phasing

The proposed mineral resource recovery phase of the Proposed Project would consist of site preparation for the processing plant equipment and a phased extraction and backfilling operation. Ongoing backfilling of the site during the open pit extraction phase would allow reclamation to progress concurrently with the extraction operation. The phases would include Phase 1: Site Preparation, Phase 2: Extraction to Natural Grade Elevation, Phase 3: Open Pit Extraction, and Phase 4: Inert Debris Engineered Fill Operation (IDEFO), as further discussed below.

### Phase 1 – Site Preparation

Phase 1 operations would be located in the northern portion of the development footprint. Site preparation would involve initial grading to establish access routes; extending water and power service to the development footprint; grading pad areas for processing plant location; and

constructing the processing plant, concrete batch plant, asphalt plant, cement treated base plant, and site office. Phase 1 would consist of cutting the landform to create a relatively flat working surface for the processing plant. This initial phase would include approximately 16.1 acres within the development footprint, plus associated activities required to construct the access road. Activities in Phase 1 are expected to continue for about one year. Refer to Figure 4 for the proposed facilities layout.

### Phase 2 – Extraction to Natural Grade Elevation

Phase 2 would involve commencement of extractive operations within the development footprint. This phase is divided into three sub-phases, with Phase 2a occurring in the north and ending with Phase 2c in the south. Phase 2 would consist of cutting the landform to the natural grade elevation that exists along the western perimeter of the site. During Phase 2a, aggregate resources would be recovered immediately adjacent to Phase 1 and over an approximate 17.1-acre area of the development footprint. Extractive operations in Phase 2a are expected to remove 4.2 million tons and would continue for approximately 4.5 years depending on the demand for aggregate resources. Upon completion of extraction operations within Phase 2a, Phase 2b would commence.

Phase 2b operations would include extraction of material from a 24.2-acre area and is expected to continue for approximately 5.5 years depending on the demand for aggregate resources. This phase is expected to remove 4.7 million tons of material.

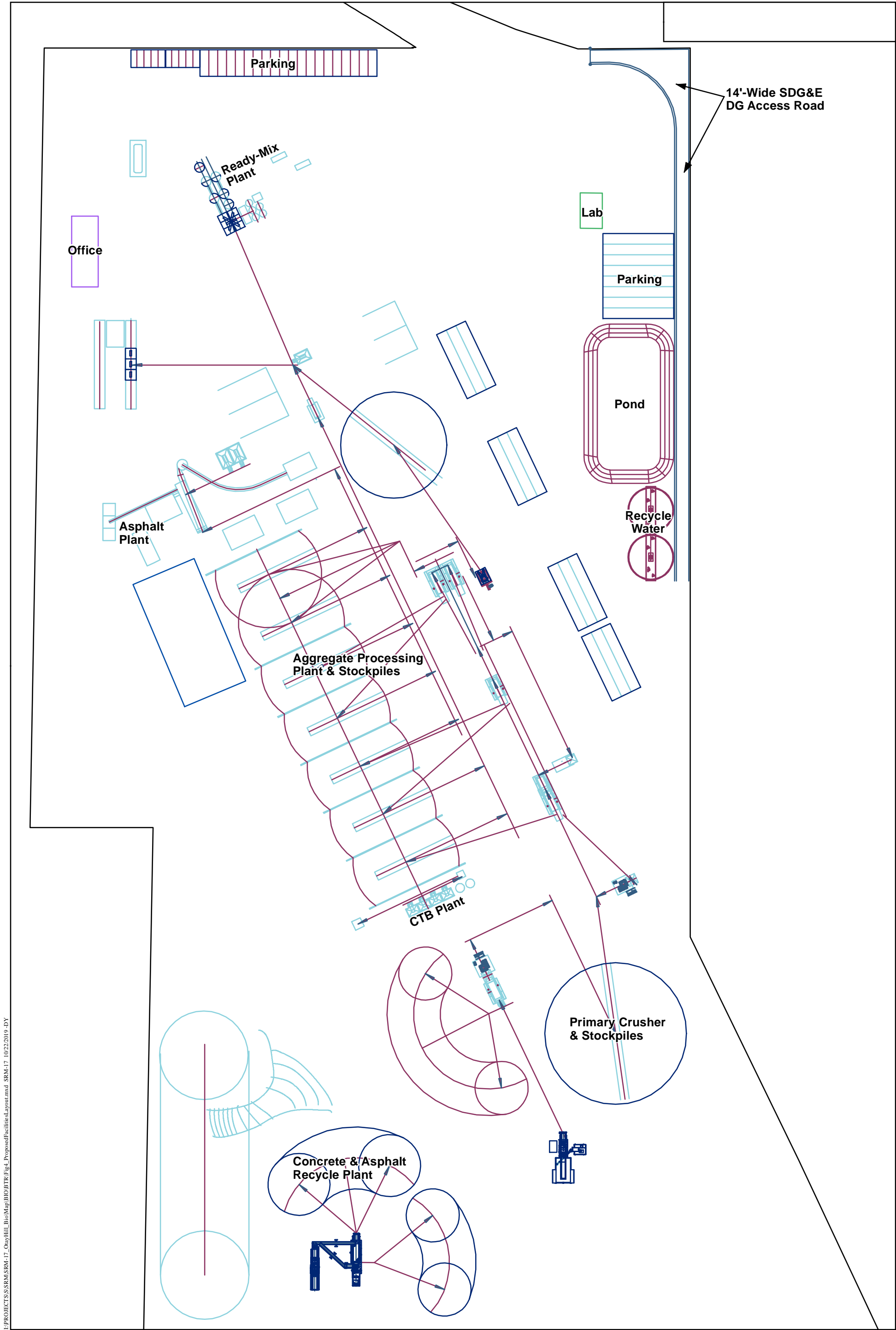
Phase 2c operations would begin immediately following the completion of extraction operations within Phase 2b. Phase 2c would consist of extracting approximately 10.5 million tons of material from the remainder of the extraction footprint (approximately 45.4 acres). This phase is expected to continue for approximately 11 years depending on the demand for aggregate resources.

As operations progress in Phase 2, slope areas within Phases 1 and 2 would be seeded with a non-invasive erosion control mix. Phase 2 would consist of cutting the landform to the natural grade elevation that exists along the western perimeter of the site. Slopes that are seeded along the eastern perimeter of the pit would be used as a biological buffer adjacent to sensitive habitats proposed to be set aside as open space for mitigation by the Proposed Project. Salvaged topsoil and a native seed mix would be used for these areas.

### Phase 3 – Open Pit Extraction

At the completion of Phase 2, mine operations would continue to Phase 3. Like Phase 2, Phase 3 is divided into sub-phases. Phases 3a through 3d would also progress in a north to south direction. Extraction operations that would occur during Phases 3b through 3d would extend to a maximum depth of approximately 525 feet from the existing grade. As part of the reclamation process, the site would be used as an IDEFO. Backfilling is expected to continue throughout the Phase 3 operations, on a phase-by-phase basis.

The Phase 3a operations would involve additional extraction of material from an 8.5-acre area that would extend below the finished grade to form a sub-grade depression. Phase 3a extraction operations would extend below the Phase 2a area and have a maximum depth of approximately



**Proposed Facilities Layout**

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

Figure 4

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285 feet from the existing grade. This phase is expected to remove approximately 2.9 million tons and would continue for approximately three years, depending on the demand for aggregate resources. As extraction operations advance in Phase 3a and space becomes available, backfilling of the Phase 3a sub-grade depression would commence. Inert fill material would be used to backfill the depression. Phase 3b operations would consist of extracting 12.2 million tons of material from a 22.1-acre area, over approximately 12 years depending on the demand for aggregate resources.

It is anticipated that Phase 3c would extract 18.3 million tons of material from a 22.1-acre area, over approximately 18 years depending on the demand for aggregate resources. Lastly, Phase 3d operations are expected to extract 32.6 million tons from a 33.7-acre area, over approximately 33 years depending on the demand for aggregate resources.

#### Phase 4 – Inert Debris Engineered Fill Operations

As extraction operations advance in Phase 3, the pit would be backfilled with inert fill material (fill dirt) on a phase-by-phase basis. The rate of backfill is estimated at 500,000 cubic yards per year. This backfill rate was determined by studying backfill rates at other sites in San Diego County. Throughout the phased mine plan, fill material that is used for backfilling would be compacted to form pad areas. All fill material would be inspected upon arrival to ensure that contaminated soils or garbage are not present. All backfilling operations would be supervised by a geotechnical engineer to ensure that the materials are adequately compacted to satisfy the needs of the post-mining land use. Inert fill is produced from a variety of sources, but typically is a by-product of sub-grade excavations for parking garages or development that results in export of naturally occurring soil. In addition, clean demolition materials from redevelopment projects need to be placed in an inert fill materials site.

Depending on the rate at which fill material is imported to the site, it is anticipated that Phase 4 activities would continue for approximately 64 years throughout the extraction operation and for approximately 15 years beyond extraction operations.

#### Reclamation

Upon completion of each phase, reclamation would commence. Although reclamation would occur in each phase as recovery operations are concluded, these activities would be similar on all areas of the development footprint. Final reclamation would occur when all recovery operations have been completed. These activities would include final grading to establish the final land form, removal of plant equipment, application of topsoil resources, and revegetation.

Following completion of all recovery operations, processing and operating equipment would be removed from the site unless this equipment continues to be used following reclamation. At this time, it is anticipated that the concrete and asphalt plants would remain on the site following reclamation.

Pad areas would be treated with appropriate erosion control measures to stabilize the development footprint against accelerated erosion and sedimentation. The development footprint would be



managed in this manner until an appropriate land use is identified. Post-mining land uses would be consistent with the underlying land use designations.

Portions of the slopes would be prepared for seeding as a biological buffer adjacent to sensitive biological habitats proposed to be set aside by the applicant as open space as mitigation for Proposed Project impacts. The proposed biological open space dedications would occur on undisturbed lands located to the east of the proposed extractive operations. A six-foot tall fence would be placed along the outside edge of extraction areas (within the impact area) during construction for safety and security reasons. The fencing will be galvanized chain link. The fence also would help keep people out of the adjacent, proposed open space.

### **1.2.3 Extraction to Varying Depth Alternative Description**

The Extraction to Varying Depth Alternative would include the same operations and footprint as the Proposed Project. Similar to the Proposed Project, the proposed construction aggregate operation would be developed in four phases. These phases would be consistent with Phases 1 through 4 of the Proposed Project, except that the ultimate pit depth would be reduced from approximately 525 feet below the existing grade (Proposed Project) to a shallower depth (between 50 and 200 feet) below the existing grade. Phase 1 would include site preparation and the construction of the processing plant. Phase 2 would consist of cutting the landform to the natural grade elevation that exists along the western perimeter of the site. The natural grade elevation of the mesa (west of the site) ranges between 580 and 630 feet above mean sea level (AMSL). Extraction would progress in a north to south direction. Extraction operations during Phase 3 would extend below the Phase 2 area, to a maximum pit floor elevation of 380 to 530 feet AMSL. Phase 4 would involve backfilling the pit with inert fill material and compacting the material to form pad areas (IDEFO). Similar to the Proposed Project, the pit would be backfilled consecutively with extraction that occurs during Phase 3. The timing for Phases 1 through 4 could change in the future depending upon aggregate needs in southern San Diego County, such that the phases presented herein could change and/or more than one phase could be in use at any one time.

The total anticipated production of the quarry under this alternative would have an estimated life of 36 to 60 years and would extract approximately 35 to 60 million tons of mineral resource from the site. Annual production amounts are anticipated to be similar to the Proposed Project (i.e., between 0.6 and 1.6 million tons of aggregate per year). Therefore, daily production and trip generation would also be consistent with the Proposed Project.

### **1.2.4 Extraction to Natural Grade Alternative Description**

The Extraction to Natural Grade Alternative would include the same operations and development footprint as the Proposed Project. Similar to the Proposed Project, the proposed construction aggregate operation would be developed in phases. This alternative would consist of Phases 1 and 2 of the Proposed Project. The timing for Phases 1 and 2 could change in the future depending upon aggregate needs in southern San Diego County, such that the phases presented herein could change and/or more than one phase could be in use at any one time.

The total anticipated production of the quarry under this alternative would have an estimated life of 20 years and would extract approximately 19 million tons of mineral resource from the site. Annual production amounts are anticipated to be similar to the Proposed Project (i.e., between 0.6 and 1.6 million tons of aggregate per year). Therefore, daily production and trip generation would also be similar to the Proposed Project. Truck trips would be slightly less than the Proposed Project (approximately 78 trips per day) due to the elimination of an IDEFO in this alternative. Following completion of extraction to natural grade, the site would be reclaimed, and would be available for post-mining land uses consistent with the underlying land use designations.

### **1.2.5 No Project/Existing Plan Alternative Description**

The No Project/Existing Plan Alternative would assume that the site would be developed pursuant to the existing land uses approved in the East Otay Mesa Specific Plan (EOMSP; County 1994) as the site lies within this Specific Plan's boundaries. Land use designations would allow for mixed industrial (e.g., Mixed Industrial District) and rural residential uses (e.g., Hillside Residential District). The Mixed Industrial District is primarily for wholesale storage and distribution, research services, and general industrial. Compatible commercial uses are also permitted within the Mixed Industrial District (e.g., construction sales and services, automotive and equipment uses, and custom manufacturing). The Hillside Residential District along the eastern portion of the site allows low density (one dwelling unit per 20 acres). As outlined in the EOMSP, buildout of the "planning area" is expected to occur by the year 2020. During this development period, interim uses such as agriculture, vehicular storage, public recreation, and spectator events are allowed within the Mixed Industrial District of the site.

### **1.2.6 No Project/No Action Alternative Description**

Under the No Project/No Action Alternative, there would be no construction aggregate facility developed by the applicant on the site. The site would remain vacant, and no changes in the existing environment would be expected.

## **1.3 SURVEY METHODS**

Vegetation communities and sensitive plants and wildlife were identified during surveys of the Proposed Project site. In addition, this report identifies sensitive species with potential to occur on the Proposed Project site but that were not observed or detected. Surveys discussed in this report were conducted by HELIX Environmental Planning, Inc. (HELIX) and EDAW, Inc. (EDAW) from 2000 through 2019. Biological survey limits are shown on Figures 5 through 7. In addition, data from Ogden Environmental and Energy Services Company (Ogden; 1991) was reviewed as historical data. The off-site parcel was surveyed as part of the Otay Crossings Commerce Park project (HELIX 2010). Survey methods described below are for the 409.7-acre on-site portion of the Proposed Project only. Where survey data was available on the AMA from the above surveys, these data were included on report figures but are not discussed in this report.

### 1.3.1 General Biological Surveys

In June and July 1991, Ogden completed general plant and animal surveys. Vegetation was mapped on a 1"=200' scale map. Ogden also provided historical survey data completed prior to 1991 (Ogden 1991).

From March through June 2000, HELIX completed vegetation mapping and general botanical and zoological surveys. Vegetation was mapped on a 1"=200' scale topographic map. Mapping was aided with the use of an aerial photograph. The survey area included an approximately 347-acre area that included all of Parcel A and land to the west of Parcel A.

From February through June 2001, EDAW completed general botanical and wildlife surveys and vegetation mapping. These surveys were completed for the EOMSP on behalf of the County; the survey limits of which are shown on Figure 5. EDAW surveys were conducted on foot using meandering transects across the EOMSP area. Vegetation was mapped on 1"=400' scale orthotopographic maps of the EOMSP area (EDAW 2001a and 2001b).

In winter 2010, HELIX verified vegetation mapping in the development footprint.

### 1.3.2 Sensitive Plant Surveys

From March through June 2000 and in spring 2001, HELIX completed sensitive plant surveys (Figure 5). Plant counts were provided throughout the survey area.

From February through June 2001, EDAW completed sensitive plant surveys on behalf of the County for the EOMSP. The sensitive plant surveys did not include counting individual plants except in limited cases.

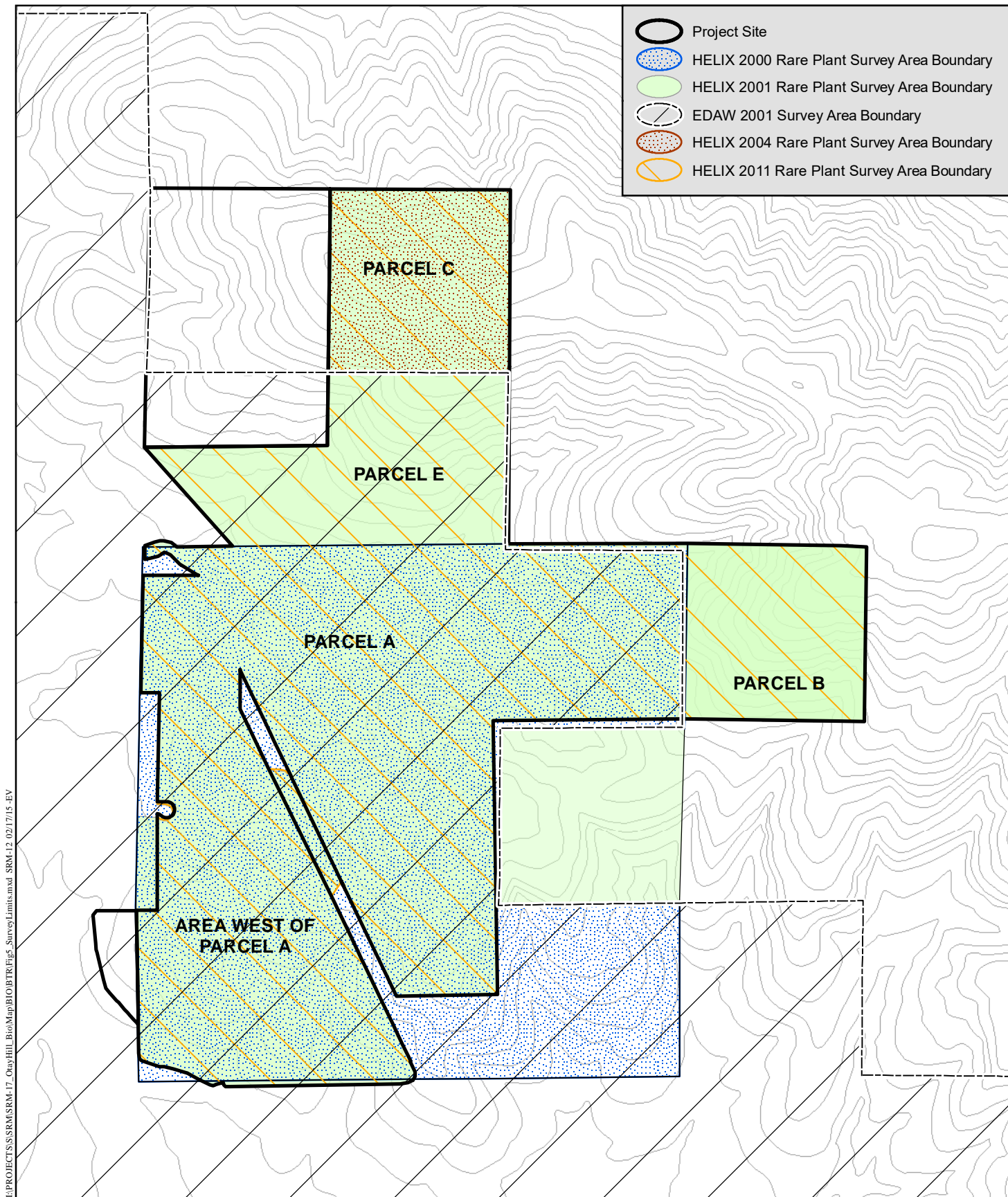
In spring 2004, HELIX conducted sensitive plant surveys on Parcel C.

In spring and summer of 2011, HELIX conducted sensitive plant surveys of the entire Proposed Project site. Both spring and summer surveys were conducted to ensure coverage of the flowering period for all sensitive species potentially occurring on site. Information about the sensitive plant surveys is provided in Appendix A-1.

In January of 2016, HELIX analyzed the Likely Limits of Occurrence on site for Otay tarplant (*Deinandra conjugens*), variegated dudleya (*Dudleya variegata*), and San Diego goldenstar (*Bloomeria [Muilla] clevelandii*). These species were selected for analysis based on their Narrow Endemic status in the MSCP. The Likely Limits of Occurrence (LLO) for these species was determined by comparing the on-site distribution with slope orientation and vegetation type. The Likely Limits of Occurrence analysis is provided in Appendix A-2.

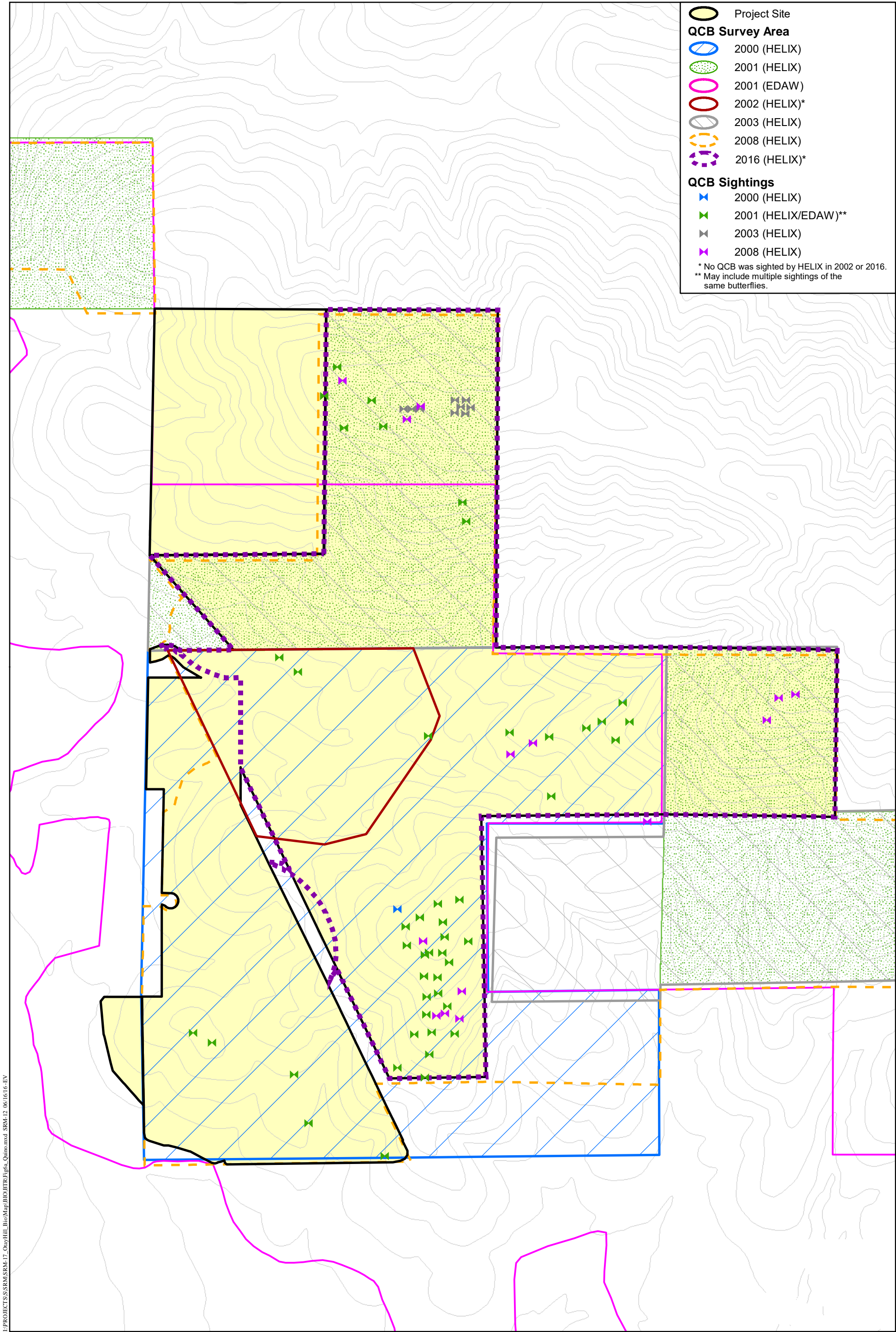
### 1.3.3 Focused Species Surveys

Focused surveys for several sensitive animals are described below. A summary of survey dates, personnel, and times/weather conditions for surveys is included as Appendix A-1.



**Rare Plants Survey Limits**

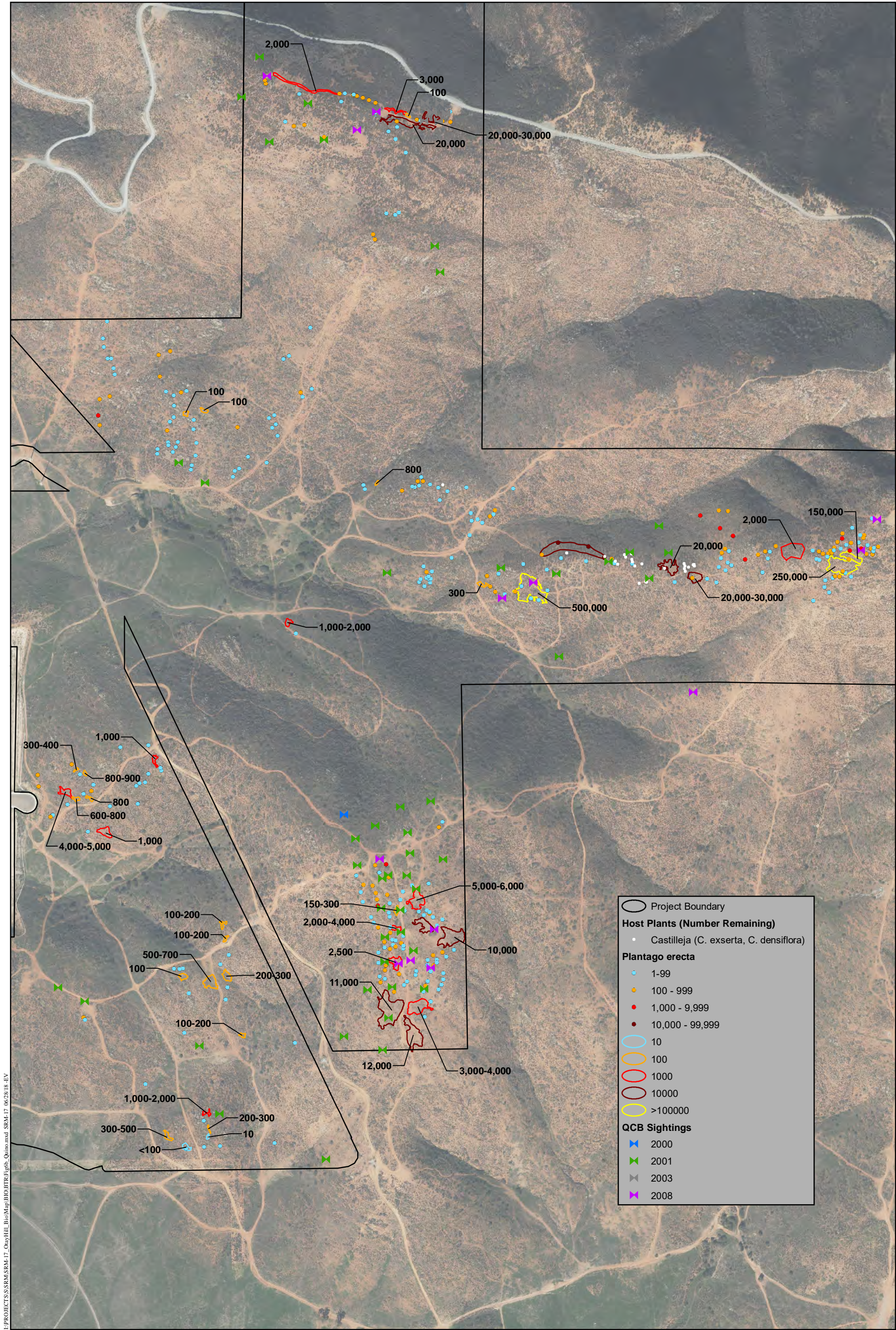
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Quino Checkerspot Butterfly (QCB) Survey Limits and Sightings

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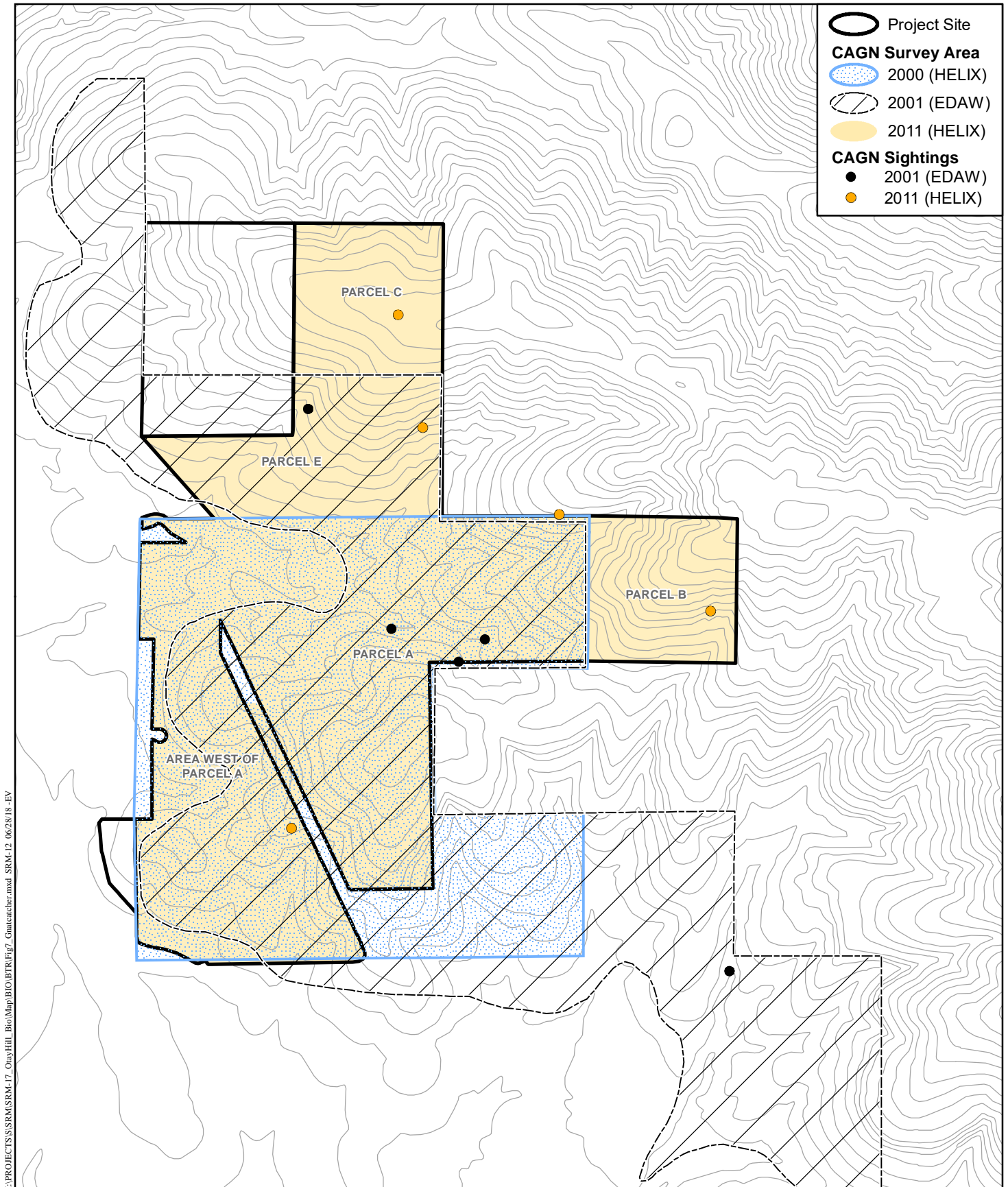




2016 Quino Checkerspot Butterfly Host Plant Locations

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## Coastal California Gnatcatcher (CAGN) Survey Limits and Sightings

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Figure 7

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## Quino Checkerspot Butterfly

Due to the presence of potential habitat for the federal listed endangered Quino checkerspot butterfly QCB, protocol surveys were deemed necessary. The Proposed Project site is located within the San Diego County USFWS QCB Adult Focused Survey Area 1.

In 2000, HELIX conducted a protocol survey under Year 2000 Survey Protocol (USFWS 2000) for QCB within Parcel A and west of Parcel A on approximately 347 acres (Figure 6; HELIX 2000a; Appendix B-1). In 2000, this 347-acre area was recovering from a large fire that swept through the area in 1997. During the habitat assessment, no significant quantities of habitat on Parcel A and land west of Parcel A qualified for any of the three survey exclusion categories; therefore, it was decided that surveys were required for the entire 347 acres. Observed larval host plants such as dwarf plantain (*Plantago erecta*), owl's clover (*Castilleja exserta*), and bird's beak (*Cordylanthus rigidus*) were noted. Nectaring resources such as goldfields (*Lasthenia californica*), *Layia* spp., *Ericameria* spp., popcorn flower (*Cryptantha* spp. and *Plagiobothrys* spp.), and onion (*Allium* spp.) species were also noted.

In 2001, HELIX conducted surveys pursuant to the USFWS Year 2000 Survey Protocol to determine presence of QCB within Parcels C, E, and additional land adjacent to these parcels (Figure 6; HELIX 2001; Appendix B-2). The frequency of surveys was based on the quality of potential habitat and site accessibility. As a result, these surveys do not prove absence of QCB in areas where it was not observed. Dwarf plantain was observed on both ridgelines. Nectar resources were plentiful towards the foothills and lower portions of ridgelines in many of the parcels surveyed.

In 2001, EDAW also conducted a protocol survey to determine presence/absence of QCB (EDAW 2001b). The survey followed USFWS Year 2000 Survey Protocol. A habitat assessment was conducted in February and the entire EOMSP area was surveyed from March through April. The area surveyed that occurs on site includes Parcels A, C, and E (Figure 6).

In 2002, HELIX surveyed approximately 50 acres of the northwestern portion of Parcel A (Figure 6). Prior to conducting the 2002 QCB protocol survey, a habitat assessment was performed in early March. No significant quantities of habitat within this 50-acre area qualified for any of the survey exclusion categories; therefore, a survey was required for the entire 50 acres (HELIX 2002; Appendix B-3).

In 2003, 42 acres of Parcel A were surveyed by HELIX (2003a) for QCB (Figure 6) using USFWS Year 2002 Survey Protocol (USFWS 2002a). This 42-acre portion of Parcel A was first assessed for potential QCB habitat (HELIX; 2003a; Appendix B-4). HELIX also conducted a QCB survey on approximately 269 acres encompassing portions of Parcels C, E, and additional land adjacent to the site (HELIX 2003b; Appendix B-5). The methods employed during the QCB habitat assessment did not follow protocol; rather, the amount of time spent surveying areas within the potential mitigation areas was based on the quality of potential habitat and site accessibility.

In 2008, a portion of the Proposed Project site was surveyed by HELIX (2008; Appendix B-6) for QCB (Figure 6) pursuant to the USFWS Year 2002 Survey Protocol for the QCB (USFWS 2002a) and QCB Survey Recommendations (USFWS 2002b). Because portions of the site have frequently been surveyed for QCB, an updated habitat assessment was not deemed necessary. Two QCB host plant species, dwarf plantain and purple owl's-clover, were mapped by assessing the number of plants within a given habitat patch and categorizing as 1-50 individuals and greater than 50 individuals. Potential QCB nectar sources were abundant including California buckwheat (*Eriogonum fasciculatum*), popcorn flower, blue dicks (*Dichelostemma capitatum*), goldfields, ground pink (*Linanthus dianthiflorus*), onion, and goldenstar (*Bloomeria* sp.).

Detailed larval host plant mapping of the entire Project site was conducted in 2016 (Figure 6b). Biologists conducted pedestrian surveys within the host plant mapping area recording the location, size, and conditions of host plants. Host plants were mapped with the aid of global positioning system (GPS) units. Patches of host plants larger than approximately 250 square feet were mapped as polygons. Dwarf plantain numbers are approximate because large populations were visually estimated rather than counting each individual plant. Polygons were categorized as 10-99, 100-999, 1,000-9,999, 10,000-99,999, and over 100,000, with patches of over 1,000 defined as moderate and patches of over 10,000 defined as high.

Following the host plant mapping, the entire proposed open space was surveyed by HELIX (2016c; Appendix B-7) for QCB (Figure 6a) under HELIX's active 10(a)(1)(A) recovery permit (TE 778195-12). The non-protocol survey consisted of four focused surveys conducted between March 1 and March 23, 2016. Larval host plants not previously documented were mapped with the aid of GPS units when encountered during surveys, and potential nectar plant species also were documented. Surveys covered between five and 10 acres per hour.

### **Coastal California Gnatcatcher**

Due to extensive amounts of Diegan coastal sage scrub present on the Proposed Project site, protocol surveys for the federal listed threatened coastal California gnatcatcher (*Poliophtila californica californica*; CAGN) were conducted.

In June and July 1991, Ogden (1991) conducted protocol surveys for CAGN.

In June 2000, a focused CAGN survey was conducted by HELIX (2000b; Appendix C). The focused survey followed protocol (USFWS 1997) for presence/absence of this species on approximately 360 acres (within Parcel A and west of Parcel A; Figure 7). The survey route followed dirt roads and trails where available and traversed brushy areas where roads or trails were not available. Taped vocalizations were played four or five times per hour during each site visit. Generally, the tape was played for no longer than five seconds, with intervals of non-play entailing eight minutes or longer.

In 2001, a CAGN survey was conducted by EDAW (2001b). The focused survey followed the 1997 USFWS protocol for presence/absence of this species on a portion of Parcel A (Figure 7). Taped vocalizations were occasionally played throughout all site visits but discontinued when

CAGN were detected. Due to the size of the survey area, each of the three protocol site visits was conducted over a two-day period.

A CAGN survey was conducted again in 2011 by HELIX (2011; Appendix C) following USFWS protocol for presence/absence (USFWS 1997). The survey was conducted in all appropriate habitat on the Proposed Project site (Figure 7). The CAGN survey area encompassed approximately 301 acres of potential CAGN habitat, including Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, and coastal sage-chaparral scrub, which last burned in 1997 and appears to have recovered from that fire. Due to the size of the CAGN survey area, two days were needed to complete each of the three site visits. The survey was conducted by walking through potential CAGN habitat and infrequently playing recorded CAGN vocalizations to elicit a response from any potentially present, non-vocal CAGN.

### **Burrowing Owl**

In 1991, Ogden (1991) conducted surveys for burrowing owl. In 2001, EDAW (2001b) conducted surveys for burrowing owl. Following County survey guidelines (County 2010a), burrowing owl surveys were completed in January 2012 and April/May 2012 by HELIX (2012a and b; Appendix D). Burrowing owls also have been looked for opportunistically during numerous other surveys (e.g., QCB, coastal California gnatcatcher, sensitive plants) over the course of 11 years.

### **Golden Eagle**

The USGS is currently studying golden eagles in southern California through the use of radio telemetry, and initial telemetry data have been published (USGS 2016).

### **San Diego and Riverside Fairy Shrimp**

Protocol surveys for the federal listed endangered San Diego and Riverside fairy shrimp were conducted within the EOMSP area. Surveys for these species followed current protocol (USFWS 1996a).

In 2001, EDAW conducted eight wet season surveys of 43 pools for San Diego and Riverside fairy shrimp within the EOMSP area. The majority of the pools sampled were artificially created road ruts and man-made pools on maintained gravel roads and non-maintained unpaved roads and trails. Most of the pools were subjected to varying degrees of disturbance from use by the Border Patrol and off-highway vehicle (OHV) use (EDAW 2001b).

#### **1.3.4 Jurisdictional Delineation**

On February 8, 2018 and March 22, 2019, HELIX biologists W. Larry Sward and Beth Ehsan conducted a jurisdictional delineation of the Proposed Project site (HELIX2019a).

Prior to beginning fieldwork, aerial photographs (1"=200' scale), USGS topographic maps, and soil survey maps were reviewed to determine the location of potential jurisdictional areas that may be affected by the Proposed Project.

## **USACE Jurisdictional Areas**

All areas with depressions, drainage channels, or wetland vegetation were evaluated for the presence of U.S. Army Corps of Engineers (USACE) Waters of the U.S., including jurisdictional wetlands. If an area was suspected of being a wetland, vegetation and hydrology indicators were noted, and a soil pit was dug and described. The area was then determined to be a federal (USACE) wetland if it satisfied the three wetland criteria (vegetation, hydrology, and soil) described in the Wetlands Delineation Manual (Environmental Laboratory 1987). Areas were determined to be non-wetland Waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank) but the vegetation and/or soils criterion were not met. Non-wetland areas encompassed by the ordinary high water mark were measured, and vegetation (if present) was noted. All non-wetland Waters of the U.S. were measured and mapped in the field. Wetland affiliations of plant species follow the National List of Vascular Plants that Occur in Wetlands (USFWS 1996b). In most cases, two sample points were evaluated: one inside the suspected wetland and one where hydrology and/or vegetation criteria were not satisfied.

## **California Regional Water Quality Control Board**

Areas regulated by the State Regional Water Quality Control Board (RWQCB) are generally coincident with the USACE, but can also include isolated features that have evidence of surface water inundation pursuant to the state Porter Cologne Act. These areas generally support at least one of the three USACE wetlands indicators but are considered isolated through the lack of surface water hydrology/connectivity downstream.

## **California Department of Fish and Wildlife Jurisdictional Areas**

CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream.

## **County Resource Protection Ordinance Wetlands**

Areas were considered County wetlands if they met one of the three following attributes pursuant to the County Resource Protection Ordinance (RPO): (1) at least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places); (2) the substratum is predominantly undrained hydric soil; or (3) an ephemeral or perennial stream is present, whose substratum is predominately non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

### 1.3.5 Survey Limitations

All animal species were identified by direct observation, vocalizations, or the observation of scat, tracks, or other signs. There are some limitations as to the comprehensiveness of the direct results of the zoological surveys. Many nocturnal, secretive, or seasonally restricted animal species would not have been detected during the general zoological surveys. Examples include rodents, migrant birds that winter in or visit the Proposed Project site, nocturnal lizards, snakes, and many invertebrate species. Focused surveys generally are not performed unless animal species are federal or State listed.

### 1.3.6 Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Hickman, ed. (1993) and Rebman and Simpson (2006) for plants; Emmel and Emmel (1973), Scott (1986), Garth and Tilden (1986), Tilden and Smith (1986), Brown et al. (1992), Pyle (1995), Opler and Wright (1998 and 1999), Glassberg (2001), and Stewart (1997) for butterflies; Collins and Taggart (2006) for reptiles and amphibians; American Ornithologists' Union (2007) for birds; and Baker et al. (2003) for mammals. Plant species status is taken from the California Native Plant Society (CNPS; 2018), and specific plant species habitat information is from Reiser (1994). Animal species status is from CDFW (2017).

## 1.4 ENVIRONMENTAL SETTING

The undeveloped Proposed Project site consists of several low hills at the western foothills of the San Ysidro Mountains (Figures 2 and 3). The presence of hills and taller mountains adjoining the site to the east create diverse site topography consisting of multiple canyons and ridgelines. Undeveloped open space surrounds the site to the north and east. The closest development is a power plant on a lot abutting the northeastern edge of the site.

Elevation on the site varies. Parcel A ranges from approximately 600 to 1,020 feet AMSL; Parcels C and E (north of Parcel A) range from 700 to 1,300 feet AMSL; Parcel B (east of Parcel A) extends to above 1,500 feet AMSL; and land west of Parcel A ranges from 600 to 800 feet AMSL. Soils on site consist almost entirely of San Miguel-Exchequer rocky silt loam (9 to 70 percent slopes), which is typically found in mountainous uplands and consist of silt loams with a clay subsoil. The northwestern tip of Parcel A as well as a small portion of land west of Parcel A consist of Huerhuero loam (9 to 70 percent slopes), which typically consists of loams with a clay subsoil developed from sandy marine sediments (Bowman 1973).

The site was burned during a fire that swept through the area in 1997; however, vegetation has largely recovered showing little sign of fire with moderate cover by perennial species. As a general characterization of the site, the south-facing slopes support thinner soils, and are more sparsely vegetated. The north-facing slopes have deeper, heavier soils, support more vegetation, and support the majority of the sensitive annual plant species. Openings in the vegetative canopy are common, especially on the south-facing slopes. The site was not burned in the October 2007 Harris fire.

In addition to natural habitat, numerous dirt roads cross the site. These roads are frequently used illegally by operators of OHVs, especially dirt bikes. Hundreds of dirt bikes and OHVs have been observed on the site during surveys. The Border Patrol traverses the site in vehicles and OHVs during daily patrols. In addition, San Diego Gas & Electric (SDG&E) maintains access roads and transmission facilities on the site. These activities degrade the biological resources but not to an extent that appreciably decreases their value.

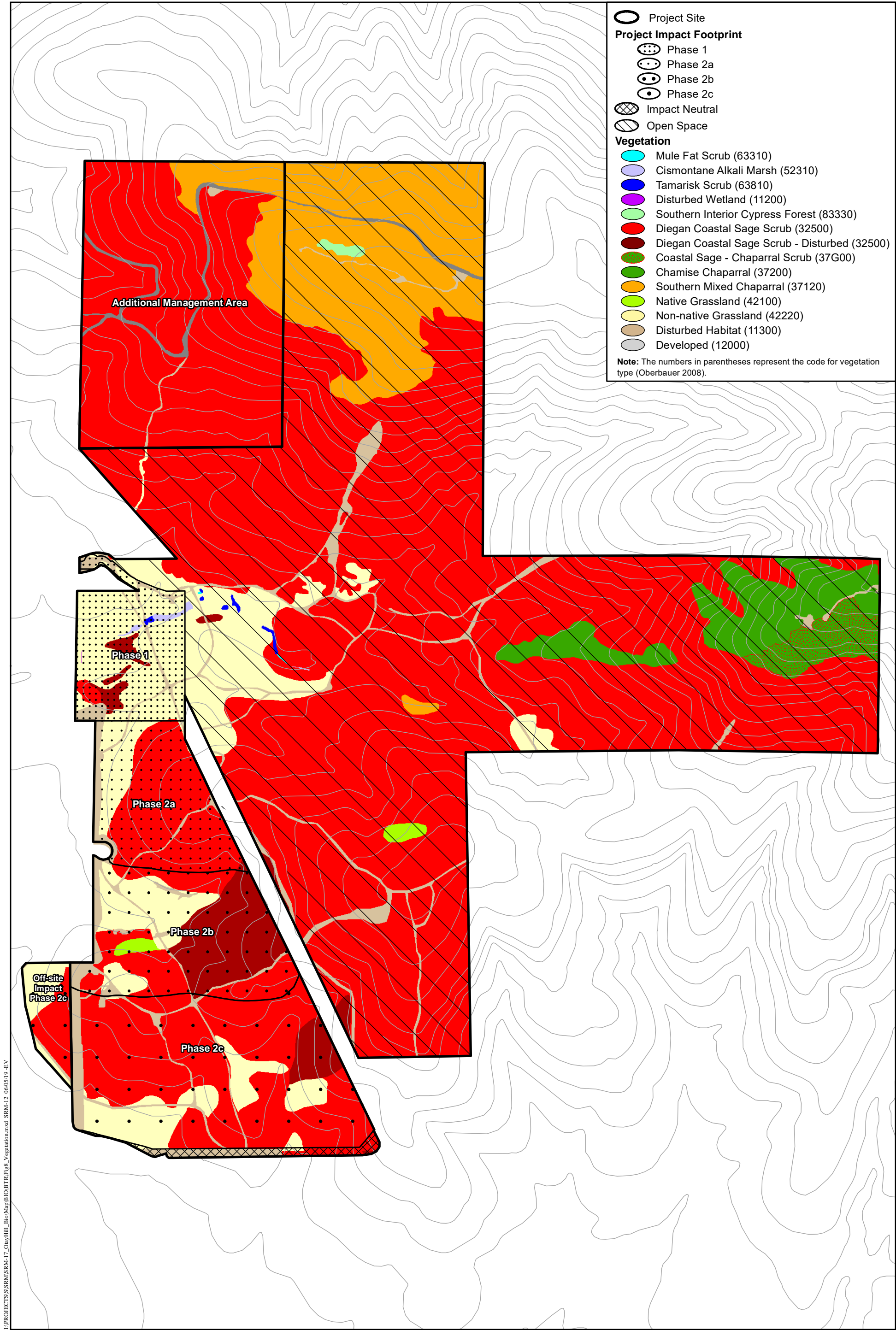
#### **1.4.1 Regional Context**

The Proposed Project site is located within the South County Segment of the County's MSCP Subarea Plan and is not within a designated Pre-approved Mitigation Area (PAMA) because it is within amendment areas. The County's Habitat Evaluation Model indicates that approximately 355.6 acres of the site are designated as Very High quality habitat, 9.1 acres have been designated as High quality habitat, 34.3 acres have been designated as Medium quality habitat, and 13.9 acres have been designated as Low quality habitat. The remaining acreage is designated as developed or agriculture. Given that 88.0 percent of the site has been designated as High or Very High value habitat by the County; the site meets the criteria of a Biological Resource Core Area (BRCA), as further discussed in Section 1.5.3, below.

The site is part of a large block of undeveloped land, the majority of which is vegetated with native habitats. The Proposed Project's development footprint supports three native vegetation communities, including: cismontane alkali marsh, native grassland, and Diegan coastal sage scrub (including disturbed). Non-native vegetation communities considered sensitive and/or requiring mitigation that occur within the development footprint include non-native grassland. A number of plant and animal species occurring or potentially occurring on the Proposed Project site are considered sensitive by the federal and/or State resource agencies and/or County with most typically being associated with Diegan coastal sage scrub habitat. The habitat of greatest value on the site is the Diegan coastal sage scrub as it supports many sensitive plant and animal species, including the federal listed Otay tarplant, QCB, and CAGN.

#### **1.4.2 Vegetation Communities/Habitat Types**

In addition to developed land, 12 vegetation communities/habitats occur on the Proposed Project site (three of these are on the off-site parcel): mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat (Figure 8; Table 1).



## Vegetation Communities/Impacts

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

**Table 1**  
**VEGETATION COMMUNITIES/HABITATS ON AND OFF SITE**  
**(acres)<sup>3</sup>**

<b>Vegetation Community/Habitat<sup>1</sup></b>	<b>Tier<sup>2</sup></b>	<b>On Site</b>	<b>Off Site</b>	<b>Total</b>
Mule fat scrub (63310)	I	0.03	0.00	0.03
Cismontane alkali marsh (52310)	I	0.34	0.00	0.34
Southern interior cypress forest (83330)	I	0.5	0.0	0.5
Disturbed wetland (11200)	I	0.01	0.00	0.01
Tamarisk scrub (63810)	I	0.10	0.00	0.10
Native grassland (42100)	I	1.2	0.0	1.2
Diegan coastal sage scrub (including disturbed; 32500)	II	284.1	2.5	286.6
Coastal sage-chaparral scrub (37G00)	II	5.4	0.0	5.4
Chamise chaparral (37200)	III	14.8	0.0	14.8
Southern mixed chaparral (37120)	III	38.6	0.0	38.6
Non-native grassland (42220)	III	45.4	2.0	47.4
Disturbed habitat (11300)	IV	18.4	0.2	18.6
Developed land (12000)	IV	0.7	0.0	0.7
<b>TOTAL</b>		<b>409.7</b>	<b>4.7</b>	<b>414.4</b>

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

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

<sup>3</sup>Upland habitats are rounded to the nearest 0.1 acre. Wetland habitats are rounded to the nearest 0.01. Totals reflect rounding.

Sensitive habitat is defined as land, which supports unique vegetation communities, or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines. Sensitive vegetation communities on the Proposed Project site include: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, and non-native grassland.

### **Mule Fat Scrub**

Mule fat scrub is a riparian scrub community dominated by mule fat (*Baccharis salicifolia*) interspersed with shrubby willows (*Salix* spp.) and a few other shrub species. This vegetation community occurs along intermittent stream channels with a coarse substrate and moderate depth to the water table. Mule fat scrub is maintained by frequent flooding, the absence of which would lead to riparian woodland or forest (Holland 1986). On the Proposed Project site, mule fat scrub is dominated by mule fat; other species include arroyo willow (*S. lasiolepis*), tamarisk (*Tamarix* sp.), and broom baccharis (*B. sarothroides*). Approximately 0.03 acre of this vegetation community occurs in the northwest corner of Parcel A.

### **Cismontane Alkali Marsh**

Cismontane alkali marsh is characterized by wet or inundated areas dominated by emergent plant species, but often with an understory of grasses or sedges. Standing water or saturated soil is present during all or most of the year. High evaporation rates and low input of freshwater result



in high salinity levels, especially during the summer (Holland 1986). Characteristic species generally include yerba mansa (*Anemopsis californica*), saltgrass (*Distichlis spicata* var. *stricta*), cattails (*Typha* spp.), and/or rush (*Juncus* sp.). On the Proposed Project site, cismontane alkali marsh is dominated by San Diego marsh-elder (*Iva hayesiana*) and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*). Approximately 0.34 acre of cismontane alkali marsh occurs in the northwest corner of Parcel A.

### **Southern Interior Cypress Forest**

Southern interior cypress forest is a fairly dense, fire-maintained, low forest dominated by piute cypress (*Hesperocyparis* [*Cupressus*] *nevadensis*), Tecate cypress (*H. [C.] forbesii*), or Arizona cypress (*H. [C.] stephensonii*). This forest often occurs as isolated groves within a matrix of chaparral or piñon-juniper woodland (Holland 1986). On site, southern interior cypress forest is dominated by Tecate cypress with a matrix of chaparral species. The other two cypress species do not occur on the Proposed Project site. Southern interior cypress forest covers approximately 0.5 acre and occurs within Parcel C.

### **Disturbed Wetland**

This vegetation community is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Characteristic species of disturbed wetlands include giant reed (*Arundo donax*), ox tongue (*Picris echioides*), cocklebur (*Xanthium strumarium* var. *canadense*), and tamarisk (*Tamarix* sp.).

Dominant species in this plant community within the Proposed Project site include hyssop loosestrife (*Lythrum hyssopifolia*). Approximately 0.01 acre of disturbed wetlands occurs within the Project Site.

### **Tamarisk Scrub**

Tamarisk scrub is a weedy stand of tamarisk species, which are non-native plant species that displace native vegetation subsequent to a major disturbance. It occurs along intermittent streams where high evaporation rates increase the salinity level of the soil. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it is able to rapidly replace the native species that it displaces within drainages (Holland 1986). Five small patches of tamarisk scrub covering approximately 0.10 acre occur within the northwest corner of Parcel A.

### **Native Grassland**

Native grassland is a vegetation community dominated by perennial bunchgrasses such as purple needlegrass (*Nassella pulchra*) with annual and perennial forbs such as common golden stars (*Bloomeria crocea* ssp. *crocea*) and California blue-eyed grass (*Sisyrinchium bellum*). Native grasslands generally occur on fine-textured soils that generally exclude the annual, exotic grasses. Almost all of the native grasslands in California have been displaced by non-native grassland

dominated by introduced, annual species. Native grasslands occur throughout California as small isolated islands.

Mapped native grassland occurs in two patches on northwest-facing slopes on the Proposed Project site. One patch occurs on the main hill located in the center of Parcel A, and one patch occurs on a smaller hill located in the southwestern corner of the land west of Parcel A. Additional native grasses occur in smaller patches within Diegan coastal sage scrub habitat on these same slopes. Approximately 1.2 acres of this vegetation community occur on site.

### **Diegan Coastal Sage Scrub (including disturbed)**

Coastal sage scrub is one of two major shrub types that occur in southern California. It occupies xeric sites characterized by shallow soils. Dominated by drought-deciduous shrub species with relatively shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Four distinct coastal sage scrub geographical associations are recognized along the California coast (northern, central, Venturan, and Diegan). Despite being greatly reduced from its historical distribution (Oberbauer and Vanderwier 1991), the Diegan association is the dominant coastal sage scrub in coastal southern California from Los Angeles to Baja California, Mexico (Holland 1986) and supports a number of rare, threatened, or endangered species.

Diegan coastal sage scrub (including disturbed) dominates approximately 70 percent of the Proposed Project site, covering 284.1 acres. Plant species observed within the Diegan coastal sage scrub on site include California sagebrush (*Artemisia californica*), lemonadeberry (*Rhus integrifolia*), California buckwheat, and laurel sumac (*Malosma laurina*). Diegan coastal sage scrub (2.5 acres) also occurs on the off-site Otay Crossings Commerce Park parcel. An additional 51.8 acres of Diegan coastal sage scrub occurs within the AMA.

Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed habitat but is sparser and has a higher proportion of non-native annual species. A small patch of disturbed Diegan coastal sage scrub occurs in the southwest corner of Parcel A, and a larger area of this vegetation community occurs on land west of Parcel A. Disturbed Diegan coastal sage scrub may have developed in areas with a slower post-fire revegetation rate that allowed for more non-native species to become established.

### **Coastal Sage-Chaparral Scrub**

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species and is regarded as an ecotone, or transition, between the two vegetation communities. This vegetation community contains floristic elements of both communities including California sagebrush, California buckwheat, laurel sumac, chamise (*Adenostoma fasciculatum*), and Ramona ceanothus (*Ceanothus tomentosus*). One area of coastal sage-chaparral scrub occupying approximately 5.4 acres occurs in Parcel B.

## **Chamise Chaparral**

The most widely distributed chaparral shrub is chamise, which occurs from Baja California, Mexico to northern California in pure or mixed stands. Chamise's ubiquitous distribution may be the result of it being the only chaparral species that regenerates from fire from both an underground root crown and from seed (Rundel 1986). It often dominates at low elevations and on xeric south-facing slopes with 60 to 90 percent canopy cover. Along its lower elevation limit, chamise intergrades with coastal sage scrub (Rundel 1986). Mission manzanita (*Xylococcus bicolor*) is a minor associate within this vegetation community on the Proposed Project site. Chamise chaparral occurs on approximately 14.8 acres of Parcel A.

## **Southern Mixed Chaparral**

Southern mixed chaparral is composed of broad-leaved, sclerophyllous shrubs that reach between six and 10 feet in height and form dense, often nearly impenetrable stands. The plants of this association are typically deep-rooted. In southern mixed chaparral there is a well-developed soil litter layer, high canopy coverage (greater than 100 percent), low light levels within the canopy, and lower soil temperatures (Keeley and Keeley 1988). This vegetation community occurs on dry, rocky, often steep north-facing slopes with little soil. As conditions become more mesic, broad-leaved, sclerophyllous shrubs that re-sprout from underground root crowns become dominant. Southern mixed chaparral on the Proposed Project site includes such species as chamise, mission manzanita, and Ramona ceanothus. Southern mixed chaparral occupies approximately 38.6 acres within Parcels A and C. An additional 7.0 acres of southern mixed chaparral occurs in the AMA.

## **Non-native Grassland**

Non-native grassland is a dense to sparse cover of annual grasses. Characteristic species on site include oats (*Avena* sp.), red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*B. diandrus*), ryegrass (*Lolium* sp.), and mustard (*Brassica* sp.). Most of the annual species that comprise the majority of species and biomass within non-native grassland were introduced from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These two factors, in addition to intensive grazing and agricultural practices in conjunction with severe droughts, contributed to the successful invasion and establishment of these species and the replacement of native grasslands with annual-dominated, non-native grassland (Jackson 1985).

Approximately 45.4 acres of non-native grassland occur within Parcel A and west of Parcel A. Non-native grassland (2.0 acres) also occurs on the off-site Otay Crossings Commerce Park parcel. The primary value of this vegetation community is as foraging habitat for many raptor species and as habitat for rare plants.

## **Disturbed Habitat**

Disturbed habitat includes land that has been cleared of vegetation (e.g., dirt roads), contains a preponderance of non-native plant species (such as ornamentals or ruderal, exotic species) that take advantage of disturbance (previously cleared or abandoned landscaping), or shows signs of

past or present animal usage which has reduced the land's capability of providing higher quality wildlife habitat.

On the Proposed Project site, disturbed habitat includes dirt roads crisscrossing the area that have been carved through the native vegetation and non-native grassland by dirt bikes and U.S. Border Patrol vehicles. In addition, SDG&E maintains access roads and transmission facilities on site. Disturbed habitat occupies approximately 18.4 acres on site. Disturbed habitat (0.2 acre) also occurs on the off-site Otay Crossings Commerce Park parcel. An additional 0.3 acres of disturbed habitat occurs in the AMA.

## **Developed Land**

Developed land exists where permanent structures and/or pavement has been placed (preventing the growth of vegetation) or where landscaping is clearly tended and maintained. Developed land on the Proposed Project site occupies 0.7 acre and consists of a paved roadway (Otay Mountain Truck Trail) in Parcel C. An additional 1.8 acres of developed habitat consisting of the paved roadway for Otay Mountain Truck Trail occurs in the AMA.

### **1.4.3 Flora**

HELIX observed a total of 195 plant species on the Proposed Project site during the 2001 and 2004 sensitive plant surveys as well as during other biological surveys. Appendix E provides a list of those plant species. Surveys by EDAW within the EOMSP area identified 202 plant species (EDAW 2001a).

### **1.4.4 Fauna**

A total of 101 animal species were observed/detected during the HELIX 2001, 2004, and 2008 surveys, including 30 butterfly, seven other invertebrate, six reptile, one amphibian, 52 bird, and 12 mammal species. A complete list of these animals is included in Appendix F. All of the animal species were identified by direct observation or vocalizations, the presence of scat and/or tracks, or other signs. Surveys by EDAW within the EOMSP area identified 119 animal species (EDAW 2001b).

### **1.4.5 Sensitive Plant Species**

Sensitive species are those considered unusual or limited in that they are: (1) only found in the San Diego region; (2) a local representative of a species or association of species not otherwise found in the region; or (3) severely depleted within their ranges or within the region.

Eighteen sensitive plant species are known to occur on the Proposed Project site. Figures 9a and 9b show historic observations from 1991 through 2011. High-interest plants include those listed or regulated by the USFWS, CNPS, or County.

One federal listed threatened and State listed endangered plant species, Otay tarplant, was observed on site (Figure 9a). One California rare plant species occurs on site: Dunn's mariposa lily (*Calochortus dunnii*; Figure 9a).

The County's MSCP Subarea Plan (1997) includes a list of narrow endemic plant species, which are protected under the MSCP with limited geographic ranges whose long-term survival necessitates additional conservation measures. Four plant species that occur on site are included in the MSCP narrow endemic plant list: Otay tarplant, Dunn's mariposa lily, variegated dudleya, and Gander's pitcher sage (*Lepechinia ganderi*).

In addition to the four sensitive species discussed above, 14 species considered sensitive by the CNPS were observed on site: Tecate cypress, San Diego goldenstar, summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Orcutt's bird's beak (*Cordylanthus orcuttianus*), San Diego barrel cactus, San Diego marsh-elder, Munz's sage (*Salvia munzii*), San Diego needlegrass, western dichondra (*Dichondra occidentalis*), Palmer's grapplinghook (*Harpagonella palmeri*), southwestern spiny rush, Coulter's matilija poppy (*Romneya coulteri*), San Diego sunflower (*Viguiera laciniata*), and ashy spike-moss (*Selaginella cinerascens*).

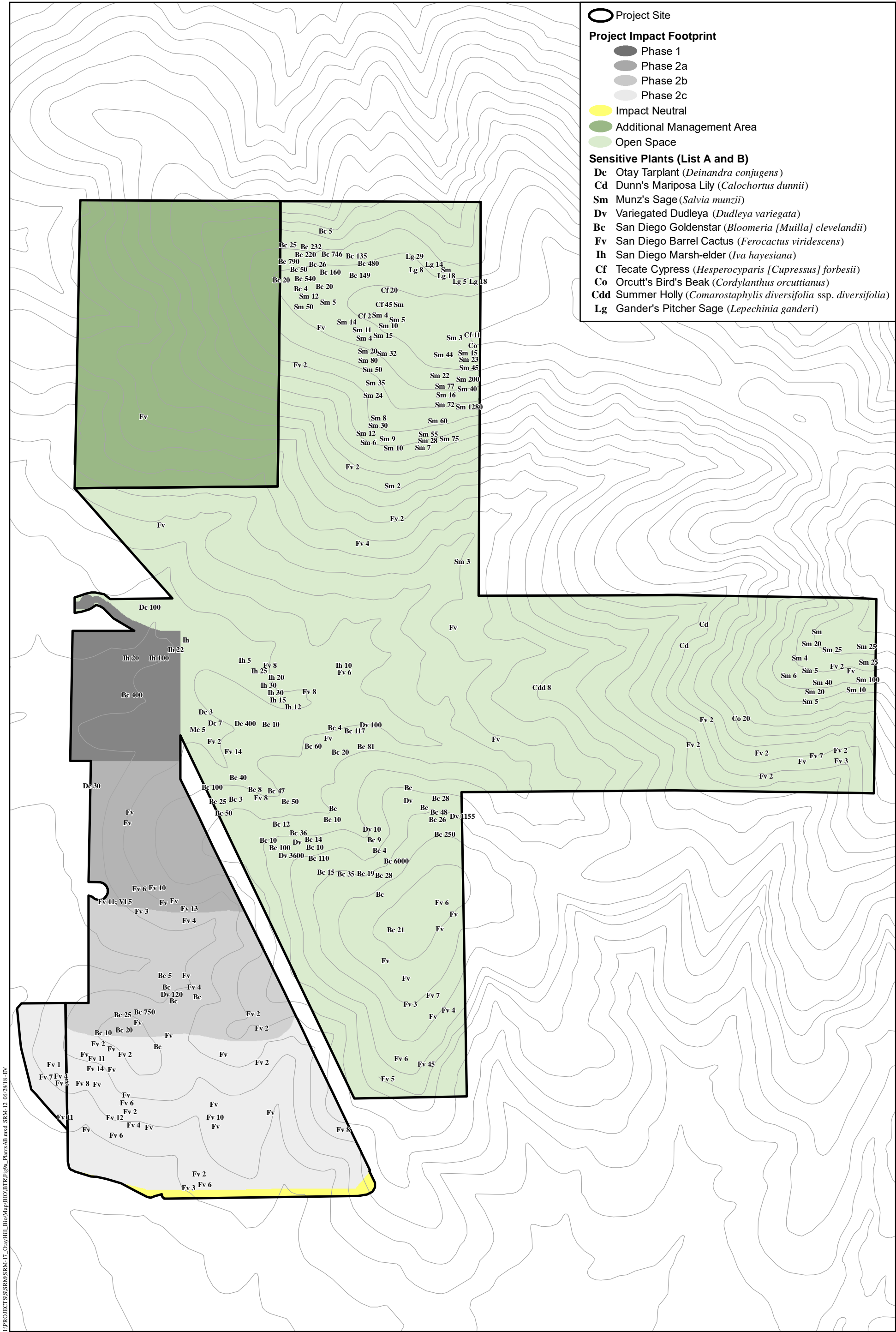
The County's Biological Mitigation Ordinance (BMO) differentiates between plant species in terms of Lists. The table below and Figure 9a depicts County List A and B plants observed on site; Figure 9b depicts County List D plant species. No County List C plant species were observed.

COUNTY BMO PLANTS ON THE PROPOSED PROJECT SITE <sup>1</sup>		
List A	List B	List D
<ul style="list-style-type: none"> <li>• Otay tarplant</li> <li>• Dunn's mariposa lily</li> <li>• variegated dudleya</li> <li>• Gander's pitcher sage</li> <li>• Tecate cypress</li> <li>• San Diego goldenstar</li> <li>• summer holly</li> </ul>	<ul style="list-style-type: none"> <li>• San Diego barrel cactus<sup>2</sup></li> <li>• San Diego marsh-elder</li> <li>• Munz's sage</li> <li>• Orcutt's bird's beak</li> </ul>	<ul style="list-style-type: none"> <li>• San Diego needlegrass</li> <li>• western dichondra</li> <li>• southwestern spiny rush</li> <li>• Coulter's matilija poppy</li> <li>• San Diego sunflower</li> <li>• ashy spike-moss<sup>2</sup></li> <li>• Palmer's grapplinghook</li> </ul>

<sup>1</sup> No County List C plant species were observed on the Proposed Project site.

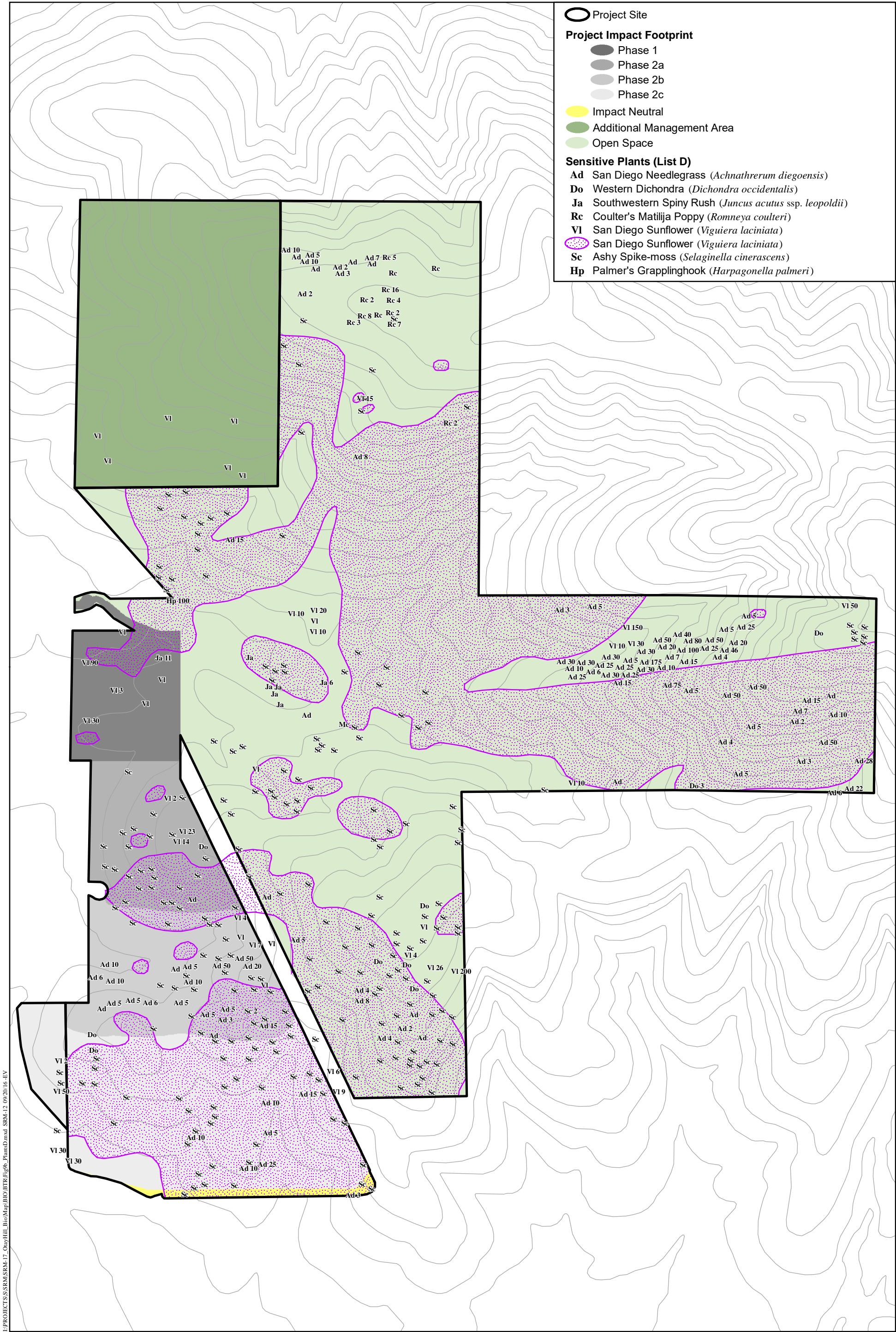
<sup>2</sup> Also present on the off-site Otay Crossings Commerce Park parcel.

A brief description of each sensitive species observed is provided below. Each species is listed in order of status; where more than one species has the same status, species are listed alphabetically by scientific name. A key of the status codes presented can be found in Appendix G. California Native Species Field Survey Forms were completed and submitted to CDFW for California Natural Diversity Database (CNDDDB)-tracked plant species observed by HELIX (Appendix H).



Federal, State, and County (List A and B) Sensitive Plant Species/Impacts





County (List D) Sensitive Plant Species/Impacts

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

Figure 9b



**Otay tarplant (*Deinandra conjugens*)**

**Status:** FT/SE; CNPS Rare Plant Rank 1B.1; County List A; County MSCP Narrow Endemic (NE)

**Distribution:** San Diego County to Baja California, Mexico.

**Habitat:** May be found on clay soils in coastal sage scrub and grasslands.

**Status on site:** Approximately 10 individuals occur within Parcel A as observed by HELIX. According to the Botanical Technical Report for the EOMSP Amendment Area (EDAW 2001a) approximately 800 individuals in six locations within grasslands in the southeastern portion of the EOMSP area were mapped during surveys conducted by EDAW. Three of these locations occur on the Proposed Project site and include 530 individuals. Data from EDAW (2001a) and HELIX are cumulative, not duplicative for this species. As such, a total of 540 individuals are addressed in this document, and they occur within four primary populations. The largest population contains 400 individuals. Three of these populations (510 individuals) occur in the proposed open space; the fourth population (30 individuals) occurs in the development footprint. This species is endemic to clay soils, which are not mapped as occurring on site. The specific soil type on which the plant occurs is San Miguel-Exchequer rocky silt loams, nine to 70 percent slopes (Bowman 1973). The lower soil horizon of this mapped soil type consists of clay, indicating that the species is likely occurring in areas where the upper soil horizon has been removed by erosion or other disturbance, or in small inclusions of clay within the upper soil horizon. A Likely Limits of Occurrence analysis by HELIX (2016a) determined that the site contains 23.27 acres of potential Otay tarplant habitat based on soil, slope orientation and vegetation type.

**Dunn's mariposa lily (*Calochortus dunnii*)**

**Status:** --/SR; CNPS Rare Plant Rank 1B.2; County List A; County MSCP NE

**Distribution:** San Diego County to Baja California, Mexico.

**Habitat:** Rocky openings in chaparral or grassland/chaparral ecotone are preferred habitat of this species, which seems restricted to metavolcanic- and gabbroic-derived soils.

**Status on site:** Two individuals observed in the northwest corner of Parcel B by EDAW (2001a). This species was not observed by HELIX.

**Tecate cypress (*Hesperocyparis [Cupressus] forbesii*)**

**Status:** --/--; CNPS Rare Plant Rank 1B.1; County List A; County MSCP Covered

**Distribution:** Found from southern San Diego County to Baja California, Mexico.

**Habitat:** Chaparral along foothills or in canyons and valleys along drainages or on north-facing slopes in association with closed cone coniferous forest and southern mixed chaparral.

**Status on site:** This species was observed by Ogden (1991) prior to the 1997 fire. EDAW reported two individuals in the vicinity of these previous observations (2001a). Approximately 69 individuals were observed on Parcel C within southern interior cypress forest during 2004 HELIX surveys. Approximately 78 individuals were observed in this vicinity during 2011 HELIX surveys. As this is a conspicuous perennial species, the most recent survey total of 78 individuals is addressed in this document.

**San Diego goldenstar (*Bloomeria* [Muilla] *clevelandii*)**

**Status:** --/--; CNPS Rare Plant Rank 1B.1; County List A; County MSCP Covered

**Distribution:** Found from southwestern San Diego County to northwestern Baja California, Mexico.

**Habitat:** Prefers clay soils on dry mesas and hillsides in coastal sage scrub or chaparral.

**Status on site:** Species observed on north-facing slopes on site by Ogden (1991), EDAW (2001a), and HELIX in 2000/2001, 2004, and 2011. It is estimated that there are 12,388 individuals on site. Most individuals occur within four primary populations. Three populations represent 11,174 individuals in proposed open space. Two smaller populations (1,214 individuals) occur within the development footprint. The site contains 82.53 acres of potential habitat for this species (HELIX 2016a).

**Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)**

**Status:** --/--; CNPS Rare Plant Rank 1B.2; County List A

**Distribution:** San Diego, Riverside, and Orange counties; Baja California, Mexico.

**Habitat:** Southern mixed chaparral (usually on mesic north-facing slopes) is preferred habitat.

**Status on site:** Eight individuals were observed by HELIX in 2011 in the eastern portion of Parcel A.

**Variegated dudleya (*Dudleya variegata*)**

**Status:** --/--; CNPS Rare Plant Rank 1B.2; County List A; County MSCP NE

**Distribution:** San Diego County to Baja, California Mexico.

**Habitat:** Found on dry hillsides and mesas in both foothill and coastal areas.

**Status on site:** Approximately 1,887 individuals were observed on Parcel A and west of Parcel A by HELIX in 2000. None were observed during the 2011 surveys. According to the Botanical Technical Report (EDAW 2001a), approximately 6,100 individuals of variegated dudleya in six locations within grasslands in the southeastern portion of the EOMSP area and within sage scrub in the eastern portion of the EOMSP were mapped during surveys conducted by EDAW. Of these 6,100 individuals of variegated dudleya, approximately 3,100 individuals occur on the Proposed Project site that are not duplicative with HELIX data. As such, 4,987 individuals are discussed in this report, and they represent six primary populations (one in the development footprint [120 individuals] and five in proposed open space [4,867 individuals]). The site contains 62.17 acres of potential habitat for this species (HELIX 2016a).

**Gander's pitcher sage (*Lepechinia ganderi*)**

**Status:** --/--; CNPS Rare Plant Rank 1B.3; County List A; County MSCP NE

**Distribution:** Southwestern San Diego County near Otay and Chula Vista; Baja California, Mexico.

**Habitat:** Gabbroic or metavolcanic soils in closed-cone coniferous forest, chaparral, coastal sage scrub, and grasslands.

**Status on site:** Approximately 92 individuals were observed in the eastern portion of Parcel C by HELIX in 2011.

**Orcutt's bird's beak (*Cordylanthus orcuttianus*)**

**Status:** --/--; CNPS Rare Plant Rank 2.1; County List B; County MSCP Covered

**Distribution:** Southwestern San Diego County near Otay, Chula Vista, and Imperial Beach; Baja California, Mexico.

**Habitat:** Seasonally dry drainages and upland adjacent to riparian habitat are preferred habitat. Grows in a cobbly ecotone with sage scrub upslope, and disturbed broom baccharis and southern willow scrub near the watercourse.

**Status on site:** Approximately 20 individuals were observed on Parcel B in 2001 and one individual was observed on Parcel C in 2011 by HELIX. The species was not observed by EDAW. As the observations occurred in different portions of the site, the total of 21 observed individuals is addressed in this report.

**San Diego barrel cactus (*Ferocactus viridescens*)**

**Status:** --/--; CNPS Rare Plant Rank 2.1; County List B; County MSCP Covered

**Distribution:** San Diego County and Baja California, Mexico.

**Habitat:** Prefers dry slopes in coastal sage scrub.

**Status on site:** The species was observed on Parcel A and the area west of Parcel A by Ogden (1991). San Diego barrel cactus is scattered on south-facing slopes throughout much of the Proposed Project site. Approximately 700 San Diego barrel cacti occur throughout the sage scrub and chaparral communities in the eastern portions of the EOMSP area according to the Botanical Technical Report (EDAW 2001a), which includes the Proposed Project site. Approximately 635 individuals were observed on Parcels A, B, C, E, and land west of Parcel A by HELIX during the 2000 and 2004 sensitive plant surveys. Approximately 109 individuals were observed on land west of Parcel A during 2006 sensitive plant surveys. Approximately 337 individuals were observed on Parcels A, B, C, E, and land west of Parcel A by HELIX in 2011; locations of previous observations were visited, and some were found to be no longer extant. Given that this is a readily observable perennial species, only the 337 individuals observed by HELIX in 2011 are addressed in this document for the on-site portion of the Proposed Project site. Twenty-five barrel cacti occur on the off-site Otay Crossings Commerce Park parcel (HELIX 2010). Barrel cacti have also been recorded in the AMA.

**San Diego marsh-elder (*Iva hayesiana*)**

**Status:** --/--; CNPS Rare Plant Rank 2.2; County List B

**Distribution:** San Diego County and Baja California, Mexico.

**Habitat:** Prefers moist or alkaline places areas along the coast, typically along drainages.

**Status on site:** A population of approximately 290 individuals occurs along a drainage in the northwestern portion of Parcel A and land west of Parcel A, based on HELIX surveys in 2010/2011.

**Munz's sage (*Salvia munzii*)**

**Status:** --/--; CNPS Rare Plant Rank 2.2; County List B

**Distribution:** Ranges from the San Miguel Mountains to northern Baja California, Mexico.

**Habitat:** Prefers sage scrub and chaparral along southern foothills and coastal areas.

**Status on site:** Approximately 251 individuals were observed in two locations in the eastern portions of Parcels C and E by EDAW (2001a). Approximately 1,040 individuals were observed in the eastern portion of Parcel B by HELIX in 2001. Approximately 3,915 individuals were observed on Parcels B, C, and E by HELIX in 2011. As the data from previous surveys is

duplicative of the most recent surveys for this perennial species, the most recent count of 3,915 individuals is used in this report.

**San Diego needlegrass (*Achnatherum diegoense*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; County List D

**Distribution:** Ranges from south San Diego County into northern Baja California, Mexico.

**Habitat:** Found along vernal streams and on clay slopes within chaparral and coastal sage scrub.

**Status on site:** Approximately 15 individuals were observed by HELIX on land west of Parcel A in 2000, and 136 individuals were observed by HELIX on Parcel B in 2001. In 2011, approximately 1,596 individuals were observed by HELIX on Parcels A, B, C, E, and land west of Parcel A. The species not observed on the Proposed Project site by EDAW. As the data from previous surveys is duplicative of the most recent surveys for this perennial species, the most recent count of 1,596 individuals is used in this report.

**Western dichondra (*Dichondra occidentalis*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; County List D

**Distribution:** Sonoma and Marin counties (questionable) disjunct to San Barbara County south and along the coast to Baja California, Mexico.

**Habitat:** Found in understory of chaparral and other shaded places, along foothills and coastal areas.

**Status on site:** Approximately eight localities were sparsely located on Parcel A and west of Parcel A, as recorded by HELIX in 2000. EDAW recorded six localities on Parcel A and land west of Parcel A in 2001. HELIX recorded four localities on Parcel B in 2011. The amount of this species that is present from year to year varies due to factors such as fire history and weather conditions. Because this plant can remain dormant in the soil, and the observations occurred in differing locations across the site, the combination of data from all three surveys (totaling 10 localities) is addressed in this report.

**Palmer's grappplinghook (*Harpagonella palmeri*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; County List D

**Distribution:** Below approximately 3,300 feet in elevation in Los Angeles, Orange, Riverside, and San Diego counties; Baja California and Sonora, Mexico; San Clemente Island; Arizona.

**Habitat:** Clay soils in annual grasslands and coastal sage scrub.

**Status on site:** Approximately 100 individuals were observed by EDAW (2001a) on Parcel A. This species was not observed during subsequent surveys.

**Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; County List D

**Distribution:** Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico.

**Habitat:** Moist, saline, or alkaline soils.

**Status on site:** Approximately 335 individuals were observed in the northwest corner of Parcel A by HELIX in 2000. Two individuals were observed in the same vicinity by EDAW (2001a). In subsequent surveys, 13 individuals were observed by HELIX in 2010 during a jurisdictional delineation, and 21 individuals were observed by HELIX in 2011. Given that this is a readily

observable perennial species, only the 21 individuals observed by HELIX in 2011 are addressed in this document.

**Coulter's matilija poppy (*Romneya coulteri*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; CA Endemic; County List D

**Distribution:** San Diego, Orange, Los Angeles, and Riverside counties.

**Habitat:** This suffruticose perennial is a fire follower, which may occur in areas of sage scrub, or more typically, in chaparral or along rocky watercourses.

**Status on site:** Approximately two individuals were observed on Parcel C as recorded by EDAW (2001a). Approximately 51 individuals were observed on Parcel C and the northern portion of Parcel E by HELIX in 2011. Because the observations on Parcel C are duplicative of the earlier EDAW observations, the combination of 51 individuals observed by HELIX on Parcels C and E (total of 51 individuals), are addressed in this document.

**San Diego sunflower (*Viguiera laciniata*)**

**Status:** --/--; CNPS Rare Plant Rank 4.2; County List D

**Distribution:** San Diego County and Baja California, Mexico.

**Habitat:** Generally occurs between approximately below 4,000 feet AMSL within chaparral and rocky slopes.

**Status on site:** Populations of this species were observed on Parcels A, B, C, E, and land west of Parcel A as recorded by HELIX during surveys in 2000 (9,314 individuals), 2001 (7,551 individuals), and 2011 (46,272 individuals). EDAW (2001a) recorded a minimal amount of individuals on the Proposed Project site. As the previous survey points are duplicative of the 2011 data, only HELIX 2011 data for this species are addressed in this document for the on-site portion of the Proposed Project. Fifty San Diego sunflower occur on the off-site Otay Crossings Commerce Park parcel (HELIX survey data 2000/2001 and HELIX 2010). San Diego sunflower has also been recorded in the AMA.

**Ashy spike-moss (*Selaginella cinerascens*)**

**Status:** --/--; CNPS Rare Plant Rank 4.1; County List D

**Distribution:** Orange and San Diego counties; northwestern Baja California, Mexico.

**Habitat:** Flat mesas in coastal sage scrub and chaparral.

**Status on site:** Approximately 99 locations were found on Parcel A and west of Parcel A by HELIX. In 2011, 268 locations were found by HELIX in these areas, as well as on Parcels C and E. The species was not observed on the Proposed Project site by EDAW. As the previous survey points are duplicative of the 2011 data, only the most recent data for this species are addressed in this document for the on-site portion of the Proposed Project site. Two locations of ashy spike-moss were mapped on the off-site Otay Crossings Commerce Park parcel (HELIX survey data 2000/2001).

**Sensitive Plants with Potential to Occur**

Because the Proposed Project site was burned in 1997, the vegetation was open, and plant species were readily observable. The potential for additional sensitive plant species to occur on site is considered low because, if present, they are very likely to have been observed during the numerous plant surveys. Listed or sensitive plant species with potential to occur on site are listed in Appendix

I (alphabetically by scientific name). Refer to Appendix G for a listing and explanation of status codes.

#### 1.4.6 Sensitive Wildlife Species

Nineteen sensitive animal species were observed/detected or assumed to occur on the Proposed Project site (Figures 10a and 10b) including the federal listed endangered QCB and the federal listed threatened CAGN. Four (4) species are listed as Birds of Conservation Concern by the USFWS: Bell's sage sparrow (*Amphispiza belli belli*), golden eagle, burrowing owl, and loggerhead shrike (*Lanius ludovicianus*). Five animal species observed/detected are listed as a State Species of Special Concern (SSC): red-diamond rattlesnake (*Crotalus ruber ruber*), coast horned lizard (*Phrynosoma blainvillii*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus cyaneus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). (Note that although not observed on site, Belding's orange-throated whiptail [*Aspidoscelis hyperythra beldingi*; an SSC] is assumed to be present throughout the entire Project site.) Two species are designated as Watch List species by the American Bird Conservancy and include southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) and California horned lark (*Eremophila alpestris actia*; CDFW 2017). Five County sensitive species (Cooper's hawk [*Accipiter cooperii*], coastal whiptail [*Aspidoscelis tigris stejnegeri*], turkey vulture [*Cathartes aura*], common barn owl [*Tyto alba*], and southern mule deer [*Odocoileus hemionus fuliginata*]) also occur on site.

In addition to its federal status, QCB is also a County listed rare, narrow endemic animal species. Other rare, narrow endemic animal species observed on site include burrowing owl and golden eagle.

EDAW (2001b) identified San Diego and Riverside fairy shrimp in two pools within the EOMSP area; however, those pools are not on the Proposed Project site.

A brief description of each animal species is provided below. A key to the status codes presented can be found in Appendix G. California Native Species Field Survey Forms were completed and submitted to the CDFW for California Natural Diversity Data Base-tracked animal species observed by HELIX (Appendix H).

#### Invertebrates

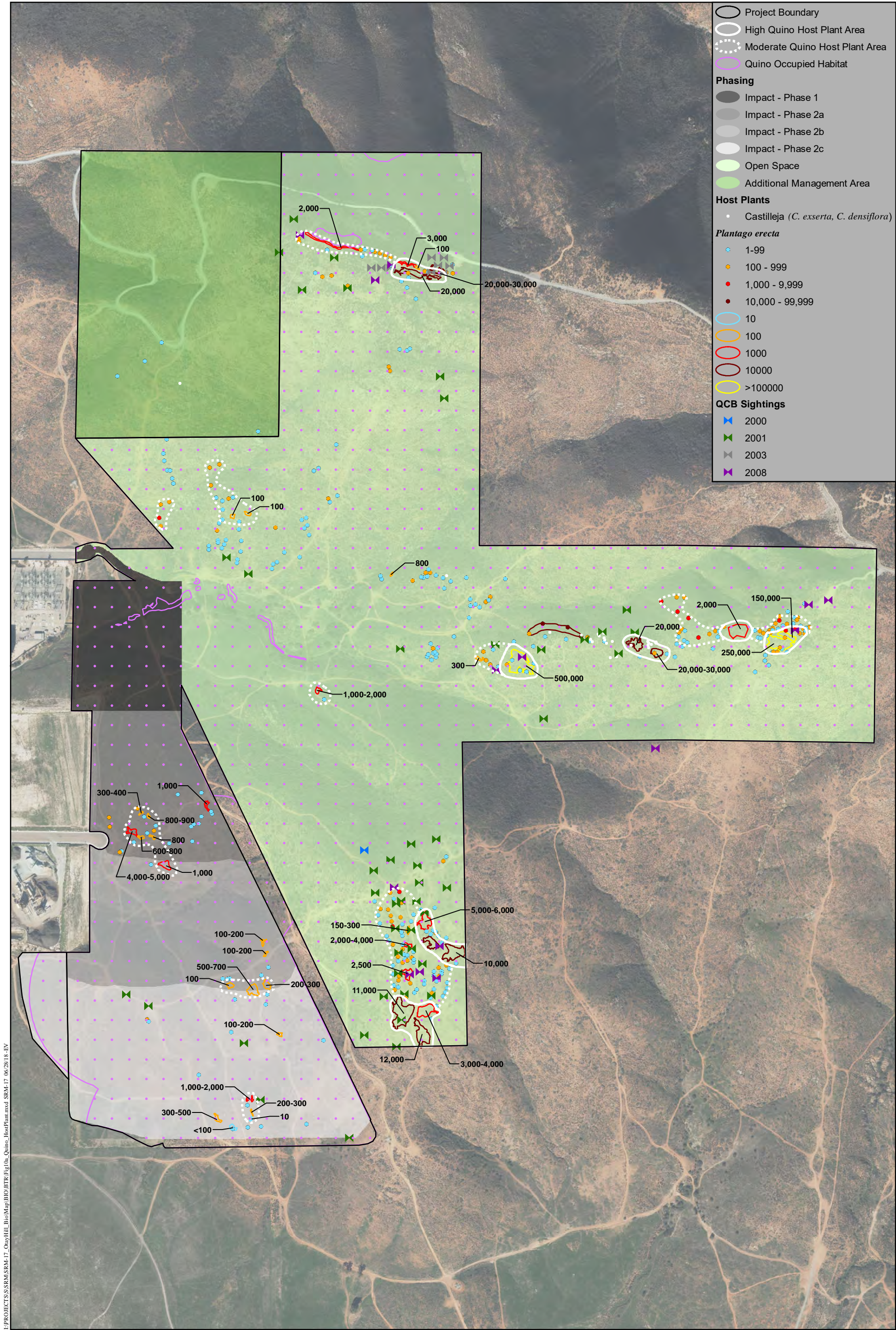
##### **Quino checkerspot butterfly (*Euphydryas editha quino*)**

**Status:** FE/--; County Group 1; County MSCP Rare, NE

**Distribution:** Populations are known to exist only as several (probably isolated) colonies in southwestern Riverside and southern San Diego counties as well as northern Baja California, Mexico.

**Habitat:** The principal larval host plant of this species in San Diego is dwarf plantain. Potential QCB habitat in the region includes vegetation communities with relatively open areas that typically include patches of dwarf plantain, purple owl's clover, and various nectaring plants. These habitats include open coastal sage scrub, vernal pools, lake margins (Emmel and Emmel 1973), non-native grassland, perennial grassland, disturbed habitat, disturbed wetlands, and open areas within shrub communities.





Quino Checkerspot Butterfly Sightings and Host Plant Locations/Impacts

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS





**Status on site:** One QCB was sighted during the HELIX 2000 survey on Parcel A. During HELIX 2001 surveys, 14 QCBs were observed within Parcels B, C, E, and additional land in the immediate vicinity of the Proposed Project site on two hilltops and along two major ridgelines. Approximately 48 QCB observations occurred within Parcels A, B, C, and E during 2001 EDAW focused surveys. Many of these sightings are believed to be repeats of the same individuals.

The QCB was not observed within a 50-acre area of the northwestern portion of Parcel A or the access road during the HELIX 2002 survey period. Due to low rainfall levels in the 2001-2002 winter season, habitat within this area was very dry. Few flowering annual plants were observed, and QCB larval host plant species were not present, though host plant species such as dwarf plantain had previously been observed in the northwest corner of the survey area (HELIX 2002). Potential nectar sources that were noted include deerweed (*Acmispon glaber*) and California buckwheat. Very few individuals of any of these species were flowering during the survey period (HELIX 2002).

In 2003, the QCB was not observed within a 42-acre portion of Parcel A during surveys by HELIX. Although the area received average rainfall for the first time in several years in the 2000-2003 winter, flowering annual plants were sparse and present in small patches. The QCB host plant species dwarf plantain was present but occurred sparsely. Potential nectar sources that were noted include deerweed, goldfields, and California buckwheat. During surveys of Parcels B, C, E, and additional land in the immediate vicinity of the Proposed Project site in 2003, nine QCBs were observed along a dirt road just south of the Otay Mountain Truck Trail (Figure 10a). These sightings occurred within sparse chaparral containing dwarf plantain and popcorn flower. The QCB was not observed within the proposed open space during non-protocol surveys by HELIX in 2016 (HELIX 2016c), which was consistent with low detection of QCB County-wide in 2016.

The 2001 surveys had the greatest number of QCB observations within the current project boundary with 46 distinct QCB locations identified by EDAW (2001b) and six QCB locations identified by HELIX (2001) in areas not surveyed by Dudek. Surveys conducted in 2008 by HELIX (2008) identified an additional four distinct locations. Given the fact that data from four surveys were compiled and some of the observations were duplicative, this document addresses 57 unique sightings of QCB by HELIX and EDAW (2001b), as shown on Figure 10a. No QCB were observed on the off-site Otay Crossings Commerce Park parcel (HELIX 2010).

Detailed larval host plant mapping of the entire Project site was conducted in 2016 (Figure 6b). Using the mid-point of the estimated host plant populations, there are approximately 1,206,059 individuals of dwarf plantain and 47 individuals of purple owl's clover on site. The 13,752 dwarf plantain individuals within the impact footprint are generally located in three clustered areas (defined as "moderate host plant locations"), with the largest of the three (approximately 9,200 individuals) occurring in the central portion of the impact footprint and the two smaller clusters (1,450 and 2,172 individuals) occur in the southern portion of the impact footprint. All of the QCB locations within the impact footprint occur in the southern two clusters. No purple owl's clover was observed in the impact area in the 2016 habitat mapping.

The host plant distribution within the proposed open space is more difficult to differentiate because of the significantly larger number of resources: 1,192,307 individuals of dwarf plantain and 47 purple owl's clover. There is a large cluster (defined as "high host plant location"; 50,100 individuals and as many as eight QCB locations) in the northern end of the open space. There are scattered moderate host plant locations (and two QCB locations) in the west-central portion of the open space. An east-west ridgeline traverses the central portion of the open space that supports approximately 1,018,100 host plant individuals and at least nine QCB locations, and represents four high host plant locations of varying sizes. There is a smaller, disjunct habitat patch in the west-central portion of the site that contains approximately 1,500 host plants (moderate host plant location). There are two high host plant locations and one moderate host plant location in the southern portion of the open space that support approximately 57,725 host plants and 24 QCB locations. QCB adults, host plants, and occupied habitat occur on the AMA.

## Reptiles

### **Red-diamond rattlesnake (*Crotalus ruber ruber*)**

**Status:** --/SSC; County Group 2

**Distribution:** Extreme southeastern Los Angeles (Diamond Bar) into southern San Bernardino County and southern Baja California, Mexico.

**Habitat:** Favors rocky outcrops in coastal sage scrub, chaparral, creosote bush scrub, and areas dominated by cactus. Also encountered along rocky canyon bottoms and on the flats adjacent to rocky desert foothills.

**Status on site:** One individual observed in Parcel A within Diegan coastal sage scrub by EDAW (2001b; Figure 10b).

### **Coast horned lizard (*Phrynosoma blainvillii*)**

**Status:** --/SSC; County Group 2; County MSCP Covered

**Distribution:** Found in most of western California into Baja California, Mexico.

**Habitat:** Frequents a variety of habitats from sage scrub and chaparral to coniferous and broadleaf woodlands. Habitat requirements include open areas for sunning, bushes for cover, fine loose soil for rapid burial, and native ant species such as harvester ants (*Pogonomyrmex* sp.).

**Status on site:** Eleven individuals were observed on Parcels A, E, and west of Parcel A, by EDAW (2001b) and HELIX (Figure 10b).

### **Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*)**

**Status:** --/SSC, MSCP Covered, MHCP Covered, MSHCP Covered; County Group 2

**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:** No individuals observed but all of the sage scrub, grassland and chaparral habitats on site have the potential to support this species.

**Coastal whiptail (*Aspidoscelis tigris stejnegeri*)**

**Status:** --/--; County Group 2

**Distribution:** Ventura County south in cismontane California to south-central Baja California, Mexico.

**Habitat:** Open coastal sage scrub, chaparral, and woodlands. Frequently found along edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter and an abundance of invertebrate prey, particularly termites (*Reticulitermes* sp.).

**Status on site:** Nine individuals were observed in the northeastern corner (within Diegan coastal sage scrub) of Parcel A and west of Parcel A by EDAW (2001b) and HELIX (Figure 10b). One coastal whiptail was observed on the off-site Otay Crossings Commerce Park parcel (HELIX 2010; Figure 10b).

**Birds**

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

**Status:** FT/SSC; County Group 1; County MSCP Covered

**Distribution:** This subspecies is restricted to coastal southern California from Ventura and San Bernardino Counties, south through Orange and San Diego counties to 30° N in northwestern Baja California, Mexico.

**Habitat:** Coastal sage scrub.

**Status on site:** Species historically known to occur on the Proposed Project site as recorded by Ogden (1991). Seven individuals were observed by EDAW (2001b; Figures 7 and 10b) during 2001 surveys generally in canyon bottoms supporting Tecate cypress, laurel sumac, and California buckwheat (EDAW 2001b). CAGN were more abundant in Parcels A, B, C, and E during the 1991 Ogden survey than during the EDAW 2001 survey possibly due to the poorer quality post-fire habitat in 2001, as well as increased disturbance from OHVs. Surveys conducted by HELIX in 2000 were negative (HELIX 2000b). Five pairs of CAGN were found by HELIX in 2011: one pair each in the area west of Parcel A, in the northeastern portion of Parcel A, in the southeastern portion of Parcel B, in the eastern portion of Parcel C, and in the eastern portion of Parcel E (Figures 7 and 10b). Multiple CAGN locations have been recorded in the AMA.

**Bell's sage sparrow (*Amphispiza belli belli*)**

**Status:** BCC/WL; County Group 1

**Distribution:** Breeds from Washington south to Baja California, Mexico and throughout the Great Basin. Winters in small flocks in low deserts of southern California, Arizona, New Mexico, western Texas, and south into Mexico.

**Habitat:** Occurs in sunny, dry stands of coastal sage scrub and chaparral.

**Status on site:** Nine individuals were observed/detected in Diegan coastal sage scrub in the central portion of Parcel A by EDAW (2001b) and HELIX (Figure 10b).

**Golden eagle (*Aquila chrysaetos*)**

**Status:** Nesting and wintering; BCC, Bald and Golden Eagle Protection Act (BGEPA)/WL, Fully Protected; County Group 1; County MSCP Rare, NE

**Distribution:** Breeds from Alaska east across northern Canada south to Mexico, Canadian prairie provinces, and Labrador. Winters in southern part of breeding range and in much of U.S., except the southeast.

**Habitat:** Forages in grassy and open, shrubby habitats. Nest most often on cliffs, less often in trees. Tend to require places of solitude and are usually found at a distance from human habitation.

**Status on site:** Observed in the central portion of Parcel A by Ogden (1991). The entire Proposed Project site lies within an established golden eagle territory and is considered golden eagle foraging habitat. The closest known nest location is in O'Neal Canyon approximately 1.2 miles (greater than one mile) from the Proposed Project's development footprint (Susan Wynn, Pers. Comm. 2014) and is not within line of site due to existing topography. This topographic separation will minimize noise and activity impacts at the nest location. Preliminary telemetry data from USGS indicates that the O'Neal Canyon pair primarily uses areas east of the project site. Only limited data points to date occur within the eastern portion of the open space and no specific data points occur over the project footprint. It should be noted that the data does not represent a complete picture of the areas utilized by the eagle pair, but does appear to indicate that the project footprint is not being used extensively by the eagle (USGS 2016). The golden eagle was not observed or detected by EDAW (2001b) or HELIX.

**Burrowing owl (*Athene cunicularia*)**

**Status:** BCC/SSC (burrow sites); County Group 1; County MSCP Rare, NE

**Distribution:** The burrowing owl ranges from southern Canada into the western half of the U.S. into Baja California and central Mexico. As of 2007, surveys indicated that, at most, 46 breeding pairs were in the County (Lincer and Bloom 2007 in County 2010b). Most of these, about 25 pair, were on East Otay Mesa. The highest concentrations occur along the international border and at the north end of East Otay Mesa (County 2010b).

**Habitat:** Open areas such as grasslands, pastures, coastal dunes, desert scrub, and edges of agriculture fields.

**Status on site:** One sighted west of Parcel A (EDAW 2001b) within non-native grassland (Figure 10b); no individuals have been sighted during numerous other (non-focused) surveys conducted on the site over the course of 11 years and during 2012 protocol surveys.

**Loggerhead shrike (*Lanius ludovicianus*)**

**Status:** BCC/SSC; County Group 1

**Distribution:** Breeding occurs in Canada, then migrates to southern U.S. and Mexico for winter.

**Habitat:** Found in open habitats including grasslands, shrublands, and ruderal vegetation with adequate perching locations.

**Status on site:** Thirteen individuals were observed/detected in several locations within Parcel A and land west of Parcel A by EDAW (2001b) and HELIX (Figure 10b).



**Grasshopper sparrow (*Ammodramus savannarum*)**

**Status:** --/SSC; County Group 1

**Distribution:** Primarily in the coastal lowland. Most of the population is believed to migrate out of California for the winter.

**Habitat:** Grassland with sparse brush.

**Status on site:** Four individuals were observed/detected west of Parcel A by HELIX (Figure 10b). Species not observed by EDAW.

**Northern harrier (*Circus cyaneus*)**

**Status:** --/SSC; County Group 1; County MSCP Covered

**Distribution:** Breeds in North America from Alaska east to subarctic Newfoundland and Labrador and south to the northern U.S. There is a resident population across the U.S. from the Pacific Coast to the Great Lakes. It spends winters in the southwest and along Pacific coast through Mexico and the West Indies to Central America. In San Diego County, the northern harrier's distribution is scattered throughout lowlands but can also include foothills, mountains, and desert.

**Habitat:** Marshes and open grasslands but often seen flying over shrub-covered hillsides.

**Status on site:** One individual was observed flying overhead within Parcel A by HELIX (Figure 10b). Species not observed by EDAW.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)**

**Status:** --/WL; County Group 1; County MSCP Covered

**Distribution:** Limited to Ventura County southeast through Los Angeles, Orange, Riverside, and San Diego counties to northwestern Baja California, Mexico.

**Habitat:** Coastal sage scrub where it occurs on rocky hillsides and in canyons but also may be found in open sage scrub/grassy areas of successional growth (i.e., after a fire).

**Status on site:** Twenty-two individuals were observed/detected in various locations throughout Parcel A, E, and land west of Parcel A by EDAW (2001b) and HELIX (Figure 10b). Multiple Southern California rufous-crowned sparrow locations have been recorded in the AMA.

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

**Status:** --/WL; County Group 1; County MSCP Covered

**Distribution:** Occurs year-round throughout San Diego County's coastal slope where stands of trees are present.

**Habitat:** Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.

**Status on site:** This species was observed flying over the project site during the 2012 burrowing owl survey (HELIX 2012a) and although its exact location was not recorded, it is assumed to use both the impact area and proposed open space.

**California horned lark (*Eremophila alpestris actia*)**

**Status:** --/WL; County Group 2

**Distribution:** Coastal slopes and lowlands from Sonoma County to northern Baja California, Mexico.

**Habitat:** Sandy beaches, agricultural fields, grasslands, and open areas.

**Status on site:** Six individuals were observed/detected within Parcel A and west of Parcel A by EDAW (2001b) and HELIX (Figure 10b). Multiple California horned lark locations have recorded in the AMA.

**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 on Parcel A by HELIX (Figure 10b). Species not observed by EDAW.

**Common barn owl (*Tyto alba*)**

**Status:** --/--; County Group 2

**Distribution:** Resident from southern British Columbia, Dakotas, Michigan, and southern New England southward.

**Habitat:** Open country, forest edges and clearings, cultivated areas, and cities.

**Status on site:** One owl was observed in Parcel A by HELIX (Figure 10b).

**Mammals****San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)**

**Status:** --/SSC; County Group 2

**Distribution:** Southern Santa Barbara County south on the coastal slope to vicinity of San Quintin, Baja California, Mexico. Localities on eastern edge of its range include Jacumba and San Felipe Valley in San Diego County.

**Habitat:** Occurs primarily in open habitats including open coastal sage scrub, chaparral, grasslands, croplands, and disturbed areas (if there is at least some shrub cover present).

**Status on site:** Species was observed/detected at 17 locations within Parcel A and west of Parcel A by EDAW (2001b) and HELIX (Figure 10b). This species has also been observed in the AMA.

**Southern mule deer (*Odocoileus hemionus fuliginata*)**

**Status:** --/--; County Group 2; County MSCP Covered

**Distribution:** Riverside County (Tahquitz Valley) south on the coastal slope to the vicinity of San Quintin, Baja California, Mexico.

**Habitat:** Coastal sage scrub, riparian and montane forests, chaparral, grasslands, croplands, and open areas if there is at least some scrub cover present. Mule deer activity is crepuscular, and movements are along routes that provide the greatest amount of protective cover.

**Status on site:** Species was observed/detected at one location within Parcel A in a canyon within Diegan coastal sage scrub by HELIX (Figure 10b). Species not observed by EDAW.

**Sensitive Animals with Potential to Occur**

In addition to Belding's orange-throated whiptail, discussed above, three other County Group 2 sensitive animal species have a high potential to occur on site: coastal rosy boa (*Lichanura trivirgata roseofusca*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), and mountain lion (*Puma concolor*). Listed or sensitive animal species with potential to occur on the Proposed Project site are listed in Appendix J. The species are grouped into invertebrates and vertebrates

(amphibians, reptiles, birds, and mammals) and alphabetized (by scientific name). Refer to Appendix G for a listing and explanation of status codes.

#### 1.4.7 Wetlands/Jurisdictional Waters

The USACE and CDFW jurisdictional areas and County RPO wetlands on the Proposed Project site occur in portions of cismontane alkali marsh, mule fat scrub, disturbed wetland, tamarisk scrub, non-native grassland, and Diegan coastal sage scrub.

The USACE jurisdictional areas on the site total 0.82 acre, including 0.33 acre of wetlands and 0.49 acre of non-wetland Waters of the U.S. (Figure 11a; Table 2).

RWQCB jurisdiction areas consist of CWA Section 401 and Porter-Cologne Act. The reason there are two types of jurisdiction is that are connected to downstream WUS and areas that are isolated from downstream WUS. The isolated areas are jurisdictional under the Porter-Cologne Act and areas that are connected to downstream WUS area jurisdictional under Section 401 of the CWA. The RWQCB jurisdictional areas on the site total 0.88 acre, including 0.23 acre of cismontane alkali marsh, 0.01 acre of disturbed wetland, 0.09 acre of tamarisk scrub, 0.02 acre of pond, 0.01 acre of intermittent pond, and 0.52 acre of streambed (Figure 11b; Table 2).

The CDFW jurisdictional areas on the site include all USACE jurisdictional areas in addition to riparian habitat not under USACE jurisdiction. Approximately 0.45 acre of CDFW jurisdictional wetlands and 0.53 acre of CDFW-jurisdictional streambed and pond (Figure 11c; Table 2) occur on site.

<b>Table 2</b> <b>JURISDICTIONAL AREAS ON THE PROPOSED PROJECT SITE (acre[s])</b>				
<b>Habitat</b>	<b>USACE</b>	<b>RWQCB</b>	<b>CDFW</b>	<b>County RPO</b>
<b>Wetlands</b>				
Cismontane alkali marsh	0.23	0.23	0.34	0.34
Disturbed wetland	0.01	0.01	0.01	0.01
Tamarisk scrub	0.09	0.09	0.10	0.10
<b>Non-Wetlands</b>				
Drainage/Streambed	0.47	0.52	0.51	0.00
Pond	0.02	0.02	0.02	0.00
Intermittent pond	0.00	0.01	0.00	0.00
<b>TOTAL</b>	<b>0.82</b>	<b>0.88</b>	<b>0.98</b>	<b>0.45</b>

County RPO wetlands include all CDFW jurisdictional areas except streambed and pond. Approximately 0.45 acre of County RPO wetlands occurs on site (Figure 11d; Table 2).

#### 1.4.8 Habitat Connectivity, Wildlife Corridors, and Nursery Sites

The Proposed Project site is part of a larger core area extending east and north into existing conserved lands on Otay Mountain and around Otay Lakes. Additionally, two types of wildlife corridors potentially occur on the Proposed Project site: local and regional. Local corridors

provide animals with access to resources such as food, water, and shelter. Animals can use these corridors (such as the hillsides and tributary drainages to the main drainage on site) to travel from riparian to upland habitats and back. Regional corridors allow for animal movement between large core areas of habitat that are regionally important. They include major creeks and rivers, ridges, valleys, and large swaths of undeveloped land. The Proposed Project site lacks major creeks, rivers and valleys typically associated with corridors, but is part of a larger swath of undeveloped land that as described below does allow for wildlife movement throughout the region.

The Proposed Project site serves as a key component enabling gene flow of many sensitive plant and animal species that move between the site and adjacent open space to the north and east. Existing development occurs adjacent to the northwestern portion of the development footprint, and already approved development occurs along the remainder of the western boundary of the development footprint. An existing, private open space parcel associated with the adjacent Otay Crossings Commerce Park to the west does abut the western boundary of the development footprint (Figure 3). The Proposed Project's activities within the development footprint would isolate this open space parcel from the Proposed Project's proposed mitigation open space to the east and other undeveloped land to the southeast and as a result this open space parcel has been added to the project footprint and treated as fully developed.

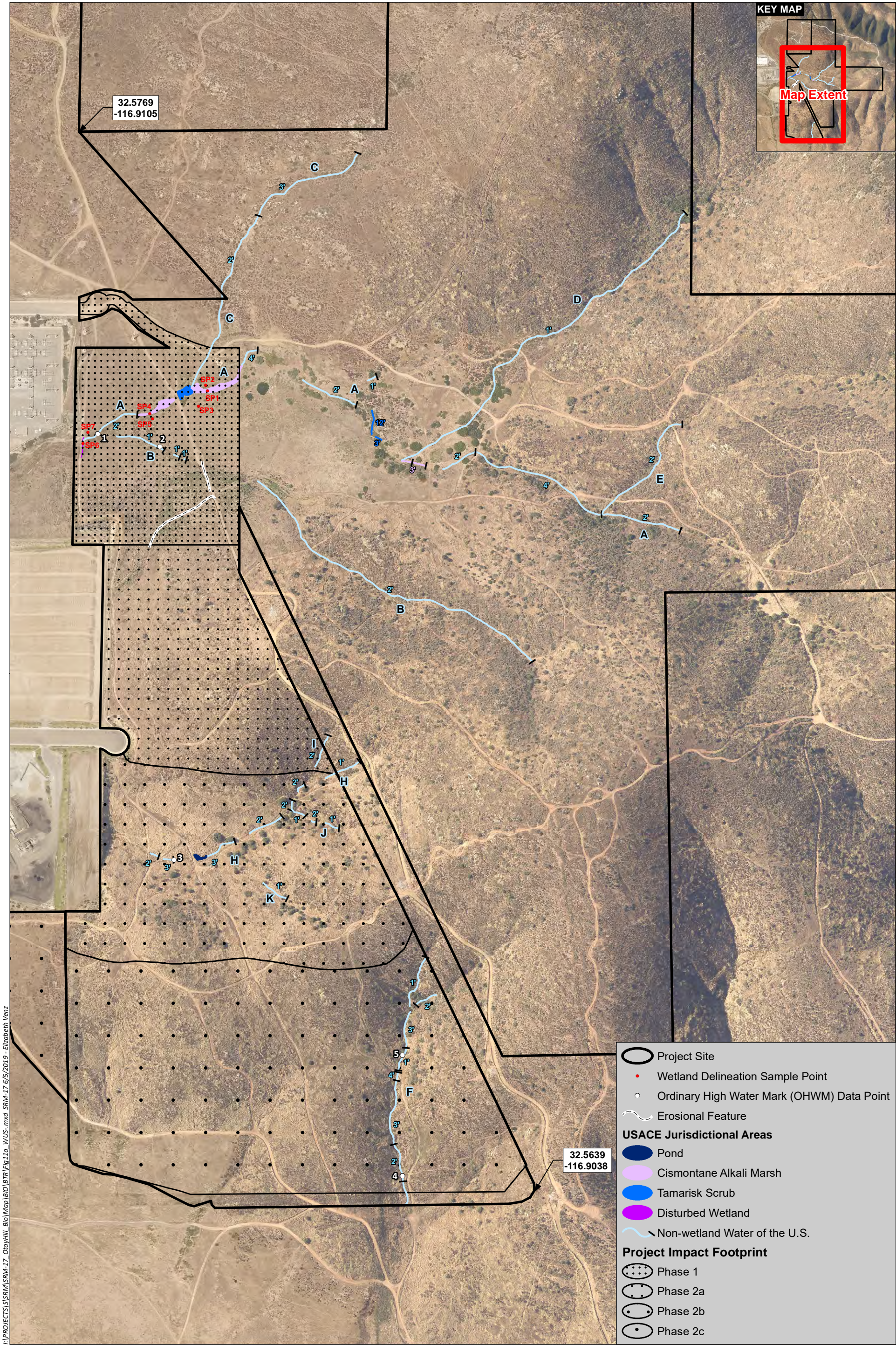
The presence of several raptor nests on the Proposed Project site demonstrates the importance of the area to raptor species. These species forage in undeveloped lands located both within and outside of the Proposed Project site boundary. Sightings of the federal listed endangered QCB over multiple years on site demonstrate that it contains habitat for this species.

Designated public lands and private open space occur beyond these open space areas to the north and east. Animal species can use most habitats on the Proposed Project site and can access habitats off site without restriction at this time. The site is not part of a regional corridor because existing and approved development along the western boundary limits the movement of animals across the property to the west, but is part of a large contiguous block of open space that can support wide-ranging species and may act as a core wildlife area. The Proposed Project would consist of haul roads and mining-related structures and appurtenances that would create a barrier on the land surface for local wildlife movement but would not restrict regional wildlife movement. Construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Proposed Project is designed to maintain connectivity of preserved habitats in open space on site with connections to off-site, vacant lands with the exception of the Otay Crossings Commerce Park parcel to the west (Figure 12). Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. The Proposed Project site would continue to provide regional landscape level conservation function.

## **1.5 APPLICABLE REGULATIONS**

Biological resources on the Proposed Project site are subject to regulatory review by the federal government, State of California, and County. The federal government administers non-marine plant- and wildlife-related issues through the USFWS, while the USACE regulates Waters of the U.S. (including wetland and non-wetland). California law relating to wetland, water-related, and

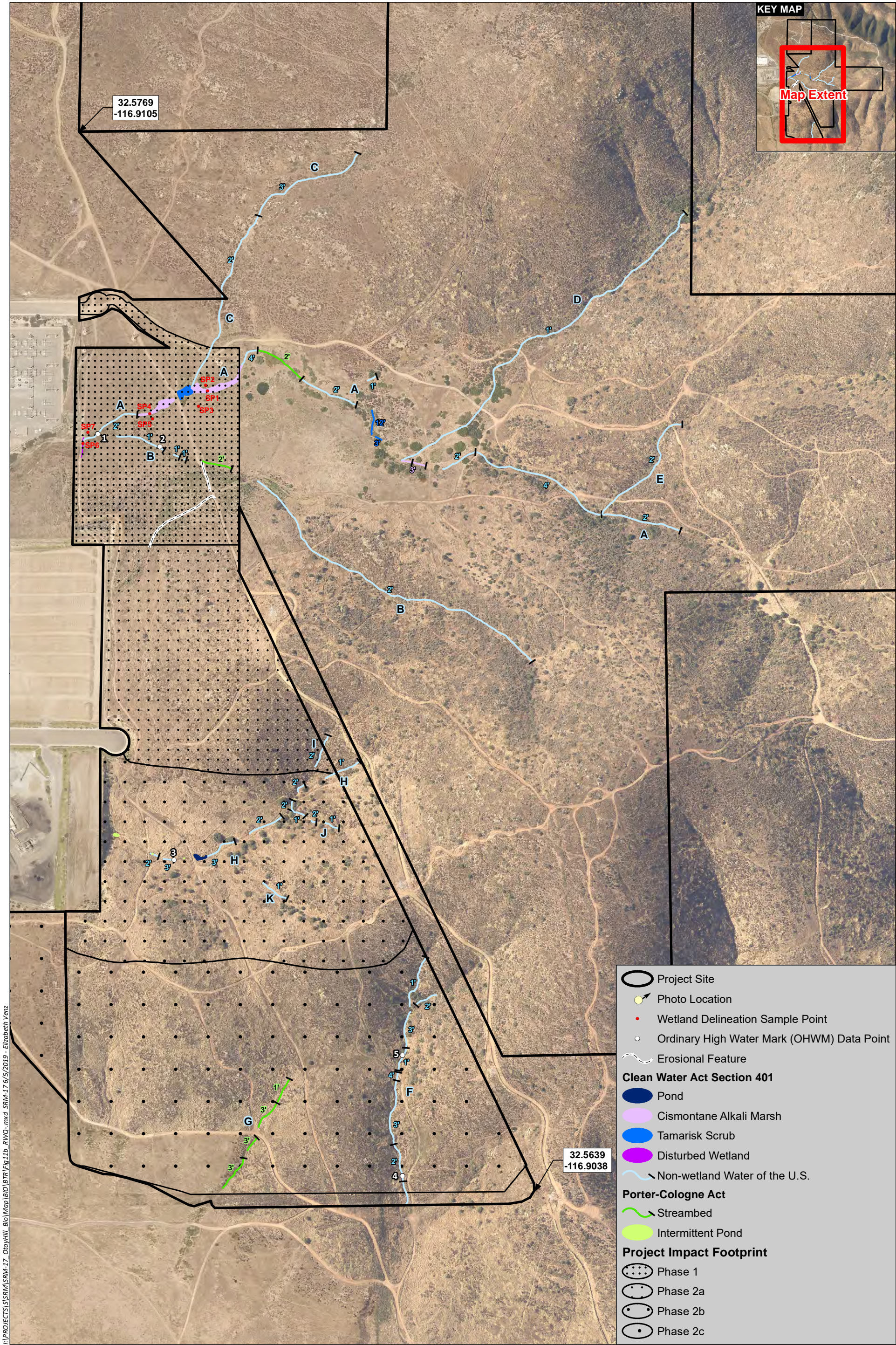




# Impacts to Corps Jurisdictional Areas

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

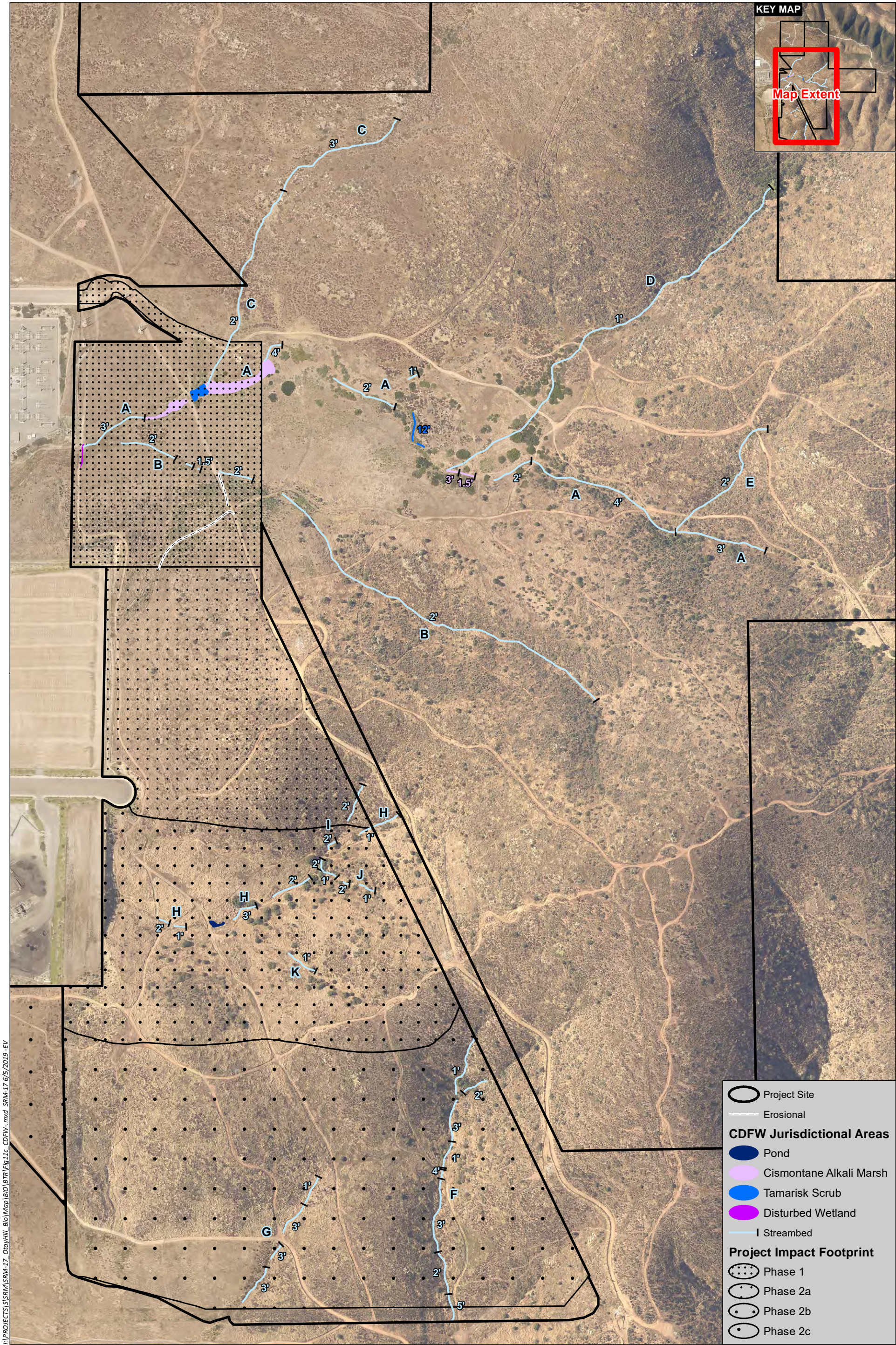




# Regional Water Quality Control Board Jurisdictional Areas

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS



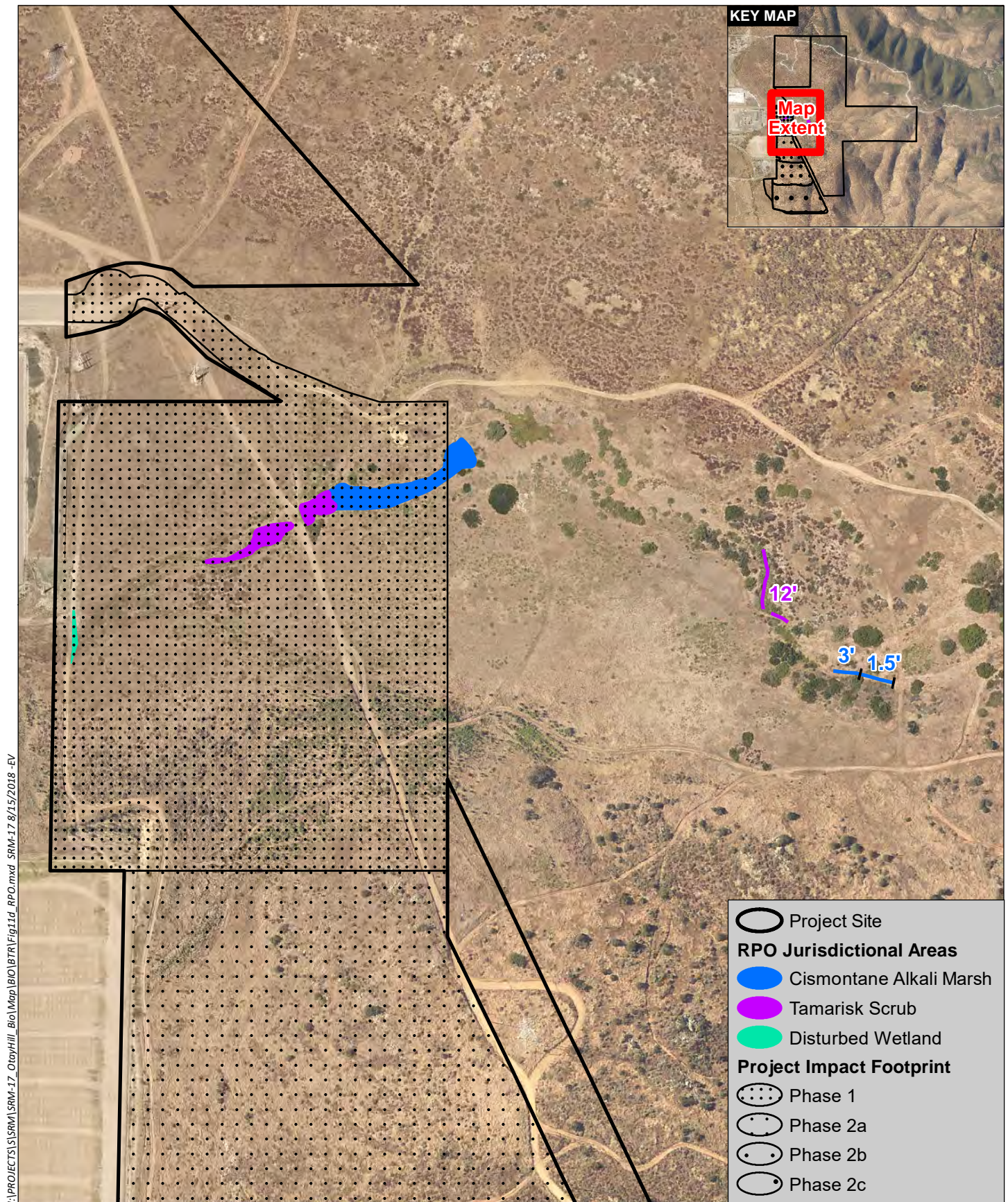


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**CDFW Jurisdictional Areas/Impacts**

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS



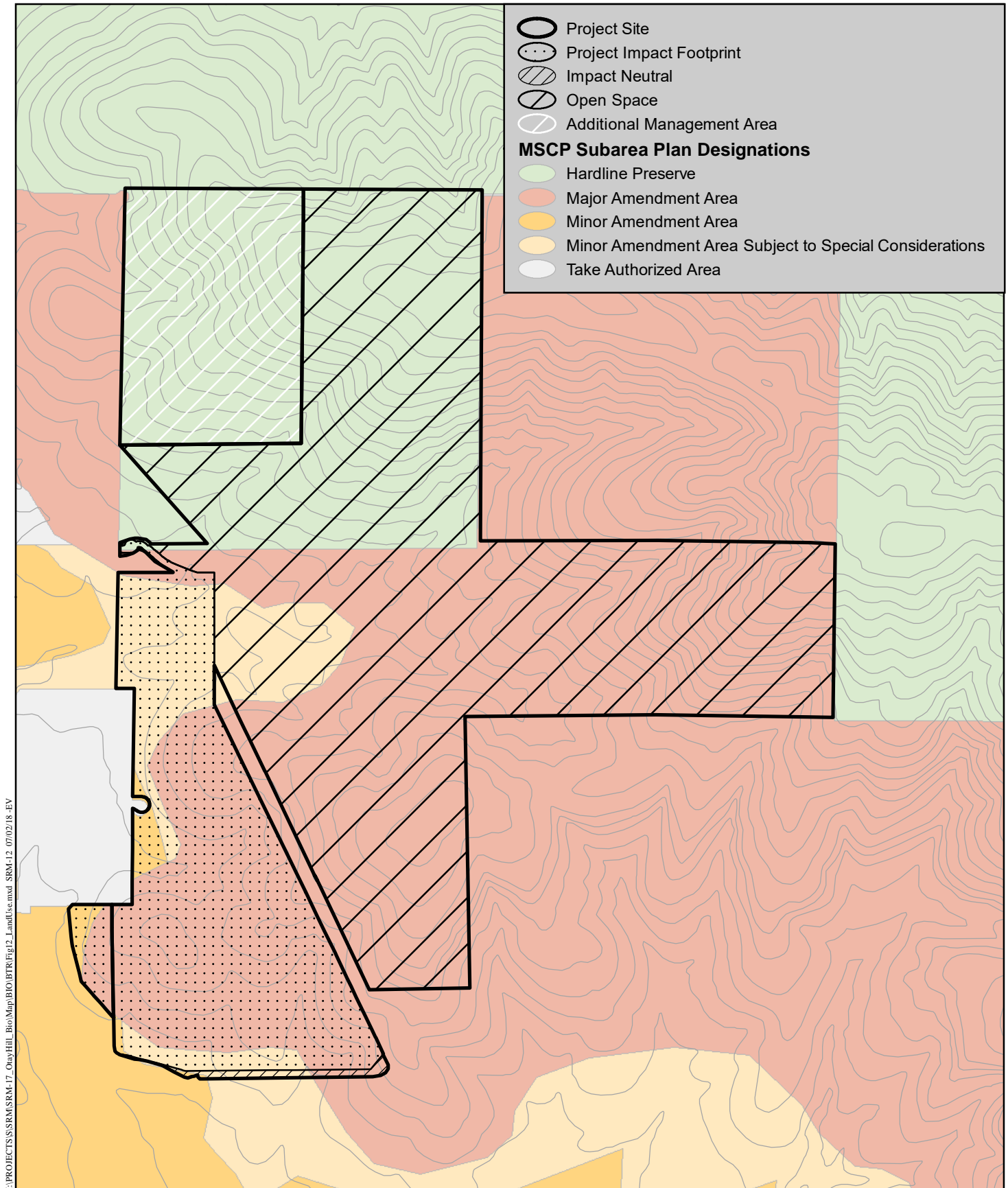


## County RPO Wetlands/Impacts

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

Figure 11d





## MSCP Subarea Plan

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

wildlife issues is administered by CDFW. The County is the lead agency for the CEQA environmental review process in accordance with State law and local ordinances.

Coordination efforts for the Proposed Project have resulted in numerous meetings from 2003 to the present with the USFWS, CDFW, and County.

Laws and regulations that apply include federal Endangered Species Act (ESA), Clean Water Act, CEQA, California Fish and Game Code, County MSCP Subarea Plan, RPO, and BMO. Under CEQA, impacts associated with a Proposed Project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) and pursuant to CEQA and State CEQA Guidelines.

### **1.5.1 Federal Government**

Administered by the USFWS, the federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a 'take' under the ESA. Section 9 of the ESA and federal regulation pursuant to Section 4(d) of the ESA prohibit the take of fish and wildlife species listed as endangered and threatened, respectively, without special exemption. Take as defined by the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." The ESA includes mechanisms that provide exceptions to the Section 9 take prohibitions. These are addressed in the ESA under Section 7 (federal actions) and Section 10 (non-federal actions).

Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion, issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' (in this case, the CAGN) use of the site and removal of USACE jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a habitat conservation plan (HCP). The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits. It is likely that a Section 7 permit would be required for the Proposed Project given the nexus between USACE jurisdictional areas and the federal listed QCB, CAGN, and critical habitat for three species as noted below.

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



destruction or adverse modification of the critical habitat. Designated critical habitat occurs on the Proposed Project site (including the off-site parcel) as follows: 201.6 acres for Otay tarplant; 403.8 acres for the QCB, and 263.0 acres for the CAGN (Figure 13). As such, a formal Section 7 permit would be required for the Proposed Project for impacts to critical habitat.

The BGEPA (16 USC 668-668c; Eagle Act) prohibits the take of any eagles or any part, nest, or egg thereof. Take is defined to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb.” Disturb is further defined in 50 CFR Part 22.3 as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

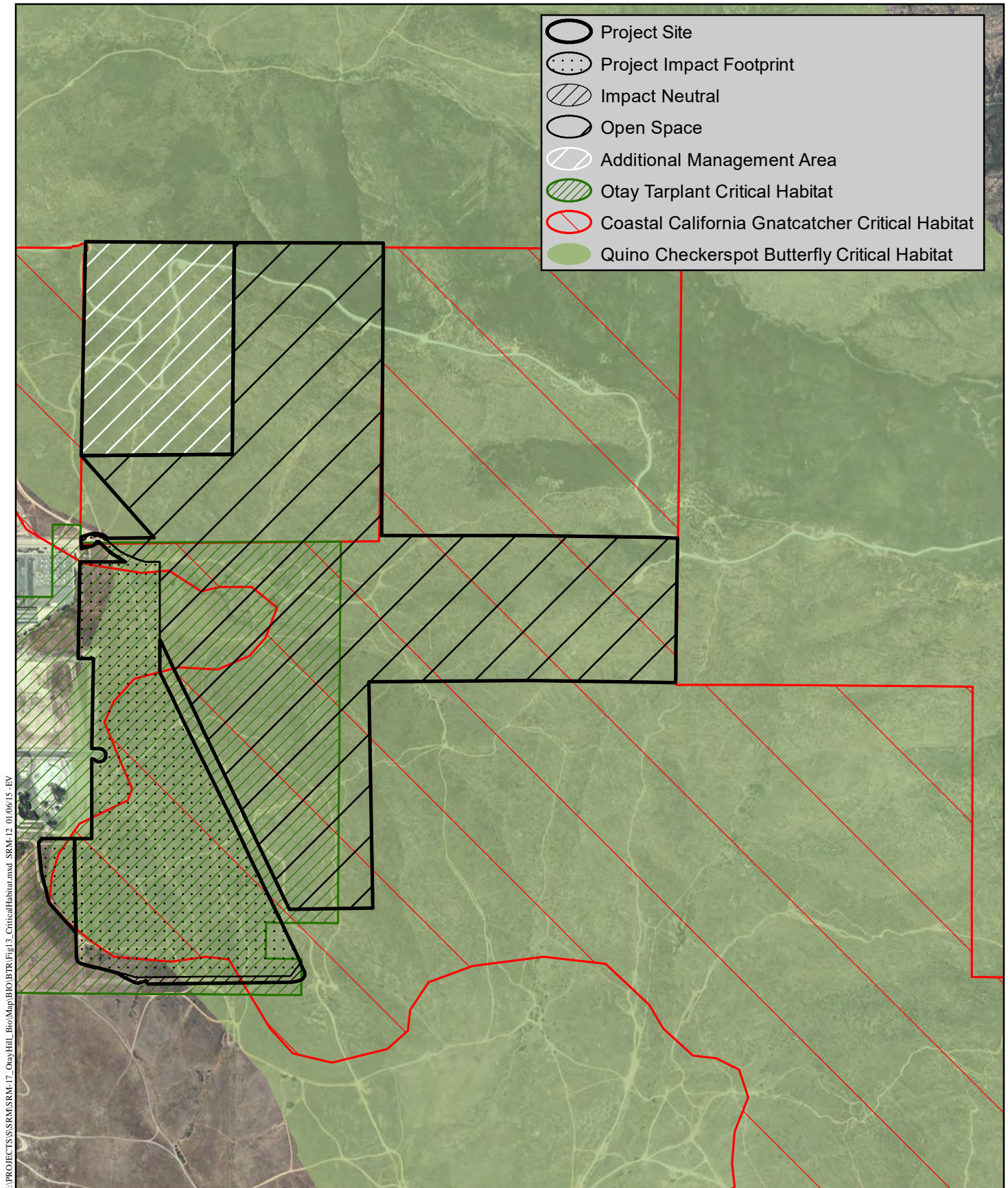
Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act (CWA). The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all Waters of the U.S. Permitting for projects filling Waters of the U.S. (including wetlands) is overseen by the USACE under Section 404 of the CWA. Projects could be permitted on an individual basis or be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. and typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets appropriate conditions. It is assumed that an Individual Permit would be required for the Proposed Project for removal of USACE jurisdictional areas. The CWA also requires 401 Certification from the RWQCB.

## **1.5.2 State of California**

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines). CEQA is a statute that requires State and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA applies to certain activities of State and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a project. A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Most proposals for physical development in California are subject to the provisions of CEQA, as are many governmental decisions that do not immediately result in physical development (such as adoption of a general or community plan). Every development project that requires a discretionary governmental approval will require at least some environmental review pursuant to CEQA, unless an exemption applies.

The California ESA prohibits take of wildlife and plants listed as threatened or endangered by the California Fish and Game Commission. Take is defined under the California Fish and Game Code as any action or attempt to “hunt, pursue, catch, capture, or kill.” Therefore, take under the



## Critical Habitat

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

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California ESA does not include “the taking of habitat alone or the impacts of the taking.” Rather, the courts have affirmed that under the California ESA, “taking involves mortality.”

The CESA allows exceptions to the take prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take under the California ESA are described in Section 2081 of the California Fish and Game Code. Incidental take of State-listed species may be authorized if an applicant submits an approved plan that minimizes and “fully mitigates” the impacts of this take.

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

The California Fish and Game Code (Sections 1600 through 1603) requires a CDFW agreement for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement. It is assumed that the Proposed Project would require a 1602 Agreement from the CDFW for removal of CDFW jurisdictional areas.

### **1.5.3 County of San Diego**

The County regulates natural resources (among other resources) via the MSCP, BMO, and RPO, as discussed below.

#### **Natural Communities Conservation Planning (NCCP) Act and Multiple Species Conservation Program**

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the State's NCCP Act of 1991, legislation broader in its orientation and objectives than the California and federal ESAs. These laws are designed to identify and protect individual species that have already declined in number significantly. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the State to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a State permit to take threatened and endangered species in exchange

for conserving their habitat. The resource agencies worked to combine the NCCP program with the federal HCP process to provide take permits for State and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of State and federal incidental take permits. The County's MSCP Subarea Plan (County et al. 1997) and the Implementing Agreement by and between the resource agencies and County (USFWS et al. 1998) authorize take for 85 specific species (i.e., Covered Species).

### **County MSCP Subarea Plan**

The Proposed Project is located within the South County Segment of the MSCP Subarea Plan. Five Subarea Plan designations occur on the Proposed Project site: Major Amendment Area (263.0 acres), Minor Amendment Area (5.0 acres), Minor Amendment Area Subject to Special Considerations (42.2 acres), Take Authorized Area (0.4 acre), and Hardline Preserve (103.7 acres; Figure 12).

Major Amendment Area (3.1 acres), Minor Amendment Area (1.6 acres), and Take Authorized Area (0.1 acre) occur on the Otay Crossings Commerce Park parcel off site. All of the amendment designations are because the locations of preservation and development areas were not resolved during the MSCP process for all lands within the South County Segment.

The County, as the permittee under the South County Segment of the MSCP, must initiate any request for an amendment to the Subarea Plan, and development of the Proposed Project may only occur after an amendment to the Subarea Plan is completed. All major and minor amendments must conform to the MSCP and Subarea Plan requirements, and requests for amendments must be processed by the USFWS and CDFW in conformity with all applicable laws and regulations (including NEPA, CEQA, and the federal and State ESAs) in effect at the time the request for an amendment is received.

A Habitat Conservation Plan (Appendix K), along with an Environmental Impact Report/Environmental Impact Statement, will provide the information necessary to process the County's request for a Major Amendment.

### **Major Amendment Areas**

Major Amendment Areas include key core habitat areas that are vital to the continued existence of many of the MSCP Covered Species. Take cannot be authorized by the County within this amendment area until the respective amendment process has been completed. Major Amendments must conform to the MSCP and Subarea Plan, as well as the BMO (County 2010a). Major Amendments also must be authorized by the resource agencies and be in conformance with all applicable laws and regulations, including NEPA, CEQA, NCCP Act, and Federal and State ESAs. Major Amendment Areas are shown on Figure 12.



### Minor Amendment Areas

Minor Amendment Areas “contain habitat that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the Subarea Plan.” Minor Amendment Areas must meet the criteria and achieve the goals of linkages and corridors described in the Subarea Plan and provide mitigation consistent with the BMO. Development within Minor Amendment Areas requires approval from the USFWS Field Office Supervisor, CDFW NCCP Program Manager, and County Board of Supervisors. Minor Amendment Areas are shown on Figure 12.

### Minor Amendment Areas Subject to Special Considerations

Minor Amendment Areas Subject to Special Considerations are limited to the EOMSP (County 1994) area. These are transitional areas located between the Major and Minor Amendment Areas. Minor Amendment Areas Subject to Special Considerations on the Proposed Project site are shown on Figure 12.

### Take Authorized Area

Take Authorized Areas are covered under the MSCP, and no additional review process is required for incidental take of MSCP Covered Species. Take Authorized Areas are shown on Figure 12.

### Hardline Preserve

Hardline Preserve areas represent precise preserve boundaries established by the Subarea Plan without reference to this Proposed Project. Hardline Preserve on the Proposed Project site is shown on Figure 12 and is identified in section 3.3.3.14 of the Subarea Plan (i.e. O’Neal Canyon and Southerly Foothills Corridor).

### **MSCP Covered Species**

Most federal listed endangered species found locally are covered under the MSCP; however, the QCB is not covered because of “unknown conservation and lack of assurances that the Plan will protect preferred habitat (mesa tops/grassland) and connection to known source populations” (County 1997). Focused surveys for this species on the Proposed Project site between 2000 and 2010 have located many of the existing populations, and the County is working to amend the MSCP to include QCB as a covered species. The Proposed Project would be required to address this species through either the Section 7 or 10(a) process in order to proceed with development.

### **Biological Mitigation Ordinance**

The BMO is the mechanism by which the County implements the Subarea Plan at the project level within the unincorporated area to attain the goals set forth in the Subarea Plan. The BMO contains design criteria and mitigation standards which, when applied to projects requiring discretionary permits, protect habitats and species and ensure that a project does not preclude the viability of the

MSCP Preserve System. In this way, the BMO promotes the preservation of lands that contribute to contiguous habitat core areas or linkages.

Under the BMO, habitat is considered a BRCA if it meets one of the following criteria:

- It is considered a PAMA on the wildlife agencies' PAMA area map;
- It contains biological resources that support or contribute to the long-term survival of sensitive species and is adjacent to the pre-approved mitigation area;
- It is part of a regional linkage/corridor;
- It is mapped as Very High or High shown on the Habitat Evaluation Map and links significant patches of habitat;
- It is part of a patch of habitat greater than 500 acres in area that contributes to the conservation of sensitive species; or
- It supports a high number of sensitive species and is contiguous to undisturbed habitats.

As stated above, 88 percent of the Proposed Project site has been designated as High or Very High value habitat by the County; therefore, it meets the criteria of a BRCA. As such, the Proposed Project site is subject to the BMO's avoidance and mitigation requirements. According to the BMO, where complete avoidance of County List A and B sensitive plants is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population, except that encroachment shall not exceed 20 percent of a population on a site.

### **Resource Protection Ordinance**

The County regulates natural resources (among other resources) via the RPO, the regulations of which cover wetlands, sensitive plants and animals, sensitive habitats, and habitats containing sensitive animals or plants as sensitive biological resources. Wetland habitats are defined per the RPO, as described in Section 1.3.4, above. Sensitive habitat lands are identified by the RPO as lands that "support unique vegetation communities, or habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines." It is the intent of the RPO to increase the preservation and protection of the County's unique topography, natural beauty, biological diversity, and natural and cultural resources. Pursuant to Section 86.605(d) of the RPO, the Proposed Project would be exempt from RPO requirements provided that the following mitigation measures are required as conditions of the Major Use Permit:

- a. Any wetland buffer area shall be restored to protect environmental values of adjacent wetlands
- b. In a floodplain, any net gain in functional wetlands and riparian habitat shall occur in or adjacent to the area of extraction
- c. Native vegetation shall be used on steep slopes lands to revegetate and landscape cut and fill areas in order to restore substantially original habitat value, and slopes shall be graded

to produce contours and soils that reflect natural landform consistent with the surrounding area; and

- d. Mature riparian woodland may not be destroyed or reduced in size due to sand, gravel, or mineral extraction.

The development footprint would remove 0.27 acre of cismontane alkali marsh, and the remaining 0.07 acre of the cismontane alkali marsh area is proposed to be preserved in open space. Additionally, the development footprint would remove 0.06 acre of tamarisk scrub and 0.01 acre of disturbed wetland. There is no feasible buffer between the development footprint and the avoided cismontane alkali marsh since it is immediately adjacent; however, a fence to keep people out of the open space would be installed. The other RPO wetlands (tamarisk scrub and another small area of cismontane alkali marsh) are either of low sensitivity (disturbed wetlands and tamarisk scrub) or occur within the proposed open space at approximate distances of 500 to 700 feet from the development footprint. These wetlands occur within larger areas of non-native grassland and Diegan coastal sage scrub where no buffer restoration would be needed to protect their environmental values. Therefore, Measure “a” would not be required, although the proposed open space will benefit from invasive plant removal pursuant to the proposed RMP. The site is not located within a floodplain. As such, Measure “b” would not be required. Given that mature riparian woodland does not occur on site, Measure “d” also would not be required. Measure “c” is required for the Proposed Project and revegetation with native vegetation would be required on slopes between the quarry and proposed open space as outlined in the Otay Hills Project Revegetation Plan prepared by EnviroMINE (Appendix C and Sheet 7 of the Reclamation Plan).

## 2.0 PROJECT EFFECTS

Direct impacts are immediate impacts resulting from permanent habitat removal. Direct impacts were quantified by overlaying the limits of all Proposed Project grading, blasting, and extraction on the biological resources map of the development footprint. Since the off-site Otay Crossings Commerce Park parcel, would be functionally isolated from other open space upon implementation of the Proposed Project, this parcel has been added to the project footprint and treated as fully developed. Indirect impacts are all actions that are not direct removal of habitat, but affect the surrounding biological resources either as a secondary effect of the direct impacts or as the cause of degradation of a biological resource over time. Projects can have a wide variety of indirect impacts, depending on the nature of the project, such as edge effects, animal behavioral changes, and errant construction. Cumulative impacts are those caused by numerous projects in the region and their additive effect of multiple direct and indirect impacts to biological resources over time.

It should be noted that although impacts are quantified as a single static number, impacts would actually be implemented over time. Indirect impacts also would occur over the life of the Proposed Project until the site is fully reclaimed.

### 2.1 SENSITIVE PLANT SPECIES

This section analyzes direct removal of the sensitive plant species on the Proposed Project site and on the off-site Otay Crossings Commerce parcel. Locations of County List A and B sensitive plant species and County List D sensitive plant species in relation to the Proposed Project are shown on Figures 9a and 9b. Relevant data collected during field surveys include the approximate number (population size) and location of sensitive plant species. The approximate number of individuals is used for assessing the overall magnitude of an impact rather than for describing the precise population size. Three County MSCP Subarea Plan narrow endemic species (Otay tarplant, Dunn's mariposa lily, and variegated dudleya) and six additional County List A and B sensitive species (San Diego goldenstar, San Diego barrel cactus, San Diego marsh-elder, Tecate cypress, Munz's sage, and Orcutt's bird's beak), were observed on the site (San Diego barrel cactus was also observed on the off-site parcel). Impacts to and preservation of each of these species is discussed below in Table 3. Table 4 breaks out impacts by phase.

**Table 3**  
**SENSITIVE PLANT SPECIES ANALYSIS**

Species	Status	Existing On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution on Site
Otay tarplant ( <i>Deinandra conjugens</i> )	FT/SE MSCP NE County List A Designated CH*	540	30	510	94.4	Found in four primary populations on site.
Dunn's mariposa lily ( <i>Calochortus dunnii</i> )	--/SR MSCP NE County List A	2	0	2	100	Not common on site. Few individuals on Parcel B.
Variegated dudleya ( <i>Dudleya variegata</i> )	MSCP NE County List A	4,987	120	4,867	97.6	Limited mostly to Parcel A and small spot locations in other areas. Occurs in six primary populations on site.
San Diego goldenstar ( <i>Bloomeria</i> [Muilla] <i>clevelandii</i> )	MSCP Covered County List A	12,388	1,214	11,174	90.2	Occurs on north-facing slopes on Parcel A, west of Parcel A, Parcel C and Parcel E. Occurs in six primary populations on site.
Summer holly ( <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> )	County List A	8	0	8	100	Occurs in the eastern portion of Parcel A.
Gander's pitcher sage ( <i>Lepechinia ganderi</i> )	MSCP NE County List A	92	0	92	100	Found on Parcel C during 2011 surveys.
San Diego barrel cactus ( <i>Ferocactus viridescens</i> )	MSCP Covered County List B	337 (25 more in the off-site parcel)	171 (25 more in the off-site parcel)	166	49.3 (0 in the off-site parcel)	Relatively common on south-facing slopes on site. Also present on the off-site Otay Crossings Commerce Park parcel.
San Diego marsh-elder ( <i>Iva hayesiana</i> )	County List B	290	142	148	51	Occurs in Parcels A.



**Table 3 (cont.)  
SENSITIVE PLANT SPECIES ANALYSIS**

Species	Status	Existing On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution on Site
Tecate cypress ( <i>Hesperocyparis [Cupressus] forbesii</i> )	MSCP Covered County List A	78	0	78	100	Found in scattered locations on site.
Munz's sage ( <i>Salvia munzii</i> )	County List B	3,915	0	3,915	100	Found abundantly on Parcel A, B, and E.
Orcutt's bird's beak ( <i>Cordylanthus orcuttianus</i> )	MSCP Covered County List B	21	0	21	100	A small population was observed on Parcel B.
San Diego needlegrass ( <i>Achnatherum diegoense</i> )	County List D	1,596	293	1,303	81.6	Occurs at western edge of Parcel A and in Parcel B.
Western dichondra ( <i>Dichondra occidentalis</i> )	County List D	10	3	7	70	Sparsely located on Parcels A and B, and west of Parcel A.
Palmer's grapplinghook ( <i>Harpagonella palmeri</i> )	County List D	100	0	100	100	Occurs in Parcel A.
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	County List D	21	11	10	47.6	Occurs in the northwest corner of Parcel A.
Coulter's matilija poppy ( <i>Romneya coulteri</i> )	County List D	51	0	51	100	Occurs in Parcel C.
San Diego sunflower ( <i>Viguiera laciniata</i> )	County List D	46,272 (50 more in the off-site parcel)	9,328 (50 more in the off-site parcel)	36,944	79.8 (0 in the off-site parcel)	Occurs on Parcels A, B, land west of Parcel A. and on off-site Otay Crossings Commerce Park parcel.
Ashy spike-moss ( <i>Selaginella cinerascens</i> )	County List D	268 (2 more in the off-site parcel)	221 (2 more in the off-site parcel)	47	17.5 (0 in the off-site parcel)	Occurs on Parcel A and land west of Parcel A including the off-site Otay Crossings Commerce Park parcel.

\*Designated Critical Habitat occurs on site

**Table 4**  
**SENSITIVE PLANT SPECIES IMPACT ANALYSIS BY PHASE**

Species	Existing On Site	Phase 1	Phase 2a	Phase 2b	Phase 2c	Total in Development Footprint
Otay tarplant ( <i>Deinandra conjugens</i> )	540	0	30	0	0	30
Dunn's mariposa lily ( <i>Calochortus dunnii</i> )	2	0	0	0	0	0
Variegated dudleya ( <i>Dudleya variegata</i> )	4,987	0	0	120	0	120
San Diego goldenstar ( <i>Bloomeria</i> [Muilla] <i>clevelandii</i> )	12,388	400	0	813	1	1,214
Summer holly ( <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> )	8	0	0	0	0	0
Gander's pitcher sage ( <i>Lepechinia ganderi</i> )	92	0	0	0	0	0
San Diego barrel cactus ( <i>Ferocactus viridescens</i> )	337 (25 more in the off-site parcel)	0	44	18	109	171 (25 more in the off-site parcel)
San Diego marsh-elder ( <i>Iva hayesiana</i> )	290	142	0	0	0	142
Tecate cypress ( <i>Hesperocyparis</i> [Cupressus] <i>forbesii</i> )	78	0	0	0	0	0

**Table 4 (cont.)  
SENSITIVE PLANT SPECIES ANALYSIS BY PHASE**

<b>Species</b>	<b>Existing On Site</b>	<b>Phase 1</b>	<b>Phase 2a</b>	<b>Phase 2b</b>	<b>Phase 2c</b>	<b>Total in Development Footprint</b>
Munz's sage ( <i>Salvia munzii</i> )	3,915	0	0	0	0	0
Orcutt's bird's beak ( <i>Cordylanthus orcuttianus</i> )	21	0	0	0	0	0
San Diego needlegrass ( <i>Achnatherum diegoense</i> )	1,596	0	1	214	75	293 including 3 in impact neutral area
Western dichondra ( <i>Dichondra occidentalis</i> )	10	0	1	1	1	3
Palmer's grappellinghook ( <i>Harpagonella palmeri</i> )	100	0	0	0	0	0
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	21	11	0	0	0	11
Coulter's matilija poppy ( <i>Romneya coulteri</i> )	51	0	0	0	0	0
San Diego sunflower ( <i>Viguiera laciniata</i> )	46,272 (50 more in the off-site parcel)	**	**	**	**	9,328 (50 more in the off-site parcel)
Ashy spike-moss ( <i>Selaginella cinerascens</i> )	268 (2 more in the off-site parcel)	0	26	31	37	94 (2 more in the off-site parcel)

\*Designated Critical Habitat occurs on site

\*\* Phased impacts not calculated for this species since it is abundant throughout the site.

### 2.1.1 Otay Tarplant

**Status:** Otay tarplant is a federal threatened and State endangered species as well as an MSCP covered species; therefore, no federal or State permits are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is MSCP covered because 66 percent of major populations would be conserved. According to the MSCP, coverage of this species requires avoidance of populations in the Otay River Valley through sensitive design and development of the active recreation areas described in the Otay Ranch Resource Management Plan (RMP) and General Development Plan. One of the seven major populations occurs within the Proctor Valley amendment area. At the time permit amendments are proposed, strategies to provide protection for this species within the amendment area must be included. Area-specific management directives must include specific measures for monitoring of populations, adaptive management of preserved populations (taking into consideration the extreme population fluctuations and from year to year), and specific measures to protect against detrimental edge effects to this species.

**Existing Populations Discussion:** As previously discussed, approximately 10 individuals occur within Parcel A according to surveys conducted by HELIX.

According to the Botanical Technical Report for the EOMSP Amendment Area (EDAW 2001a), approximately 800 individuals in six locations within grasslands in the southeastern portion of the EOMSP area were mapped during surveys conducted by EDAW. Three of these locations occur on the Proposed Project site and include 530 individuals mapped by EDAW (2001a). A total of four primary populations occur on site. The site supports 23.27 acres of potential habitat for Otay tarplant.

A population in excess of 730,000 individuals occurs within and adjacent to Johnson Canyon located within the Lonestar Ridge project site approximately two miles west of the Proposed Project site north of Brown Field (HELIX 2006). This large population represents the second largest known Otay tarplant population in California and is proposed for preservation under the City of San Diego's MSCP Subarea Plan. In addition, Otay tarplant (estimated at 97 individuals) occurs immediately south of the site according to the CNDDDB (2006) and a second population of approximately 800 individuals occurs in six locations within grasslands southeast of the site (EDAW 2001a; Figure 14).

Additionally, Otay tarplant was seeded over a gas pipeline that runs just inside the southern and southwestern borders of the Proposed Project site subsequent to the 2011 surveys.

**Impacts:** Approximately 30 of the 540 individuals (5.5 percent) of Otay tarplant observed on site within one of the four primary populations would be removed by the Proposed Project (Figure 9a; Table 3). It is assumed that the seeded Otay tarplant would be removed, as well. Potential habitat totaling 16.69 acres would be removed. In addition, removal of 100.7 acres of Otay tarplant designated critical habitat would occur on site (2.3 acres would be impact neutral), and 4.7 acres of removal of this critical habitat would occur on the off-site Otay Crossings Commerce Park

parcel, for a total of 105.5 acres; however, Otay tarplant was not observed in the off-site parcel and is not expected to occur because of inappropriate soils (HELIX 2010).

**MSCP Consistency:** Section 86.507 of the BMO requires that impacts to List A and B sensitive plants be avoided to the maximum extent practicable. Where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population except that encroachment shall not exceed 20 percent of the population on site. Removal of 30 of 540 individuals (5.6 percent) of Otay tarplant do not exceed the 20 percent encroachment limit. The BMO requires mitigation for impacts to this species. The applicant proposes to preserve 93.8 acres of Otay tarplant designated critical habitat and 6.58 acres of suitable habitat supporting 510 individuals of Otay tarplant (94.4 percent of the population on site including three primary populations). In addition, seeds will be collected from the Otay tarplant in the impact area prior to Phase 2a and spread within suitable habitat in the proposed on-site open space. The applicant does not propose mitigation for the Otay tarplant seeded over the gas pipeline since the occurrence of the species is not natural.

No further mitigation is required because the populations on site do not meet the MSCP threshold for major populations (1,000 individuals) for this species, 94.4 percent of the population is conserved on site in viable open space, and the on-site populations were not discussed in the MSCP 1995 and 1996 Species Evaluations (USFWS and CDFW 1996).

As stated above in the MSCP discussion, this species is MSCP covered because 66 percent of major populations would be conserved. As stated above, the site does not support any major populations. Also, area-specific management directives must include specific measures for monitoring of populations, adaptive management of preserved populations, and specific measures to protect against detrimental edge effects to this species. These directives would be followed through implementation of an RMP (Appendix L) that the applicant proposes to fund that includes measures to protect and enhance the preserved populations in the proposed on-site open space.

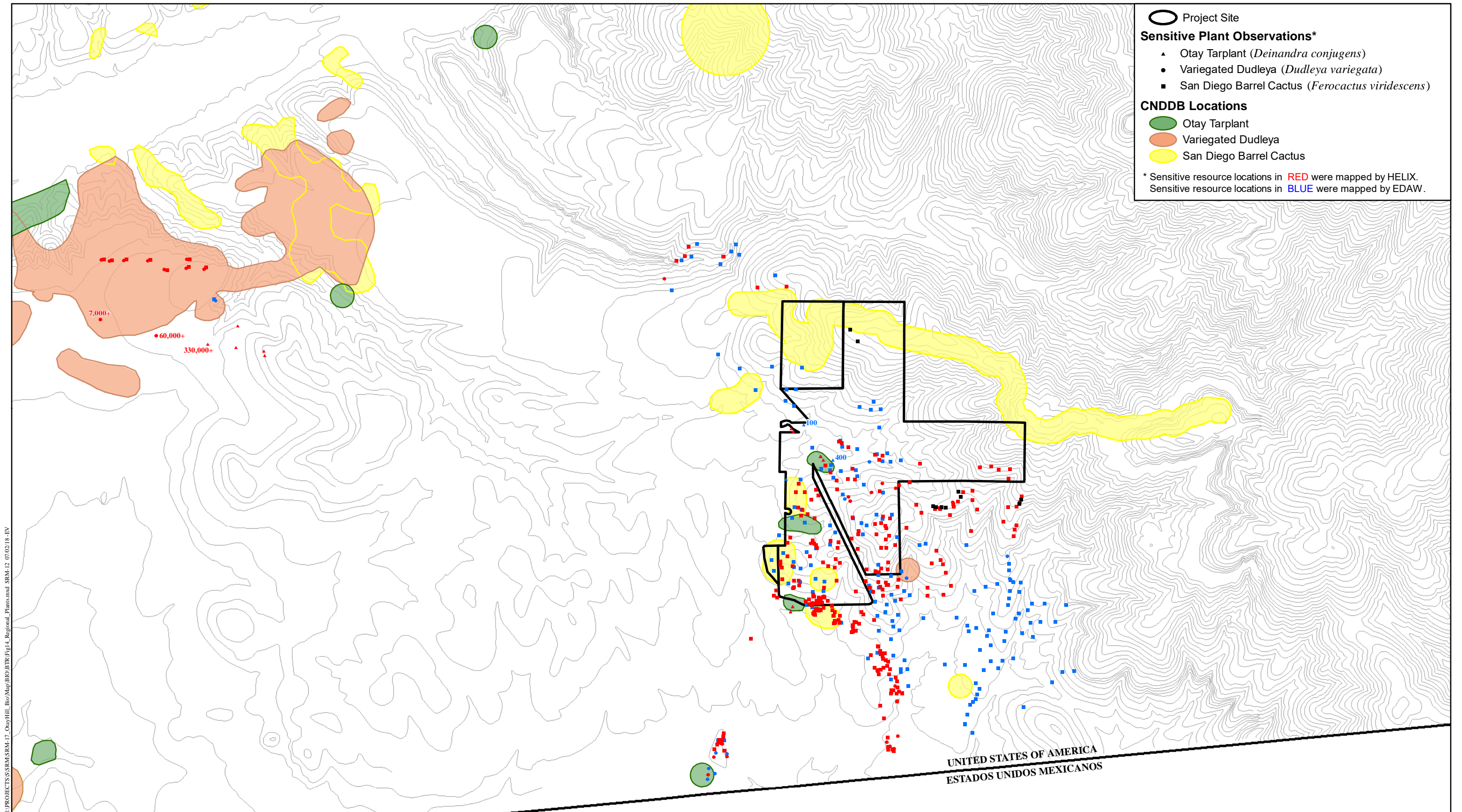
For these reasons, the Proposed Project's mitigation is considered appropriate to meet the goals of the MSCP for this species.

### **2.1.2 Variegated Dudleya**

**Status:** Variegated dudleya is a County MSCP Subarea Plan narrow endemic species; therefore, no federal or State permits are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is covered under the MSCP because 56 percent of major populations and 75 percent of known localities would be conserved. Area-specific management directives must include species-specific monitoring and specific measures to protect against detrimental edge effects to this species, including effects caused by recreational activities. Some populations now occur within a Major Amendment Area (Otay Mountain), and at the time permit amendments are proposed, strategies to provide protection for this species within the Amendment Area must be included.





**Regional Otay Tarplant, Variegated Dudleya, and San Diego Barrel Cactus Locations**

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

**Existing Populations Discussion:** As previously discussed, approximately 1,887 individual variegated dudleya were observed on Parcel A and west of Parcel A by HELIX in 2000.

According to the Botanical Technical Report (EDAW 2001a), approximately 6,100 individuals of variegated dudleya in six locations within grasslands in the EOMSP southeastern portion and sage scrub in the eastern EOMSP portion were mapped during surveys conducted by EDAW (2001a; Figure 14). Of these 6,100 individuals of variegated dudleya, approximately 3,100 individuals occur on site and are included in the total observed as this location is not duplicative with HELIX data. As such, 4,987 individuals are discussed in this report. A total of six primary populations and 62.17 acres of potential habitat occur on site.

Approximately 68,650 individuals of variegated dudleya occur within the Lonestar Ridge project site located approximately two miles west of Proposed Project site, which represents one of the largest known populations of this species (Figure 14; HELIX 2006).

**Impacts:** The Proposed Project would remove approximately 120 individuals of the 4,987 individuals and one of the six primary populations of variegated dudleya (2.4 percent) on site (Figure 9a). The Proposed Project would remove 13.06 acres of potential habitat.

**MSCP Consistency:** Section 86.507 of the BMO requires that impacts to List A and B sensitive plants be avoided to the maximum extent practicable. Where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population except that encroachment shall not exceed 20 percent of the population on site. Removal of 120 of 4,987 individuals (2.4 percent) of variegated dudleya do not exceed the 20 percent encroachment limit. The BMO requires mitigation for impacts to this species. The applicant proposes to preserve 4,867 individuals of variegated dudleya (97.6 percent of the population on site), including 48.65 acres of potential variegated dudleya habitat. Additionally, the variegated dudleya in the impact area will be salvaged by collecting the soil crust in the area where the 120 dudleya were observed and translocating to the OHCA prior to phase 2b. Translocation is detailed in Appendix C of the Habitat Conservation Plan. The applicant proposes to fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved populations. Therefore, the Proposed Project's mitigation would be considered consistent with the goals of the MSCP for this species.

### 2.1.3 San Diego Goldenstar

**Status:** San Diego goldenstar is a County MSCP Subarea Plan covered species; therefore, no federal or State permits are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is MSCP covered because eight of 11 major populations, 125 of 144 occurrences, and 38 percent of the grassland vegetation community would be conserved. Area-specific management directives would include monitoring of the transplanted populations(s) and specific measures to protect against detrimental edge effects to this species.

**Existing Populations Discussion:** As stated above, this species was observed on the Proposed Project site by Ogden (1991), EDAW (2001a), and HELIX in 2000/2001 and 2004 with a total population estimate of 12,388 individuals. According to the Botanical Technical Report (EDAW 2001a), San Diego goldenstar was observed in high densities within grassland and sage scrub habitats in the eastern portion of the EOMSP area during 2001 surveys conducted by EDAW. It is assumed that at least 200,000 individuals occur within the EOMSP area (EDAW 2001a), some of which occur on site. A total of six primary populations occur on site. The site includes 82.53 acres of potential habitat.

**Impacts:** The Proposed Project would remove approximately 1,214 individuals of San Diego goldenstar (9.8 percent) of the approximately 12,388 individuals and one primary population on site (Figure 9a). Potential habitat totaling 13.06 acres would be removed.

**MSCP Consistency:** Section 86.507 of the BMO requires that impacts to List A and B sensitive plants be avoided to the maximum extent practicable. Where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population except that encroachment shall not exceed 20 percent of the population on site. Removal of 1,214 of 12,388 individuals (9.8 percent) of San Diego goldenstar do not exceed the 20 percent encroachment limit. The applicant proposes to preserve 11,174 individuals of San Diego goldenstar (90.2 percent of the population on site and five of the six primary populations). The BMO requires mitigation for impacts to this species. Mitigation shall include the preservation of the 69.46 acres of suitable habitat supporting 11,174 individuals on the Project site in the OHCA in addition to the translocation of corms located within the impact area.

Mitigation for San Diego goldenstar shall be mitigated by phase as follows:

- All San Diego goldenstar corms that are located within each phase shall be translocated prior to implementation of mining activities within that phase.

Phase 1 – at least 400  
Phase 2a – at least 813  
Phase 2b – at least 1

Translocation is detailed in Appendix C of the Habitat Conservation Plan. The applicant proposes to fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved and/or translocated populations. Therefore, the Proposed Project's mitigation would be considered consistent with the goals of the MSCP for this species.

#### **2.1.4 San Diego Barrel Cactus**

**Status:** San Diego barrel cactus is a County MSCP Subarea Plan covered species; therefore, no federal or State permits are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is covered under the MSCP because 81 percent of major populations would be conserved. This is an abundant species that would be protected at varying

levels in several subareas: Carmel Mountain (64 percent), East Elliot (64 percent), Marron Valley (90 percent), Mission Trails Regional Park (94 percent), Otay Mesa (70 percent), Otay River Valley (100 percent), Sweetwater Reservoir (100 percent), and Sycamore Canyon/Fanita Ranch (50 percent). Area-specific management directives would include measures to protect this species from edge effects and unauthorized collection. Directives should also include appropriate fire management/control practices to protect against a too frequent fire cycle.

**Existing Populations Discussion:** As previously discussed, this species was observed on site by Ogden (1991). Approximately 700 San Diego barrel cacti occur throughout the sage scrub and chaparral communities in the eastern portions of the EOMSP area according to the Botanical Technical Report (EDAW 2001a), which includes the site. Approximately 635 individuals were observed on Parcels A, B, C, E, and land west of Parcel A by HELIX during the 2000 and 2004 sensitive plant surveys. Approximately 109 individuals were observed on land west of Parcel A during 2006 plant surveys. Approximately 337 individuals were observed on Parcels A, B, C, E, and land west of Parcel A by HELIX in 2011; locations of previous observations were visited, and some were found to be no longer extant. Given that this is a readily observable perennial species, only the 337 individuals observed by HELIX in 2011 are addressed in this document along with the 25 individuals that occur on the off-site Otay Crossings Commerce Park parcel.

**Impacts:** Approximately 171 individual San Diego barrel cacti (50.7 percent) on site would be removed by the Proposed Project and 25 individuals (100 percent) would be removed off site (Figure 9a). Combining the removal of 196 individuals out of a total of 362 individuals the total percent of the population removed is 54.1 percent.

**MSCP Consistency:** The Proposed Project would result in removal of 196 individuals of San Diego barrel cactus, which is not consistent with the 80 percent avoidance criterion of the BMO. Avoidance and proposed preservation of San Diego barrel cactus on site would total 166 individuals.

According to the BMO, where complete avoidance is infeasible, encroachment may be authorized depending on the sensitivity of the individual species and the size of the population, except that encroachment shall not exceed 20 percent of the population on a site. Since the encroachment does exceed 20 percent, the Proposed Project needs an exception to the BMO for this species under section 86.509(b):

Exception to The Requirements of This Ordinance. In certain cases, during CEQA review and/or design of a project, site specific physical conditions, including but not limited to geology, slope, or location of infrastructure, may be identified which make it infeasible for the project to meet all the goals and criteria or other requirements in the Subarea Plan, but the project could be constructed without compromising the conservation of species and habitats pursuant to the Subarea Plan. The exception shall be the minimum necessary to afford relief and accommodate development. In such instances, the County may grant an exception to this Chapter in conjunction with granting an exception to the Subarea Plan. An exception to the Subarea Plan requires the concurrence of the Wildlife Agencies.

The Proposed Project qualifies for an exception because the applicant has spent several years working with County staff and the Wildlife Agencies on an adequate biological mitigation strategy to address sensitive biological habitat on the Proposed Project site. Numerous meetings have been held with County staff, the Wildlife Agencies, and the applicant between 2005 and 2018 to address these concerns. Initially, the Proposed Project site comprised approximately 688 acres, and the development footprint was approximately 210 acres. Concerns were expressed by County staff and the Wildlife Agencies regarding the potential biological impacts from that footprint. The applicant worked with staff to reduce the Proposed Project site to 414.4 acres and development footprint to 102.7 acres (with an additional 4.7 acres off-site considered directly impacted because the development footprint would isolate the off-site open space area from other open space). The resulting development footprint, which allows for adequate preservation of many other species in the proposed open space, still unavoidably removes more than 20 percent of the total number of San Diego barrel cacti on (and off) site.

Where such impacts are allowed, the BMO requires mitigation at a 1:1 to 3:1 ratio. Because the Project encroaches on 54.1 percent (or just over half) of the population, a mitigation ratio of 2:1 is considered appropriate (2:1 is midway between 1:1 and 3:1, and San Diego barrel cactus is a County List B species).

Mitigation is proposed to consist of salvage of the 196 San Diego barrel cacti removed on and off site and relocation of these individuals to areas of appropriate habitat on the Proposed Project site, as well as planting an additional 196 barrel cacti on site for a total of 392 individual cacti planted. The cacti translocation would be subject to a County-approved Barrel Cactus Translocation Plan, Appendix C of the Habitat Conservation Plan. The applicant proposes to fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved and relocated populations of San Diego barrel cactus. Therefore, the Proposed Project's mitigation would be considered consistent with the goals of the BMO and MSCP for this species.

### **2.1.5 San Diego Marsh-elder**

**Status:** San Diego marsh-elder is a County List B species and is considered sensitive by the CNPS.

**MSCP Discussion:** This species is not covered under the MSCP; therefore, no management directives have been established.

**Existing Populations Discussion:** A population of approximately 290 individuals occurs along a drainage in the northwestern portion of Parcel A and land west of Parcel A, based on HELIX surveys in 2011.

**Impacts:** Approximately 142 individuals of San Diego marsh-elder (49 percent) on site would be removed upon implementation of the Proposed Project (Figure 9a).

**MSCP Consistency:** The applicant proposes to preserve 148 individuals (51 percent) of the population, which does not meet the BMO avoidance criterion of 80 percent. The Proposed Project qualifies for an exception for this species for the same reasons as the San Diego barrel cactus (see Section 2.1.4) That is, summarily, that the reduced development footprint, which allows for



adequate preservation of many other species in the proposed open space, still unavoidably removes more than 20 percent of the total number of San Diego marsh-elder.

The BMO requires mitigation for impacts to this species; a mitigation ratio of 2:1 is considered appropriate (284 individuals). Proposed mitigation includes planting 284 individuals within the proposed biological open space. The applicant proposes to fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved or created populations. Therefore, the Proposed Project's mitigation would be considered consistent with the goals of the MSCP and BMO.

#### **2.1.6 Dunn's Mariposa Lily**

No impacts to Dunn's mariposa lily would occur upon implementation of the Proposed Project.

#### **2.1.7 Tecate Cypress**

No impacts to Tecate cypress would occur upon implementation of the Proposed Project.

#### **2.1.8 Gander's Pitcher Sage**

No impacts to Gander's pitcher sage would occur upon implementation of the Proposed Project.

#### **2.1.9 Munz's Sage**

No impacts to Munz's sage would occur upon implementation of the Proposed Project.

#### **2.1.10 Orcutt's Bird's Beak**

No impacts to Orcutt's bird's beak would occur upon implementation of the Proposed Project.

#### **2.1.11 Summer Holly**

No impacts to summer holly would occur upon implementation of the Proposed Project.

#### **2.1.12 Remaining Sensitive Plant Species**

Removal of the following County List C and D species would occur upon implementation of the Proposed Project: San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower, and ashy spike-moss. The latter two species occur on the off-site Otay Crossings Commerce Park parcel. No removal of Coulter's matilija poppy or Palmer's grapplinghook would occur.

### **2.2 SENSITIVE ANIMAL SPECIES**

This section analyzes direct impacts to the two federal listed species (endangered QCB and threatened CAGN) as well as two other sensitive animal species (burrowing owl and golden eagle)

known to occur on site or with known foraging habitat on site. Removal of QCB and its associated larval host plants are shown on Figure 10a, and removal of locations of all other sensitive animal species are shown on Figure 10b. An analysis is provided in Table 5. Removal of habitat for coastal rosy boa, coast patch-nosed snake, and mountain lion, Group 2 species with a high potential to occur on site, are expected to be similar to Belding's orange-throated whiptail.

**Table 5**  
**SENSITIVE ANIMAL SPECIES ANALYSIS**

Species	Status	Observed On Site <sup>+</sup>	Total in Development Footprint <sup>+</sup>	Preserved On Site <sup>+</sup>	Percent Preserved On Site <sup>+</sup>	Comments on Distribution On Site
Quino checkerspot butterfly ( <i>Euphydryas editha quino</i> )	FE/-- County Group 1 Designated CH <sup>1</sup>	57 (409.5)	5 (104.9)	52 (304.6)	91 (74)	Observed throughout much of the site in 2001 and 2008; sightings of species occurred less often in other years.
Red-diamond rattlesnake ( <i>Crotalus ruber ruber</i> )	--/SSC County Group 2	1 (392)	0 (96.3)	1 (295.4)	100 (75)	Observed in the Parcel A.
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	--/SSC County Group 2	11 (392)	4 (96.3)	7 (295.4)	63.6 (75)	Observed in Parcels A, E, and west of Parcel A.
Belding's orange-throated whiptail ( <i>Aspidoscelis hyperythra beldingi</i> )	--/SSC County Group 2	Assumed present throughout site (392)	Undetermined (96.3)	Undetermined (295.4)	75 percent based on preservation of 75 percent of suitable habitat (75)	Not observed but expected to occur over the entire site
Coastal whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	--/-- County Group 2	9 (1 more in the off-site parcel) (392)	2 (1 more in the off-site parcel) (96.3)	7 (295.4)	77.8 (0 in the off-site parcel) (75)	Observed in Parcel A and west of Parcel A and on the off-site Otay Crossings Commerce Park parcel.
Coastal California gnatcatcher ( <i>Poliophtila californica californica</i> )	FT/SSC County Group 1 Designated CH <sup>1</sup>	5 pair (292)	1 pair (66.7)	4 pair (224.3)	80 (77)	Acreage reported is for Diegan coastal sage scrub and coastal sage-chaparral scrub. One pair observed in development footprint in 2011; four pairs observed in northeastern portion of the site.
Burrowing owl ( <i>Athene cunicularia</i> )	BCC/SSC County Group 1	1 <sup>2</sup> (48.6)	1 <sup>2</sup> (31.6)	0 (16.8)	0 (35)	One sighting west of SDG&E easement by EDAW (2001a).

**Table 5 (cont.)  
SENSITIVE ANIMAL SPECIES ANALYSIS**

Species	Status	Observed On Site	Total in Development Footprint	Preserved On Site	Percent Preserved On Site	Comments on Distribution On Site
Golden eagle ( <i>Aquila chrysaetos</i> )	BCC, BGEPA/ WL, Fully Protected County Group 1	1 (340.6)	0 <sup>3</sup> (98.3)	1 (242.3)	100 (75)	A nesting pair reported in O'Neal Canyon east of the site. Site lies within the pair's territory, and the entire site and off-site Otay Crossings Commerce Park parcel is eagle foraging habitat. No direct impacts to the nesting site would occur.
Bell's sage sparrow ( <i>Amphispiza belli belli</i> )	BCC/WL County Group 1	9 (392)	0 (96.3)	9 (295.4)	100 (75)	Observed/detected within central portion of Parcel A.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	BCC/SSC County Group 1	13 (340.6)	3 (98.3)	10 (242.3)	76.9 (71)	Observed/detected in several locations within Parcel A and land west of Parcel A.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	--/SSC County Group 1	4 (48.6)	4 (31.6)	0 (16.8)	0 (35)	Observed/detected on land west of Parcel A.
Northern harrier ( <i>Circus cyaneus</i> )	--/SSC County Group 1	1 (48.6)	0 (31.6)	1 (16.8)	100 (35)	Observed flying overhead within Parcel A.
Southern California rufous-crowned sparrow ( <i>Aimophila ruficeps canescens</i> )	County Group 1	22 (392)	5 (96.3)	17 (295.4)	77.3 (75)	Observed/detected within Parcel A, E, and west of Parcel A.
California horned lark ( <i>Eremophila alpestris actia</i> )	County Group 2	6 (48.6)	1 (31.6)	5 (16.8)	83.3 (35)	Observed/detected within Parcels A and B, and west of Parcel A.
Cooper's hawk ( <i>Accipiter Cooperii</i> )	County Group 1	1 (395.1)	0 (98.7)	1 <sup>4</sup> (296.4)	100 (75)	Observed flying over the Project site during the 2012 Burrowing Owl Survey and Assumed present throughout site

**Table 5 (cont.)  
SENSITIVE ANIMAL SPECIES ANALYSIS**

<b>Species</b>	<b>Status</b>	<b>Observed On Site</b>	<b>Total in Development Footprint</b>	<b>Preserved On Site</b>	<b>Percent Preserved On Site</b>	<b>Comments on Distribution On Site</b>
Turkey vulture ( <i>Cathartes aura</i> )	County Group 1	1 (340.6)	0 (98.3)	1 (242.3)	100 (75)	Observed on Parcel A.
Common barn owl ( <i>Tyto alba</i> )	County Group 2	1 (340.6)	(98.3)	1 (242.3)	100 (75)	Observed in Parcel A.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	--/SSC County Group 2	17 (392)	4 (96.3)	13 (295.4)	76.5 (75)	Observed/detected within Parcel A and west of Parcel A.
Southern mule deer ( <i>Odocoileus hemionus fuliginata</i> )	County Group 2	1 (392)	0 (96.3)	1 (295.4)	100 (75)	Observed/detected within Parcel A.

<sup>1</sup> Designated Critical Habitat occurs on site.

<sup>2</sup> No burrowing owls were observed during 2012 protocol surveys.

<sup>3</sup> No direct impacts to golden eagle would occur; however, removal of foraging habitat would occur.

<sup>4</sup> The precise location of Cooper's hawk was not recorded, but it is assumed impacted as it is assumed present throughout the site.

<sup>+</sup>Numbers in ( ) are in acres



### 2.2.1 Quino Checkerspot Butterfly

**Status:** QCB is a federal listed endangered species.

**MSCP Discussion:** This species is currently not covered under the MSCP; however, an amendment to the County MSCP Subarea Plan has been initiated by the County for QCB.

**Existing Populations Discussion:** As previously stated, one QCB was sighted during the HELIX 2000 surveys on Parcel A. During HELIX 2001 surveys, 12 QCBs were observed within Parcels B, C, E, and other areas in the immediate vicinity of the Proposed Project site on two hilltops and along two major ridgelines. Approximately 46 QCB observations occurred within Parcels A, B, C, E, and other areas in the immediate vicinity of the site during 2001 EDAW focused surveys. During the HELIX 2008 surveys, a total of 19 adult QCB observations were made on site and an additional 61 in surrounding areas, of which it is estimated 45 were unique individuals. Given the fact that data from four surveys were compiled, and some of the observations were duplicative, this document addresses 57 unique sightings of QCB by HELIX and EDAW (2001b).

A significant QCB concentration was sighted within the original development footprint in 2001 and revised development footprint in 2008; subsequently, the applicant engaged in a series of meetings with the resource agencies to revise the development footprint to preserve QCB habitat. Specifically, this involved shifting proposed aggregate extraction activities to the west.

The County defines “Occupied QCB Habitat” in its draft MSCP QCB Amendment Proposed Conservation Policies (County 2009). Occupied QCB habitat includes:

- All Potential QCB Habitat within 200 meters (656 feet) of a QCB sighting (at a minimum).
- Any additional natural habitat within 200 meters (656 feet) of a QCB sighting containing Significant Larval Host Plant Patches (defined below) with appropriate nectaring plants present.
- Any additional natural lands within 200 meters (656 feet) of Significant Larval Host Plant Patches with appropriate nectaring plants present, until no additional significant patches are encountered.
- Habitats to be excluded from extension beyond the 200-meter (656 foot) radius from Significant Larval Host Plant Patches include inappropriate QCB habitat or habitat beyond significant barriers to dispersal, including:
  - Closed canopy chaparral, upland forest, or riparian forest that do not have open areas at least two square meters (21.5 square feet) in size;
  - Dense deergrass meadows;
  - Dense non-native grassland where few host plants are present; and

- Barriers such as solid fencing/walls over two (6.6 feet) meters in height, dense vegetation (ornamental or natural) over three meters (9.8 feet) in height, or buildings.
- Hilltops or ridgelines, linked by open areas and natural vegetation to open canopy areas containing an open, woody-canopy area at least two square meters (21.5 square feet) in size, that may be used by QCB for mating or hilltopping behavior within 200 meters (656 feet) of an open area containing host and nectar plants for feeding and natural vegetation or open areas for movement and basking (e.g., are within 500 meters [1,640 feet] of Significant Larval Host Plant Patch and consist of Potential QCB habitat).

Based on this definition of occupied QCB habitat, 410.7 acres (99 percent) of the Proposed Project are occupied by the QCB, and 3.7 acres are not occupied (Figure 10a).

**Impacts:** The revised configuration (the Proposed Project) would result in removal of five of 57 locations where QCB (8.8 percent) were observed. In addition, implementation of the Proposed Project would remove a total of 104.9 acres of occupied QCB habitat on and off site. Additionally, the Proposed Project would remove a total of 97.8 acres of QCB critical habitat on and off site. The Proposed Project would remove three moderate host plant locations totaling approximately 13,752 dwarf plantain individuals which represent one percent of the dwarf plantain on the project site.

**MSCP Consistency:** This species is currently not covered under the MCSP. The on and off-site Proposed Project configuration would preserve the most prominent hilltop and southerly ridge on site and provide long-term management/preservation of 303.5 acres of QCB occupied habitat (of the 410.7 acres of occupied habitat on and off site; 73.5 percent) within the proposed 304.6-acre biological open space mitigation that supports 52 QCB sightings and 304.4 acres of QCB critical habitat. The biological open space supports at least six high host plant locations and several moderate host plant locations totaling approximately 1,192,307 individuals of dwarf plantain and 47 individuals of purple owl's clover. This results in a mitigation ratio of 2.89:1 for occupied QCB habitat and a 3.1:1 ratio for critical habitat and the conservation of 91.3 percent of the QCB sightings and 99 percent of QCB host plants. The proposed habitat mitigation ratio meets that in the Amendment's proposed policies (i.e., 3:1). The combination of conservation of known locations and appropriate habitat is considered appropriate for the species. The applicant also proposed to fund implementation of an RMP (Appendix L) that includes stewardship measures, such as, but not limited to, trespass restrictions and invasive plant species removal. The RMP also includes management of the 61-acre AMA that also supports QCB host plants, QCB locations and occupied QCB habitat.

## 2.2.2 Coastal California Gnatcatcher

**Status:** CAGN is federal threatened, a State Species of Special Concern, and a County MSCP-covered species; therefore, no federal or State permits are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is covered under the MSCP because over 73,300 acres of existing and potential CAGN habitat would be conserved and linked together; over 81 percent of the core areas where the species occurs (Otay, San Miguel, Mission Trails, Santee, Kearny Mesa, Poway, San Pasqual, and Lake Hodges) would be conserved; and 65 percent (1,819 of 2,814) of the known locations would be conserved. Approximately 68 percent (57,874 acres) of habitat supporting core CAGN populations, 70 percent (30,273 acres) of very high value and 62 percent (4,609 acres) high value CAGN coastal sage scrub habitat would be conserved. Critical habitat linkages between core areas would be conserved in a functional manner, with a minimum of 75 percent of the habitat within identified linkages conserved. Populations of this species also occur on military lands, which are not part of the MSCP.

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.

**Existing Populations Discussion:** As stated above, this species was observed on site by Ogden (1991). Seven individuals were observed on site by EDAW (2001b). The CAGN was also observed during 2001 surveys generally at a canyon bottom that supported Tecate cypress, laurel sumac, and California buckwheat (EDAW 2001b). CAGNs were more abundant on site (Parcels A, B, C, and E) during the 1991 Ogden survey than during the EDAW 2001 survey possibly due to the poorer quality post-fire habitat in 2001, as well as increased disturbance from OHVs. Surveys conducted by HELIX in 2000 were negative (HELIX 2000b). Five pairs of CAGN were found by HELIX in 2011: one pair each in the area west of Parcel A, northeastern portion of Parcel A, southeastern portion of Parcel B, eastern portion of Parcel C, and eastern portion of Parcel E (HELIX 2011).

**Impacts:** The Proposed Project would directly remove one location where one pair of CAGNs was observed on site, along with 66.7 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]; an additional 1.0 acre would be impact neutral). The Proposed Project would also remove 2.5 acres of CAGN habitat off site where the CAGN was not observed (HELIX 2010). Implementation of the Proposed Project also would remove 77.1 acres of CAGN critical habitat on and off site (an additional 0.9 acre would be impact neutral).

**MSCP Consistency:** The applicant proposes to preserve 218.9 acres (76.4 percent) of Diegan coastal sage scrub on the site and four of the five current (2011) sightings (80 percent) of this species within the proposed biological open space. This includes 185.0 acres of CAGN critical habitat. The proposed biological open space also includes 5.4 acres of coastal sage-chaparral scrub. Therefore, the Proposed Project's mitigation would be considered consistent with the goals of the MSCP for this species.

### 2.2.3 Burrowing Owl

**Status:** Burrowing owl is a Bird of Conservation Concern, State Species of Special Concern, and County MSCP Subarea Plan Rare, Narrow Endemic species; therefore, no federal or state permits

are required for impacts that comply with the MSCP Specific Management Directives, BMO, and MCSP Preserve Area.

**MSCP Discussion:** This species is MSCP-covered because approximately 5,770 acres of known suitable habitat (grasslands) would be conserved including portions of Spring Canyon, San Pasqual Valley, Lake Hodges, Otay Mesa (northeast of Brown Field), Otay Ranch, Otay River Valley, and Future Urbanizing Area 4. However, with the exception of Otay Mesa, burrowing owls no longer thrive in any of these locations. The MSCP also requires that “conservation of occupied burrowing owl habitat must be one of the primary factors in preserve design during the permit amendment process.” The BMO, which implements the MSCP, requires that impacts to burrowing owl habitat be avoided to the maximum extent practicable.

In accordance with the Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County (“Burrowing Owl Strategy”; County 2010b), the County and resource agencies require that, to the extent practicable, mitigation for removal of grasslands and burrowing owls in East Otay Mesa occur in East Otay Mesa. If impacts are unavoidable, the BMO requires mitigation to be through the conservation of occupied burrowing owl habitat or lands appropriate for restoration, management, and enhancement of burrowing owl nesting and foraging requirements at a ratio of no less than 1:1.

One of the objectives for burrowing owl preservation in EOM is to preserve grasslands—first through avoidance, then through in-kind mitigation with grasslands or suitable disturbed or agricultural lands in EOM (County 2010b). The applicant proposes to mitigate for removal of 0.5 acre of native grassland at a 2:1 ratio through on-site preservation of 0.7 acre, as well as on- or off-site restoration or off-site acquisition and preservation of 0.3 acre. Removal of 29.1 acres of non-native grassland on site (an additional 0.2 acre would be impact neutral) and 2.0 acres of non-native grassland off site (on the adjacent Otay Crossings Commerce Park parcel) are proposed to be mitigated at a 1:1 ratio by preservation of 16.1 acres of non-native grassland on site and 15.0 acres of grassland at an off-site location or through purchase of credits in an approved conservation bank consistent with the Burrowing Owl Strategy (County 2010b).

**Existing Populations Discussion:** One burrowing owl was sighted west of Parcel A (EDAW 2001b). Burrowing owls have not been observed on the site since 2001, even though the site has been the subject of numerous focused surveys since 2001 for other species. The burrowing owl was also not observed during a focused protocol survey for the burrowing owl in 2012. The burrowing owl was not observed on the off-site Otay Crossings Commerce Park parcel but was observed on other portions of that project site (HELIX 2010).

**Impacts:** One area where burrowing owl was sighted in 2001 (west of Parcel A) would be removed by Proposed Project implementation.

**MSCP Consistency:** Preservation of 1.0 acre of native grassland and 31.1 acres of non-native grassland would mitigate for impacts to this species given that it was only observed on the Proposed Project site in 2001 and was not observed on the off-site parcel. The area and habitat types proposed as open space on site for mitigation are considered adequate to retain one pair. In

addition, if preconstruction surveys determine that the burrowing owl is occupying the development footprint, passive translocation would be proposed to occur, as follows.

In accordance with the Burrowing Owl Strategy (County 2010b), impacts would be proposed to be mitigated by the active or passive translocation of the owl to preserved habitat on the Proposed Project site with creation of suitable nesting/burrowing features (Figure 15). A Burrowing Owl Translocation Plan would be proposed and would include installation of two artificial burrows. The plan would be submitted to the resource agencies and County for review and approval in accordance with the California Department of Fish and Game (CDFG; currently the CDFW) Staff Report on Burrowing Owl Mitigation (2012). Approval and implementation of the Burrowing Owl Translocation Plan would be required prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations. Translocation would occur outside of the breeding season as no impacts to the species may occur during the breeding season.

Mitigation for burrowing owl grassland habitat is proposed to be provided on site and off site at a ratio of 1:1 to 2:1 (2:1 for native grassland). Along with the translocation of the burrowing owl, as necessary, the Project would be consistent with the goals of the MSCP for this MSCP covered species.

#### **2.2.4 Golden Eagle**

**Status:** The Golden eagle is a federal Bird of Conservation Concern; State Watch List and State Fully Protected species; County MSCP Subarea Plan Rare, Narrow Endemic species and County Group 1 species; and is covered under the federal BGEPA.

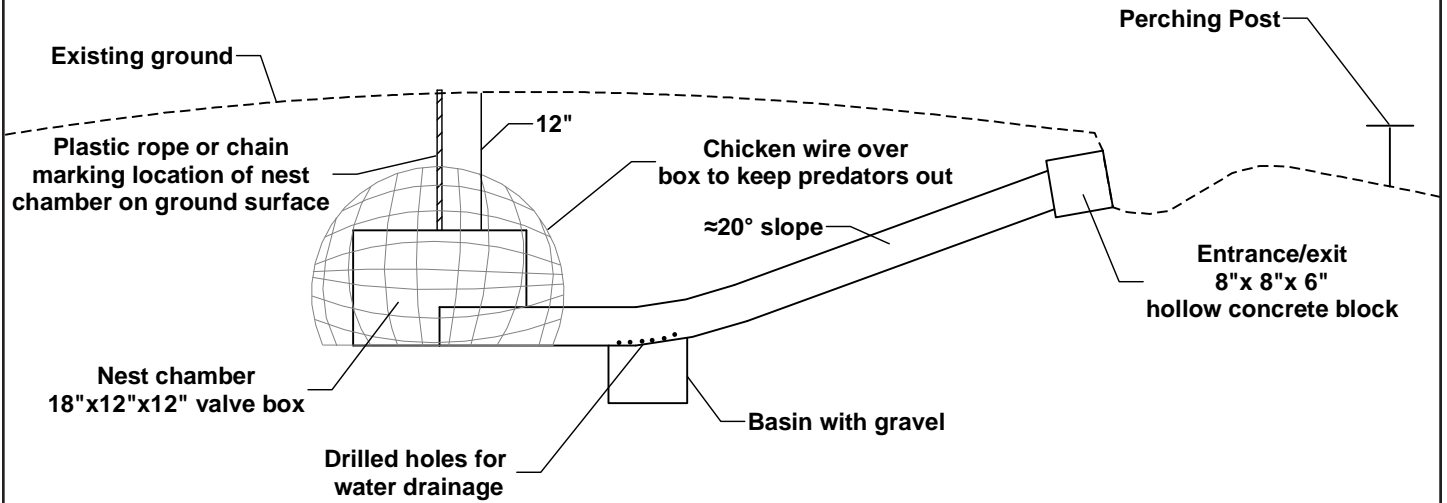
**MSCP Discussion:** This species is covered under the MSCP because approximately 139,000 acres (53 percent) of potential foraging/nesting habitat (coastal sage scrub, chaparral, grassland, and oak woodland) would be preserved, and a one mile disturbance avoidance area will be included around the nest site while the nest is active. Additionally, it was assumed that the O'Neal Canyon nesting pair would remain a viable pair through conservation of sufficient foraging habitat.

Area-specific management directives for areas with nest sites must include measures to avoid human disturbance while the nest is active, including establishing a one mile disturbance avoidance area within preserved lands. Area-specific management directives must also include monitoring of nest sites to determine use/success. Golden eagle nests do not occur on the Proposed Project site or within one mile of the development footprint.

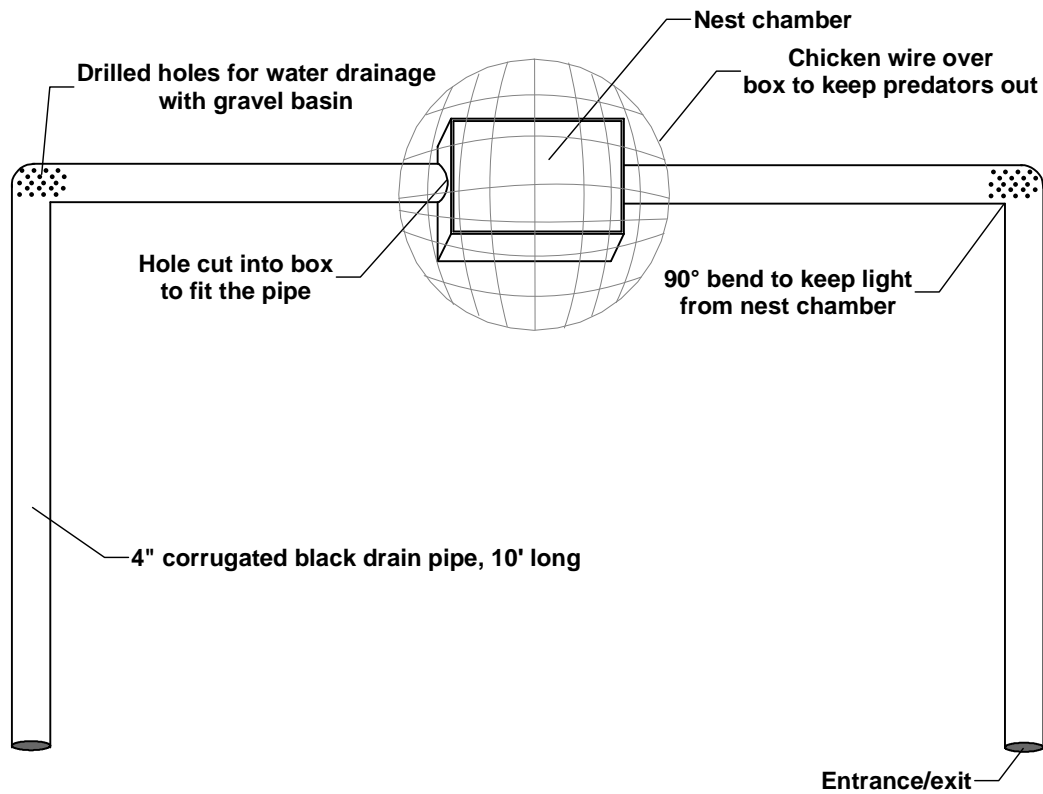
**Existing Populations Discussion:** As previously discussed, this species was observed flying over the central portion of Parcel A (Ogden 1991). The site lies within an established golden eagle territory and is considered golden eagle foraging habitat. The closest known nest location is in O'Neal Canyon approximately 1.2 miles from the Proposed Project's development footprint (Susan Wynn, Pers. Comm. 2014). The USGS is currently studying golden eagles in southern California through the use of radio telemetry, and telemetry data to date suggests that the O'Neal Canyon pair primarily uses areas east of the project site. Only limited data points to date occur within the eastern portion of the open space and no specific data points occur over the project



## Side View



## Top View



## Artificial Burrowing Owl Burrow Design

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footprint. It should be noted that the data does not represent a complete picture of the areas utilized by the eagle pair, but does appear to indicate that the project footprint is not being used extensively by the eagle.

**Impacts:** No direct impacts to this species would occur; however, removal of foraging habitat for this species would occur upon implementation of the Proposed Project both on site (93.6 acres; an additional 2.4 acres would be impact neutral) and off site (4.7 acres).

**MSCP Consistency:** No direct impacts to golden eagle would occur. The Proposed Project would, however, remove 98.3 acres of foraging habitat out of a total of 414.4 acres on the Proposed Project site, including 4.5 acres of foraging habitat on the off-site Otay Crossings Commerce Park parcel. This is less than 0.1 percent of the 139,000 acres expected to be preserved for this species. These impacts would be mitigated by preservation of 304.6 acres of foraging habitat on site as discussed in Section 4.0. Telemetry data show that the O’Neal Canyon pair uses the eastern portion of the proposed open space. As stated above, the closest known nest location is approximately 1.2 miles from the development footprint (Susan Wynn, Pers. Comm. 2014), which is greater than one mile, and is not within line of site due to existing topography. This topographic separation will minimize noise and activity impacts at the nest location. Therefore, the Proposed Project would be considered consistent with the goals of the MSCP for this species.

### 2.2.5 Remaining Sensitive Animal Species

The Proposed Project also would remove locations or potential habitat of the following 12 sensitive animal species: coast horned lizard, Belding’s orange-throated whiptail, coastal rosy boa, coast patch-nosed snake, coastal whiptail (including on the off-site Otay Crossings Commerce Park parcel), southern California rufous-crowned sparrow, loggerhead shrike, grasshopper sparrow, California horned lark, Cooper’s hawk, mountain lion, and San Diego black-tailed jackrabbit.

No removal of habitat at locations where the following six sensitive animal species were observed or detected would occur: red-diamond rattlesnake, Bell’s sage sparrow, turkey vulture, northern harrier, barn owl, and southern mule deer, although there is the potential for these species to utilize the habitat removal footprint. Indirect impacts to these species could also occur.

**MSCP Consistency:** The applicant proposes preservation of 304.6 acres of biological open space on site prior to habitat clearing and extraction activities. The biological open space would be managed by a conservation entity responsible for implementing an RMP (Appendix L). An RMP includes stewardship measures, including but not limited to fencing and signs upkeep, trespass restriction, and invasive plant species removal. Therefore, the Proposed Project is consistent with MSCP conditions for MSCP covered species on site (coast horned lizard, southern California rufous-crowned sparrow, Cooper’s hawk, and southern mule deer).

## 2.3 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

The Proposed Project would result in removal of approximately 98.7 acres of sensitive (Tier I through III) vegetation on and off site (Figure 8; Table 6). An additional 2.4 acres on site are

considered impact neutral; they are not part of the development footprint but are not proposed to be dedicated to open space.

**Table 6**  
**DIRECT IMPACTS TO VEGETATION COMMUNITIES**

<b>Vegetation Community/Habitat<sup>1</sup></b>	<b>Tier<sup>2</sup></b>	<b>On Site (acre)<sup>3</sup></b>	<b>Off Site (acre)<sup>3</sup></b>	<b>Total (acre)<sup>3</sup></b>	<b>Impact Neutral (acre)<sup>3</sup></b>
Mule fat scrub (63310)	I	0.00	0.00	0.00	0.00
Cismontane alkali marsh (52310)	I	0.27	0.00	0.27	0.00
Southern interior cypress forest (83330)	I	0.00	0.00	0.00	0.00
Disturbed wetland (11200)	I	0.01	0.00	0.01	0.00
Tamarisk scrub (63810)	I	0.06	0.00	0.06	0.00
Native grassland (42100)	I	0.5	0.0	0.5	0.0
Diegan coastal sage scrub (including disturbed; 32500)	II	64.2	2.5	66.7	1.0
Coastal sage-chaparral scrub (37G00)	II	0.0	0.0	0.0	0.0
Chamise chaparral (37200)	III	0.0	0.0	0.0	0.0
Southern mixed chaparral (37120)	III	0.0	0.0	0.0	0.0
Non-native grassland (42220)	III	29.1	2.0	31.1	0.2
Disturbed habitat (11300)	IV	8.5	0.2	8.7	1.2
Developed land (12000)	IV	<0.1	0.0	<0.1	0.0
<b>TOTAL</b>		<b>102.7</b>	<b>4.7</b>	<b>107.4</b>	<b>2.4</b>

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

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

<sup>3</sup> Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

Table 7 summarizes impact by Phase.

**Table 7**  
**DIRECT IMPACTS TO VEGETATION COMMUNITIES BY PHASE**

<b>Vegetation Community/Habitat<sup>1</sup></b>	<b>Phase 1 (acre)<sup>2</sup></b>	<b>Phase 2a (acre)<sup>2</sup></b>	<b>Phase 2b (acre)<sup>2</sup></b>	<b>Phase 2c<sup>3</sup> (acre)<sup>2</sup></b>	<b>Total (acre)<sup>3</sup></b>
Mule fat scrub (63310)	0.0	0.0	0.0	0.0	0.0
Cismontane alkali marsh (52310)	0.27	0.0	0.0	0.0	0.27
Southern interior cypress forest (83330)	0.0	0.0	0.0	0.0	0.0
Disturbed wetland (11200)	0.01	0.0	0.0	0.0	0.01
Tamarisk scrub (63810)	0.06	0.0	0.0	0.0	0.06
Native grassland (42100)	0.0	0.0	0.5	0.0	0.5
Diegan coastal sage scrub (including disturbed; 32500)	1.8	13.5	16.4	35.0	66.7
Coastal sage-chaparral scrub (37G00)	0.0	0.0	0.0	0.0	0.0
Chamise chaparral (37200)	0.0	0.0	0.0	0.0	0.0
Southern mixed chaparral (37120)	0.0	0.0	0.0	0.0	0.0
Non-native grassland (42220)	12.0	3.2	6.1	9.8	31.1
Disturbed habitat (11300)	1.6	1.5	2.5	3.2	8.7
Developed land (12000)	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>15.7</b>	<b>18.2</b>	<b>25.5</b>	<b>48.0</b>	<b>107.4</b>

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

<sup>2</sup> Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding. The phase acreages in the project description (Section 1.2.2) reflect the excavation footprint used to calculate aggregate yield. The acreages in this table are more inclusive, and conservatively assume impacts all the way to the project boundary.

<sup>3</sup> Phase 2c includes off-site impacts to the Otay Crossings Commerce Park open space parcel.

<sup>4</sup> Additional 0.1 acre based on rounding of each phase.

## 2.4 JURISDICTIONAL WETLANDS AND WATERWAYS

Any fill of USACE jurisdictional Waters of the U.S. that would result from the development of the Proposed Project would require authorization by the USACE under a Clean Water Act Section 404 permit and by the RWQCB under a Section 401 Water Quality Certification. Impacts to isolated Waters of the State under RWQCB jurisdiction require authorization by the RWQCB under the Porter-Cologne Act. Any removal of CDFW jurisdictional habitat would require a Section 1602 Streambed Alteration Agreement. Removal of County-defined wetlands are regulated by the RPO; however, the Proposed Project is exempt from RPO requirements as discussed in Section 1.5.3. There are no USACE, CDFW, or County jurisdictional areas on the off-site Otay Crossings Commerce Park parcel.

Fill of USACE jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.16 acre of non-wetland Waters of the U.S. (Figure 11a; Table 8). Fill of RWQCB jurisdictional areas resulting from Proposed Project implementation include 0.28 acre of wetlands and 0.21 acre of non-wetland Waters of the State (Figure 11b; Table 8). Removal of CDFW jurisdictional areas resulting from Proposed Project implementation include 0.34 acre of wetlands and 0.19 acre of streambed and pond (Figure 11c; Table 8). Implementation of the Proposed Project would remove 0.34 acre of County RPO wetlands (Figure 11d; Table 8). The Proposed Project, however, is exempt from RPO requirements as discussed in Section 1.5.3.



<b>Table 8</b> <b>IMPACTS TO JURISDICTIONAL AREAS (acre[s])</b>				
<b>Habitat</b>	<b>USACE</b>	<b>RWQCB</b>	<b>CDFW</b>	<b>County</b>
<b>Wetlands</b>				
Cismontane alkali marsh	0.21	0.21	0.27	0.27
Disturbed wetland	0.01	0.01	0.01	0.01
Tamarisk scrub	0.06	0.06	0.06	0.06
<b>Subtotal</b>	<b>0.28</b>	<b>0.28</b>	<b>0.34</b>	<b>0.34</b>
<b>Non-wetlands</b>				
Drainage/Streambed	0.14	0.18	0.17	0.00
Pond	0.02	0.02	0.02	
Intermittent pond	0.00	0.01	0.00	
<b>Subtotal</b>	<b>0.16</b>	<b>0.21</b>	<b>0.19</b>	
<b>TOTAL</b>	<b>0.44</b>	<b>0.49</b>	<b>0.53</b>	<b>0.34</b>

## 2.5 WILDLIFE MOVEMENT AND NURSERY SITES

The site is not part of a regional corridor but is part of a large contiguous block of open space that can support wide-ranging species and may act as a core wildlife area. The Proposed Project would consist of haul roads and mining-related structures and appurtenances that would create a barrier on the land surface for local wildlife movement but would not restrict regional wildlife movement. Construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Proposed Project is designed to maintain connectivity of preserved habitats in open space on site with connections to off-site, vacant lands with the exception of the Otay Crossings Commerce Park parcel (Figure 16). Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. The Proposed Project's activities within the development footprint would isolate this open space parcel from the Proposed Project's proposed open space to the east and other undeveloped land to the southeast. The applicant proposes to mitigate for the isolation of this parcel as if it were a direct impact of the Proposed Project. Even with the isolation of this one parcel, the Proposed Project site would continue to provide regional landscape level conservation function. See Section 6.0 for more information.

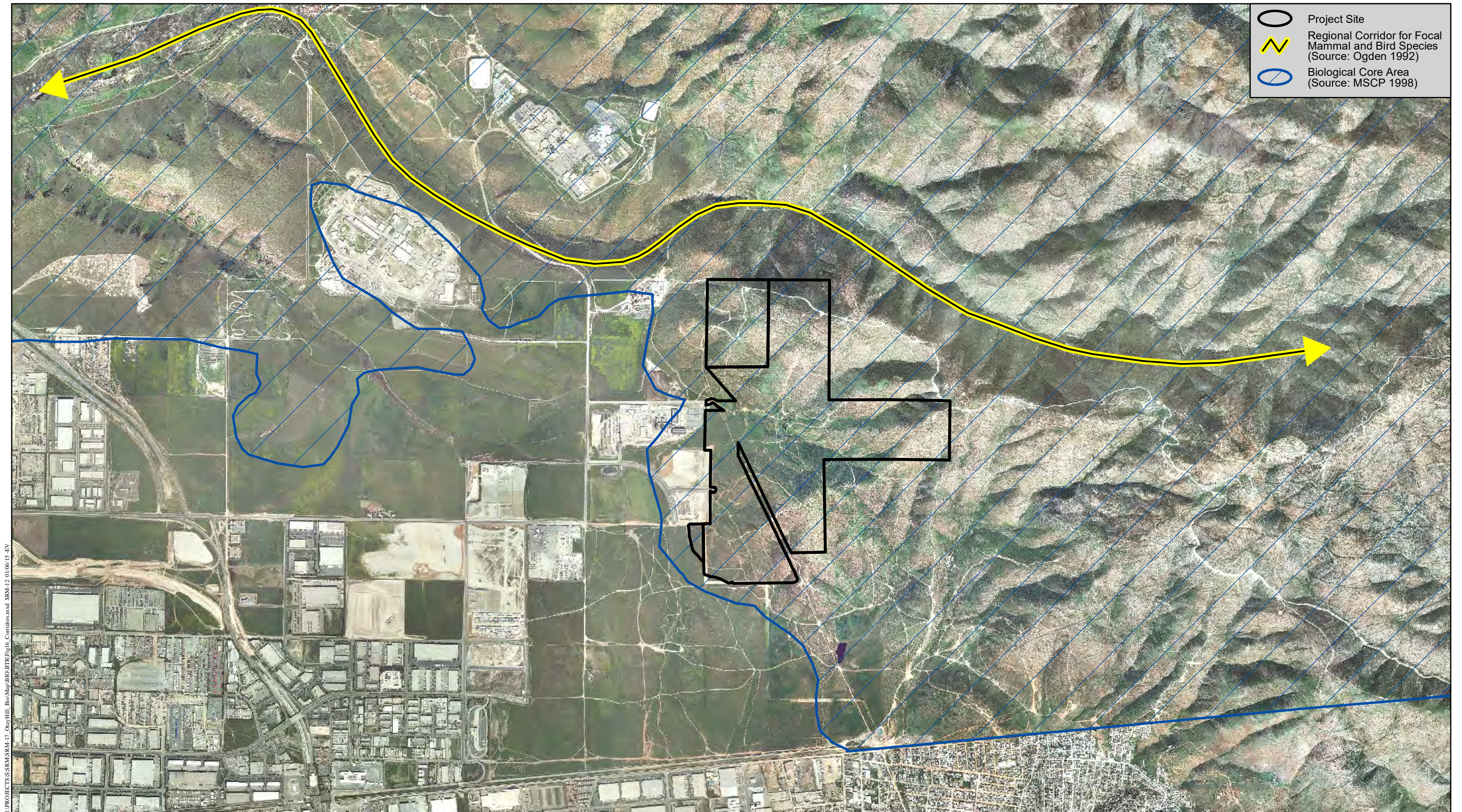
## 2.6 INDIRECT IMPACTS

Indirect impacts resulting from lighting, noise, domestic animals/colonization of invasive species, fugitive dust, and animal pit falls are potentially significant.

### 2.6.1 Lighting

Night lighting on native habitats can prevent nocturnal wildlife from using an area. There is potential for night lighting at staging areas during construction or during operations for security purposes for the Proposed Project. It is anticipated by the applicant that some operational activities would occur at night. Additionally, artifact light from nearby existing industrial or commercial activities may affect the site. Night lighting could cause an increased loss in native wildlife as it





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could provide nocturnal predators with an unnatural advantage over their prey. One entry light would be located at the site perimeter, adjacent to the street providing access to the Project (within a light industrial/commercial district). Other lights would be located interior to the site, with lights focused on areas of activity, and not onto off-site locales. Lights would primarily be attached to stationary plant equipment. All Proposed Project-related lighting would adhere to the San Diego County Light Pollution Code. Lighting within the development footprint adjacent to preserved habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to ensure that no light would spill beyond the boundary of the Project impact footprint.

## 2.6.2 Noise

Noise from such sources as grubbing, vehicular traffic, and extraction and processing activities (includes blasting) would be an impact to local wildlife. Construction of the facility, aggregate extraction, and processing operations would require the daily use of heavy equipment that would elevate existing noise levels on site. Noise-related impacts would be considered significant if sensitive species (such as CAGNs) failed to successfully breed due to excessive noise.

A noise analysis, prepared by HELIX (2016b), determined that the 60 dB  $L_{eq}$  noise level resulting from the processing plant operations and extraction activities (phase 2a through 2c) would extend out past the ultimate development footprint at distances of between 12 and 1,200 feet. This determination was derived from existing and proposed topography and modeling using the known noise level of various extraction equipment. Excavation activities would be located in only one location at any given time rather than around the entire development footprint perimeter. The distance between operations and the 60 dB  $L_{eq}$  limit assumes that extractive equipment is operating immediately adjacent to the development footprint line and no mitigating circumstances occur. Thus, the noise impacts would be localized and not spread across the entire area at one time. Also, excavation of the material would utilize a bench construction technique. This technique results in a shear working face after initial construction. These approximately 20- to 60-foot high slopes would act as a noise barrier when equipment is near the working face. The grade separation between the quarry floor and OHCA will substantially limit noise impacts by the completion of Phase 2 at year 23, according to a noise analysis prepared by HELIX (2016b).

In order to determine potential indirect impact acreage from excavation activities, noise impacts were calculated based on taking three sample points at the edge of the development footprint, extending out to the 60 dB  $L_{eq}$  noise contour and calculating Diegan coastal sage scrub (including disturbed) acreage outside the development footprint but within the 60 dB  $L_{eq}$  noise contour. This indirect noise impact is estimated to be approximately 10.4 to 20.6 acres of Diegan coastal sage scrub (including disturbed) for the processing plant and excavation. For the processing plant and excavation north, impacts would total approximately 17.7 acres (Figure 17a). For the processing plant and excavation east, impacts would total approximately 20.6 acres (Figure 17b). For the processing plant and excavation south, impacts would total approximately 10.4 acres (Figure 17c). Once excavation was completed, the processing plant alone would have noise impacts of approximately 2.8 acres (Figure 17d). The impacts would occur sequentially, meaning that some of the gnatcatcher habitat impacted by northern excavation would become available for gnatcatcher use during eastern and southern excavation, and vice versa. Therefore, the worst-case scenario of 20.6 acres analyzed in this report (Figure 17b). The noise impact is expected to be the

same (20.6 acres) for other species that use coastal sage scrub on site, including Bell's sage sparrow, loggerhead shrike, Southern California rufous-crowned sparrow, and California horned lark since 60 dB  $L_{eq}$  is used as a guideline for all passerine species. A significant noise impact is not expected to burrowing owl, northern harrier, turkey vulture, or barn owl since their usage of the site is quite limited (each of these species was observed only one time in all of the surveys of the site), nor is a significant noise impact to golden eagle expected since the site is not within one mile of a golden eagle nest and is not within line of site due to existing topography. This topographic separation will minimize noise and activity impacts at the nest location. The site is not within a heavy foraging area for the O'Neal Canyon eagle pair.

While not usually considered an effect on butterflies, HELIX consulted with QCB expert Dennis Murphy, Ph.D. (pers. comm. 2009) regarding the potential for blasting noise and vibration to adversely affect the QCB. It was his opinion that beyond the concussion zone, noise or vibration would likely not be an issue for QCB.

The term concussion zone is assumed to be an area where direct impacts may occur from a blast. There are typically two forms of blasting impacts: airborne impacts (displacement and acceleration of air, as well as shock waves) and ground-borne shock waves radiating out from the blast zone.

No specific research is available to document exact distances, but it is unlikely that the displacement and acceleration of air through branches in shrubs would exceed that created by a strong gust of wind at ranges greater than two to three times the size of the actual blast area.

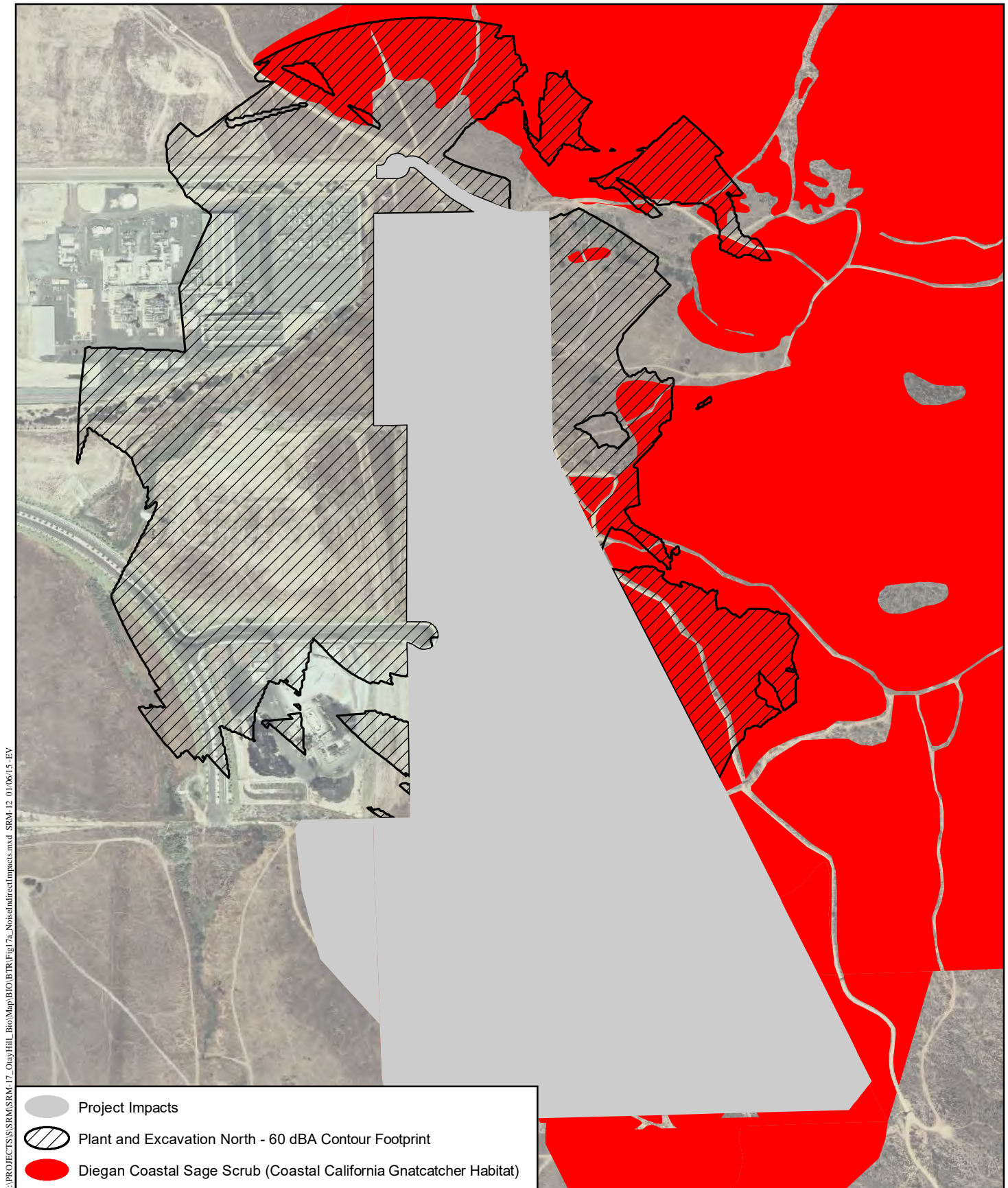
Ground-borne shock waves, while potentially intense in the immediate area of the blast and capable of causing structural damage to fragile buildings at greater distances, are unlikely to impact the QCB.

While the ground-borne vibration impacts area may be limited, the airborne shockwave, typically measured as an overpressure pulse, may have impacts at greater distances. Specific information does not exist to predict the exact value of overpressure pulse that would impact butterflies (or larvae). However, it is reasonable to assume that the overpressure pulse is not likely to cause damage at any level which would not cause structural damage (including breaking glass) to a building. It should be further noted that the blast wave has significant ground plane interaction, and in locations where the wave travels along the ground, a low lying plant would experience even lower levels of overpressure pulse. Therefore, potential airborne and ground-borne impacts from blasting are not anticipated for the QCB.

### **2.6.3 Public Access/Domestic Animals/Colonization of Invasive Plant Species**

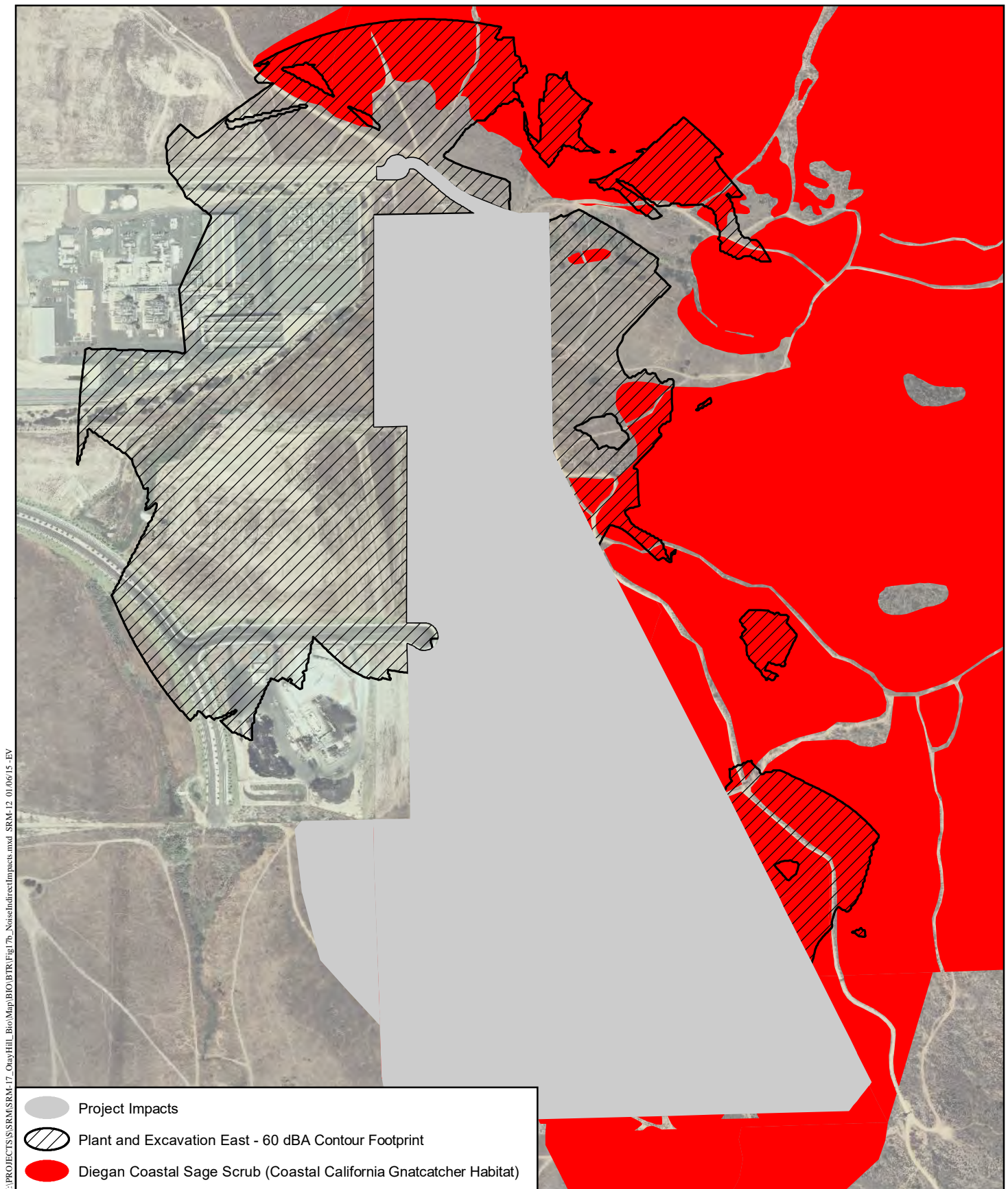
Currently the Proposed Project site has relatively unrestricted access via a series of dirt roads that cross the property. Development of the site as a quarry would limit access to the proposed on-site open space from the west, and no increases in human activity in the proposed open space are anticipated due to the Proposed Project. Additionally, an increase in domestic pets is not anticipated given that the Proposed Project consists of mineral extraction activities and not a residential subdivision. Still, as part of the Proposed Project description, a fence will be placed along the outside edge of extraction areas that would help keep people out of the adjacent open





## Plant and Excavation North Indirect Impacts to Coastal California Gnatcatcher Habitat

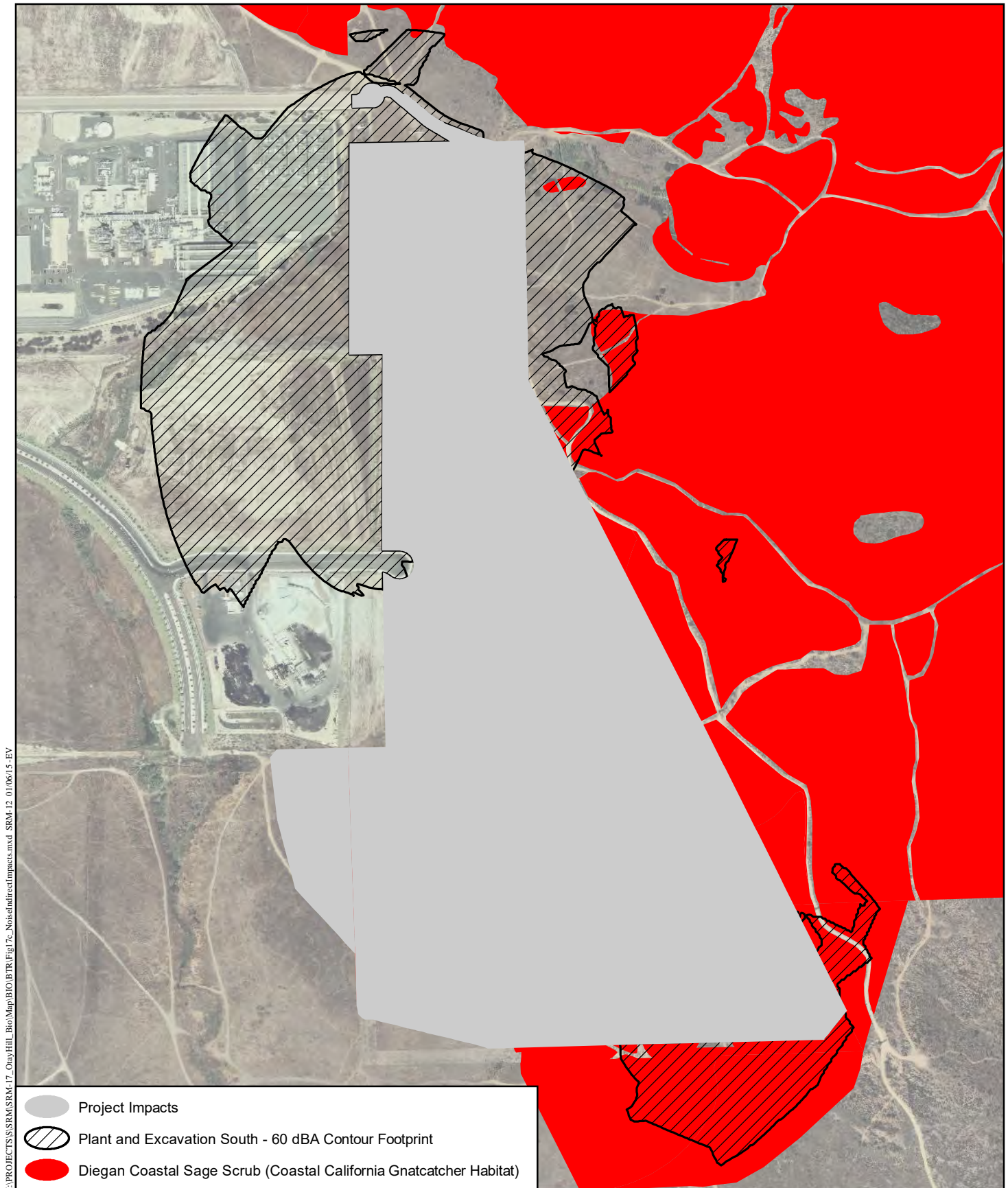
BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS



## Plant and Excavation East Indirect Impacts to Coastal California Gnatcatcher Habitat

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS

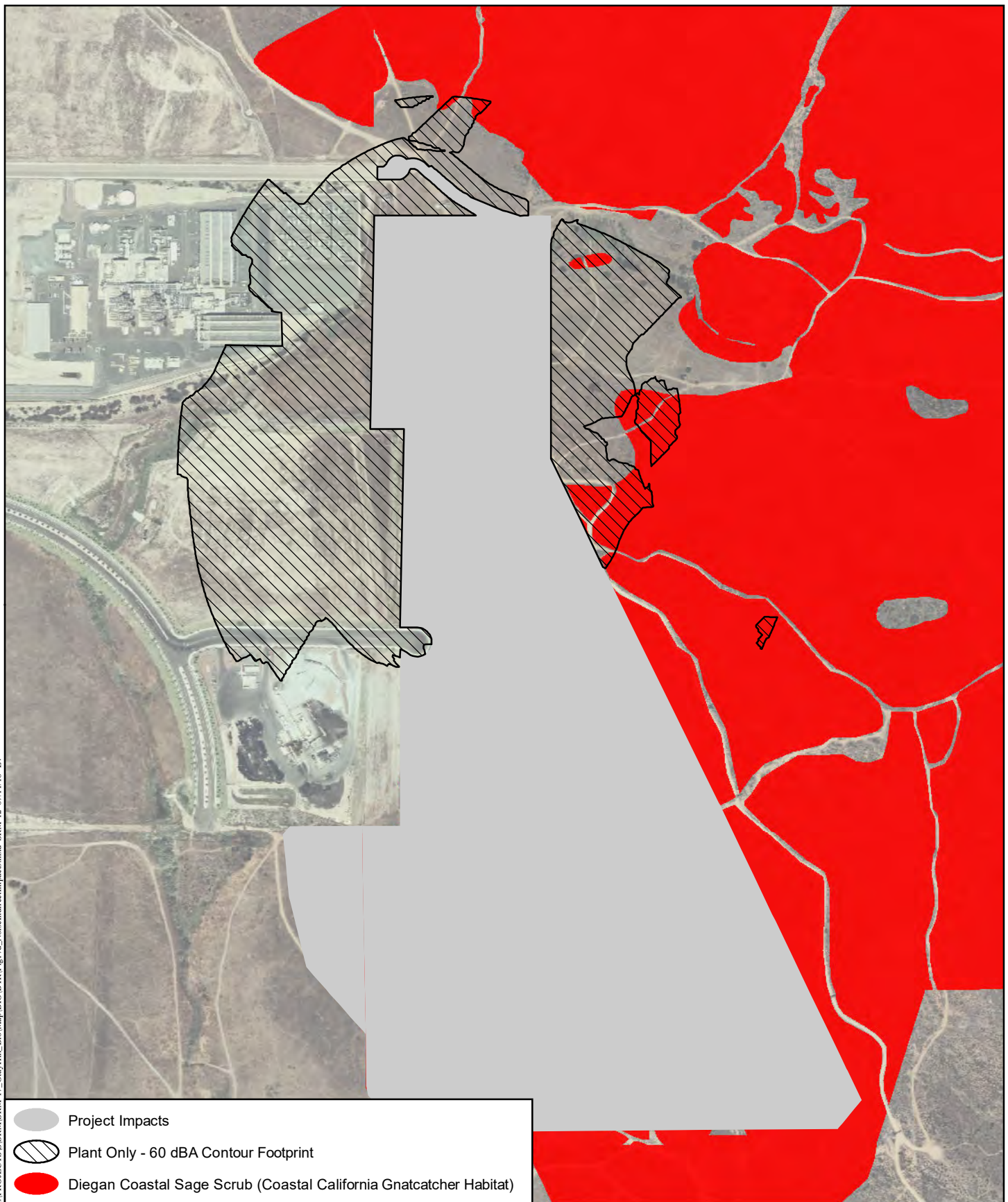




## Plant and Excavation South Indirect Impacts to Coastal California Gnatcatcher Habitat

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I:\PROJECTS\SRM\SRM-17\_OtayHill\_Bio\Map\BIO\BTR\Fig17d\_NoiseIndirectImpacts.mxd SRM-12 07/1/16 -EV



## Plant Only Indirect Impacts to Coastal California Gnatcatcher Habitat

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space. The fencing will be six feet tall chain link. Also, access restriction/trespass signs will be placed along the western and southern boundaries of the open space (Figure 18), and proposed RMP implementation would include upkeep of the fencing and signs.

Non-native plant species can colonize areas disturbed by construction and can potentially spread into adjacent native habitats, especially following a disturbance such as fire. Many of these non-native plants are highly invasive and can displace native vegetation reducing native species diversity, potentially increase flammability and fire frequency, changing ground and surface water levels, and potentially adversely affect native wildlife that is dependent on the native plant species. The Proposed Project description includes restoration of slopes in the development footprint adjacent to the proposed open space with a native plant biological buffer to minimize this potential effect. Also upon completion of the Proposed Project in areas not adjacent to open space, pad areas would be revegetated with native or non-invasive, non-native species that would also minimize the chance for colonization and spread of invasive species into the open space.

#### **2.6.4 Fugitive Dust**

Fugitive dust produced by construction and extraction operations has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., QCB or seed-eating rodents). Fugitive dust also may make plants unsuitable as habitat for insects and birds. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction and/or extraction operations, which could lead to reduced reproductive success and increased mortality. As part of the Proposed Project description, active construction and extraction areas as well as unpaved surfaces would be watered every three hours pursuant to APCD Rule 55 to minimize dust generation and loaded trucks would be top-watered to prevent roadway dust. The Proposed Project would comply with APCD permits and use of BACT to ensure a relatively emission- and dust-free operation.

#### **2.6.5 Animal Pit Falls**

The Proposed Project would result in a pit approximately 530 to 650 feet deep with 1.5:1 side slopes during extraction activities and prior to fill. During the intermediary time, animals such as butterflies, reptiles, birds, and mammals could potentially fly or fall into the pit. Butterflies and birds would be able to fly out of the pit. Reptiles such as lizards and some mammals would be able to climb out of the pit. Other animals such as snakes or mammals unable to climb the side slopes may be able to work their way out of the pit via access roads or other paths, although some impacts to these species may still occur.

Also, some animals, including burrowing owls, are known to use open pipes, culverts, excavated holes, or other burrow-like structures and could be attracted to the active development footprint where they could be injured or killed.

As part of the Proposed Project description, a six-foot chain link fence would be placed along the outside edge of extraction areas during construction for safety and security reasons. The fence

also would help keep animals out of the extraction areas, but additional measures would be necessary to minimize these potential impacts.

### **3.0 SENSITIVE SPECIES**

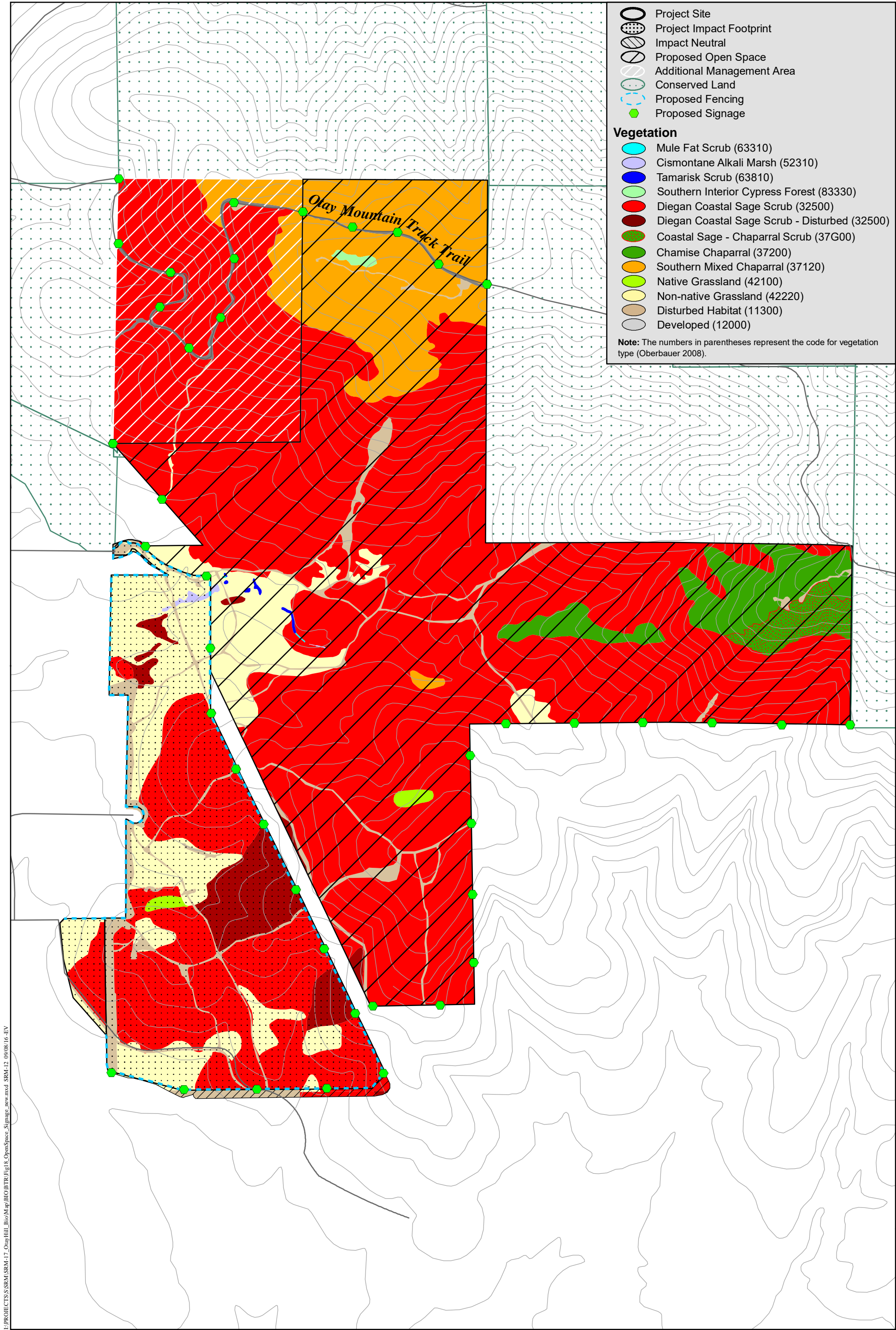
#### **3.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

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

Any of the following conditions would be considered significant if:

- a. The project would impact one or more individuals of a species listed as federal or state endangered or threatened.
- b. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a State Species of Special Concern.
- c. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.
- d. The project may impact arroyo toad aestivation, foraging, or breeding habitat.
- e. The project would impact golden eagle habitat.
- f. The project would result in a loss of functional foraging habitat for raptors.
- g. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.
- h. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term. Issues to be addressed include: increasing human access or predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.
- i. The project would impact occupied burrowing owl habitat.
- j. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.





Open Space/Signage

- k. The project would impact occupied Hermes copper habitat.
- l. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.
  - Coastal cactus wren
  - Coastal California gnatcatcher
  - Least Bell's vireo
  - Southwestern willow flycatcher
  - Tree-nesting raptors
  - Ground-nesting raptors
  - Golden eagle
  - Light-footed clapper rail

### **3.2 ANALYSIS OF PROJECT EFFECTS**

The Proposed Project would result in significant impacts under the above guidelines as follows:

#### **3.1.A Implementation of the Proposed Project would remove:**

- approximately 30 individuals of Otay tarplant (a federal threatened and state endangered species; Figure 9a; Table 3) and 105.5 acres of Otay tarplant critical habitat
- Five individuals of QCB (a federal endangered species; Figure 10a; Table 5) and 97.8 acres of QCB critical habitat
- One pair of CAGN (a federal threatened species; Figure 7; Table 4) and 77.1 acres of CAGN critical habitat

#### **3.1.B Implementation of the Proposed Project would remove:**

- 120 individuals of variegated dudleya (a County List A species)
- 1,214 individuals of San Diego goldenstar (a County List A species)
- 196 individuals of San Diego barrel cactus (a County List B species)
- 142 individuals of San Diego marsh-elder (a County List B species)
  - See Figure 9a and Table 3.
- One burrowing owl location (a County Group 1 species and State Species of Special Concern [SSC]) location (Figure 10b; Table 5).

In addition, implementation of the Proposed Project would remove locations where the following species were observed or detected (Figure 10a; Table 5):

- Four locations of coast horned lizard (an SSC)
- Three locations of coastal whiptail (a County Group 2 species)
- Three locations of loggerhead shrike (a County Group 1 species and SSC)
- Four locations of grasshopper sparrow (a County Group 1 species and SSC)
- Five locations of southern California rufous-crowned sparrow (a County Group 1 species)
- One location of Cooper's hawk (a County Group 1 species)
- One location of California horned lark (a County Group 2 species)
- Four locations of San Diego black-tailed jackrabbit (a County Group 2 species and SSC)

All of the above-listed impacts would be significant under County Guidelines 3.1.A and 3.1.B.

Some animals like snakes and mammals may get into the excavated quarry pit, and due to its steep sides, not be able to get out. Also some animals, including burrowing owls, are known to use open pipes, culverts, excavated holes, or other burrow-like structures and may be attracted to the development footprint where they could be injured or killed. For sensitive species addressed under County Guidelines 3.1.A and 3.1.B, this impact would be significant.

#### 3.1.E and 3.1.F

The Proposed Project site lies within established golden eagle territory, and the entire site and off-site Otay Crossings Commerce Park parcel are foraging habitat for the golden eagle pair known to nest in O'Neal Canyon. Removal of 98.7 acres of golden eagle foraging habitat as well as potential foraging habitat for other raptors would occur. Removal of golden eagle and other raptor foraging habitat would be significant under County Guidelines 3.1.E and 3.1.F.

3.1.H As discussed above, noise from such sources as grubbing, vehicular traffic, and extraction and processing activities (includes blasting) would be an impact to local sensitive species, particularly the CAGN (and excluding QCB). Indirect noise impacts to approximately 20.6 acres of Diegan coastal sage scrub with potential to be occupied by CAGN was assumed. This impact would be significant.

Invasive, non-native plants could colonize areas disturbed by construction and could potentially spread into open space. The Proposed Project description includes restoration of slopes in the development footprint adjacent to the proposed open space with a native

plant biological buffer to minimize this potential effect. Also upon completion of the Proposed Project in areas not adjacent to open space, pad areas would be revegetated with native or non-invasive, non-native species that would also minimize the chance for colonization and spread of invasive species into the open space.

- 3.1.I The Proposed Project would remove 31.1 acres of non-native grassland and 0.5 acre of native grassland, which are burrowing owl habitats. Any removal of burrowing owl habitat is significant under County Guideline 3.1.I.
- 3.1.L Project construction could impact the nesting success of coastal California gnatcatcher, tree-nesting raptors, and ground-nesting raptors, all of which have the potential to nest on and/or in the immediate vicinity of impact areas. Noise from such sources as clearing, grading, and blasting could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 dB  $L_{eq}$  or ambient could be significantly impacted. If coastal California gnatcatchers, burrowing owls, or tree-nesting raptors are nesting within 500 feet of the impact area, or northern harriers are nesting within 900 feet of the impact area, effects resulting from construction noise could be significant.

The Proposed Project would result in less than significant impacts under the above guidelines as follows:

- 3.1.B No direct removal would occur to locations where the following County List A or B plant species, County Group 1 animal species, and/or State Species of Special Concern were observed/detected: Dunn's mariposa lily, Gander's pitcher sage, summer holly, Tecate cypress, Munz's sage, Orcutt's bird's beak, golden eagle, Bell's sage sparrow, northern harrier, or turkey vulture. As such, under County Guideline 3.1.B, no significant impact to these species would occur. Removal of habitats of these species are discussed in Section 4.0, below.
- 3.1.C Implementation of the Proposed Project would remove the following County List C or D plant species: San Diego needlegrass (293 individuals), western dichondra (3 locations), southwestern spiny rush (11 individuals), San Diego sunflower (9,378 individuals), and ashy spike-moss (223 locations; Figure 9b). In addition, implementation of the Proposed Project would remove locations where the following County Group 2 animal species were observed/detected: coastal whiptail (3 locations), California horned lark (1 location), and San Diego black-tailed jackrabbit (4 locations; Figure 10b). Due to the lower level of sensitivity of these species and/or the level of impact to preservation proposed, the Proposed Project-related impacts would not affect the local long-term survival of these species. San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower, and ashy spike-moss are all known from numerous locations in the area, including within the proposed open space and in preserved habitat to the north and east of the site, ensuring their local long-term survival regardless of the impacts of the Proposed Project. No removal of locations where the following County List C or D plant species or



County Group 2 animal species were observed/detected would occur: Coulter's matilija poppy, Palmer's grapplehook, red-diamond rattlesnake, barn owl, and southern mule deer. Under County Guidelines 3.1.C, no significant impact to these species would occur. Removal of habitats of these species are discussed in Section 4.0, below.

- 3.1.D The Proposed Project site does not support arroyo toad aestivation or breeding habitat. As such, under County Guideline 3.1.D, no significant impact would occur.
- 3.1.G The Proposed Project site is part of a large contiguous block of open space that can support wide-ranging species and is part of a core wildlife area. The site is not considered a regional wildlife corridor. The Proposed Project's development footprint is adjacent to existing development to the northwest, and already-approved development (Otay Crossings Commerce Park and partially constructed Paseo de la Fuente) occurs along the remainder of the western boundary of the development footprint. Construction activity and extraction operations on 102.7 acres of the development footprint are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Proposed Project is designed to maintain connectivity of preserved habitats in the 304.6-acre proposed open space east of the development footprint with off-site vacant lands to the north and east. Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. Therefore, the proposed open space on the site would continue to provide regional landscape level conservation function. Therefore, the effects on the viability of a core wildlife area would be less than significant under County Guideline 3.1.G.
- 3.1.H All Proposed Project-related lighting would be of the lowest illumination allowed for human safety, selectively placed, and shielded and directed away from preserved habitat to ensure that no light would spill beyond the boundary of the Project impact footprint (see Section 2.6.1), and impacts to QCB are not anticipated from blasting (see Section 2.6.2).

Impacts from domestic animals due to the Proposed Project are not anticipated given that the Proposed Project consists of mineral extraction activities and not a residential subdivision.

The Proposed Project would include a fence along the outside edge of extraction areas that would help keep people out of the adjacent open space, and access restriction/trespass signs would be placed along the western and southern boundaries of the open space. The fencing will be six-foot galvanized chain link. Still, additional protection measures are needed to reduce the potential impact to less than significant.

No significant impact from fugitive dust would occur because the Proposed Project would include watering every three hours pursuant to APCD Rule 55 and would comply with APCD permits and use BACT.

- 3.1.J The Proposed Project site does not support occupied coastal cactus wren habitat. As such, under County Guideline 3.1.J, no significant impact would occur.

3.1.K The Proposed Project site has only scattered individual host plants (spiny redberry [*Rhamnus crocea*]) and does not support occupied Hermes copper butterfly habitat, according to the focused Hermes copper butterfly survey conducted in 2014 (HELIX 2019b, Appendix M). As such, under County Guideline 3.1.K, no significant impact would occur.

### 3.3 CUMULATIVE IMPACT ANALYSIS

Although individual environmental effects of a project may be determined to be less than significant when analyzed separately, the additive effect when viewed in connection with impacts of past, present, and future projects may cause the significant loss or degradation of a resource.

The area of consideration for cumulative biological projects impacts was restricted to projects occurring within the County, generally east of SR-125 and west of the Proposed Project site, given that Bureau of Land Management land occurs to the north and east of the site.

A total of 44 projects (including the Proposed Project) were reviewed for this cumulative analysis (Figure 19; Table 9). Of these 44 cumulative projects, 30 would result in significant or potentially significant cumulative impacts to sensitive species (this includes the Proposed Project). The remaining 14 projects either would not result in impacts to sensitive species, or information on impacts is not available.

The projects with available data (excluding the Proposed Project) would result in removal of 7,000 Otay tarplant, 4,390 variegated dudleya, 1,497 San Diego goldenstar, 317 San Diego barrel cacti, and 190 San Diego marsh-elder. Cumulative impacts to County List D species San Diego needlegrass, western dichondra, southwestern spiny rush, San Diego sunflower, and ashy spike-moss were not counted because these species are all known from numerous locations in the area, including in preserved habitat to the north and east of the site, which allow their local long-term survival regardless of the impacts to these species from the cumulative projects. In addition, these projects would remove 27 locations where QCB were observed, 38 locations where CAGN were observed, and 21 locations where burrowing owls were observed/detected. Also, these projects would remove 2,694.78 acres of raptor foraging habitat (grasslands and Diegan coastal sage scrub [including disturbed]). Cumulative impacts to County Group 2 animal species coastal whiptail, California horned lark, and San Diego black-tailed jackrabbit were not counted because adequate habitat for these species occurs in the region such that the cumulative projects would not impact their regional long-term survival.

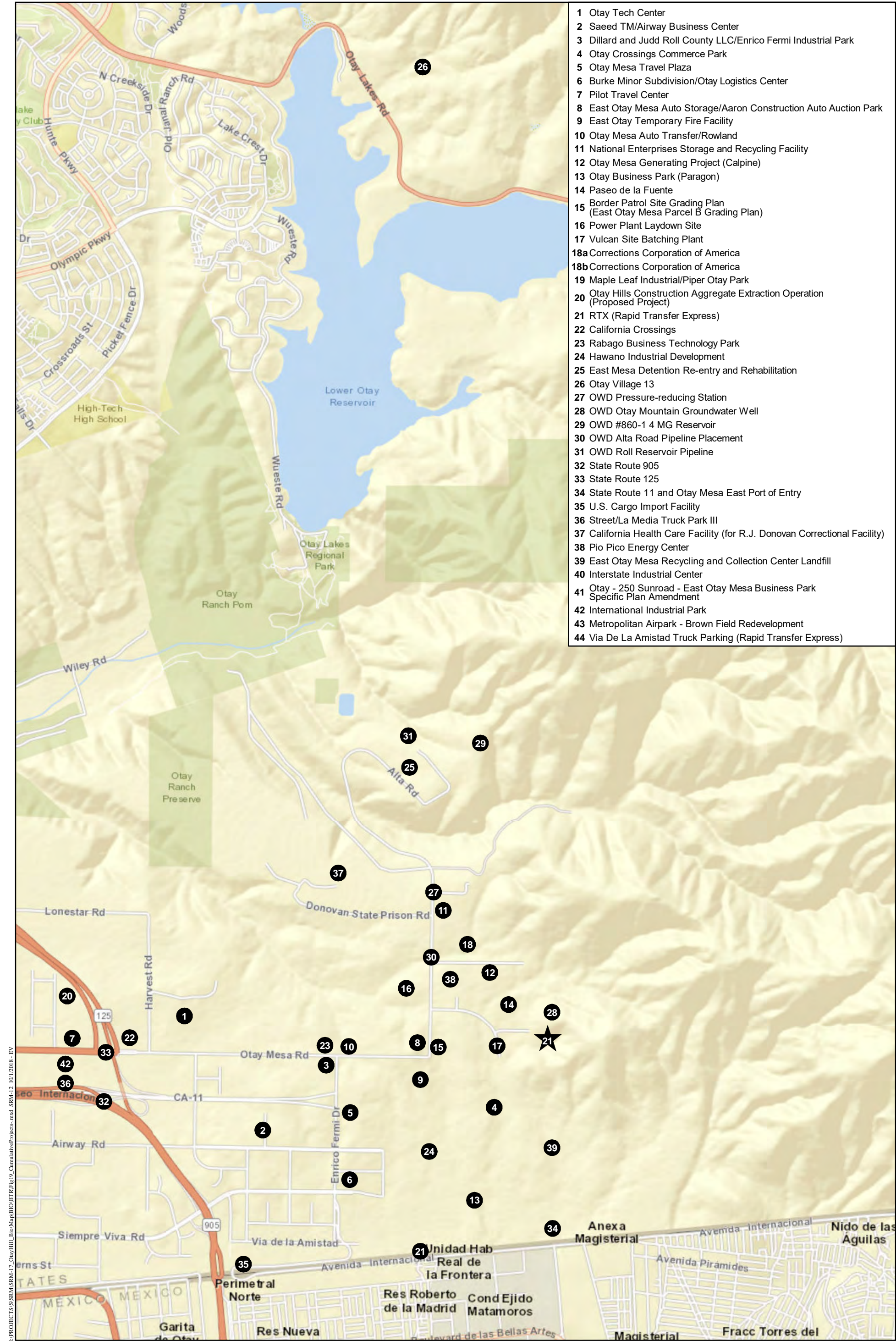
The Proposed Project would result in removal of 30 Otay tarplant, 120 variegated dudleya, 1,214 San Diego goldenstar, 196 San Diego barrel cacti, 142 San Diego marsh-elder, five locations where QCB were observed, one location where CAGN was observed, one location where burrowing owl was observed/detected, and 118.9 acres of raptor foraging habitat (for this analysis, grasslands and Diegan coastal sage scrub [including disturbed]); however, 20.6 acres of that impact would be from indirect noise.

Mitigation for removal of sensitive plant species from the Proposed Project would occur at ratios of 1:1 to 7.3:1 in accordance with Section 86.507 of the BMO, which requires that “in-kind

preservation shall be required at a 1:1 to 3:1 ratio [of listed or County List A or B plant species].” Mitigation for sensitive animal species would include preservation of habitat. While impacts are significant at the project level, they would be fully mitigated with preservation of habitat on site, with off-site acquisition of habitat (as appropriate), and relocation of species (as appropriate).

The Proposed Project and the 29 other projects with available data would preserve at least 510 Otay tarplant, 13,240 variegated dudleya, 12,223 San Diego goldenstar, 717 San Diego barrel cacti, 571 San Diego marsh-elder, 166 locations where QCB were observed, 52 locations where CAGN were observed/detected, five burrowing owl burrows/locations (in addition to burrowing owl habitat) and 1,791.52 acres of raptor foraging habitat (grasslands and Diegan coastal sage scrub [including disturbed]). The Burrowing Owl Strategy [County 2010b] considered the impacts and mitigation approved for past cumulative projects in order to establish the present mitigation ratio; therefore, the proposed burrowing owl mitigation addresses the Proposed Project’s contribution to the cumulative impact. Therefore, the Proposed Project’s impacts to these species, while significant at the project level, are fully mitigated with preservation of species and appropriate habitat on site; acquisition of appropriate habitat off site; and restoration and/or translocation of individuals. As the Proposed Project would ultimately be in conformance with the MSCP, cumulative impacts would be considered fully mitigated.





Cumulative Projects

BIOLOGICAL TECHNICAL REPORT FOR OTAY HILLS



**Table 9**  
**CUMULATIVE BIOLOGICAL RESOURCES IMPACTS**

Figure Reference No.	Project Number	Project Name	Riparian/ Wetland Habitats		Native Grassland		Diegan Coastal Sage Scrub		Chamise Chaparral		Non-native Grassland		Otay Tarplant		Variegated Dudleya		San Diego Goldenstar		San Diego Barrel Cactus		San Diego Marsh-elder		Quino Checkerspot Butterfly		Coastal California Gnatcatcher		Burrowing Owl	
			Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation
1	TM 5139 MUP 98-020 STP 02-05139-1	Otay Tech Center	0.52	0.64	4.2	8.5	3.1	3.3	0	0	171	54	0	0	Yes*	20% T	0	0	Yes*	47 T	0	0	0	0	0	0	0	0
2	TM 5304	Saeed TM/Airway Business Center	0	0	0	0	0	0	0	0	38.5	19.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	TM 5394	Dillard and Judd Roll County LLC/Enrico Fermi Industrial Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	TM 5405 SPA 04-006 MUP 00-024	Otay Crossings Commerce Park	0.73	0.73	0.1	0.2	1.9	2.9	0	0	263.1	263.1	0	0	0	0	0	0	72	144	138	276	2	7	0	0	4	5
5	TPM 20414 MUP 98-024 MUP Modification 98-024-01 L14632 AD 04-025	Otay Mesa Travel Plaza	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	73.5	73.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	TPM 20701RPL1 ZAP 99-029 STP 05-018 SPA 05-005	Burke Minor Subdivision/Otay Logistics Center	0	0	0	0	0	0	0	0	40.0	20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	TPM 20894 STP 05-021	Pilot Travel Center	0	0	0	0	0	0	0	0	12.9	6.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	MUP 00-012 Minor Deviation 00-012-02	East Otay Mesa Auto Storage/Aaron Construction Auto Auction Park	0	0	0	0	0	0	0	0	33.4	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	STP 00-070	East Otay Temporary Fire Facility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	MUP 03-001	Otay Mesa Auto Transfer/Rowland	0	0	0	0	0	0	0	0	8.0	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	MUP 98-001 RPL1	National Enterprises Storage and Recycling Facility	0	0	0	0	0.8	67.9	0	0	103.6	24.3	0	0	0	0	0	0	Yes*	N/A	0	0	N/A	N/A	0	0	N/A	N/A
12	TPM 20570	Otay Mesa Generating Project (Calpine)	0	0	0	0	0	0	0	0	63.5	35.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	TM 5505	Otay Business Park	0.25	0.97	0.19	0.39	0	0	0	0	163.34	163.34	0	0	3,465	3,465	0	0	31	31	11	11	1	Yes	0	0	7	Yes
14	CG 4530	Paseo de la Fuente	0.34	0.68	0	0	0.08	0.12	0	0	12.0	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	L 14456	Border Patrol Site Grading Plan	0	0	0	0	0.7	0.7	0	0	17.7	8.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	L 14208	Power Plant Laydown Site	0	0	0	0	0	0	0	0	13.5	6.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 9 (cont.)  
CUMULATIVE BIOLOGICAL RESOURCES IMPACTS**

Figure Reference No.	Project Number	Project Name	Riparian/ Wetland Habitats		Native Grassland		Diegan Coastal Sage Scrub		Chamise Chaparral		Non-native Grassland		Otay Tarplant		Variegated Dudleya		San Diego Goldenstar		San Diego Barrel Cactus		San Diego Marsh-elder		Quino Checkerspot Butterfly		Coastal California Gnatcatcher		Burrowing Owl	
			Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation
17	L 14625 S07-038	Vulcan Batching Plant	0	0	0	0	2.06	3.09	0	0	10.9	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18a	P06-074 (MUP 06-074) SPA 05-005	Corrections Corporation of America	0	0	0	0	0	0	0	0	36.7	36.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18b	MUP06-074W1	Corrections Corporation of America	0	0	0	0	0	0	0	0	72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	TM 5527	Maple Leaf Industrial/Piper Otay Park	0	0	0	0	0	0	0	0	23.4	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 (Proposed Project)	MUP 04-004 RP 04-001	Otay Hills Construction Aggregate Extraction Operation ( <i>see bottom of table</i> )	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	S08-0/22	Rapid Transfer Express (RTX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.6	15.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0
22	TPM 21046 MUP06-102 93-19-006AA	California Crossings	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22.2	15.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	Yes
23	TM 5568	Rabago Business Technology Park	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24	TM 5566 MPA 3992-10-006	Hawano Industrial Development	0.08	0.08	0	0	0	0	0	0	83.1	83.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	MUP 88-018W3	East Mesa Detention Re-entry and Rehabilitation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26	GPA 04-003; SP 04-002; REZ 04-009; TM 5361; ER LOG 04-19-0005	Otay Village 13	0	0	77	N/A	510	N/A	114	N/A	61	N/A	0	0	925	4,908	1,497	1,049	115	102	2.9 acres	2.5 acres	20	107	14 locations	18 locations	1	Yes
27	N/A	OWD Pressure-reducing Station	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes *	Yes
28	N/A	OWD Otay Mountain Groundwater Well	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	N/A	OWD #860-1 4MG Reservoir	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30	N/A	OWD Alta Road Pipe Replacement	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
31	N/A	OWD Roll Reservoir Pipeline	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
32	N/A	SR-905	8.6	14.2	0	0	12.3	12.3	0	0	134.1	67.1	0	0	0	0	N/A	N/A	98	T*	N/A	N/A	0	0	0	0	0	0
33	N/A	SR-125	5.26	15.78	0	0	60.5	121	0	0	0	0	7,000	Yes	0	0	0	0	0	0	0	0	1	Yes	24 locations	20+ pairs and 10 individuals	0	0

Table 9 (cont.)  
CUMULATIVE BIOLOGICAL RESOURCES IMPACTS

Figure Reference No.	Project Number	Project Name	Riparian/ Wetland Habitats		Native Grassland		Diegan Coastal Sage Scrub		Chamise Chaparral		Non-native Grassland		Otay Tarplant		Variegated Dudleya		San Diego Goldenstar		San Diego Barrel Cactus		San Diego Marsh-elder		Quino Checkerspot Butterfly		Coastal California Gnatcatcher		Burrowing Owl	
			Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation
34	PM 0.0/2.7 EA 056300	SR-11 and Otay Mesa East Port of Entry	0.5	0.84	0.2	0.4	0	0	0	0	171.9	171.9	0	0	0	0	0	N/A	1	1 T	41	Yes	3	Yes	0	0	9	Yes
35	N/A	U.S. Cargo Import Facility	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
36	77518	Street/La Media Truck Park III	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
37	SCH 2008061086	California Health Care Facility (for R.J. Donovan Correctional Facility)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
38	N/A	Pio Pico Energy Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	N/A	East Otay Mesa Recycling Collection Center and Landfill	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40	N/A	Interstate Industrial Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
41	SPA 15 001 GPA 15 008 TM 5607 REZ 15 007 ER 15 98 190 13G	Otay-250 Sunroad - East Otay Mesa Business Park Specific Plan Amendment	0.11	0.22	0	0	0	0	0	0	195.99	98.00	0	0	Yes*	1:1	0	0	0	0	0	0	0	0	0	0	No	No
42	TM 5549	International Industrial Park	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	129.00	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
43	Project No. 208889	Metropolitan Airpark – Brown Field Redevelopment	3.44	2.76	0	0	0.42	0.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Yes *	Yes
44	STP 14-004	Via De La Amistad Truck Parking (Rapid Transfer Express)	0	0	15.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	Yes
Subtotal			19.83	36.9	97.59	9.49	591.86	211.73	114	N/A	2,005.33	1,319.30	7,000	0	4,390	8,373	1,497	1,049	317	325	190	287	27	114	38 locations	48 locations	21	5
20 (Proposed Project)	MUP 04-004 RP 04-001	Otay Hills Construction Aggregate Extraction Operation	0.34	0.88	0.5	1.0	87.3**	218.9***	0	0	31.1	31.1	30	510	120	4,867	1,214	11,174	196	392	142	284	5	52	1 pair	4 pair	1	Yes
TOTAL			20.17	37.78	98.09	10.49	679.16	430.63	114	N/A	2,036.43	1,350.4	7,030	510	4,510	13,240	2,711	12,223	513	717	332	571	32	166	39 locations	52 locations	22	5

Key: \* = Impacts would occur but were not quantified in available County documents; MUP = Major Use Permit; N/A = Information Not Available or Not Applicable; P = Habitat Preservation (acreage unknown); RP = Reclamation Plan; RPL = Replacement; SPA = Specific Plan Amendment; STP = Site Plan; T = Translocation;  
TBD = To be determined; TM = Tentative Map; TPM = Tentative Parcel Map; ZAP = Minor Use Permit  
\*\*Includes 20.6 acres of indirect noise impacts.  
\*\*\* Includes 120.7 acres of required mitigation and 98.2 acres of proposed dedication to open space in excess of required mitigation. The 98.2 acres to be preserved in excess of the required mitigation for direct and indirect impacts to Diegan coastal sage scrub was calculated by adding the 77.6 acres of excess preserved Diegan coastal sage scrub (284.1 acres of existing habitat on site – 84.8 acres of impacts on site – 120.7 acres of required mitigation on site – 1.0 acre of on-site impact neutral area = 77.6 acres) plus the 20.6-acre area of Diegan coastal sage scrub that would be indirectly impacted but subsequently protected in perpetuity.  
†Does not include the Otay tarplant mitigation completed by Caltrans for SR-125.

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### 3.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The following mitigation measures are recommended to reduce the significant impacts to sensitive species to less than significant levels.

#### 3.4.1 Plant Species

*Impact 3.4.1a* Implementation of the Proposed Project would remove approximately 30 individuals of Otay tarplant and 105.5 acres of Otay tarplant critical habitat.

*Mitigation Measure (MM) 3.4.1a*

Removal of 105.5 acres of Otay tarplant critical habitat shall be mitigated with preservation of 93.8 acres of Otay tarplant critical habitat within the on-site biological open space. Removal of 16.69 acres of suitable habitat and 30 individual plants are being mitigated through preservation of 6.58 acres of suitable habitat which includes preservation of 510 (94 percent) of the Otay tarplant individuals. In addition, seeds will be collected from the Otay tarplant in the impact area and spread within suitable habitat in the OHCA prior to Phase 2a.

*Impact 3.4.1b-e*

Implementation of the Proposed Project would remove 120 individuals of variegated dudleya, 1,214 individuals of San Diego goldenstar, 196 individuals of San Diego barrel cactus, and 142 individuals of San Diego marsh-elder.

*MM 3.4.1b* Removal of 120 of 4,987 individuals of variegated dudleya shall be mitigated by preservation of 4,867 individuals in accordance with Section 86.507 of the BMO. Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 48.65 acres of suitable habitat. Additionally, the variegated dudleya in the impact area will be salvaged by collecting the soil crust in the area where the 120 dudleya were observed and translocating to the OHCA prior to phase 2b. These mitigation measures reduce impacts to less than significant.

*MM 3.4.1c* Impacts to 1,214 individuals of San Diego goldenstar shall be mitigated as follows. The Project would preserve 11,174 individuals (90.2 percent of the population on the Project site and five of the six primary populations) of San Diego goldenstar. The applicant proposes implementation of a restoration plan (on site) for the translocation of the removed 1,214 individuals of San Diego goldenstar. All San Diego goldenstar corms that are located within each phase shall be translocated prior to implementation of mining activities within that phase.

Phase 1 – at least 400

Phase 2a – at least 813

Phase 2b – at least 1

The applicant proposes to fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved and/or translocated

populations. A San Diego Goldenstar Restoration Plan shall be prepared and submitted to the County for review and approval. Approval of the San Diego Goldenstar Restoration Plan and proof of recordation of an open space easement on site and off site (if appropriate) shall be required prior to commencement of habitat clearing and construction of extraction operation support facilities or extraction operations. The San Diego Goldenstar Restoration Plan shall be implemented within one year of habitat clearing and commencement of construction of extraction operation support facilities or extraction operations. Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 69.46 acres of suitable habitat. This will reduce impacts to less than significant.

*MM 3.4.1d* Removal of 196 of 362 individuals of San Diego barrel cacti shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall consist of salvage of the 196 San Diego barrel cacti removed on and off site and relocation of these individuals to areas of appropriate habitat on the Proposed Project site, as well as: planting an additional 196 barrel cacti on site for a total of 392 individual cacti planted. The cacti translocation would be subject to a Barrel Cactus Translocation Plan. The Barrel Cactus Translocation Plan shall be prepared and submitted to the County for review and approval.

It should be noted that HELIX has had success with barrel cactus translocation. One example includes the Rolling Hills Ranch Barrel Cactus Translocation Plan (HELIX 2000c). A total of 120 barrel cacti were required to be salvaged; however, 210 barrel cacti were actually salvaged. During the Year 5 annual assessment (HELIX 2005), 150 of the transplanted barrel cacti (71.4 percent success rate) were found alive and healthy, and seven were found to be alive but in poor health. The remaining 53 barrel cacti were found to be dead or missing.

Mitigation for San Diego barrel cactus shall be mitigated by phase as follows:

- Prior to Phase 2a, 44 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 44 individuals shall be planted.
- Prior to Phase 2b, 18 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 18 individuals shall be planted.
- Prior to Phase 2c, 134 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 134 individuals shall be planted.

*MM 3.4.1e* Impacts to 142 of 290 individuals of San Diego marsh-elder shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall include planting 284 individuals within the proposed biological open space. The applicant shall fund implementation of an RMP (Appendix L) that includes measures to protect and enhance the preserved or created populations. This will reduce impacts to less than significant. All of the mitigation for San Diego marsh-elder shall occur as part of Phase 1 mitigation.

*Impact 3.4.1f-j*

Implementation of the Proposed Project could result in increased colonization or spread of non-native plant species in the proposed open space that could adversely affect sensitive plant species in the open space by competition if not properly monitored, maintained, and managed.

*MM 3.4.1f* The biological open space shall be actively monitored, maintained, and managed in accordance with an RMP (Appendix L). The RMP (discussed in MM 4.4.1e, below) shall ensure, for example, that access is restricted and invasive plant species are monitored and controlled.

*MM 3.4.1g* Upon completion of the Proposed Project, final grading to establish the final landform, application of topsoil resources, and revegetation with native species (Seed Mix A) will occur for slope areas according to the Otay Hills Project Revegetation Plan prepared by EnviroMINE (Appendix C and Sheet 7 of the Reclamation Plan). The Proposed Project description already includes restoration of slopes adjacent to proposed open space with a native plant biological buffer (Seed Mix B) to help prevent the spread of any invasive plant species into open space (see MM 3.4.1i).

*MM 3.4.1h* Temporary construction staking or fencing shall be erected under the supervision of a qualified biologist at or outside the edge of the impact areas where they interface with natural areas. This fencing shall be erected prior to commencement of brushing or grading activities or extraction activities and shall demarcate areas where human and equipment access and disturbance from grading are prohibited. Upon placement of the permanent boundary fence, monitoring adjacent to project open space may cease. Staging areas shall be restricted to approved impact areas only.

*MM 3.4.1i* A hydroseed mix incorporating only native species (Seed Mix B) shall be used following extraction activities for all slope areas that are a biological buffer adjacent to open space. Weed control shall be provided for these areas according to the Otay Hills Project Revegetation Plan prepared by EnviroMINE (Appendix C and Sheet 7 of the Reclamation Plan).

*MM 3.4.1j* Pets/domestic animals and unauthorized Proposed Project personnel shall not be allowed within the biological open space. As part of the RMP, permanent signage shall be posted every 500 feet along western and southern boundaries and on alternating sides along the portion of Otay Truck Trail that traverses the open space, and at locations of any unauthorized trails entering the open space. All signs shall be corrosion-resistant (e.g., steel), measure at minimum 12 by 18 inches in size, be posted on a metal post at least three feet above ground level, and provide notice in both Spanish and English that the area is restricted. The signs shall state the following:

### Sensitive Environmental Resources

#### Area Restricted by Easement

Entry without express written permission from the County of San Diego is prohibited. To report a violation or for more information about easement restrictions and exceptions contact the County of San Diego, Planning & Development Services  
Ref. PDS2004-3300-04-004  
Phone Number: (858) 694-2960

#### *Impact 3.4.1k*

The Proposed Project would remove 31.1 acres of non-native grassland and 0.5 acre of native grassland, which are burrowing owl habitats.

#### *MM 3.4.1k*

Removal of 0.5 acre of native grassland shall be mitigated at a 2:1 ratio through on-site preservation of 0.7 acre of native grassland, as well as on- or off-site restoration or off-site acquisition and preservation of 0.3 acre of native grassland. Removal of 29.1 acres of non-native grassland on site and 2.0 acres of non-native grassland off site shall be mitigated at a 1:1 ratio by preservation of 16.1 acres of non-native grassland on site and 15.0 acres of grassland at an off-site location or through purchase of credits at an approved conservation bank consistent with the Burrowing Owl Strategy [County 2010b].

Off-site mitigation requirements shall be met prior to commencement of habitat clearing or construction of extraction operation support facilities or extraction operations, as follows. The applicant shall: 1) purchase off-site credits from an approved conservation bank or 2) acquire appropriate habitat within the County (consistent with the Burrowing Owl Strategy [County 2010b] for grassland habitat), dedicate the land as open space, and prepare an RMP (Appendix L) to be approved by the County and resource agencies. An endowment for mitigation land off-site also shall be provided for management in perpetuity.

### **3.4.2 Animal Species**

#### *Impact 3.4.2a*

Implementation of the Proposed Project would remove five locations where QCB were observed, 104.9 acres of QCB occupied habitat, and 97.8 acres of QCB critical habitat.

#### *MM 3.4.2a*

Removal of QCB shall be mitigated by preservation of 52 locations where QCB were observed and through preservation of 304.6 acres of biological open space on site, of which 303.5 acres is considered occupied by the QCB, and that contains 304.4 acres of QCB critical habitat. Funding for supplemental management of the AMA for QCB shall also be provided as part of the RMP. If the QCB is not covered under the MSCP at the time of Proposed Project approval, effects on the species



shall be subject to review and approval by the USFWS as part of the Section 7 or 10(a) consultation process.

*Impact 3.4.2b-c*

Implementation of the Proposed Project would directly remove one pair of CAGN, 66.7 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed], and 77.1 acres of CAGN critical habitat. The Proposed Project would also indirectly impact 20.6 acres of CAGN habitat through noise.

*MM 3.4.2b*

Impacts to the CAGN shall be mitigated through preservation of four pairs and 224.3 acres of CAGN habitat on site (includes long-term conservation of 20.6 acres impacted by noise during the life of the Project), which contains 185.0 acres of CAGN critical habitat. Prior to Proposed Project implementation, a preconstruction survey to demonstrate CAGN absence from the development footprint shall be required pursuant to USFWS protocol if habitat clearing is to occur during the breeding season (March 15 to August 15).

*MM 3.4.2c*

Indirect impacts to 20.6 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]) from noise shall be mitigated through the preservation of 20.6 acres of Diegan coastal sage scrub (including disturbed) on site (included within the 224.3 acres conserved as noted above). Additionally, the following measures shall be required to minimize potential adverse noise effects on the habitat and CAGN.

- No jaw crusher shall be operated closer than 350 feet from the closest property line or open space boundary.
- No screen shall be operated closer than 165 feet from the closest property line or open space boundary.
- No vertical crusher shall be operated closer than 85 feet from the closest property line or open space boundary.
- All cone crushers used in the aggregate crushing process shall be shielded with noise controls: the barriers shall start at ground level and extend to at least a minimum of one foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the site.
- All vertical crushers used in the aggregate crushing process shall be shielded with noise control barriers: the barriers shall extend to the ground or at least two feet below the crusher if it is an elevated unit and extend to at least a minimum of one foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the site.

- All aggregate screens shall use synthetic screen elements (note this does not apply to recycled materials, which may utilize steel screens).
- All sound attenuation fence/walls should be solid and constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, with no cracks or gaps, through or below the wall. (Project Note: conveyor belting is an excellent noise shielding material to allow a flexible barrier or provide lower skirts). Any seams or cracks must be filled or caulked. If wood is used, it can be tongue-and-groove and must be at least 1-inch total thickness or have a surface density of at least 3.5 pounds per square foot. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of 1-inch thick or better wood, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with prefabricated door jambs.
- If a cone crusher is used in the Asphaltic Concrete Plant it shall be shielded with a barrier as described in above in the fourth bulleted item.
- If a portable plant is used for occasional processing of recycled materials the unit shall only be used in the area south of the main plant. The unit shall never be positioned closer than 500 feet to the eastern or southern excavation boundary or the southern boundary of the normal equipment areas to control additional noise impacts to the east.

*Impact 3.4.2d-f*

Implementation of the Proposed Project would remove raptor foraging habitat and one location where burrowing owl was observed in 2001. Impacts could also occur if animals become trapped in the development footprint or are attracted to it (for example, the burrowing owl) and end up injured or killed.

*MM 3.4.2d* Implementation of MM 3.4.1k shall mitigate removal of raptor foraging habitat.

*MM 3.4.2e* A survey for burrowing owl shall be conducted before habitat clearing in each Proposed Project phase consistent with the Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County (County 2010b). If a burrowing owl(s) is sighted within the development footprint, the resource agencies and County shall immediately be notified to determine the appropriate steps to take. If, for example, an active burrow is present, impacts to this species may be minimized by the active or passive translocation of the owl, outside of the breeding season or once the young have fledged, to a suitable area on the Proposed Project site that supports nesting and foraging habitat. A Burrowing Owl Translocation Plan, which may include installation of a minimum of two artificial burrows for every burrow impacted, would be prepared and submitted to the resource agencies and County for review and approval in accordance with the CDFG Staff Report on Burrowing Owl Mitigation (2012).

*MM 3.4.2f* Impacts from potential entrapment in the development footprint and injury or death to sensitive animal species shall be mitigated as follows. This is in addition to the fence that the applicant would place along the outside edge of extraction areas during construction for safety and security reasons as part of the Proposed Project description.

- Deterrent measures may include, but are not limited to, ensuring that the ends of all pipes and culverts are covered when they are not being used, and covering rubble piles, dirt piles, ditches, and berms that occur within the development footprint when they are not being regularly disturbed by quarry activities.
- Where ponds or pits with water occur, they shall be fenced, or otherwise surrounded/covered to prevent wildlife access. Fencing shall be secured at the ground or buried to prevent animals digging under, and shall be wrapped around the base with a durable finer mesh material to prevent small mammal, reptile, and amphibian entry.
- Ponds, pits, or trenches may present a trapping hazard for wildlife if they are steep-sided and/or lined with smooth-surfaced material. Potential solutions to prevent trapped wildlife shall be implemented and may include, but are not limited to, attaching textured liner material to create escape ramps, or depending on the configuration of the trapping hazard, earthen ramps, floating rafts, or ladders may be appropriate solutions.

During the initial clearing of each phase, the biological monitor will check implementation of nuisance minimization measures and conduct regular searches for wildlife in these areas. During regular plant operation, the project proponent will be responsible for attractive nuisance minimization measures, with annual compliance checks by a biological monitor.

*Impact 3.4.2g*

The Proposed Project would remove four coast horned lizard locations, an undetermined number of Belding's orange-throated whiptail locations, three loggerhead shrike locations, four grasshopper sparrow locations, five rufous-crowned sparrow locations, one Cooper's hawk location, and four locations of San Diego black-tailed jackrabbit.

*MM 3.4.2g* Implementation of MM 3.4.1k, 4.4.1c, and 4.4.1e shall mitigate the impacts to these species.

*Impact 3.4.2h* Project construction could impact the nesting success of coastal California gnatcatcher, tree-nesting raptors, and ground-nesting raptors, all of which have the potential to nest on and/or in the immediate vicinity of impact areas. Noise from such sources as clearing, grading, and blasting could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher and raptors) were displaced from their nests and

failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 dB  $L_{eq}$  or ambient could be significantly impacted. If coastal California gnatcatchers, burrowing owls, or tree-nesting raptors are nesting within 500 feet of the impact area, or northern harriers are nesting within 900 feet of the impact area, effects resulting from construction noise could be significant.

**MM 3.4.2h** Noise impacts to the California gnatcatcher from ongoing operations are addressed in MM 3.4.2c. A preconstruction survey to demonstrate burrowing owl and tree-nesting raptor absence from the 500-foot buffer shall be required if habitat clearing is to occur during the tree-nesting raptor breeding season (January 15 to July 15). A preconstruction survey of the 900-foot buffer shall be required if habitat clearing is to occur during the ground-nesting raptor breeding season (February 1 to July 15).

## **3.5 ALTERNATIVES**

### **3.5.1 Extraction to Varying Depth**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of sensitive species and their habitats would be the same as described. Impacts related to invasive species also would be expected to be similar. Noise impacts would be of the same or similar magnitude as described for the Proposed Project, but would be of a shorter duration due to the reduced quarry depth.

### **3.5.2 Extraction to Natural Grade**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of sensitive species and their habitats would be the same as described. Impacts related to invasive species also would be expected to be similar. Noise impacts would be of the same or similar magnitude as described for the Proposed Project, but would be of a shorter duration due to the reduced quarry depth.

### **3.5.3 No Project/Existing Plan Alternative**

Up to approximately 122 acres of vegetation would be directly affected upon implementation of the No Project/Existing Plan Alternative, based on full development of the 62-acre Mixed Industrial area and partial development of the 254-acre Rural Residential area; however, no specific development plan exists for this alternative. Therefore, specific impacts to individual vegetation communities and associated sensitive plant and animal species are not available for this alternative. Noise impacts likely would be reduced under this alternative relative to the Proposed Project, as material processing equipment would not be proposed. Other indirect impacts would be similar.



#### **3.5.4 No Project/No Action Alternative**

The No Project/No Action Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses but rather would remain undeveloped for the foreseeable future. Under this alternative, no project- or action-related impacts to biological resources would occur.

### **3.6 CONCLUSION**

Implementation of the Proposed Project and alternatives other than the No Project/No Action Alternative would remove 10 sensitive plant species and 10 sensitive animal species. In addition, indirect impacts as a result of loss of habitat and/or noise could occur to the 10 sensitive animal species. The proposed mitigation measures are consistent with the regulations and requirements of the resource agencies and the County. If implemented, the recommended mitigation measures would reduce these impacts to below a level of significance (Table 10).

**Table 10**  
**IMPACTS AND MITIGATION FOR SENSITIVE VEGETATION COMMUNITIES (acre[s])<sup>1</sup>**

Vegetation Community/Habitat <sup>2</sup>	Tier <sup>3</sup>	Acreage		Mitigation					
		Existing On Site (and off site)	Impacts	Ratio <sup>4</sup>	Required	Preserved On Site in Open Space as Mitigation	Preserved in Excess of Required Mitigation	Required Restoration (on or off site) or Off-site Acquisition	Impact Neutral Areas
Mule fat scrub (63310)	I	0.03	0.00	3:1 <sup>5</sup>	0.00	0.00	0.03	0.00	0.00
Cismontane alkali marsh (52310)	I	0.34	0.27	3:1 <sup>5</sup>	0.81	0.00	0.07	0.81	0.00
Southern interior cypress forest (83330)	I	0.5	0.00	3:1 <sup>5</sup>	0.0	0.0	0.5	0.0	0.0
Disturbed wetland (11200)	I	0.01	0.01	1:1	0.01	0.0	0.0	0.01	0.0
Tamarisk scrub (63810)	I	0.10	0.06	1:1	0.06	0.00	0.04	0.06	0.00
Native grassland (42100)	I	1.2	0.5	2:1	1.0	0.7 <sup>6</sup>	0.0	0.3 <sup>6</sup>	0.0
Diegan coastal sage scrub (including disturbed; 32500) – direct impact	II	284.1 (plus 2.5 off site)	64.2 (plus 2.5 off site)	1.5:1	100.1	120.7	98.2 <sup>9</sup>	0.0	1.0
Diegan coastal sage scrub (including disturbed; 32500) – indirect impact			20.6 <sup>7</sup>	1:1	20.6				
Coastal sage-chaparral scrub (37G00)	II	5.4	0.0	1:1	0.0	0.0	5.4	0.0	0.0
Chamise chaparral (37200)	III	14.8	0.0	1:1	0.0	0.0	14.8	0.0	0.0
Southern mixed chaparral (37120)	III	38.6	0.0	1:1	0.0	0.0	38.6	0.0	0.0
Non-native grassland (42220)	III	45.4 (plus 2.0 off site)	29.1 (plus 2.0 off site)	1:1	31.1	16.1 <sup>8</sup>	0.0	15.0 <sup>8</sup>	0.2
Disturbed habitat (11300)	IV	18.4 (plus 0.2 off site)	8.5 (plus 0.2 off site)	--	0.0	0.0	8.7	0.0	1.2

**Table 10 (cont.)**  
**IMPACTS AND MITIGATION FOR SENSITIVE VEGETATION COMMUNITIES (acre[s])<sup>1</sup>**

Vegetation Community/Habitat <sup>2</sup>	Tier <sup>3</sup>	Acreage		Mitigation					
		Existing On Site (and off site)	Impacts	Ratio <sup>4</sup>	Required	Preserved On Site in Open Space as Mitigation	Preserved in Excess of Required Mitigation	Required Restoration (on or off site) or Off-site Acquisition	Impact Neutral Areas
Developed land (12000)	IV	0.7	<0.1	--	0.0	0.0	0.7	0.0	0.0
<b>TOTAL</b>		<b>409.7 (plus 4.7 off site)</b>	<b>123.24 (plus 4.7 off site)</b>	<b>--</b>	<b>153.68</b>	<b>137.6</b>	<b>166.93</b>	<b>16.18</b>	<b>2.4</b>
<b>GRAND TOTAL</b>		<b>414.4</b>	<b>127.94</b>	<b>--</b>	<b>153.68</b>	<b>137.6</b>	<b>167.04</b>	<b>16.18</b>	<b>2.4</b>

<sup>1</sup>Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

<sup>2</sup>Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

<sup>3</sup>Tiers refer to County MSCP Subarea Plan habitat classification system.

<sup>4</sup>Mitigation ratios assume that impacts and mitigation occur in BRCAs except for USACE and CDFW jurisdictional areas.

<sup>5</sup>While the MSCP requires a mitigation ratio of less than 3:1 for impacts and mitigation sites assumed to be within BRCAs, wetland permitting through the USACE and CDFW is expected to result in 3:1 mitigation ratios.

<sup>6</sup>Mitigation for removal of native grassland to be met with preservation of 0.7 acre of native grassland and on- or off-site restoration or off-site acquisition of 0.3 acre of native grassland.

<sup>7</sup>Mitigation for indirect noise impacts to habitat to be preserved in open space.

<sup>8</sup>Removal of non-native grassland to be mitigated at a 1:1 mitigation ratio according to the Burrowing Owl Strategy (County 2010b) with preservation of 16.1 acres of non-native grassland on site and 15.0 acres of non-native grassland at an off-site location or through purchase at an approved conservation bank.

<sup>9</sup>The 98.2 acres to be preserved in excess of the required mitigation for direct and indirect impacts to Diegan coastal sage scrub was calculated by adding the excess preserved Diegan coastal sage scrub (286.6 acres of existing habitat on site – 87.3 acres of impacts on site – 120.7 acres of required mitigation on site – 1.0 acre of on-site impact neutral area = 77.6 acres) plus the 20.6-acre area of Diegan coastal sage scrub that would be indirectly impacted.

## 4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

### 4.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

*Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS or CDFW?*

Any of the following conditions would be considered significant if:

- A. Project-related grading, clearing, construction or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Biological Guidelines, excluding those without a mitigation ratio) on or off the project site.
- B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.
- C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.
- D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitat over the long term. Issues to be addressed include: increasing human access or predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive habitats.
- E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

### 4.2 ANALYSIS OF PROJECT EFFECTS

The Proposed Project would result in significant impacts under the above guidelines as follows:

- 4.1.A The Proposed Project would result in removal of approximately 98.7 acres of sensitive (Tier I through III) vegetation on and off site: 0.27 acre of cismontane alkali marsh, 0.01 acre of disturbed wetland, 0.06 acre of tamarisk scrub, 0.5 acre of native grassland, 66.7 acres of Diegan coastal sage scrub (including disturbed), and 31.1 acres of non-native



grassland (Figure 8; Table 10). Indirect noise impacts to 20.6 acres of Diegan coastal sage scrub also would occur.

- 4.1.B Implementation of the Proposed Project would result in removal of 0.44 acre of USACE jurisdictional areas (Figure 11a; Table 11), 0.49 acre of RWQCB jurisdictional areas (Figure 11b; Table 11), and 0.53 acre of CDFW jurisdictional areas (Figure 11c; Table 11).

**Table 11**  
**IMPACTS AND MITIGATION FOR JURISDICTIONAL AREAS (acre[s])**

Habitat	Impacts			Mitigation Ratio	Mitigation Required		
	USACE	RWQCB	CDFW		USACE	RWQCB	CDFW
Wetlands							
Cismontane alkali marsh	0.21	0.21	0.27	3:1 <sup>1</sup>	0.63	0.63	0.81
Disturbed wetland	0.01	0.01	0.01	1:1 <sup>1</sup>	0.01	0.01	0.01
Tamarisk scrub	0.06	0.06	0.06	1:1 <sup>1</sup>	0.06	0.06	0.06
Non-wetlands							
Drainage/Streambed	0.14	0.18	0.17	1:1	0.14	0.18	0.17
Pond	0.02	0.02	0.02	1:1	0.02	0.02	0.02
Intermittent pond	0.00	0.01	0.00	1:1	0.00	0.01	0.00
TOTAL	0.44	0.49	0.53	--	0.86	0.91	1.07

<sup>1</sup>1:1 shall be creation to achieve no net loss of wetland habitat.

- 4.1.D Impacts from domestic animals due to the Proposed Project are not anticipated given that the Proposed Project consists of mineral extraction activities and not a residential subdivision. Invasive, non-native plants could, however, colonize areas disturbed by construction and could potentially spread into open space.

The Proposed Project would include a permanent fence along the outside edge of extraction areas that would help keep people out of the adjacent open space, and access restriction/trespass signs would be placed along the western and southern boundaries of the open space. The fencing will be six-foot galvanized chain link. Still, additional protection measures are needed to reduce the potential for human access into the open space to less than significant level.

Therefore, the impacts from invasive plant species and human access would be significant according to County Guideline 4.1.D.

The Proposed Project would result in less than significant impacts under the above guidelines as follows:

- 4.1.B As previously discussed, implementation of the Proposed Project would remove 0.34 acre of County RPO wetlands (Figure 11c; Table 10). The Proposed Project, however, is exempt from RPO requirements as discussed in Section 1.5.3, above.

- 4.1.C No groundwater withdrawals or activities that could result in lowering of the groundwater table are proposed. As discussed in the EIR section 4.2, the static water level is approximately 300 feet below the ground surface at the well site near the northern impact footprint boundary, which is above the proposed maximum excavation depth, but below the rooting depth of plants observed on site. In addition, excavation would be terminated at (or slightly below) the level where significant inflow of groundwater occurs, so no impact would occur.
- 4.1.E A wetland buffer is not proposed. The County requires a wetland buffer through the RPO. However, the Proposed Project is exempt from the RPO, so no wetland buffer is required.

### **4.3 CUMULATIVE IMPACT ANALYSIS**

The 30 cumulative projects with available data (including the Proposed Project) would result in removal of 20.17 acres of riparian/wetland habitats, 98.09 acres of native grassland, 679.16 acres of Diegan coastal sage scrub, 114 acres of chamise chaparral, and 2,036.43 acres of non-native grassland. The Proposed Project's removal of 0.34 acre of riparian/wetland habitat, while significant at the project level, are fully mitigated by on- or off-site creation, restoration, and/or enhancement in accordance with the County, USACE and CDFW. Given that mitigation would occur at ratio of 3:1 for cismontane alkali marsh and 1:1 for tamarisk scrub and disturbed wetland (1:1 would be creation), there would be no net loss of riparian/wetland habitat; therefore, no cumulatively significant impact would occur. The Proposed Project's removal of native grassland (0.5 acre), while significant at the project level, are mitigated with preservation on site or through off-site acquisition of suitable habitat and are small enough to be not cumulatively considerable or significant. The Proposed Project's direct and indirect impacts to 87.3 acres of Diegan coastal sage scrub and 31.1 acres of non-native grassland, while significant at the project level, are fully mitigated by preservation of appropriate habitat on site and/or off site.

The 30 cumulative projects with available data (including the Proposed Project) would preserve a total of 1,829.30 acres of sensitive vegetation communities (37.78 acres of riparian/wetland habitats, 10.49 acres of native grassland, 430.63 acres of Diegan coastal sage scrub, chamise chaparral of unknown acreage, and 1,350.4 acres of non-native grassland). As the Proposed Project would ultimately be in conformance with the MSCP, cumulative impacts would be considered fully mitigated.

The Proposed Project would comply with the MSCP through preservation of approximately 218.9 acres of Diegan coastal sage scrub (including disturbed) in permanent open space on site. Similar to the Proposed Project, the cumulative projects with available data listed in Table 9 would be required to mitigate for impacts to Diegan coastal sage scrub in accordance with the requirements of the MSCP. As a result, the Proposed Project's impacts to Diegan coastal sage scrub (including disturbed) would not have a cumulatively significant impact on the future viability of these vegetation communities or future regional preserve design.

## 4.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

### *Impact 4.4.1a-f*

Implementation of the Proposed Project would result in removal of approximately 98.7 acres of sensitive (Tier I through III) vegetation on and off site: 0.27 acre of cismontane alkali marsh, 0.01 acre of disturbed wetland, 0.06 acre of tamarisk scrub, 0.5 acre of native grassland, 66.7 acres of Diegan coastal sage scrub (including disturbed), and 31.1 acres of non-native grassland (Figure 8; Table 10). Indirect noise impacts to 20.6 acres of Diegan coastal sage scrub also would occur. Invasive, non-native plants could colonize areas disturbed by construction and could potentially spread into open space.

*MM 4.4.1a* Mitigation for removal of 0.27 acre of cismontane alkali marsh shall occur at a 3:1 ratio (1:1 of the 3:1 shall be creation) through on- or off-site creation, restoration, and/or enhancement of 0.81 acre of cismontane alkali marsh, through purchase of 0.81 credits from an approved wetland mitigation bank, or alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW prior to clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. Mitigation for removal of 0.01 acre of disturbed wetland and 0.06 acre of tamarisk scrub shall occur at a 1:1 ratio through on- or off-site creation of 0.07 acre of riparian or other wetland habitat, through purchase of 0.07 credits from an approved wetland mitigation bank, or alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW prior to clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. Mitigation for cismontane alkali marsh, disturbed wetland and tamarisk scrub shall occur as follows:

Prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the applicant shall either: (1) purchase wetland habitat credits, (2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland restoration plan, or (3) identify and provide alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the USACE, CDFW, RWQCB, and County. In addition, a bond shall be provided to the County prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations to cover 120 percent of any restoration plan implementation costs. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity. This shall be in addition to the biological open space proposed for areas preserved on site and its associated endowment.

*MM 4.4.1b* Mitigation for removal of native grassland shall occur in accordance with MM 3.4.1k.

- MM 4.4.1c* Mitigation for removal of 66.7 acres of Diegan coastal sage scrub (including disturbed) shall be mitigated at a 1.5:1 ratio through preservation of 100.1 acres of Diegan coastal sage scrub (including disturbed) on site. The indirect noise impacts to 20.6 acres of Diegan coastal sage scrub (including disturbed) as a result of Proposed Project implementation shall be mitigated at a 1:1 ratio through preservation of an additional 20.6 acres of Diegan coastal sage scrub (including disturbed) on site. Required preservation of Diegan coastal sage scrub (including disturbed) shall total 120.7 acres on site.
- MM 4.4.1d* Implementation of MM 3.4.1k would mitigate for removal of non-native grassland.
- MM 4.4.1e* The applicant shall dedicate 304.6 acres of biological open space on site for impacts resulting from the Proposed Project prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. The biological open space shall be managed by a conservation entity (to be approved by the County and resource agencies prior to commencement of habitat clearing and construction of extraction operation support facilities or extraction operations) that would be responsible for implementing the RMP (Appendix L). An RMP has been prepared that clearly describes biological open space management. The RMP includes stewardship measures, including but not limited to, fencing and signs upkeep, trespass restriction (see MM 3.4.1j), and debris removal. The applicant shall offer evidence to the County and resource agencies that an endowment has been provided to the conservation entity to manage the land in perpetuity. This endowment amount shall be determined through the use of Property Analysis Record (PAR) or similar method. Funding of the RMP and endowment shall occur through the applicant funding annual RMP costs plus an additional amount that will be placed into the endowment account per phase until the endowment is fully funded. Endowment funding will be phased as follows:
- Prior to initiating any work on Phase 1, 14 percent of the total endowment shall be funded.
  - Prior to Phase 2a, an additional 17 percent of the total endowment shall be funded (31 percent total).
  - Prior to Phase 2b, an additional 24 percent of the total endowment shall be funded (55 percent total).
  - Prior to Phase 2c, the Project Proponent shall fund the remainder of the endowment, which shall be calculated as follows: the total endowment amount, adjusted for inflation according to the consumer price index, minus the current value of the endowment including the first three phased payments and the investment returns to date.



The Project Proponent shall continue to fund the annual management costs for the three years following full funding of the endowment. Once the endowment is fully funded and three years have elapsed, completion of all management tasks within the RMP will be funded by the endowment. The applicant may also elect to fund the entire endowment upfront prior to initiating grading on the site consistent with the RMP (Appendix L).

*MM 4.4.1f* The Proposed Project description includes revegetation of slopes following project completion (MM 3.4.1g) and restoration of slopes adjacent to proposed open space with a native plant biological buffer to help prevent the spread of any invasive plant species into open space (MM 3.4.1i). Implementation of MM 3.4.1f through 3.4.1j would also mitigate for impacts from invasive plant species.

*Impact 4.4.2a-c*

Fill of 0.44 acre of USACE jurisdictional areas and 0.53 acre of CDFW jurisdictional areas would occur upon Proposed Project implementation (Table 11).

*MM 4.4.2a* Fill of USACE jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Fill of 0.16 acre of USACE jurisdictional non-vegetated Waters of the U.S. shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and USACE prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations (Table 11).

*MM 4.4.2b* Removal of CDFW jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Removal of 0.19 acre of CDFW jurisdictional streambed and pond shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and CDFW prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations (Table 11).

*MM 4.4.2c* Removal of RWQCB jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Removal of RWQCB jurisdictional streambed, pond, and intermittent pond shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and RWQCB prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations (Table 11).

## **4.5 ALTERNATIVES**

### **4.5.1 Extraction to Varying Depth**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of sensitive natural communities would be the same as described.

#### **4.5.2 Extraction to Natural Grade**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of sensitive natural communities would be the same as described.

#### **4.5.3 No Project/Existing Plan Alternative**

Up to approximately 122 acres of vegetation would be directly affected upon implementation of the No Project/Existing Plan Alternative. This is based on full development of the 62 acres designated for Mixed Industrial. There are 254 acres designated for Rural Residential, which at one dwelling unit per 20 acres would yield up to 12 dwelling units. Assuming a five-acre impact for each of the 12 single-family homes in the Rural Residential area, approximately 60 more acres would be removed; however, no specific development plan exists for this alternative. The vegetation impacted could potentially include any of the vegetation types within the Proposed Project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat. The locations of the 12 homes are not known, as they would be determined in consultation between the landowner(s) and the County. Therefore, the total removal acreage of individual vegetation communities are not available for this alternative.

#### **4.5.4 No Project/No Action Alternative**

The No Project/No Action Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses, but rather would remain undeveloped for the foreseeable future. Under this alternative, no impacts to sensitive natural communities would occur.

### **4.6 CONCLUSION**

Implementation of the Proposed Project and alternatives other than the No Project/No Action Alternative would result in significant removal of sensitive natural communities, including jurisdictional areas; however, a combination of avoidance through Proposed Project design and mitigation measures for loss of habitat would reduce impacts to below a level of significance. Mitigation is proposed to include preservation of habitat on site and off site at ratios consistent with those required by the County, resource agencies, and USACE.

## **5.0 JURISDICTIONAL WETLANDS AND WATERWAYS**

### **5.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

*Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?*

Any of the following conditions would be considered significant if:

- A. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.
- B. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.
- C. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

## **5.2 ANALYSIS OF PROJECT EFFECTS**

5.1A Implementation of the Proposed Project would result in significant removal of 0.44 acre of USACE jurisdictional areas, 0.49 acre of RWQCB jurisdictional areas, and 0.53 acre of CDFW jurisdictional areas (Table 11) under County Significance Guideline 5.1.A.

No groundwater withdrawals or activities that could result in lowering of the groundwater table are proposed, so no impact would occur under County Significance Guideline 5.1.B.

As explained in Section 1.5.3, there is no feasible buffer between the development footprint and cismontane alkali marsh; however, a fence to keep people out of the open space would be installed. This physical barrier is expected to be adequate to protect the functions and values of the remaining 0.1 acre of this wetland on site. Therefore a significant impact is not anticipated under County Significance Guideline 5.1.C.

## **5.3 CUMULATIVE IMPACT ANALYSIS**

The Proposed Project's removal of 0.44 acre of USACE jurisdictional areas, 0.49 acre of RWQCB jurisdictional areas, and 0.53 acre of CDFW jurisdictional areas, while significant at the project level, would be fully mitigated by on- or off-site mitigation in accordance with the USACE. Given that mitigation would occur at ratios of 1:1 or 3:1 (with 1:1 being creation; Table 11), there would be no net loss of USACE or CDFW jurisdictional areas and, therefore, no cumulatively significant impact would occur.

## **5.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS**

Implementation of MM 4.4.1a, MM 4.4.2a, 4.4.2b, and 4.4.2c would mitigate for removal of USACE, CDFW, and RWQCB jurisdictional areas.

## **5.5 ALTERNATIVES**

### **5.5.1 Extraction to Varying Depth**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of jurisdictional waters would be the same as described.

### **5.5.2 Extraction to Natural Grade**

This alternative would result in disturbance of the same area as described above for the Proposed Project; therefore, removal of jurisdictional waters would be the same as described.

### **5.5.3 No Project/Existing Plan Alternative**

Up to approximately 122 acres of vegetation would be directly affected upon implementation of the No Project/Existing Plan Alternative; however, no specific development plan exists for this alternative. Impacts to jurisdictional waters are not available for this alternative, but are likely to be similar to those identified for the Proposed Project.

### **5.5.4 No Project/No Action Alternative**

The No Project/No Action Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses, but rather would remain undeveloped for the foreseeable future. Under this alternative, no impacts to jurisdictional waters would occur.

## **5.6 CONCLUSION**

Implementation of the Proposed Project and alternatives other than the No Project/No Action Alternative would result in significant impacts to USACE jurisdictional areas. Because the USACE, CDFW, and County all require “no net loss” of wetlands, mitigation measures, as determined by the USACE, would reduce impacts to below a level of significance.

## **6.0 WILDLIFE MOVEMENT AND NURSERY SITES**

### **6.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

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

Any of the following conditions would be considered significant if:

- A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.



- B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.
- C. The project would create artificial wildlife corridors that do not follow natural movement patterns.
- D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.
- E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.
- F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage.

## **6.2 ANALYSIS OF PROJECT EFFECTS**

The Proposed Project would result in less than significant impacts under the above guidelines as follows:

- 6.1.A The Proposed Project would directly remove nesting/foraging habitats of several sensitive animal species, and construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Proposed Project is designed to maintain connectivity of preserved habitats in open space on site with connections to off-site, vacant lands. Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. Land surrounding the Proposed Project to the north and east is undeveloped and contributes to a larger habitat area for several plant and animal species. The animal species can use most habitats on site and can access habitats outside the site without restriction at this time. These areas provide a substantial nearby area for nesting/foraging such that these impacts would be considered less than significant.
- 6.1.B The Proposed Project would consist of hauling roads, and mining related structures and appurtenances that could create a barrier on the land surface for local wildlife movement across the western portion of the Proposed Project site but would not restrict regional wildlife movement likely occurring to the north and east of the development footprint in the Proposed Project open space and connecting to the adjacent public lands and private open space farther to the north and east. Construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Proposed Project is designed to maintain connectivity of preserved habitats in the 304.6-acre open space with off-site vacant lands

to the north and east. Fencing of the extraction operation will direct wildlife away from the quarry and towards open space. Therefore, the site would not interfere substantially with connectivity between blocks of habitats (the site is not part of a regional corridor). Under County Guideline 6.1.B, no significant impact would occur.

- 6.1.C The Proposed Project would not create artificial wildlife corridors that do not follow natural movement patterns. The Proposed Project site is not part of a regional corridor, but the site is part of a large contiguous block of open space that can support wide-ranging species and may act as a core wildlife area. Existing development already occurs adjacent to the northwestern portion of the development footprint, and already approved development occurs along the remainder of the western boundary of the development footprint. The applicant proposes to dedicate 304.6 acres of biological open space on site east of the development footprint that connect to adjacent public lands and private open space farther to the north and east. This would maintain the regional landscape level conservation function and continue to allow wildlife to move across all but the development footprint, which is adjacent to existing and planned developments.
- 6.1.D All Proposed Project-related lighting would be required to adhere to the San Diego County Light Pollution Code. Lighting within the development footprint adjacent to proposed open space would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat. Noise impacts resulting from the Proposed Project would affect habitat adjacent to the footprint, but would not impact any regional corridors and linkages since the Proposed Project site is part of neither. Under County Guideline 6.1.D, no significant impacts would occur.
- 6.1.E The Proposed Project would not reduce an existing wildlife corridor or linkage or further constrain an already narrow wildlife corridor. As stated above, the site is not part of a corridor or linkage, and 304.6 acres of habitat surrounding the development footprint would be preserved in open space as mitigation for impacts. This open space would preserve regional landscape level conservation function. Under County Guideline 6.1.E, no significant impact would occur.
- 6.1.F The Proposed Project would not affect visual continuity within wildlife corridors or linkages. The Proposed Project site is not within a corridor or linkage. The Proposed Project's development footprint abuts existing development to the northwest and already approved development along the remainder of its western boundary. The applicant proposes to dedicate 304.6 acres of biological open space on site east of the development footprint that connect to adjacent public lands and private open space farther to the north and east. This would maintain visual continuity across the entire eastern portion of the Proposed Project site and adjacent vacant lands to the north and east.

### 6.3 CUMULATIVE IMPACT ANALYSIS

As stated above, the 30 cumulative projects with available data (including the Proposed Project) would preserve a total of 1,829.30 acres of sensitive vegetation communities (37.78 acres of riparian/wetland habitats, 10.49 acres of native grassland, 430.63 acres of Diegan coastal sage

scrub, chamise chaparral of unknown acreage, and 1,350.4 acres of non-native grassland). As such, no cumulatively significant impact to wildlife corridors would occur. As the Proposed Project would ultimately be in conformance with the MSCP, cumulative impacts would be considered fully mitigated.

## **6.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS**

No significant impacts are identified; therefore, no mitigation is required.

## **6.5 ALTERNATIVES**

### **6.5.1 Extraction to Varying Depth**

This alternative would result in the same type and lateral extent of disturbance as described above for the Proposed Project; therefore, impacts to wildlife movement would be the same as described.

### **6.5.2 Extraction to Natural Grade**

This alternative would result in the same type and lateral extent of disturbance as described above for the Proposed Project; therefore, impacts to wildlife movement would be the same as described.

### **6.5.3 No Project/Existing Plan Alternative**

As the uses under this alternative would be similar to the ultimate uses with the Proposed Project, impacts to wildlife movement would be similar.

### **6.5.4 No Project/No Action Alternative**

The No Project/No Action Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses, but rather would remain undeveloped for the foreseeable future. Under this alternative, no impacts to wildlife movement would occur.

## **6.6 CONCLUSION**

No significant impacts are identified, and no mitigation is therefore required.

## **7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS**

### **7.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

*Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), NCCP plan, or other approved local, regional or state habitat conservation plan?*

Any of the following conditions would be considered significant if:

- A. For lands outside of the MSCP, the project would impact coastal sage scrub vegetation in excess of the County's five percent habitat loss threshold as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.
- B. The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.
- C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.
- D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.
- E. The project does not conform to goals and requirements outlined in any applicable Habitat Conservation Plan, Habitat Management Plan, Special Area Management Plan, Watershed Plan, or similar regional planning effort.
- F. For lands within the MSCP, the project would not minimize impacts to BRCAs, as defined in the BMO.
- G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.
- H. The project does not maintain existing movement corridors and/or habitat linkages as defined by the BMO.
- I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.
- J. The project would reduce the likelihood of survival and recovery of listed species in the wild.
- K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Fish and Game Code (FGC) Sections 3500 – 3516).
- L. The project would result in the take of eagles, eagle eggs or any part of an eagle (BGEPA).



## 7.2 ANALYSIS OF PROJECT EFFECTS

The Proposed Project would result in significant impacts under the above guidelines as follows:

- 7.1.C The Proposed Project would directly remove a total of 98.7 acres of sensitive habitat lands as outlined in the RPO. However, this guideline does not apply to the Proposed Project because it is exempt from the RPO.
- 7.1.I Three narrow endemic plant species (Otay tarplant, Dunn's mariposa lily, and variegated dudleya) and three narrow endemic animal species (QCB, burrowing owl, and golden eagle) occur on site. The Proposed Project has been significantly redesigned to minimize impacts to QCB, but removal of QCB, Otay tarplant, variegated dudleya, and burrowing owl would occur.
- 7.1.K Implementation of the Proposed Project could potentially result in the killing of migratory birds or destruction of active bird nests and/or eggs (protected by the FGC).

The Proposed Project would result in less than significant impacts under the above guidelines as follows:

- 7.1.A The Proposed Project is within the MSCP Subarea Plan. Therefore, County Guideline 7.1.A is not applicable.
- 7.1.B Implementation of the Proposed Project would not preclude or prevent the preparation of a subregional NCCP as the Proposed Project site occurs within a subregion with an approved NCCP Plan (MSCP). The Proposed Project would remove 0.3 acre of Proposed Hardline Preserve (less than 0.01 percent) of the 8,395.7 acres of Proposed Hardline Preserve within the County's MSCP Subarea. The Proposed Project would also remove 77 acres (less than two percent) of Major Amendment Area of the 5,019.8 acres of Major Amendment Area within the County's MSCP Subarea (Figure 12). As such, there would be a minimal impact to the overall preserve that would be less than significant. The Proposed Project would become consistent with the MSCP upon approval of the Major Amendment (Appendix K).
- 7.1.D Removal of coastal sage scrub were minimized by reducing the development footprint from 210 acres down to 102.7 acres and the habitat would be fully mitigated (see MM 4.4.1c). Under County Guideline 7.1.D, no significant impact would occur.
- 7.1.E Removal of sensitive plant and animal species would be mitigated, as appropriate, and the Proposed Project qualifies for exceptions to the BMO avoidance criterion for two plant species, San Diego barrel cactus and San Diego marsh-elder, as explained in sections 2.1.4 and 2.1.5. As such, the Proposed Project would conform to goals and requirements outlined in the Subarea Plan, and no significant impact would occur.
- 7.1.F Under the BMO definition, the habitat located within the qualifies as a BRCA. Proposed Project design has minimized removal of habitat within the BRCA to the maximum extent

practicable. The Project removal of habitat and sensitive species have been reduced and minimized through many iterations of Project design over many years of working with the County and wildlife agencies. The Proposed Project habitat removal has been reduced from 210 acres in the original proposal to 102.7 acres with the Proposed Project, and the most significant populations of QCB, variegated dudleya, San Diego goldenstar and Otay tarplant have been avoided. Habitat removal for all other covered species have also been significantly reduced by the revised footprint. Under County Guideline 7.1.F, no significant impact would occur.

- 7.1.G The Proposed Project would not preclude connectivity between areas of high habitat values. Mitigation for removal of sensitive vegetation communities is proposed to consist of preservation of 304.6 acres of habitat on site. As such, no significant impact would occur under County Guideline 7.1.G.
- 7.1.H As stated above, construction activity and extraction operations would not impact any regional wildlife corridors or linkages. The Proposed Project is designed to maintain connectivity of preserved habitats on site with connections to off-site vacant lands. As such, the site would continue to provide regional landscape level conservation function. Under County Guideline 7.1.H, no significant impact would occur.
- 7.1.I The Proposed Project would avoid direct impacts to one County narrow endemic plant species (Dunn's mariposa lily) and one County narrow endemic animal species (golden eagle). Under County Guideline 7.1.I, no significant impact to these species would occur.
- 7.1.J Individuals or locations of two listed species (Otay tarplant and QCB) would be removed upon Proposed Project implementation. These impacts, however, would not reduce the likelihood of survival and recovery of these species in the wild.
- 7.1.L As previously discussed, the Proposed Project site lies within an established golden eagle territory. The closest known nest location is from O'Neal Canyon approximately 1.2 miles from the development footprint (Susan Wynn, Pers. Comm. 2014) and is not within line of site due to existing topography. This topographic separation will minimize noise and activity impacts at the nest location. Implementation of the Proposed Project would not result in the take of eagles, eagle eggs, or any part of an eagle. Under County Guideline 7.1.L, no significant impact would occur.

### **7.3 CUMULATIVE IMPACT ANALYSIS**

Each of the cumulative projects listed in Table 9 and discussed above would be required to conform to County Guidelines 7.1.A through 7.1.L and provide mitigation as appropriate. In addition, the Proposed Project results in less than significant impacts for nine of the 12 guidelines in Section 7.0; however, County Guideline C does not apply to the Proposed Project. Therefore, mitigation is proposed to reduce the Proposed Project impacts to narrow endemic plant and animal species and nesting birds protected by the FGC to below a level of significance for County Guidelines 7.1.I and 7.1.K.

## **7.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS**

*Impact 7.4.1* Implementation of the Proposed Project would impact four narrow endemic species: Otay tarplant, variegated dudleya, QCB, and burrowing owl.

*MM 7.4.1* Mitigation for impacts to narrow endemic plant and animal species shall occur through implementation of MM 3.4.1a, 3.4.1b, 3.4.1k, 3.4.2a, 3.4.2e, and 3.4.2f.

*Impact 7.4.2* Breeding birds may temporarily or permanently leave their territories to avoid construction and/or extraction operations, which could lead to reduced reproductive success and increased mortality.

*MM 7.4.2* In order to ensure compliance with the FGC, clearing of native vegetation shall occur outside of the breeding season of most avian species (February 1 through September 15). Clearing during the breeding season of FGC-protected species could occur if it is determined that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to clearing based on a pre-construction survey conducted three days prior to clearing or grading activities. See MM 3.4.2b for conditions related to the CAGN.

## **7.5 ALTERNATIVES**

### **7.5.1 Extraction to Varying Depth**

This alternative would result in the same type and lateral extent of disturbance as described above for the Proposed Project; therefore, impacts related to policy, ordinance, and plan conformance would be the same as described.

### **7.5.2 Extraction to Natural Grade**

This alternative would result in the same type and lateral extent of disturbance as described above for the Proposed Project; therefore, impacts related to policy, ordinance, and plan conformance would be the same as described.

### **7.5.3 No Project/Existing Plan Alternative**

As the uses under this alternative would be similar to the ultimate uses with the Proposed Project, impacts related to policy, ordinance, and plan conformance would be similar.

### **7.5.4 No Project/No Action Alternative**

The No Project/No Action Alternative assumes that the site would not be used for aggregate extraction or mixed industrial and rural residential uses, but rather would remain undeveloped for the foreseeable future. Under this alternative, no impacts related to policy, ordinance, and plan conformance would occur.

## 7.6 CONCLUSION

Implementation of the Proposed Project would result in a significant impact to sensitive lands as outlined in the RPO (the Proposed Project is exempt from the RPO), four narrow endemic species, and potentially breeding birds. Proposed on-site preservation and off-site acquisition of habitat (as necessary) is in accordance with ratios accepted by the resource agencies and County. Avoiding vegetation clearing during the bird breeding season would avoid potential impacts related to disruption of breeding activities or direct impacts to nesting birds.

## 8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Implementation of the Proposed Project would result in significant impacts to sensitive plant and animal species, natural communities, wildlife movement, and local policies.

Implementation of the Proposed Project would result in removal of Otay tarplant, Otay tarplant critical habitat, variegated dudleya, San Diego goldenstar, San Diego barrel cactus, and San Diego marsh-elder, as well as to County List C and D plant species. In addition, the Proposed Project would remove QCB, QCB critical habitat, CAGN, CAGN critical habitat, and burrowing owl, as well as other County Group 1 and 2 animal species.

Implementation of the Proposed Project would result in removal of the following sensitive vegetation communities: cismontane alkali marsh, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), and non-native grassland. In addition, removal of USACE and CDFW jurisdictional areas would result from the Proposed Project.

Mitigation for removal of sensitive plant species would occur through preservation on site, translocation, on-site restoration, and off-site acquisition of suitable habitat, as appropriate. Mitigation for removal of sensitive animal species would occur through preservation of habitat on site and translocation, as appropriate. Removal of sensitive vegetation communities would be mitigated by preservation of 304.6 acres of habitat on site prior to habitat clearing. Long-term habitat management would be provided for all preserved areas on and off site through implementation of an RMP (Appendix L).

Increased noise could have a significant effect on sensitive animal species if not mitigated. Such impacts would be mitigated by preservation of additional on-site habitat of the same type impacted (at a 1:1 ratio) and through operational measures.

With implementation of the mitigation measures listed in Sections 3.4, 4.4, 5.4, 6.4, and 7.4 for significant impacts to sensitive biological resources, all Proposed Project-specific impacts would be mitigated to below a level of significance (Table 12).



**Table 12**  
**SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<i>MM 3.4.1a</i> Removal of 105.5 acres of Otay tarplant critical habitat shall be mitigated with preservation of 93.8 acres of Otay tarplant critical habitat within the on-site biological open space. Removal of 16.69 acres of suitable habitat and 30 individual plants are being mitigated through preservation of 6.58 acres of suitable habitat which includes preservation of 510 (94 percent) of the Otay tarplant individuals. In addition, seeds will be collected from the Otay tarplant in the impact area and spread within suitable habitat in the OHCA prior to Phase 2a (Appendix C of the Habitat Conservation Plan (Appendix K).	Less than significant	3.1.A, 7.1.I
<i>MM 3.4.1b</i> Removal of 120 of 4,987 individuals of variegated dudleya shall be mitigated by preservation of 4,867 individuals in accordance with Section 86.507 of the BMO. Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 48.65 acres of suitable habitat. Additionally, the variegated dudleya in the impact area will be salvaged by collecting the soil crust in the area where the 120 dudleya were observed and translocating to the OHCA prior to phase 2b (Appendix C of the Habitat Conservation Plan (Appendix K). These mitigation measures reduce impacts to less than significant.	Less than significant	3.1.B, 7.1.I

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 3.4.1-c</i> Removal of 1,214 individuals of San Diego goldenstar shall be mitigated as follows. The Project would preserve 11,174 individuals (90.2 percent of the population on the Project site and five of the six primary populations) of San Diego goldenstar. The applicant proposes implementation of a restoration plan (on site) for the translocation of the impacted 1,214 individuals of San Diego goldenstar. All San Diego goldenstar corms that are located within each phase shall be translocated prior to implementation of mining activities within that phase.</p> <p>Phase 1 – at least 400 Phase 2a – at least 813 Phase 2b – at least 1</p> <p>The applicant proposes to fund implementation of an RMP that includes measures to protect and enhance the preserved and/or translocated populations. A San Diego Goldenstar Restoration Plan has been prepared and submitted to the County for review and approval (Appendix C of the Habitat Conservation Plan (Appendix K). Approval of the San Diego Goldenstar Restoration Plan and proof of recordation of an open space easement on site shall be required prior to commencement of habitat clearing per the conservation phasing plan and construction of extraction operation support facilities or extraction operations. The San Diego Goldenstar Restoration Plan shall be implemented within one year of habitat clearing and commencement of construction of extraction operation support facilities or extraction operations. Mitigation shall be implemented consistent with the conservation phasing plan. Removal of 13.06 acres of suitable habitat are being mitigated through preservation of 69.46 acres of suitable habitat. This will reduce impacts to less than significant.</p>	Less than significant	3.1.B

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<p><i>MM 3.4.1d</i> Removal of 196 of 362 individuals of San Diego barrel cacti shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall consist of salvage of the 196 San Diego barrel cacti impacted on and off site and relocation of these individuals to areas of appropriate habitat on the Proposed Project site, as well as planting an additional 196 barrel cacti on site for a total of 392 individual cacti planted. The cacti translocation would be subject to the Otay Hills Project Translocation Plan (Appendix C of the Habitat Conservation Plan (Appendix K). Mitigation shall be implemented consistent with the conservation phasing plan.</p> <p>The Barrel Cactus Translocation Plan shall be prepared and submitted to the County for review and approval. Mitigation for San Diego barrel cactus shall be mitigated by phase as follows:</p> <ul style="list-style-type: none"> <li>• Prior to Phase 2a, 44 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 44 individuals shall be planted.</li> <li>• Prior to Phase 2b, 18 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 18 individuals shall be planted.</li> <li>• Prior to Phase 2c, 134 individuals of San Diego barrel cactus shall be translocated to the open space and an additional 134 individuals shall be planted.</li> </ul> <p>This will reduce impacts to less than significant.</p>	Less than significant	3.1.B
<p><i>MM 3.4.1f</i> The biological open space shall be actively monitored, maintained, and managed in accordance with an RMP. The RMP (discussed in MM 4.4.1e, below) shall ensure, for example, that access is restricted and invasive plant species are monitored and controlled.</p>	Less than significant	4.1.D
<p><i>MM 3.4.1e</i> Removal of 142 of 290 individuals of San Diego marsh-elder shall be mitigated at a 2:1 ratio in accordance with Section 86.507 of the BMO. Mitigation shall include planting 284 individuals within the proposed biological open space. The applicant shall fund implementation of an RMP that includes measures to protect and enhance the preserved or created populations. This will reduce impacts to less than significant.</p>	Less than significant	3.1.B

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<i>MM 3.4.1g</i> Upon completion of the Proposed Project, final grading to establish the final landform, application of topsoil resources, and revegetation with native species (Seed Mix A) will occur for slope areas according to the Otay Hills Project Revegetation Plan prepared by EnviroMINE (Appendix C and Sheet 7 of the Reclamation Plan). The Proposed Project description already includes restoration of slopes adjacent to proposed open space with a native plant biological buffer (Seed Mix B) to help prevent the spread of any invasive plant species into open space (see MM 3.4.1i).	Less than significant	3.1.H, 4.1.D
<i>MM 3.4.1h</i> Temporary construction staking or fencing shall be erected under the supervision of a qualified biologist at or outside the edge of the impact areas where they interface with natural areas. This fencing shall be erected prior to commencement of brushing or grading activities or extraction activities and shall demarcate areas where human and equipment access and disturbance from grading are prohibited. Upon placement of the permanent boundary fence, monitoring adjacent to project open space may cease. Staging areas shall be restricted to approved impact areas only.	Less than significant	3.1.A, 3.1.B
<i>MM 3.4.1i</i> A hydroseed mix incorporating only native species (Seed Mix B) shall be used following extraction activities for all slope areas that are a biological buffer adjacent to open space. Weed control shall be provided for these areas according to the Otay Hills Project Revegetation Plan prepared by EnviroMINE (Appendix C and Sheet 7 of the Reclamation Plan).	Less than significant	3.1.H, 4.1.D



**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 3.4.1j</i> Pets/domestic animals and unauthorized Proposed Project personnel shall not be allowed within the biological open space. As part of the RMP, permanent signage shall be posted every 500 feet along western and southern boundaries and along the portion of Otay Truck Trail that traverses the open space, and at locations of any unauthorized trails entering the open space. All signs shall be corrosion-resistant (e.g., steel), measure at minimum 12 by 18 inches in size, be posted on a metal post at least three feet above ground level, and provide notice in both Spanish and English that the area is restricted. The signs shall state the following:</p> <p><u>Sensitive Environmental Resources</u>  Area Restricted by Easement  Entry without express written permission from the County of San Diego is prohibited.  To report a violation or for more information about easement restrictions and exceptions contact the County of San Diego, Department of Planning &amp; Development Services  Ref. PDS2004-3300-04-004  Phone Number: (858) 694-2960</p>	Less than significant	4.1.D

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 3.4.1k</i> Removal of 0.5 acre of native grassland shall be mitigated at a 2:1 ratio through on-site preservation of 0.7 acre of native grassland, as well as on- or off-site restoration or off-site acquisition and preservation of 0.3 acre of native grassland. Removal of 29.1 acres of non-native grassland on site and 2.0 acres of non-native grassland off site shall be mitigated at a 1:1 ratio by preservation of 16.1 acres of non-native grassland on site and 15.0 acres of grassland at an off-site location or through purchase of credits at an approved conservation bank consistent with the Burrowing Owl Strategy [County 2010b].</p> <p>On-site and off-site mitigation requirements shall be met prior to commencement of habitat clearing or construction of extraction operation support facilities or extraction operations or each phase, as follows. The applicant shall: 1) purchase off-site credits from an approved conservation bank; or 2) acquire appropriate habitat within the County (consistent with the Burrowing Owl Strategy [County 2010b] for grassland habitat), dedicate the land as open space, and prepare an RMP to be approved by the County and resource agencies. An endowment for mitigation land off-site also shall be provided for management in perpetuity.</p>	Less than significant	3.1.E, 3.1.F, 4.1.A, 7.1.I
<p><i>MM 3.4.2a</i> Removal of QCB shall be mitigated by preservation of 52 locations where QCB were observed and through preservation of 304.6 acres of biological open space on site, of which 303.5 acres is considered occupied by the QCB, and that contains 304.4 acres of QCB critical habitat. Supplemental funding of the AMA will also be provided through the RMP. If the QCB is not covered under the MSCP at the time of Proposed Project approval, effects on the species shall be subject to review and approval by the USFWS as part of the Section 7 or 10(a) consultation process. Mitigation shall be implemented consistent with the conservation phasing plan.</p>	Less than significant	3.1.A, 7.1.I

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<i>MM 3.4.2b</i> Removal of CAGN habitat shall be mitigated through preservation of four pair and 218.9 acres of CAGN habitat on site, which contains 185.0 acres of CAGN critical habitat, consistent with the conservation phasing plan. Prior to Proposed Project implementation, a preconstruction survey to demonstrate CAGN absence from the development footprint shall be required pursuant to USFWS protocol if habitat clearing is to occur during the breeding season (March 15 to August 15).	Less than significant	3.1.A
<p><i>MM 3.4.2c</i> Indirect impacts to 20.6 acres of CAGN habitat (Diegan coastal sage scrub [including disturbed]) from noise shall be mitigated through the preservation of 20.6 acres of Diegan coastal sage scrub (including disturbed) on site consistent with the conservation phasing plan. Additionally, the following measures shall be required to minimize potential adverse noise effects on the habitat and CAGN.</p> <ul style="list-style-type: none"> <li>• No jaw crusher shall be operated closer than 350 feet from the closest property line or open space boundary.</li> <li>• No screen shall be operated closer than 165 feet from the closest property line or open space boundary.</li> <li>• No vertical crusher shall be operated closer than 85 feet from the closest property line or open space boundary.</li> <li>• All cone crushers used in the aggregate crushing process shall be shielded with noise controls: the barriers shall start at ground level and extend to at least a minimum of one foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the site.</li> <li>• All vertical crushers used in the aggregate crushing process shall be shielded with noise control barriers: the barriers shall extend to the ground or at least two feet below the crusher if it is an elevated unit and extend to at least a minimum of one foot higher than the direct line of sight between any portion of the shielded equipment and any suitable habitat areas to the east of the site.</li> </ul>	Less than significant	3.1.H

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<ul style="list-style-type: none"> <li>• All aggregate screens shall use synthetic screen elements (note this does not apply to recycled materials, which may utilize steel screens).</li> <li>• All sound attenuation fence/walls should be solid and constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, with no cracks or gaps, through or below the wall. (Project Note: conveyor belting is an excellent noise shielding material to allow a flexible barrier or provide lower skirts). Any seams or cracks must be filled or caulked. If wood is used, it can be tongue-and-groove and must be at least 1-inch total thickness or have a surface density of at least 3.5 pounds per square foot. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of 1-inch thick or better wood, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with prefabricated door jambs.</li> <li>• If a cone crusher is used in the Asphaltic Concrete Plant it shall be shielded with a barrier as described in above in the fourth bulleted item.</li> <li>• If a portable plant is used for occasional processing of recycled materials the unit shall only be used in the area south of the main plant. The unit shall never be positioned closer than 500 feet to the eastern or southern excavation boundary or the southern boundary of the normal equipment areas to control additional noise impacts to the east.</li> </ul>		
MM 3.4.2d Implementation of MM 3.4.1k shall mitigate removal of raptor foraging habitat	Less than significant	3.1.E, 3.1.F, 4.1.A, 7.1.I



**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 3.4.2e</i> A survey for burrowing owl shall be conducted before habitat clearing in each Proposed Project phase consistent with the Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County (County 2010b). If a burrowing owl(s) is sighted within the development footprint, the resource agencies and County shall immediately be notified to determine the appropriate steps to take. If, for example, an active burrow is present, impacts to this species may be minimized by the active or passive translocation of the owl, outside of the breeding season or once the young have fledged, to a suitable area on the Proposed Project site that supports nesting and foraging habitat. A Burrowing Owl Translocation Plan, which may include installation of a minimum of two artificial burrows for every burrow impacted, would be prepared and submitted to the resource agencies and County for review and approval in accordance with the CDFG Staff Report on Burrowing Owl Mitigation (2012).</p>	Less than significant	3.1.B, 7.1.I

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 3.4.2f</i> Impacts from potential entrapment in the development footprint and injury or death to sensitive animal species shall be mitigated as follows. This is in addition to the six foot chain link fence that the applicant would place along the outside edge of extraction areas during construction for safety and security reasons as part of the Proposed Project description.</p> <ul style="list-style-type: none"> <li>• Deterrent measures may include, but are not limited to, ensuring that the ends of all pipes and culverts are covered when they are not being used, and covering rubble piles, dirt piles, ditches, and berms that occur within the development footprint when they are not being regularly disturbed by quarry activities.</li> <li>• Where ponds or pits with water occur, they shall be fenced, or otherwise surrounded/covered to prevent wildlife access. Fencing shall be secured at the ground or buried to prevent animals digging under, and shall be wrapped around the base with a durable finer mesh material to prevent small mammal, reptile, and amphibian entry.</li> <li>• Ponds, pits, or trenches may present a trapping hazard for wildlife if they are steep-sided and/or lined with smooth-surfaced material. Potential solutions to prevent trapped wildlife shall be implemented and may include, but are not limited to, attaching textured liner material to create escape ramps, or depending on the configuration of the trapping hazard, earthen ramps, floating rafts, or ladders may be appropriate solutions.</li> </ul> <p>During the initial clearing of each phase, the biological monitor will check implementation of nuisance minimization measures and conduct regular searches for wildlife in these areas. During regular plant operation, the project proponent will be responsible for attractive nuisance minimization measures, with annual compliance checks by a biological monitor.</p>	Less than significant	3.1.B, 7.1.I
<p><i>MM 3.4.2h</i> Noise impacts to the California gnatcatcher from ongoing operations are addressed in MM 3.4.2c. Prior to each phase of vegetation clearing (Phases 1 through 2c) a preconstruction survey to demonstrate CAGN absence from the development footprint shall be required pursuant to USFWS protocol if habitat clearing is to occur during the breeding season (March 1 to August 15). A preconstruction survey to demonstrate burrowing owl and tree-nesting raptor absence from the 500-foot buffer shall be required if habitat clearing is to occur during the tree-nesting raptor breeding season (January 15 to July 15). A preconstruction survey of the 900-foot buffer shall be required if habitat clearing is to occur during the ground-nesting raptor breeding season (February 1 to July 15).</p>	Less than significant	3.1.L

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number(s)
<p><i>MM 4.4.1a</i> Mitigation for removal of 0.27 acre of cismontane alkali marsh shall occur at a 3:1 ratio (1:1 of the 3:1 shall be creation) through on- or off-site creation, restoration, and/or enhancement of 0.81 acre of cismontane alkali marsh; through purchase of 0.81 acre of credits from an approved wetland mitigation bank; or alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW prior to clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. Mitigation for removal of 0.01 acre of disturbed wetland and 0.06 acre of tamarisk scrub shall occur at a 1:1 ratio through on- or off-site creation of 0.07 acre of riparian or other wetland habitat; through purchase of 0.07 credits from an approved wetland mitigation bank; or alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW prior to clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations. Mitigation for cismontane alkali marsh, disturbed wetland, and tamarisk scrub shall occur as part of Phase 1 as follows:</p> <p>Prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for the Proposed Project, the applicant shall either: (1) purchase wetland habitat credits,(2) identify (and acquire, if necessary) appropriate habitat within the County and prepare a wetland restoration plan, or (3) identify and provide alternative mitigation acceptable to the County, USACE, RWQCB, and CDFW. Such alternative mitigation could include financial or in-kind contributions to a larger restoration or enhancement project. The wetland restoration plan would require written approval from the USACE, RWQCB, CDFW, and County. In addition, a bond shall be provided to the County prior to habitat clearing and commencement of construction of extraction operation support facilities or extraction operations to cover 120 percent of any restoration plan implementation costs. A biological open space easement shall be placed over all areas used for wetland mitigation and an endowment provided for management in perpetuity. This shall be in addition to the biological open space proposed for areas preserved on site and its associated endowment.</p>	Less than significant	4.1.A, 5.1.A
<p><i>MM 4.4.1b</i> Mitigation for removal of native grassland shall occur in accordance with MM 3.4.1k.</p>	Less than significant	4.1.A

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<i>MM 4.4.1c</i> Mitigation for direct removal of 66.7 acres of Diegan coastal sage scrub (including disturbed) shall be mitigated at a 1.5:1 ratio through preservation of 100.1 acres of Diegan coastal sage scrub (including disturbed) on site. The indirect noise impacts to 20.6 acres of Diegan coastal sage scrub (including disturbed) as a result of Proposed Project implementation shall be mitigated at a 1:1 ratio through preservation of an additional 20.6 acres of Diegan coastal sage scrub (including disturbed) on site. Required preservation of Diegan coastal sage scrub (including disturbed) shall total 120.7 acres on site prior to the clearing of habitat and commencement of the construction of extraction operation support facilities or extraction operations for each phase consistent with the conservation phasing plan.	Less than significant	4.1.A
<i>MM 4.4.1d</i> Implementation of MM 3.4.1k would mitigate for impacts to non-native grassland.	Less than significant	4.1.A



**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<p><i>MM 4.4.1e</i> The applicant shall dedicate 304.6 acres of biological open space on site for impacts resulting from the Proposed Project prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations for each phase consistent with the conservation phasing plan. The biological open space shall be managed by a conservation entity (to be approved by the County and resource agencies prior to commencement of habitat clearing and construction of extraction operation support facilities or extraction operations) that would be responsible for implementing the RMP (Appendix L). The RMP describes biological open space management. The RMP includes stewardship measures, including but not limited to, fencing and signs upkeep, trespass restriction (see MM 3.4.1j), and debris removal. The applicant shall offer evidence to the County and resource agencies that an endowment funding mechanism has been provided to the conservation entity to manage the land in perpetuity. This endowment amount shall be determined through the use of Property Analysis Record (PAR) or similar method. Funding of the RMP and endowment shall occur through the applicant funding annual RMP costs plus an additional amount that will be placed into the endowment account per phase until the endowment is fully funded. Endowment funding will be phased as follows:</p> <ul style="list-style-type: none"> <li>• Prior to initiating any work on Phase 1, 14 percent of the total endowment shall be funded.</li> <li>• Prior to Phase 2a, an additional 17 percent of the total endowment shall be funded (31 percent total).</li> <li>• Prior to Phase 2b, an additional 24 percent of the total endowment shall be funded (55 percent total).</li> <li>• Prior to Phase 2c, the Project Proponent shall fund the remainder of the endowment, which shall be calculated as follows: the total endowment amount, adjusted for inflation according to the consumer price index, minus the current value of the endowment including the first three phased payments and the investment returns to date.</li> </ul>	Less than significant	3.1.A, 3.1.B, 3.1.E, 3.1.F, 3.1.I, 4.1.A, 4.1.B, 4.1.D, 7.1.I
<p><i>MM 4.4.1e (cont.)</i> The applicant may also elect to fund the entire endowment upfront prior to initiating grading on the site consistent with the RMP (Appendix L). The Project Proponent shall continue to fund the annual management costs for the three years following full funding of the endowment. Once the endowment is fully funded and three years have elapsed, completion of all management tasks within the RMP will be funded by the endowment.</p>		

**Table 12 (cont.)  
SUMMARY OF MITIGATION MEASURES**

<b>Proposed Mitigation</b>	<b>Level of Significance After Mitigation</b>	<b>Guideline Number(s)</b>
<i>MM 4.4.1f</i> The Proposed Project description includes revegetation of slopes following project completion (MM 3.4.1g) and restoration of slopes adjacent to proposed open space with a native plant biological buffer to help prevent the spread of any invasive plant species into open space (MM 3.4.1i). Implementation of MM 3.4.1f through 3.4.1j would also mitigate for impacts from invasive plant species.	Less than significant	3.1.H, 4.1.D
<i>MM 4.4.2a</i> Fill of USACE jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Fill of 0.16 acre of USACE jurisdictional non-vegetated Waters of the U.S. shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and USACE prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations.	Less than significant	4.1.B, 5.1.A
<i>MM 4.4.2b</i> Removal of CDFW jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Removal of 0.19 acre of CDFW jurisdictional streambed and pond shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and CDFW prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations.	Less than significant	4.1.B
<i>MM 4.4.2c</i> Removal of RWQCB jurisdictional cismontane alkali marsh, tamarisk scrub, and disturbed wetland shall be mitigated as described in MM 4.4.1a. Removal of RWQCB jurisdictional streambed, pond, and intermittent pond shall be mitigated at a 1:1 ratio or alternative mitigation acceptable to the County and RWQCB prior to the clearing of habitat and commencement of construction of extraction operation support facilities or extraction operations (Table 11).	Less than significant	4.1.B
<i>MM 7.4.1</i> Mitigation for removal of narrow endemic plant and animal species shall occur through implementation of MM 3.4.1a, 3.4.1b, 3.4.1k, 3.4.2a, 3.4.2e, and 3.4.2f.	Less than significant	7.1.I
<i>MM 7.4.2</i> In order to ensure compliance with the FGC, clearing of native vegetation shall occur outside of the breeding season of most avian species (February 1 through September 15). Clearing during the breeding season of FGC-protected species could occur if it is determined that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to clearing based on a pre-construction survey conducted three days prior to clearing or grading activities. See MM 3.4.2-b for conditions related to the CAGN.	Less than significant	7.1.K

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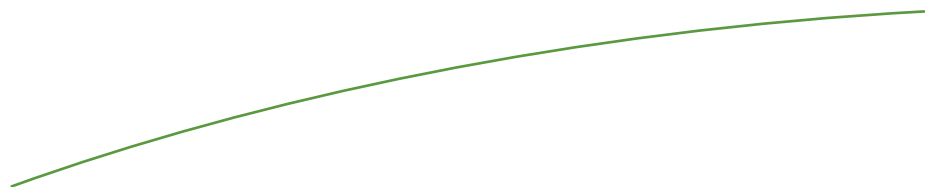


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## Appendix A-1

# SURVEY INFORMATION



**Appendix A-1**  
**SURVEY INFORMATION - OTAY HILLS**

<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2000 Surveys</b>			
March 23	S. Trnka P. Allen	N/A	Vegetation mapping, general botanical/ zoological surveys; Quino checkerspot butterfly (QCB) habitat assessment
March 31	S. Trnka	0830-1500; Clear, 62°F, wind 1-3 mph/ Clear, 74°F, wind 4-9 mph	QCB survey
April 1	S. Trnka	0800-1440; Clear, 62°F, wind <1 mph/ Clear, 79°F, wind 4-9 mph	
April 2	S. Taylor	0900-1620; Clear, 72°F, wind 0-7 mph/ Clear, 78°F, wind 5-10 mph	
April 3	S. Trnka	1115-1700; Clear, 75°F, wind 1-3 mph/ Clear, 76°F, wind 3-7 mph	
April 7	S. Trnka S. Taylor	0920-1600; Hazy, 72°F, wind 0-7 mph/ Partly cloudy (but sunny), 74°F, wind 5-9 mph	
April 9	S. Trnka	1030-1700; Clear (hazy), 76°F, wind 1-3 mph/ Clear, 73°F, wind 4-7 mph	
April 10	S. Trnka	0830-1535; Clear (hazy until 1000), 61°F, wind <1 mph/Clear, 74°F, wind 1-5 mph	
April 11	S. Trnka	1530-1745; Clear, 82°F, wind to 7 mph/ Clear-hazy, 76°F, wind to 7 mph	
April 14	S. Trnka	0930-1015; Partly cloudy, 66°F, wind to 10 mph/Partly cloudy, 63°F, wind 4-7 mph	
April 16	S. Trnka	0930-1625; Clear with scattered clouds, 71°F, wind 0-3 mph/Clear, 72°F, wind 2-9 mph	
April 17	S. Trnka S. Taylor	1010-1310; Partly cloudy, 75°F, wind 2-7 mph/ Overcast and cloudy, 73°F, wind >15 mph	
April 18	S. Trnka S. Taylor	1400-1630; Partly cloudy, 71°F, wind 3-5 mph/Cloudy, 67°F, wind 5->15 mph	
April 19	S. Trnka	0915-1350 and 1420-1715; Clear, 61°F, wind 4-7 mph/Clear, 72°F, wind 4-9 mph	
April 20	S. Taylor	1420-1550; Clear, 86°F, wind 4-10 mph/ Clear, 86°F, wind 4-7 mph	
April 21	S. Trnka	1220-1540; Cloudy, 71°F, wind 4-9 mph/ Overcast and cloudy, 72°F, wind 7-12 mph	
April 23	S. Trnka	1040-1750; Partly cloudy, 72°F, wind 0-3 mph/Clear, 70°F, wind 1-3 mph	
April 24	S. Trnka S. Taylor	1020-1705; Clear, 70°F, wind 4-7 mph/ Clear, 74°F, wind 4-7 mph	

<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2000 Surveys (cont.)</b>			
April 25	S. Trnka	1030-1700; Clear-hazy, 73°F, wind 4-7 mph/ Clear-hazy, 75°F, wind 4-9 mph	QCB survey
April 29	S. Trnka	0930-1630; Clear and sunny, 64°F, wind 4-8 mph/Clear, 72°F, wind 4-7 mph	
May 1	S. Trnka	1100-1600; Clear, 88°F, wind 3-6 mph/ Clear, 89°F, wind 6-9 mph	
May 2	S. Trnka S. Taylor	1030-1545; Clear, 86°F, wind 0-3 mph/ Clear, 89°F, wind 5-9 mph	
May 18	L. Sward S. Trnka D. Langsford A. Mattson†	N/A	Rare plant survey
May 22	L. Sward S. Trnka D. Langsford A. Mattson	N/A	
June 13	D. Leonard‡ P. Allen	0600-1200; Foggy to clear, 59-80°F, wind 0-5 mph	Coastal California gnatcatcher (CAGN) Survey 1, Part 1
June 14	S. Taylor	0600-1200; Overcast to clear, 63-75°F, wind 0-5 mph	CAGN Survey 1, Part 2
June 21	S. Taylor D. Leonard P. Allen	0600-1200; Clear, 62-80°F, wind 0-5 mph	CAGN Survey 2
June 28	S. Taylor D. Leonard P. Allen	0600-1200; Foggy to clear, 63-84°F, wind 0-8 mph	CAGN Survey 3
<b>Year 2001 Surveys</b>			
January 23	C. Holland D. Griffin	0900; Mostly sunny, 58°F, wind <5 mph	Fairy shrimp survey
February 7	D. Griffin B. Hendricks L. Quon	0830; Partly cloudy, 50°F, wind <5 mph	
February 8	L. Quon	0830; Sunny, 48°F, wind <5 mph	
February 26	D. Griffin E. LaCoste	1130; Cloudy, 68°F, wind <5 mph	
March 1	E. LaCoste K. Osborne	1230-1500; Clear with cloud patches, 60-62°F, wind 5-12 mph	QCB survey
	J. Powell D. Powell	1245-1700; Patchy, 63-67°F, wind 1-9 mph	

<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2001 Surveys (cont.)</b>			
March 2	C. Holland D. Griffin	0900; Partly cloudy, 60°F, wind <5 mph	Fairy shrimp survey
	S. Trnka D. Langsford	Cloudy, under 60°F	QCB habitat assessment
	J. Powell D. Powell	0930-1700; Patchy-overcast, 61-72°F, wind 0-8 mph	QCB survey
	K. Osborne B. Hendricks	1030-1200 and 1300-1330; Clear to mostly cloudy, 58-62°F, wind 0-5 mph	
March 3	J. Powell D. Powell	1515-1700; Patchy, 62-67°F, wind 2-5 mph	
March 5	B. Hendricks B. Drake	1045-1346 and 1359-1600; Clear to partly cloudy, 65-73°F, wind 2-17 mph	
March 7	B. Drake E. LaCoste	0856-1020 and 1237-1345; Patchy to mostly cloudy, wind 0-8 mph	
March 12	V. Marquez B. Drake	0935-1520; Clear to mostly cloudy, 61-72°F, wind 2-6 mph	
	B. Hendricks K. Osborne	0930-1400; Clear to mostly cloudy, 63-76°F, wind 1-10 mph	
March 13	J. Powell D. Powell	0950-1610; Clear, 64-69°F, wind 0-8 mph	
March 14	D. Griffin M. McGrath P. Moreno	1015; Partly cloudy, 65°F, wind <5 mph	Fairy shrimp survey
	E. LaCoste B. Drake	0920-1220 and 1232-1336; Clear to patchy clouds, 65-72°F, wind 2-7 mph	QCB survey
	J. Powell D. Powell	0915-1600; Clear, 60-72°F, wind 0-7 mph	
March 15	S. Trnka T. Grantham	1045-1335; Partly cloudy to overcast, mid 60°F, wind 2-7 mph	
	E. LaCoste B. Drake	0925-1425; Patchy to partly cloudy, 64-74°F, wind 2-9 mph	
March 19	K. Osborne B. Hendricks B. Drake	0915-1350; Clear to partly cloudy, 73-84°F, wind 0-7 mph	
	J. Powell D. Powell	0930-1600; Clear, 76-86°F, wind 0-9 mph	
March 20	J. Powell D. Powell	0920-1600; Clear to partly cloudy, 73-83°F, wind 0-6 mph	
	B. Drake V. Marquez B. Hendricks	0928-1200; Partly cloudy, 75-84°F, wind 1-6 mph	



<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2001 Surveys (cont.)</b>			
March 21	E. LaCoste B. Drake	0937-1238 and 1324-1508; Partly to mostly cloudy, 70-84°F, wind 0-9 mph	QCB survey
March 26	B. Hendricks B. Drake	0915-1538; Mostly cloudy, 71-78°F, wind 1-9 mph	
March 27	S. Trnka T. Grantham A. Mattson	1130-1700; Clear and sunny, mid 70°F, wind 0-5 mph	
	J. Powell D. Powell	1000-1600; Clear to mostly cloudy, 66-74°F, wind 1-9 mph	
	B. Drake K. Osborne V. Marquez	0952-1604; Clear to partly cloudy, 64-72°F, wind 0-7 mph	
March 28	B. Drake V. Marquez E. LaCoste	1405-1645; Partly to mostly cloudy, 69-75°F, wind 0-10 mph	
	J. Powell D. Powell	0930-1600; Slightly overcast, 64-74°F, wind 0-10 mph	
March 29	E. LaCoste K. Osborne B. Drake	0940-1200; Overcast, 67-73°F, wind 0-3 mph	
March 31	S. Trnka T. Grantham A. Mattson	1030-not noted; Clear and sunny, low 70°F, wind 2-10 mph	
April 2	B. Drake B. Hendricks K. Osborne	1339-1540; Mostly cloudy, 62-73°F, wind 2-8 mph	
April 3	D. Waller V. Marquez	1050-1335; Mostly cloudy, 61-65°F, wind 2-7 mph	
April 4	B. Hendricks	1500-1600; Partly cloudy, 70°F, wind 3-6 mph	
	B. Drake B. Hendricks E. LaCoste	1035-1637; Partly cloudy, 65-81°F, wind 1-9 mph	
April 5	B. Drake E. LaCoste	1100-1330; Overcast-mostly cloudy, 66-68°F, wind 3-9 mph	
April 12	J. Messina	N/A	Vegetation mapping, general botanical, and rare plant surveys
	D. Griffin	1015; Partly cloudy, 60°F, wind <5 mph	Fairy shrimp survey

<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2001 Surveys (cont.)</b>			
April 13	J. Messina	N/A	Vegetation mapping, general botanical, and rare plant surveys
	S. Trnka T. Grantham A. Mattson	1400-1630; Clear and sunny, low 70°F, wind 0-7 mph	QCB survey
	B. Drake J. Powell D. Powell	1429-1700; Clear, 70-73°F, wind 2-8 mph	
April 14	J. Powell D. Powell B. Drake	1005-1206 and 1228-1700; Clear, 62-74°F, wind 0-8 mph	
April 15	J. Powell D. Powell	1654-1800; Clear, 65-69°F, wind 3-6 mph	
April 20	J. Messina R. Roberts	N/A	Vegetation mapping, general botanical, and rare plant surveys
April 27	J. Messina R. Roberts	N/A	
May 2	J. Messina R. Roberts K. Derby	N/A	
May 3	J. Messina R. Roberts D. Griffin	0900; Sunny and clear, 67°F, wind <5 mph	Vegetation mapping, general botanical, rare plant surveys, and fairy shrimp surveys
May 4	J. Messina R. Roberts	N/A	Vegetation mapping, general botanical, and rare plant surveys
May 15	J. Messina R. Roberts M. Doalson	N/A	
May 16	J. Messina R. Roberts M. Doalson	N/A	
	D. Griffin E. LaCoste	0900; Partly cloudy, 67°F, wind <5 mph	Fairy shrimp surveys
May 18	S. Trnka	N/A	Rare plant survey
	J. Messina R. Roberts M. Doalson	N/A	Vegetation mapping, general botanical, and rare plant surveys

<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2001 Surveys (cont.)</b>			
May 22	L. Sward S. Trnka F. Sproul	N/A	Rare plant survey
May 24	J. Messina M. Doalson	N/A	Vegetation mapping, general botanical, and rare plant surveys
	L. Sward	N/A	Rare plant survey
May 25	J. Messina M. Doalson	N/A	
May 28	L. Sward S. Trnka J. Fischbeck	N/A	
June 6	J. Messina	N/A	
June 7	J. Messina	N/A	
June 8	J. Messina M. Doalson	N/A	
June 12	J. Messina	N/A	
June 13	J. Messina M. Doalson	N/A	CAGN Survey 1, Section A
	E. LaCoste D. Griffin C. Holland D. Bise L. Quon	0630-1150; Cloudy, 65-72°F, wind 1-4 mph	
June 14	J. Messina	N/A	Rare plant survey
	E. LaCoste D. Griffin D. Bise	0610-0940; Sunny and clear, 60-72°F, wind 0-7 mph	CAGN Survey 1, Section B
June 20	E. LaCoste D. Griffin C. Holland D. Bise	0630-1155; Mostly clear, 59-82°F, wind 1-7 mph	CAGN Survey 2, Section A
June 21	E. LaCoste D. Griffin C. Holland	0630-1130; Mostly clear to sunny, 65-82°F, wind 1-7 mph	CAGN Survey 2, Section B
June 27	D. Griffin C. Holland D. Bise	0600-1200; Mostly clear to sunny, 60-72°F, wind 3-10 mph	CAGN Survey 3, Section A
June 28	J. Messina R. Roberts	N/A	Rare plant survey

Appendix A-1 (cont.) SURVEY INFORMATION			
SURVEY DATE	PERSONNEL	TIMES AND WEATHER CONDITIONS (start/stop)	PURPOSE
Year 2001 Surveys (cont.)			
June 29	E. LaCoste C. Holland D. Bise	0650-1145; Mostly clear to sunny, 60-78°F, wind 0-7 mph	CAGN Survey 3, Section B
July 10	D. Griffin C. Holland M. McGrath E. LaCoste	N/A	Burrowing owl survey
July 12	C. Holland E. LaCoste	N/A	
Year 2002 Surveys			
March 8	S. Trnka R. Ditrick	1245-1430; Sunny and clear, 65-67°F, wind 0-8 mph	QCB habitat assessment
March 16	S. Trnka R. Ditrick	1015-1045; Drizzle, 54°F, wind 12-15 mph – survey cancelled	QCB survey
March 19	S. Trnka	1145-1505; Sunny and clear, 64-66°F, wind 5-10 mph	
March 22	S. Trnka R. Ditrick	1225-1415; Sunny with scattered clouds, 65-68°F, wind 2-10 mph	
March 30	S. Trnka A. Mattson	1345-1530; Sunny and hazy, 64-67°F, wind 8-12 mph	
April 4	S. Trnka R. Ditrick	1335-1525; Sunny and clear, 66-67°F, wind 7-12 mph	
Year 2003 Surveys			
April 10	S. Trnka R. Ditrick A. Mattson	N/A	QCB survey
February 17	G. Mason	1030-1400; Partly cloudy, 72°F, wind gusty 0-5 mph	
February 21	G. Mason	1130-1500; Sunny and clear, 74-83°F, wind 0-5 mph	
March 5	G. Mason	1310-1630; Clear and sunny, 71-72°F, wind 3-5 mph	
March 8	G. Mason P. McNicholas	1340-1545; Clear, 70-72°F, wind 2-7 mph	
March 14	P. McNicholas	1330-1630; Clear, 68-70°F, wind 0-3 mph	

Appendix A-1 (cont.) SURVEY INFORMATION			
SURVEY DATE	PERSONNEL	TIMES AND WEATHER CONDITIONS (start/stop)	PURPOSE
Year 2003 Surveys (cont.)			
March 20	P. McNicholas	1300-1600; Partly cloudy, 68-75°F, wind 2-5 mph	QCB survey
March 27	P. McNicholas	1130-1430; Partly cloudy, 75-81°F, wind 0-5 mph	
April 7	G. Mason P. McNicholas A. Mattson	1115-1415; Clear, 78-86°F, wind 4-7 mph	
April 9	R. Ditrick P. McNicholas	1015-1315; Clear, 78- 86°F, wind 0-5 mph	
April 24	P. McNicholas	1145-1500; Sparse clouds, 80-82°F, wind 0-5 mph	
April 26	P. McNicholas	1130-1430; Clear, 80- 84°F, wind 2-10 mph	
April 29	P. McNicholas	1230-1515; Clear to partly cloudy, 74-79°F, wind 4-8 mph	
Year 2004 Surveys			
May 24	S. Trnka B. Parker F. Sproul	1000-1720; N/A	Rare plant survey
May 25	S. Trnka B. Parker F. Sproul	0930-1635; Clear; 60°F, wind 0-2 mph	
May 26	L. Sward D. Ritenour	N/A	Wetland delineation
June 8	B. Parker D. Ritenour F. Sproul	N/A	Rare plant survey
July 15	L. Sward	N/A	Wetland delineation
Year 2008 Surveys			
March 19	D. Allen R. Hogenhauer A. Mattson S. Nigro B. Parker K. Pettigrew D. Ritenour S. Trnka A. Varner J. Watts	1045-1600; Clear to partly cloudy, 68-74°F, wind 0-7 mph	QCB survey



Appendix A-1 (cont.) SURVEY INFORMATION			
SURVEY DATE	PERSONNEL	TIMES AND WEATHER CONDITIONS (start/stop)	PURPOSE
Year 2008 Surveys (cont.)			
March 21	D. Allen R. Hogenhauer J. Kurnow A. Mattson K. Pettigrew S. Trnka	1045-1700; Clear to partly cloudy, 72-84°F, wind 0-8 mph	QCB survey
March 26	D. Allen R. Hogenhauer B. Parker D. Ritenour	1030-1620; Clear, 73-80°F, wind 1-12 mph	
March 27	D. Allen R. Hogenhauer A. Mattson S. Nigro B. Parker D. Ritenour S. Trnka A. Varner	0955-1500; Partly cloudy to clear, 62-82°F, wind 0-7 mph	
April 3	R. Hogenhauer A. Mattson B. Parker D. Ritenour S. Trnka A. Varner J. Watts	1130-1230; Cloudy, 68-68°F, wind 4-7 mph	
April 4	A. Mattson S. Nigro B. Parker D. Ritenour S. Trnka A. Varner J. Watts	1420-1630; Clear, 70-67°F, wind 0-7 mph	
April 7	A. Mattson B. Parker D. Ritenour S. Trnka	1230-1645; Partly cloudy, 65-65°F, wind 2-10 mph	
April 11	R. Hogenhauer D. Ritenour A. Varner	1000-1525; Clear, 78-90°F, wind 1-12 mph	
April 14	A. Mattson B. Parker D. Ritenour S. Trnka	1000-1205; Clear, 84-85°F, wind 0-4 mph	
Year 2010 Surveys			
January 18	L. Sward	N/A	Wetland delineation

<b>Appendix A-1 (cont.)</b> <b>SURVEY INFORMATION</b>			
<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
<b>Year 2011 Surveys</b>			
April 14	D. Leonard E. LaCoste	0730-1200; Clear, 55-70°F, wind 0-8 mph	CAGN Survey 1, Section A
April 15	D. Leonard E. LaCoste	0730-1200; Clear, 59-79 °F, wind 0-5 mph	CAGN Survey 1, Section B
April 25	L. Sward S. Trnka G. Aldridge C. Brungraber	N/A	Rare Plant Survey
April 26	A. Mattson S. Trnka G. Aldridge C. Brungraber	N/A	Rare Plant Survey
April 26	D. Leonard E. LaCoste	0800-1200; Overcast/Clear, 62-74°F, wind 0-4 mph	CAGN Survey 2, Section A
April 27	D. Leonard E. LaCoste	0800-1200; Clear, 64-82°F, wind 0-4 mph	CAGN Survey 2, Section B
May 5	D. Leonard E. LaCoste	0800-1200; Clear, 67-78°F, wind 0-10 mph	CAGN Survey 3, Section A
May 6	D. Leonard E. LaCoste	0800-1200; Overcast/Clear; 60-74 °F, wind 0-4 mph	CAGN Survey 3, Section B
June 13	L. Sward S. Trnka	N/A	Rare Plant Survey
<b>Year 2012 Surveys</b>			
January 9	E. Harris T. Baxter	0620-0850; 0% cloud cover, 54-67°F, wind 0-1 mph	Burrowing owl survey
January 16	E. Harris T. Baxter	1506-1715; 100% cloud cover, 53-58°F, wind 2-4 mph	Burrowing owl survey
January 23	E. Harris T. Baxter	0615-0905; 99-100% cloud cover, 50-59°F, wind 1-3 mph	Burrowing owl survey
January 30	G. Aldridge T. Baxter	1505-1720; 30-100% cloud cover, 58-66°F, wind 0-7mph	Burrowing owl survey
<b>Year 2016 Surveys</b>			
February 12	E. Harris	1230-1500; 0% cloud cover, 78-79°F, wind 0-1 mph	QCB host plant mapping
February 12	J. Bakker T. Rachels	0850-1500; 0% cloud cover, 65-79°F, wind 0-1 mph	QCB host plant mapping
February 22	J. Bakker E. Harris R. Hogenauer T. Rachels	0920-1320; 0% cloud cover, 67-75°F, wind 0-5 mph	QCB host plant mapping
February 29	J. Bakker E. Harris R. Hogenauer T. Rachels	0925-1450; 0-10% cloud cover, 60-67°F, wind 0-7 mph	QCB host plant mapping
March 1	E. Harris R. Hogenauer	0730-1340; 0-20% cloud cover, 60-76°F, wind 0-6 mph	QCB survey

**Appendix A-1 (cont.)**  
**SURVEY INFORMATION**

<b>SURVEY DATE</b>	<b>PERSONNEL</b>	<b>TIMES AND WEATHER CONDITIONS (start/stop)</b>	<b>PURPOSE</b>
March 2	J. Bakker A. Mattson	0925-1335; 5-10% cloud cover, 74-76°F, wind 0-3 mph	QCB survey
March 10	J. Bakker R. Hogenauer A. Mattson	0935-1510; 35-45% cloud cover, 68-71°F, wind 0-8 mph	QCB survey
March 18	J. Bakker	0935-1510; 0% cloud cover, 70-75°F, wind 0-5 mph	QCB survey
	A. Mattson	1030-1530; 0% cloud cover, 70-75°F, wind 0-7 mph	QCB survey
	S. Trnka	1030-1530; 0-5% cloud cover, 70-75°F, wind 0-10 mph	QCB survey
March 23	J. Bakker R. Hogenauer A. Mattson	0855-1445; 0% cloud cover, 64-77°F, wind 0-8 mph	QCB survey



## Appendix A-2

# LIKELY LIMITS OF OCCURRENCE ANALYSIS



# Memorandum

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**To:** Arnie Veldkamp, Superior Ready Mix

**Date:** 14 January 2016

**From:** W. Larry Sward and Barry Jones

**Subject:** Likely Limits of Occurrence for 3 Plant Species at the Otay Hills Quarry

## Message:

This memo presents our analysis of the Likely Limits of Occurrence for 3 sensitive plant species at your proposed Otay Hills Quarry. The species analyzed were determined by the County of San Diego based on their status as Narrow Endemic Species in their Multiple Species Conservation Program. The species analyzed include Otay tarplant (*Deinandra conjugens*), variegated dudleya (*Dudleya variegata*), and San Diego goldenstar (*Bloomeria [Muilla] clevelandii*).

The Likely Limits of Occurrence (LLO) for these species was determined by comparing the on-site distribution with slope orientation and vegetation type. Slope orientation was broken down into 4 types: north, south, east, and west, based on compass bearings (Table 1). North and south compass bearings were expanded to include northeast and northwest with north, and southeast and southwest with south. When the distribution of these species was plotted on a map with slope orientation many of the San Diego goldenstar and variegated dudleya were located on slopes with a northern orientation. Otay tarplant was closely linked with a southern orientation.

Table 1. Slope Orientation	
Compass Heading	Degrees
North	0° to 67.5° & 292.5° to 360°
South	112.5° to 247.5°
East	67.5° to 112.5°
West	247.5° to 292.5°

Concurrence for where these species occur on-site was improved when the habitats they were observed in was added to the analysis. The concurrence predictability, expressed as a percent



# Memorandum (cont.)

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of the individuals when analyzing for these factors ranged from 94 percent to over 99 percent, depending on the species (Figures 1, 2 and 3; Table 2).

Table 2. Occurrence Analysis			
Species	Likely Limits of Occurrence Parameters		Predictability (%) <sup>1</sup>
	Slope Orientation	Vegetation Type	
Otay tarplant	South	Non-native grassland	94
Variegated dudleya	North	Diegan Coastal Sage Scrub	99+
San Diego goldenstar	North	Diegan Coastal Sage Scrub, southern mixed chaparral, & southern interior cypress forest	95

<sup>1</sup> Based on the number of individuals within the LLO vs. the total individuals occurrences on-site, this is the percentage of the individuals in the LLO.

The LLO from this analysis provides the total area expected, impacted and preserved on-site for each species (Table 3). The impacts to the LLO for these species ranges from 16.69 acres for Otay tarplant to 13.27 acres for variegated dudleya and San Diego goldenstar. The corresponding preservation for these species is 6.58 acres (28 percent) for the tarplant, 48.90 acres (79 percent) for the dudleya, and 72.27 acres (84 percent) for the goldenstar.

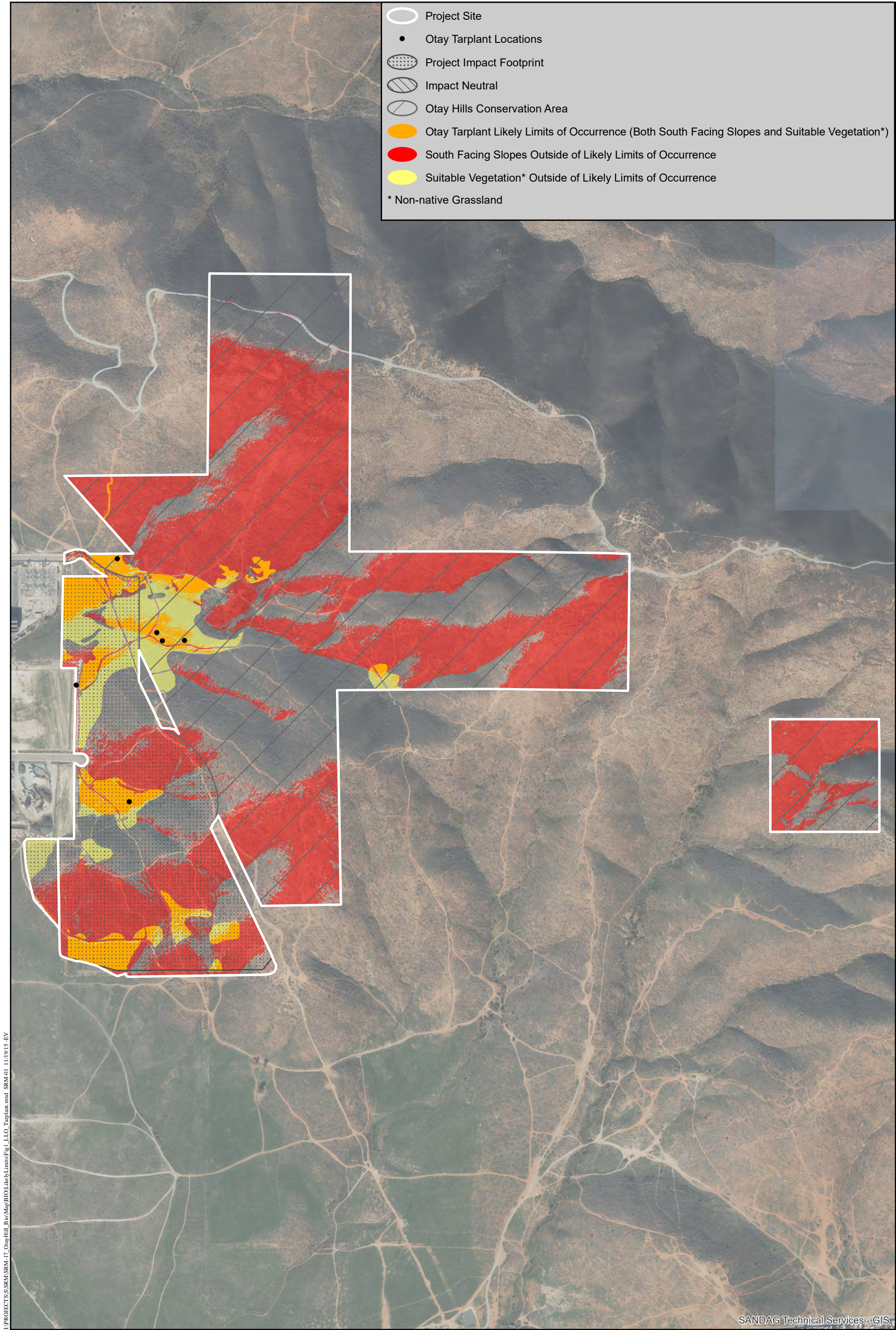
Table 3. Likely Limits of Occurrence Analysis (acres/%)			
Species	Existing	Impacted <sup>1</sup>	Preserved <sup>2</sup>
Otay tarplant	23.27	16.69	6.58
Variegated dudleya	62.17	13.27	48.90
San Diego goldenstar	85.54	13.27	72.27

<sup>1</sup> Includes off-site impacts.

<sup>2</sup> Includes impact neutral areas.

Attachments: Figures 1 through 3

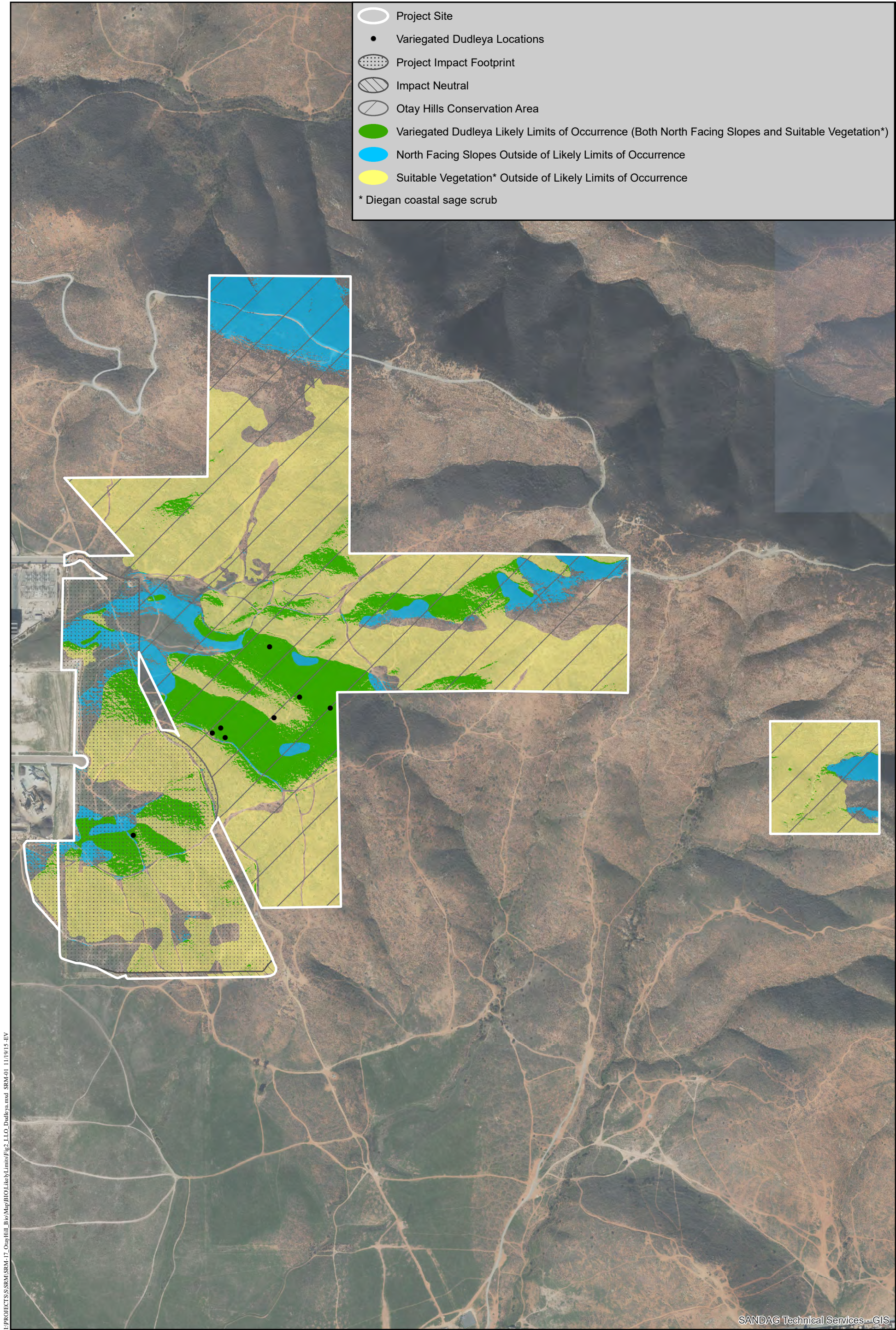




**Otay Tarplant (*Deinandra conjugens*) Likely Limits of Occurrence**

MULTIPLE SPECIES CONSERVATION PLAN MAJOR AMENDMENT FOR OTAY HILLS





**Variegated Dudleya (*Dudleya variegata*) Likely Limits of Occurrence**

MULTIPLE SPECIES CONSERVATION PLAN MAJOR AMENDMENT FOR OTAY HILLS



