HARMONY GROVE VILLAGE SOUTH

APPENDIX E

BIOLOGICAL TECHNICAL REPORT

for the

FINAL ENVIRONMENTAL IMPACT REPORT

PDS2015-GPA-15-002
PDS2015-SP-15-002
PDS-REZ-15-003
PDS2018-TM-5626
PDS2015-MUP-15-008
Log No.: PDS2015-ER-15-08-006

JULY 2018

Prepared for:
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FINAL BIOLOGICAL RESOURCES TECHNICAL REPORT
INFORMATION FOR THE READER

This document is the Final Biological Resources Technical Report for the proposed Harmony Grove Village South Project ("Project" or "Proposed Project"). The April 2017 Public Review Draft Biological Resources Technical Report focused on studies completed between 2014 and 2017, adequate to make CEQA findings regarding biological resources impacts associated with the Proposed Project.

Following the 2016/2017 rainy season that ended a drought cycle and to take advantage of optimal environmental conditions, HELIX completed updated botanical inventory and rare plants surveys on May 19 and June 2, 16, and 30, 2017. The May and June 2017 updated rare plant surveys supplemented the previous rare plant surveys completed in April, August, and November 2014, and March and April 2017. On the same days as the May and June 2017 updated rare plant surveys, HELIX completed updated protocol-level surveys for the Hermes copper butterfly (*Lycaena hermes*). The May 19 and June 2, 16, and 30, 2017 updated Hermes surveys supplemented the previous Hermes surveys completed in May, June, and July 2014.

The updated 2017 surveys reconfirmed the findings of previous surveys documented in the April 2017 Public Review Draft Biological Resources Technical Report. The updated survey information has been added to the following sections of the report: Executive Summary on pages ES-1 and ES-2; Section 1.3.2 on page 3; Table 1 on page 4; Section 1.3.3 on pages 5 and 6; Section 1.3.5 on page 8; Section 1.4.6 on page 15; Section 1.4.7 on page 15; Section 1.4.10 on page 21; Section 3.2 on page 67; Appendix A Plant Species Observed; and Appendix B Animal Species Observed or Detected.

In addition to the substantive changes enumerated above, some editorial or clarifying changes also were made.

As noted, the updated 2017 survey results are consistent with those made in the circulated document. No changes were identified to less-than-significant, or significant, impact assessments based on these surveys. The focused changes resulted in confirmation of CEQA significance conclusions reached in the Draft EIR. The additional information provides clarification and additional documentation, but does not result in any significant new information requiring recirculation.

HELIX Environmental Planning

Harmony Grove Village South Project

Biological Technical Report

PDS2015-GPA-15-002; PDS2015-SP-15-002
PDS2018-TM-5626; PDS2015-REZ-15-003
PDS2015-MUP-15-008; PDS2015-ER-15-08-006

October 2017

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Harmony Grove Village South Project

Biological Technical Report

PDS2015-GPA-15-002; PDS2015-SP-15-002
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October 2017

Harmony Grove Village South Project
Biological Technical Report

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EXECUTIVE SUMMARY

At the request of RCS Harmony Partners, LLC (Project Proponent), HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the Harmony Grove Village South Project (Project), which is proposed in the unincorporated community of Harmony Grove in San Diego County, California. The Project would generally consist of a residential community with 453 single- and multi-family dwelling units in five neighborhoods, park and recreational uses, open space, a potential on-site wastewater reclamation facility, and related roadway and utility infrastructure improvements within Assessor Parcel Numbers (APNs) 235-011-06-00, 238-021-08-00, 238-021-09-00, and 238-021-10-00. The Project would occur within an approximately 111-acre area, referred to herein as the Project site. Off-site roadway improvements to Country Club Drive are also anticipated, consisting of the addition of a third lane to the segment south of Harmony Grove Road; potential replacement of the Arizona crossing over Escondido Creek with a new bridge, also currently under consideration by the County; and installation of utility lines in paved roadways. The off-site improvements would occur within an approximately 5.0-acre area.

In preparing the biological resources technical study for the Project, HELIX established a 143-acre study area encompassing the 111-acre Project site and approximately 32 acres of off-site areas within 100 feet of the site, including the off-site improvement areas. The purpose of this report is to document the existing biological conditions within the study area and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA) by the County of San Diego (County) Planning & Development Services (PDS).

HELIX conducted general biological surveys, jurisdictional delineations, rare plant surveys, and protocol-level surveys for the Hermes copper butterfly (*Lycaena hermes*), burrowing owl (*Athene cunicularia*), coastal California gnatcatcher (*Polioptila californica californica*), and least Bell's vireo (*Vireo bellii pusillus*) during the period of April to November 2014. In total, 25 surveys were completed in 2014. Additional surveys were performed in September 2015 to verify existing conditions in a general biological survey; January 2016 to obtain additional data on vegetation and jurisdictional waters and wetlands; and March through June 2017 to verify existing conditions and habitat suitability for sensitive species, complete updated rare plant surveys and obtain an updated botanical inventory, and conduct updated Hermes copper butterfly surveys. The study area supports 11 vegetation communities/habitat types: non-native vegetation, disturbed habitat, urban/developed, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral transition, southern mixed chaparral, non-native grassland, southern [willow] riparian scrub, mule fat scrub, coast live oak woodland, and eucalyptus woodland. Sensitive natural communities requiring compensatory mitigation for impacts include Diegan coastal sage scrub, coastal sage-chaparral transition, southern mixed chaparral, non-native grassland, southern riparian scrub, mule fat scrub, and coast live oak woodland.

Five special status plant species were observed within the study area during 2014 rare plant surveys: ashy spike-moss (*Selaginella cinerascens*), San Diego sagewort (*Artemisia palmeri*), southwestern spiny rush (*Juncus acutus* var. *leopoldii*), summer holly (*Comarostaphylis*

diversifolia ssp. *diversifolia*), and wart-stemmed ceanothus (*Ceanothus verrucosus*). No additional rare plant species were observed during any of the other 2015, 2016, or 2017 surveys. The southern portion of the study area supports a substantial population of wart-stemmed ceanothus, consisting of an estimated 20,000 individuals. In addition, the study area supports five individual coast live oak (*Quercus agrifolia*) trees that are not associated with areas mapped as oak woodland habitat.

Thirteen special status animal species were observed within the study area during the 2014 and 2016 surveys: American peregrine falcon (*Falco peregrinus anatum*), barn owl (*Tyto alba*), coastal California gnatcatcher, great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), least Bell's vireo, northern harrier (*Circus cyaneus*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), western bluebird (*Sialia mexicana*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*). Of these, four species were determined to use the study area for breeding and/or roosting: barn owl, coastal California gnatcatcher, yellow warbler, and yellow-breasted chat. The remaining eight species were observed on occasion flying over, foraging, and/or perching within various portions of the study area during 2014 and 2016 surveys. No additional special-status animal species were observed during any of the 2014, 2015, 2016, or 2017 surveys.

The study area supports a reach of Escondido Creek, where an existing low-water crossing occurs for Country Club Drive, in addition to several unnamed ephemeral drainage features that are tributary to Escondido Creek. These features would qualify as wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA; riparian-vegetated and unvegetated streambed subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 *et seq*. of California Fish and Game Code (CFG Code); and wetlands subject to the regulatory jurisdiction of the County pursuant to the Resource Protection Ordinance (RPO).

The study area occurs within the boundaries of the Draft Multiple Species Conservation Program (MSCP) North County Plan (Draft North County Plan), which has not yet been approved or adopted. Within the Draft North County Plan, the study area occurs within lands identified as Pre-Approved Mitigation Area (PAMA) and supporting habitat values of Low to Very High on the Habitat Evaluation Model. The Del Dios Highlands Preserve abuts the study area to the south. Expansive open space continues beyond the Del Dios Preserve into the Elfin Forest Recreational Reserve and other undeveloped lands to the south, east and west as part of a large, regional core area. The majority of the study area is characterized by non-native grassland and chaparral. Scrub and chaparral habitat in the southern and southeastern portions of the study area are contiguous with off-site habitat associated with this core area.

Potential significant impacts were identified for special-status species, sensitive natural communities, jurisdictional waters and wetlands, and wildlife corridors and linkages. Following County Guidelines, a total of 77.9 acres of on-site impacts would occur either by direct physical removal of the habitat or by habitat fragmenting, isolating, and degradation. An additional

0.1 acre on site would be considered impact neutral due to location within an existing easement that would remain in place. Approximately 34.8 acres (31 percent) would be placed in biological open space which would protect the resources in perpetuity, including recordation of a biological open space easement, preparation of an Resource Management Plan (RMP) approved by the County and Wildlife Agencies (U.S. Fish and Wildlife Service [USFWS] and CDFW, collectively), and long-term management by a qualified entity approved by the County and Wildlife Agencies. The proposed Project would also restore and create an additional 1.8 acres of Diegan coastal sage scrub within the biological open space, which would help minimize the overall impact on the habitat. Approximately 4.6 acres of off-site impacts would occur, a portion of which would include a new bridge over Escondido Creek, thereby enhancing hydrologic and biological conditions, including wildlife movement functions. Mitigation measures are proposed to fully mitigate potential significant impacts on special status species, sensitive vegetation communities/habitats, jurisdictional waters and wetlands, and wildlife corridors and linkages. Implementation of these mitigation measures would mitigate the potential impacts to below a level of significance.

In addition to the 34.8 acres of on-site preservation in biological open space, mitigation will include 51.5 acres of off-site preservation of biological open space, to also include recordation of a biological open space easement, preparation of an RMP approved by the County and Wildlife Agencies, and long-term management by a qualified entity approved by the County and Wildlife Agencies. To the extent available, off-site mitigation shall occur within land designated as PAMA in the Draft North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County and Wildlife Agencies. Mitigation may also include purchase of conservation and mitigation credits at approved conservation and mitigation banks, as deemed acceptable by the County, Wildlife Agencies, USACE, and/or RWQCB.

Based on feedback from the Wildlife Agencies and County, this report analyzes both the proposed project and an alternative, referred to herein as the "Biologically Superior Alternative," that provides for increased avoidance and conservation of Diegan coastal sage scrub. The Biologically Superior Alternative would result in a wider habitat connection and avoidance of additional coastal sage scrub on the east side of the project site, including habitat supporting a breeding pair of coastal California gnatcatchers. Approximately 46.5 acres (42 percent) would be placed in on-site biological open space under the Biologically Superior Alternative. No on-site restoration or creation of Diegan coastal sage scrub would occur under the Biologically Superior Alternative. The alternative is only discussed under those subject areas and guidelines where the impact would be different from that of the proposed project.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

At the request of RCS Harmony Partners, LLC, HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed Harmony Grove Village South Project (Project). The purpose of this report is to document the existing biological conditions within an approximately 143-acre study area and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under California Environmental Quality Act (CEQA) by County of San Diego (County) Planning and Development Services (PDS).

1.2 PROJECT LOCATION AND DESCRIPTION

The approximately 143-acre study area for the biological resources technical study described in this report includes the Project site and areas within 100 feet of the site and potential off-site improvements.

1.2.1 Project Location

The property that encompasses the approximately 111-acre Project site is generally located northwest of County Route S6, south of State Route (SR) 78, east of Interstate (I-) 5, and west of I-15 in the unincorporated community of Harmony Grove in north San Diego County, California (Figure 1). More specifically, the site occurs immediately south of Harmony Grove Road and east of Country Club Drive, just outside and west of the City of Escondido (Figure 2). The site is depicted within Sections 30 and 31 of Township 12 South, Range 2 West of the Rancho Santa Fe, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 3). Primary access to the site is provided by Country Club Drive. The Project site occurs within Assessor Parcel Numbers (APNs) 235-011-06-00, 238-021-08-00, 238-021-09-00 and 238-021-10-00.

The study area occurs within the boundaries of the Draft Multiple Species Conservation Program (MSCP) North County Plan, which has not yet been approved or adopted. Within the Draft MSCP North County Plan, the study area occurs within areas identified as Pre-Approved Mitigation Area (PAMA; Figure 4).

1.2.2 Project Description

The proposed Project would contain 453 residential units and a small commercial area with limited retail/commercial uses (the Center House). In addition to on-site uses, the proposed Project would require the construction of on- and off-site infrastructure improvements associated with roads, water, and sewer. Refer to Figure 5, Proposed Project Site Plan, for the location of proposed uses. The total square footage of structures associated with the Center House use would be approximately 5,000 square feet, with a minimum of 500 square feet of commercial use. The residential units would be a mix of multi- and single-family units.

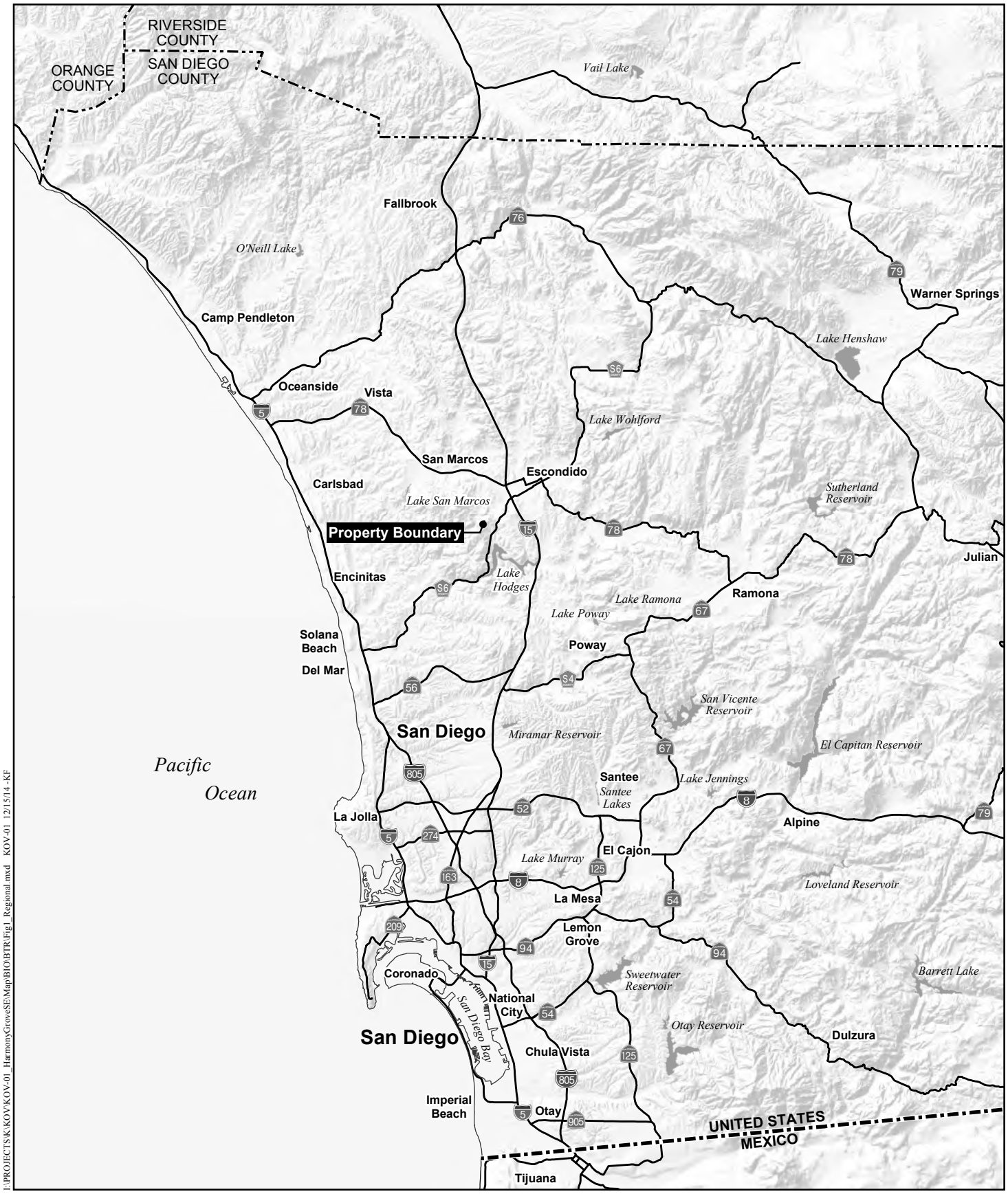
Roadways would be improved off site to accommodate access into the Project site. The current crossing of Escondido Creek would be substantially upgraded. When the creek floods, flood waters have historically been high enough that existing residents south of the creek cannot cross it. The existing at-grade, concrete pavement crossing, underlain by culverts and supported by substantial rip-rap, would be removed and replaced with a bridge. In addition, Country Club Drive, from Harmony Grove Road to the southern Project entrance, is planned to be widened to three lanes.

The Project design includes an on-site wastewater treatment and water reclamation facility (WTWRF) located in the northwestern portion of the site[1]. This facility would provide treatment for all wastewater generated on site, and would produce reclaimed effluent per applicable regulatory standards for irrigation of on-site landscaping. Based on the loading and design criteria used in the 180,000 gallons per day (gpd) Harmony Grove plant design, a scaled-down version could be constructed to serve the Proposed Project.

There is an existing unimproved trail across the southwestern portion of the project site. The Elfin Forest Trail starts from the Del Dios Highlands Trail in the Del Dios Highlands Preserve and runs along the western edge of the site from the southwestern corner of the property to Country Club Drive. The portion of the trail within the development footprint would be improved as a 6- to 8-foot-wide public rural trail. The portion within proposed biological open space would utilize the existing alignment as much as possible; however, some sections would have to be improved to meet the County requirement for a trail that is 4 to 6 feet wide and slopes outward 2 to 5 percent. A 20-foot-wide trail easement will be dedicated to the County along the entire trail length. Because the actual footprint of trail improvements has not been determined, the full area of the 20-foot trail easement is counted as an impact where it crosses chaparral. The actual impacts will be minimized by designing the trail improvements to avoid removing wart-stemmed ceanothus to the maximum extent practicable, in consultation with the County. The existing trail alignment crosses an ephemeral streambed qualifying as non-wetland waters of the U.S./State, and the surrounding coast live oak woodland is California Department of Fish and Wildlife (CDFW)-jurisdictional riparian habitat. The improved trail through this area will be designed to avoid any fill, discharge, or dredging of jurisdictional waters and removal of coast live oak trees or their roots; therefore, no impacts would occur to jurisdictional waters or coast live oak woodland from trail improvements in that area.

This report also analyzes a Biologically Superior Alternative (alternative) that was developed based on input from the CDFW, U.S. Fish and Wildlife Service (USFWS), and County during batching meetings held in 2015. The alternative would avoid the highest quality, intact coastal sage scrub habitat on the site; increase the total coastal sage scrub preservation on site from 2.3 to 6.9 acres; include the gnatcatcher nest location from 2014 in open space; and improve overall wildlife movement along the east side of the project. Refer to Figure 6 for the layout of the alternative.

[1] As described in the Project EIR Chapter 4.0, Alternatives, alternative design scenarios were evaluated for the treatment of wastewater. Of the possible scenarios, the full on-site WTWRF proposed for the Project would result in the greatest biological impacts, and was therefore included in this analysis as a worst case.



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Regional Location Map

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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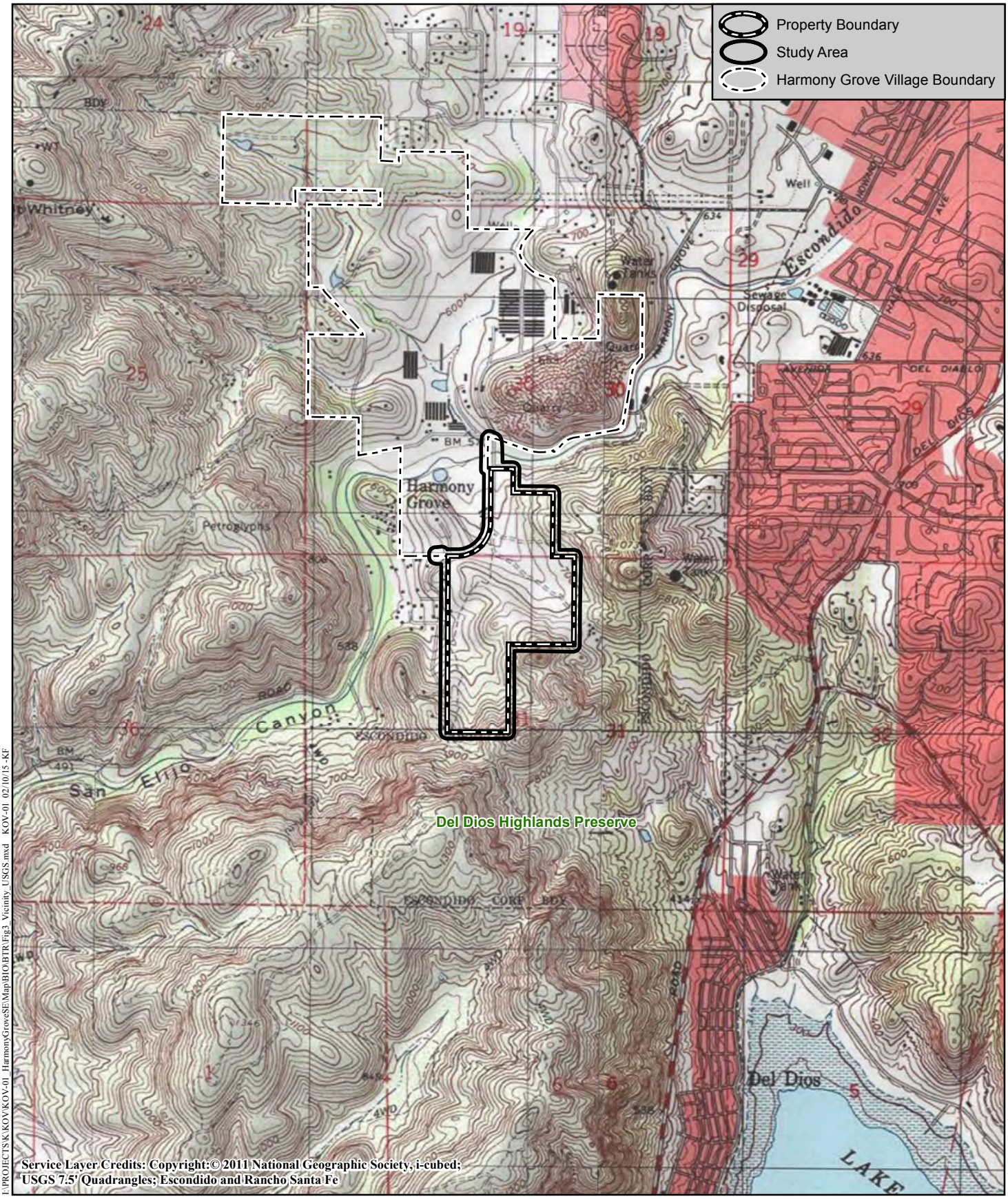
Project Vicinity Map (Aerial Photograph)

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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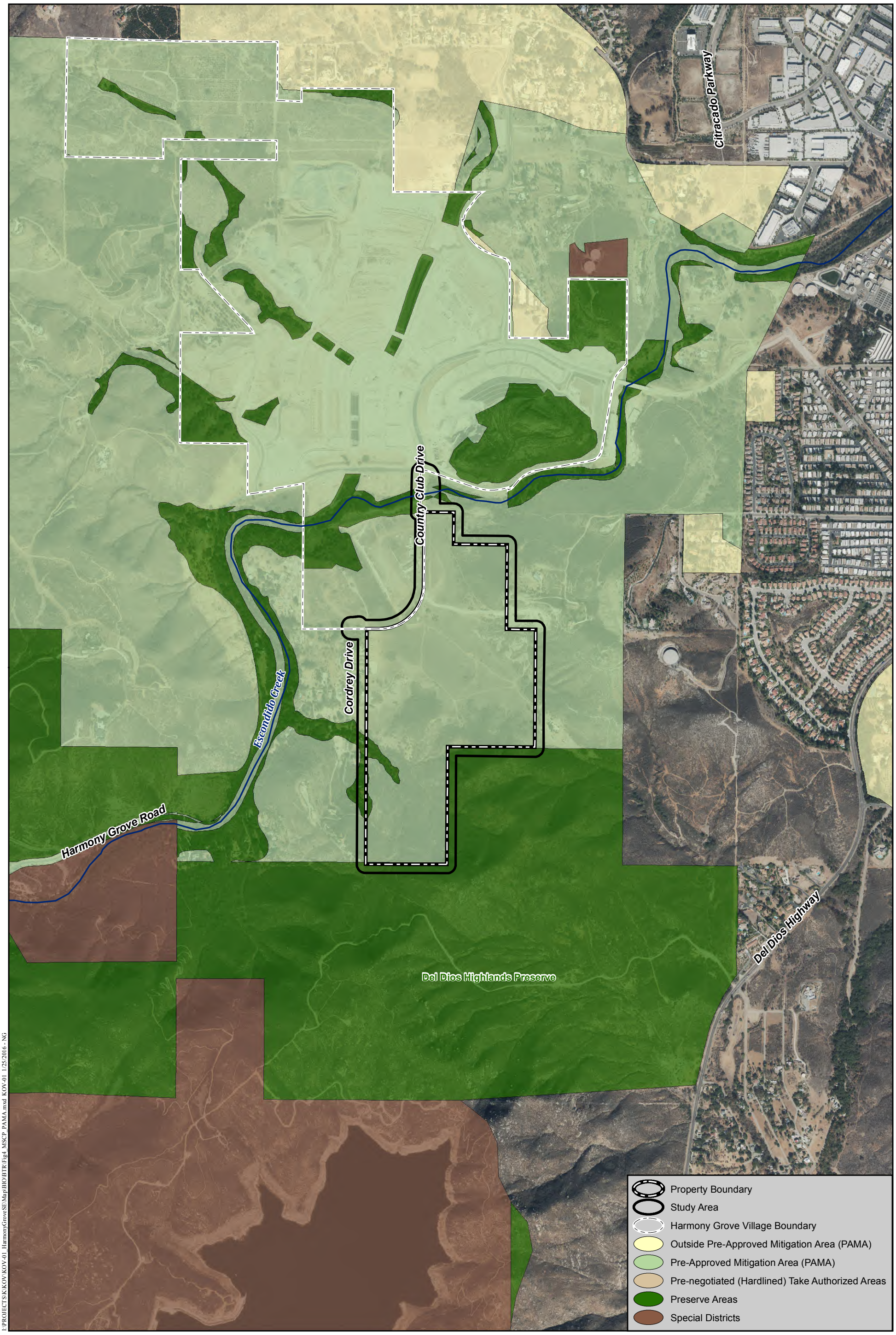
Project Vicinity Map (USGS Topography)

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 3



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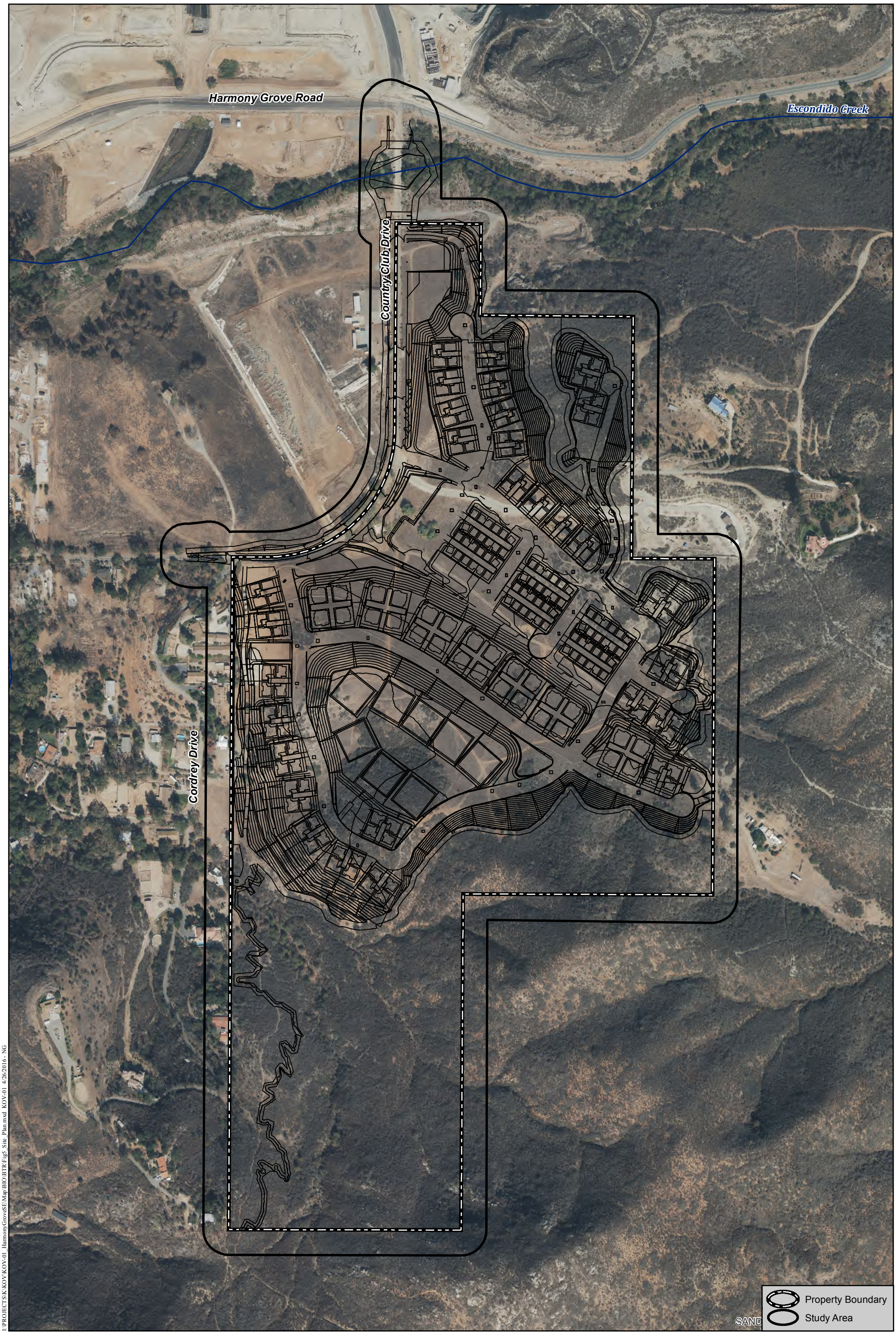
Draft MSCP North County Plan

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 1,000 Feet

Figure 4



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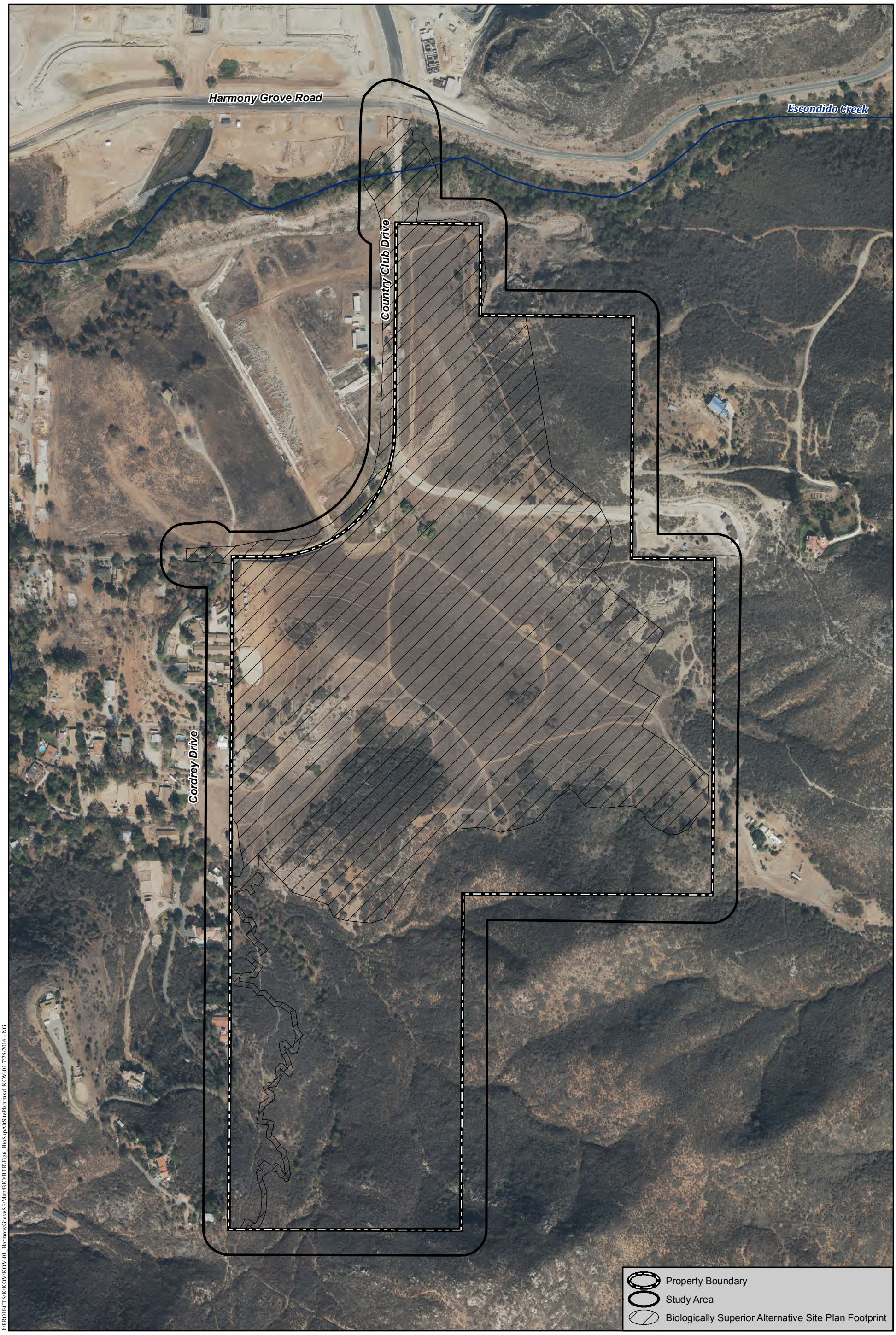
Site Plan

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

0 350 Feet

Figure 5



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Biologically Superior Alternative Site Plan Footprint

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 6

1.3 METHODS

1.3.1 Literature Review

Prior to conducting biological field surveys in 2014, HELIX conducted a search of the California Natural Diversity Database (CNDDB) for information regarding sensitive species known to occur within 2 miles of the study area, as well as a review of USFWS, SanBIOS, and MSCP sensitive species databases. A search of the San Diego Plant Atlas (SDNHM 2010) was also conducted.

1.3.2 General Biological Surveys

General biological surveys of the study area were conducted by HELIX on March 7 and August 26, 2014. Updated surveys were conducted by HELIX on September 4, 2015 and March 31 and April 3, 2017 to confirm existing conditions. Vegetation was mapped on a 1"=100' scale aerial of the site. A minimum mapping unit size of 0.10 acre was used when mapping upland habitat; 0.01 acre was used when mapping wetland and riparian habitat. The study area was surveyed on foot and with the aid of binoculars and spotting scopes. Representative photographs of the site were taken, with select photographs included in this report as Appendix F. Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. The study area was examined for evidence of potential jurisdictional waters and wetlands, including vernal pools. In addition to the general biological surveys, HELIX conducted a formal jurisdictional delineation, rare plant surveys, and year 2014 protocol-level surveys for Hermes copper butterfly (*Lycaena hermes*), burrowing owl (*Athene cunicularia*), coastal California gnatcatcher (*Polioptila californica californica*), and least Bell's vireo (*Vireo bellii pusillus*). Additional surveys were completed in 2015, 2016, and 2017, including updated rare plant surveys and Hermes copper surveys in 2017. Table 1 provides a summary of biological surveys conducted for the Project.

Table 1
BIOLOGICAL SURVEYS

Survey Type	Date	Helix Personnel
2014		
General biological survey, vegetation community/habitat type mapping, habitat assessment, and basic wetland delineation	March 7	Stacy Nigro, Benjamin Rosenbaum
	July 24	Karl Osmundson
	August 26	Karl Osmundson
Formal jurisdictional delineation	March 14	Larry Sward, Benjamin Rosenbaum
Rare plant	April 30	Amy Mattson
	August 26	Karl Osmundson
	November 3	Erica Harris
Hermes copper butterfly	May 21	Amy Mattson, Laura Moreton
	June 4	Amy Mattson, Jenna Hartsook
	June 13	Amy Mattson, Jenna Hartsook
	July 7	Amy Mattson, Benjamin Rosenbaum
Burrowing owl	April 9	Tara Baxter, Benjamin Rosenbaum
	May 14	Tara Baxter, Benjamin Rosenbaum
	June 5	Benjamin Rosenbaum, Jesse Miller
	July 3	Tara Baxter, Jenna Hartsook
Coastal California gnatcatcher	May 13	Erica Harris
	May 20	Erica Harris, Tara Baxter
	May 29	Erica Harris
Least Bell's vireo	April 25	Tara Baxter
	May 6	Stacy Nigro
	May 21	Tara Baxter, Jenna Hartsook
	June 2	Stacy Nigro
	June 12	Tara Baxter
	June 23	Tara Baxter
	July 2	Laura Moreton
	July 14	Tara Baxter
2015		
Site visit, general biological survey	September 4	Karl Osmundson
2016		
Chaparral assessment, jurisdictional delineation	January 13	Larry Sward, Beth Ehsan
2017		
Site visit, general biological survey, rare plant survey	March 31	Karl Osmundson
	April 3	
Hermes copper butterfly, rare plant survey	May 19	Erica Harris
	June 2	Erica Harris
	June 16	Erica Harris, Hannah Lo
	June 30	Erica Harris

1.3.3 Focused Species Surveys

Rare Plant Surveys

An initial rare plant survey was conducted in the study area by HELIX on April 30, 2014 (Table 1). A focused inventory of wart-stemmed ceanothus (*Ceanothus verrucosus*) and follow-up survey for Encinitas baccharis (*Baccharis vanessae*) was conducted on November 3. Updated rare plant surveys were conducted by HELIX on March 31, April 3, May 19, June 2, June 16, and June 30, 2017, concurrent with the updated general biological survey and Hermes copper surveys. Opportunistic inspections for target rare plant species were also made during the other biological surveys performed in 2014, 2015, and 2016 (Table 1). Searches were made for those species that are listed as threatened or endangered by the USFWS or the CDFW; those with a Rare Plant Rank 1 through 4 designated by the California Native Plant Society (CNPS); and those that are on the County Sensitive Plant List (County 2010a). The surveys were conducted on foot and included 100 percent visual coverage of the study area. Impenetrable stands of dense chaparral, such as those that occur in the southern portions of the study area, were viewed using binoculars and spotting scopes from perimeter areas, trails, and higher elevation vantage points. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph.

Hermes Copper Butterfly

HELIX biologists conducted surveys for the Hermes copper butterfly according to the *County's Guidelines for Hermes Copper* (2010b). During each survey effort completed in 2014 and 2017, four site visits, eight to 14 days apart, were made beginning during the third full week of May and ending with the last site visit made during the first full week of July (Table 1). Prior to the 2014 survey, HELIX had mapped the species' larval host plant (spiny redberry [*Rhamnus crocea*]), and the survey focused on the areas around those plants and particularly where California buckwheat (*Eriogonum fasciculatum*), the species' favored nectar plant, was present.

Least Bell's Vireo

HELIX biologists conducted a survey for the least Bell's vireo in accordance with *Least Bell's Vireo Survey Guidelines* (USFWS 2001). The survey consisted of eight site visits made from April 25 through July 14, 2014 (Table 1). The survey area consisted of potential least Bell's vireo riparian habitat (i.e., southern willow riparian forest and patches of associated coast live oak woodland and mule fat scrub) within a section of Escondido Creek upstream and downstream of the Country Club Drive crossing of the creek. The survey was conducted by walking along the edges of, as well as within, potential least Bell's vireo habitat while listening for least Bell's vireo vocalizations and while viewing birds with the aid of binoculars. All least Bell's vireo locations, along with other special status riparian bird species locations (and those of the brown-headed cowbird [*Molothrus ater*; a nest parasite] were mapped on an aerial photograph. The report of findings for the least Bell's vireo survey is included as Appendix H.

Coastal California Gnatcatcher

HELIX biologists conducted a survey for the coastal California gnatcatcher in accordance with the *Coastal California Gnatcatcher Presence/Absence Survey Protocol* (USFWS 1997). The survey consisted of three site visits made from May 13 through May 29, 2014 (Table 1). Non-protocol, opportunistic surveys for gnatcatcher were also made during the other biological surveys performed in 2014, 2015, 2016, and 2017. The survey area consisted of potential coastal California gnatcatcher habitat in the study area (i.e., Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, and coastal sage-chaparral scrub). The survey was conducted by walking through the vegetation or on adjacent paths, and birds were viewed with the aid of binoculars, where necessary. If the coastal California gnatcatcher was not detected passively, a digital coastal California gnatcatcher call-prompt was briefly played. Coastal California gnatcatcher locations were mapped on an aerial photograph. The report of findings for the coastal California gnatcatcher survey is included as Appendix J.

Burrowing Owl

HELIX biologists conducted a nesting season survey for the burrowing owl in accordance with the survey guidelines in the *CDFW 2012 Staff Report on Burrowing Owl Mitigation* (CDFW 2012) and consistent with *Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County* (Attachment A to County 2010b). Four site visits were made from April 9 through July 3, 2014 by teams of two biologists (Table 1) to survey potential burrowing owl habitat (i.e., non-native grassland, disturbed habitat, and scrub communities where the shrub cover was sparse) where it occurs in the study area and 500 feet beyond. Some of the potential burrowing owl habitat in the survey area was inspected with the aid of binoculars due to restricted access to private property.

The biologists slowly walked meandering transects through areas of potential habitat where it was legally accessible. Fence posts, rocks, and other possible perching locations, as well as mammal burrows (especially those of California ground squirrel [*Otospermophilus beecheyi*]) potentially suitable for use by burrowing owls were inspected and mapped with a hand-held GPS unit. These burrows were specifically searched for sign of recent burrowing owl occupation including pellets with regurgitated fur, bones, and insect parts; white wash (excrement); and feathers. In addition, structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement that were present were checked for burrowing owl sign. The report of findings for the burrowing owl survey is included as Appendix I.

1.3.4 Jurisdictional Delineation

Prior to beginning fieldwork, aerial photographs (1"=200' scale), topographic maps (1"=200' scale), and National Wetland Inventory (NWI) maps were reviewed to assist in determining the location of potential jurisdictional areas in the study area. HELIX biologists performed the formal jurisdictional delineation on March 14, 2014 (Table 1). A follow-up delineation was conducted on January 13, 2016 to obtain additional information at a wetland sampling point in a western portion of the site. The delineation was conducted to identify and map potential waters of the U.S. subject to U.S. Army Corps of Engineers (USACE) jurisdiction

pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), waters of the State subject to Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401 and State Porter-Cologne Water Quality Control Act (Porter-Cologne), and streambed and riparian habitat subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code). The delineation was also conducted to determine the presence or absence of County Resource Protection Ordinance (RPO) wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated. The jurisdictional delineation is included as Appendix K.

Waters of the U.S. (USACE Jurisdiction)

Potential USACE-jurisdictional waters of the U.S. were delineated in accordance with the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Sampling points were located within representative uplands and wetlands, and mapping of drainage features was performed in the field based on the ordinary high water mark (OHWM) and surface indications of hydrology. Areas were determined to be potential wetland waters of the U.S. if there was a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas were determined to be non-wetland waters of the U.S. if there was evidence of regular surface flow within an OHWM, but the vegetation and/or soils criterion were not met.

Waters of the State (RWQCB Jurisdiction)

In the context of this assessment, potential RWQCB-jurisdictional waters of the State include the same areas delineated as potential USACE-jurisdictional waters of the U.S.; there are no geographically isolated waters subject to Porter-Cologne. Waters of the State were delineated on the site consistent with the methods used for waters of the U.S.

Streambed and Riparian Habitat (CDFW Jurisdiction)

Potential CDFW-jurisdictional streambed and riparian habitat was determined based on the presence of riparian vegetation or regular surface flow within a definable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). Potential CDFW jurisdictional unvegetated-streambed encompasses the top-of-slope to top-of-slope width for the ephemeral streams within the study area. Vegetated-streambed includes all riparian shrub or tree canopy extending beyond the banks of Escondido Creek and the ephemeral streams within the study area.

County Resource Protection Ordinance Wetlands

Areas were considered County wetlands if they met one of the three following attributes pursuant to the County RPO (County 2011): (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

While 2014 was a year of low rainfall, most of the special status plant species with potential to occur in the study area (based on geographic range, habitat and soil requirements, and database records) are perennial species (and many are shrubs), and as such, are readily identifiable year-round and in low rainfall years. Therefore, the low rainfall in 2014 is not considered to have adversely affected the results of the 2014 rare plant surveys. Nevertheless, updated rare plant surveys were completed in 2017 during optimal conditions following the relatively high rainfall levels recorded in the region during the 2016/2017 rainy season.

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

1.3.6 Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Baldwin et al. (2012) for plants; Glassberg (2001) for butterflies; Collins and Taggart (2006) for reptiles and amphibians; American Ornithologists' Union (2013) for birds; and Baker et al. (2003) for mammals. Plant species status is from the CNPS (2014), CDFW (2014a), and County (2010a). Animal species status is from CDFW (2011 and 2014b) and County (2010a).

1.4 ENVIRONMENTAL SETTING

1.4.1 Regional Context

The study area is generally located within the northern coastal foothills ecoregion of north San Diego County. It occurs within the northeastern portion of the Elfin Forest – Harmony Grove Planning Area. Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters. Mean annual precipitation is between 14 and 18 inches, and the mean annual temperature is between 60 and 62 degrees Fahrenheit. The frost-free season is 260 to 300 days.

Important biological resources in the region generally include core blocks of chaparral in the Harmony Grove hills and coastal sage scrub in the Elfin Forest area, in addition to perennial waters and riparian habitat associated with Escondido Creek and San Dieguito River corridors. Oak woodlands and chaparral typify the biological character of much of the area. The region hosts core populations of sensitive plants, including Encinitas baccharis, wart-stemmed ceanothus, and summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), in addition to

important habitat for several sensitive animals, including coastal California gnatcatcher and least Bell's vireo, among others.

In the context of the Draft North County MSCP Plan, the study area occurs within PAMA, north of Preserve Areas associated with the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve, south and east of Pre-negotiated (Hardlined) Take Authorized Areas associated with Harmony Grove Village, and west of PAMA and undesignated City of Escondido lands. The dominant habitat type within the study area is southern mixed chaparral, which covers approximately 46.8 acres; the next highest habitat type is non-native grassland, which covers approximately 42.5 acres of the site.

1.4.2 General Land Uses

General land uses in the study area include undeveloped land, portions of which were previously in active agriculture and homestead use. A private driveway currently traverses the study area providing access to rural residences to the east. Native chaparral and non-native grassland are the dominant vegetation communities within the study area. Surrounding land uses generally include the Harmony Grove Village development to the north and west, open space to the south, rural residences and undeveloped land to the east, and semi-rural residences to the west (Figure 3). The properties supporting rural residences within County jurisdiction to the east are currently built out to their allowed zoning and density designations.

1.4.3 Disturbance

The northern and north-central portions of the study area have been disturbed in the past by human activities, which have resulted in those areas now supporting disturbed habitat, non-native grassland, and scattered non-native trees and shrubs. Additionally, there is disturbed habitat south of Country Club Drive that was once a dairy facility and disturbed habitat adjacent to residences and Country Club Drive. Numerous dirt roads traverse the study area, some of which lead to off-site residences, in addition to several patches of eroded land on hillsides where previous land disturbance has occurred. The non-native vegetation within the study area occurs primarily adjacent to Country Club Drive and is comprised of species such as Peruvian peppertree (*Schinus molle*) and tree of heaven (*Ailanthus altissima*). It appears that these trees were purposely planted around a former home site.

1.4.4 Topography and Soils

Elevations in the study area range from approximately 938 feet above mean sea level (amsl) to 570 feet amsl. Elevation generally increases from north to south across the site. The study area generally contains a southeast to northwest trending valley surrounded by hills and steep ridgelines to the east, south, and west. Escondido Creek flows through the northern portion of the study area and generally trends east-west to San Elijo Lagoon (Figure 2). The ephemeral tributaries identified in the southern portions of the study area converge and drain off site to the west, through rural residential properties, before discharging into a reach of Escondido Creek located further to the west of the study area.

Nine soil types have been mapped in the study area (Natural Resource Conservation Service [NRCS] 2014a; Figure 7). Those soils types covering the most area included Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded; Escondido very fine sandy loam, 15 to 30 percent slopes, eroded; Las Posas fine sandy loam, 15 to 30 percent slopes, eroded; Las Posas fine sandy loam, 9 to 15 percent slopes, eroded; Las Posas stony fine sandy loam, 30 to 65 percent slopes; Wyman loam 2 to 5 percent slopes; and Wyman loam, 5 to 9 percent slopes. Less common in the study area were Huerhuero loam, 2 to 9 percent slopes and Visalia sandy loam, 2 to 5 percent slopes. Wyman loams are known to be associated with alluvial fans. However, no alluvial fans or surface water features occur in the areas mapped as Wyman loam; none are evident from review of historical imagery and topographic maps of the site (NETR Online 2017). None of the named soils mapped in the study area are listed as hydric; however, there are unnamed inclusions in these soil types that may be hydric based on landscape position and hydrology (NRCS 2014b).

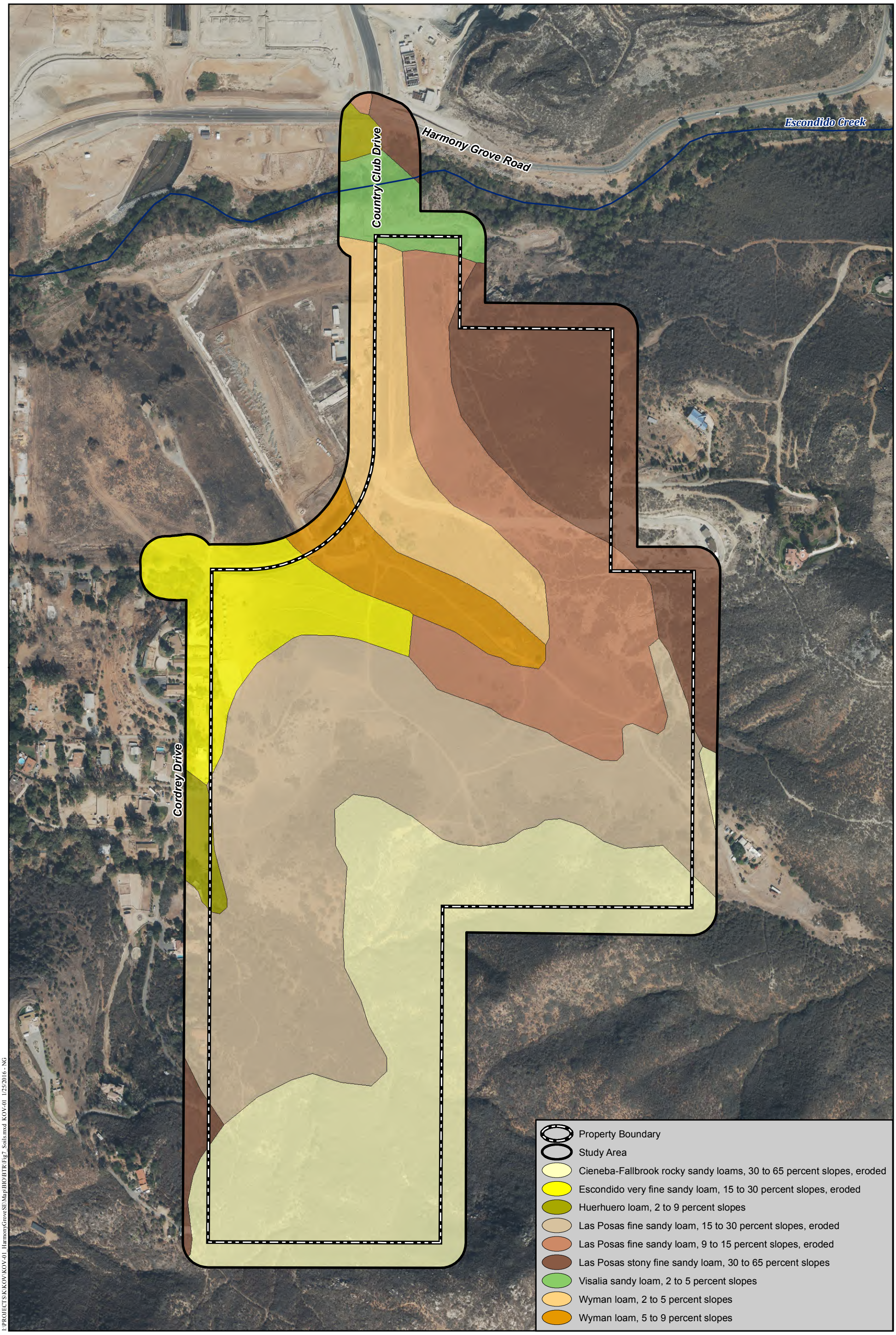
The mapped soil types were compared against the actual soils encountered during geotechnical investigations for the Project. The actual soils information would provide further guidance in evaluating suitability for rare plants and, in combination with vegetation composition, whether mafic or metavolcanic (gabbro) derived substrate is present. Four surficial soil types and one geologic formation were encountered during the previous field investigation. The surficial deposits consist of undocumented fill, topsoil, alluvium, and colluvium. The formational unit includes the Cretaceous-age granitic rocks commonly referred to as Escondido Creek Granodiorite. Three relatively small undocumented fill embankments occur on the site. Topsoils characterized as loose, damp, brown, silty sands blanket the majority of the site and vary from approximately ½ to 1 foot thick. Alluvial deposits were found over a relatively large portion of the property within the drainage and tributary channels throughout the site. These deposits generally consist of relatively loose to medium dense, silty sands with varying amounts of gravel and cobble. Colluvial deposits were encountered along the hillsides above the alluvial drainages overlying the granitic rock. In limited areas, cemented colluvium was encountered at grade and at depth in exploratory trenches and borings. Cretaceous-age Escondido Creek Granodiorite (granitic rock) underlies the surficial deposits ranging from highly weathered, decomposed rock to outcrops of slightly weathered, extremely strong rock that may require blasting to excavate. The soils derived from excavations within the decomposed granitic rock are anticipated to consist of low-expansive, silty, medium- to coarse-grained sands.

1.4.5 Vegetation Communities/Habitat Types

Eleven vegetation communities/habitat types occur in the study area, as shown on Figure 8. The numeric codes in parentheses following each community/habitat type name are from the Holland classification system (Holland 1986) and as added to by Oberbauer (2008) as presented in the County's Biology Guidelines (County 2010a). The communities/habitat types are described below in order by Holland code.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. As described



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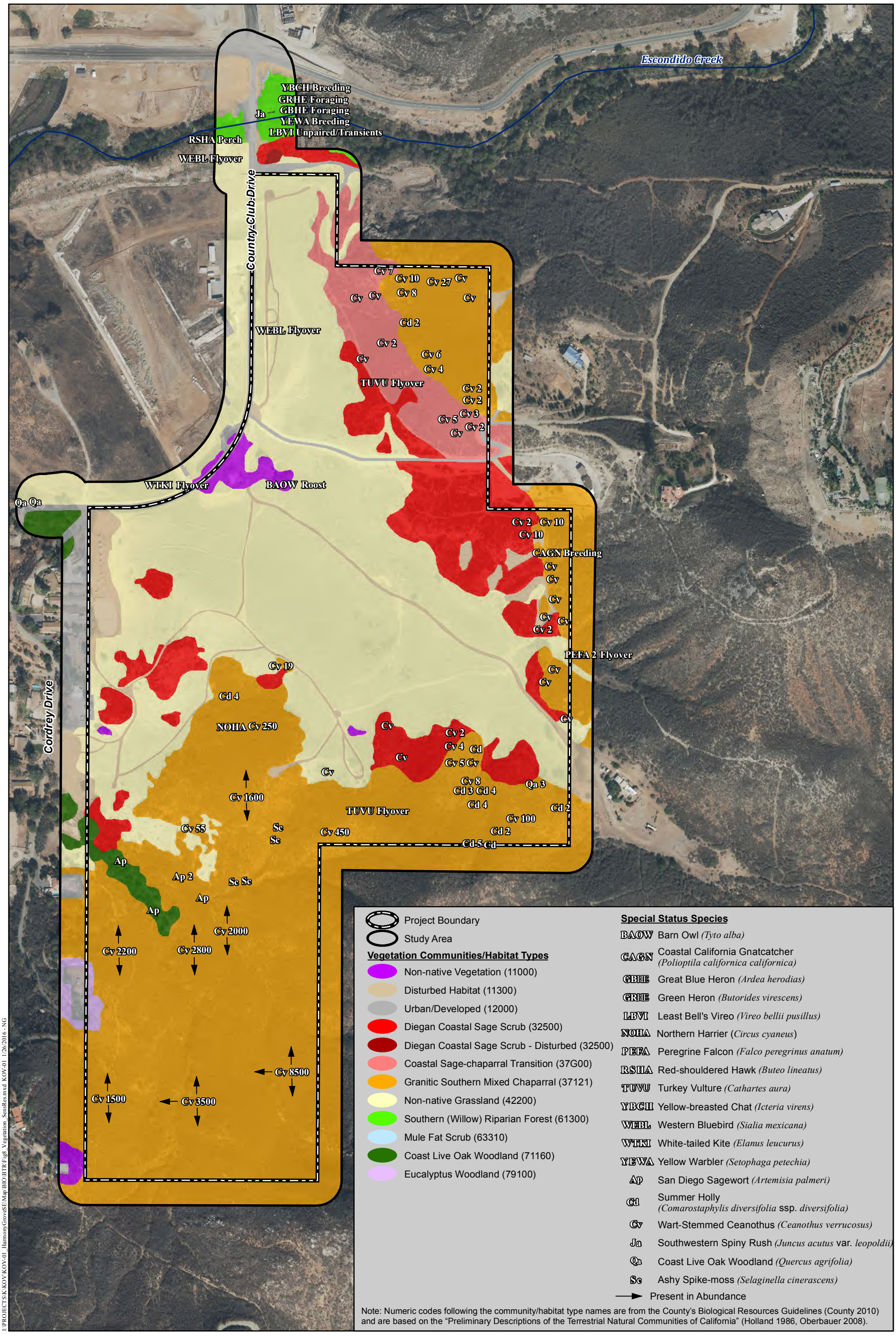
Soils

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

0 350 Feet

Figure 7



Note: Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986, Oberbauer 2008).

I:\PROJECTS\K\KOV\KOV-01_HarmonyGroveSE\Map\BIO\BTR\Fig8_Vegetation_SensRes.mxd KOV-01 1/26/2016 - NG

Vegetation and Sensitive Resources

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 8

above, non-native vegetation in the study area is comprised of plant species such as Peruvian peppertree (*Schinus molle*) and tree of heaven (*Ailanthus altissima*). It appears that these trees were purposely planted around a former home site and may have spread to other small areas of the study area. Non-native vegetation also occurs around a residence in the southwestern corner of the study area. Approximately 0.8 acre of non-native vegetation is mapped on site.

Disturbed Habitat

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010b). Disturbed habitat in the study area includes unvegetated areas such as dirt roads and areas of eroded land vegetated by non-native sparse arrangements of grasses and forbs. Disturbed habitat also occurs along Country Club Drive and adjacent to residences. Approximately 3.6 acres of disturbed habitat are mapped on site.

Urban/Developed

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010b). Urban/developed land in the study area consists of Country Club Drive, Harmony Grove Road, residential properties, paved access to residential properties, and graveled access to a beekeeping area. Approximately 0.9 acre of urban/developed land is mapped on site.

Diegan Coastal Sage Scrub (including Disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat, laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*; Holland 1986). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub, but is sparser and has a higher proportion of non-native, annual species. The total amount of coastal sage scrub reported in the Draft MSCP North County Plan area is 29,888 acres, of which, 23,463 acres are located within areas designated as PAMA (County 2009).

Dominant species in the Diegan coastal sage scrub within the study area include California buckwheat and black sage. The habitat generally occurs in a patchy and fragmented distribution in the northern half of the study area, as relatively small isolated stands and stands that intergrade with adjacent chaparral. In general, the stands that occur in the southern-central and western portions of the site are of low quality and "Low Value" in accordance with the Southern

California Coastal Sage Scrub Natural Community Conservation Planning (NCCP) Conservation Guidelines and Logic Flow Chart (CDFW 1993a, 1993b). There is also a single patch of disturbed coastal sage scrub on the south side of Escondido Creek considered low quality and value due to its sparseness and species composition. The stands that occur in the northern, central, and eastern portions of the site are of moderate quality and "Intermediate Value" in accordance with the NCCP Conservation Guidelines and Logic Flow Chart due to their size, location, species composition, and function. Approximately 10.9 acres of Diegan coastal sage scrub are mapped on site, including 4.6 acres of Low Value and 6.3 acres of Intermediate Value scrub. This represents less than 0.10 percent (0.04 percent) of the total amount reported in the Draft MSCP North County Plan area.

Coastal Sage-Chaparral Transition

Coastal sage-chaparral transition is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities in the study area including California buckwheat, black sage, California sagebrush, San Diego honeysuckle (*Lonicera subspicata* var. *denudata*), and chamise (*Adenostoma fasciculatum*). This community occurs in the northwestern portion of the study area between Diegan coastal sage scrub and southern mixed chaparral. The total amount of coastal sage scrub/chaparral reported in the Draft MSCP North County Plan area is 5,179 acres, of which, 4,040 acres are located within areas designated as PAMA (County 2009). Approximately 4.5 acres of coastal sage-chaparral transition are mapped on site, which represents less than 0.10 percent (0.09 percent) of the total amount reported in the Draft MSCP North County Plan area.

Southern Mixed Chaparral

Southern mixed chaparral is typically found on granitic soils and is composed of broad-leaved, sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense, often nearly impenetrable stands with poorly developed understories. Depending upon relative proximity to the coast, characteristic species may include, for example, chamise, Ramona ceanothus (*Ceanothus tomentosus*), Nuttall's scrub oak (*Quercus dumosa*), toyon (*Heteromeles arbutifolia*), mission manzanita (*Xylococcus bicolor*), sugar bush (*Rhus ovata*), spiny redberry, bushrue (*Cneoridum dumosum*), and San Diego honeysuckle (Holland 1986). Dominant species in this vegetation community in the study area include black sage and mountain mahogany (*Cercocarpus betuloides*). Other shrubs present in the study area include Ramona ceanothus, mission manzanita, sugar bush, toyon, chamise, spiny redberry, scrub oak (*Quercus berberidifolia*), saw-toothed goldenbush (*Hazardia squarrosa* var. *grindelioides*), bushrue, and San Diego honeysuckle. Southern mixed chaparral in the study area is located around the southern and eastern edges of the study area. Approximately 46.8 acres of southern mixed chaparral are mapped on site.

Portions of this vegetation community were preliminarily classified as mafic southern mixed chaparral where the NRCS has roughly mapped Las Posas fine and stony fine sandy loams. Because the results of the geotechnical investigations of the site and initial botanical inventory did not strongly agree with the USDA soils mapping, further investigation was conducted to more definitively classify the vegetation. On January 13, 2016, HELIX biologists collected data

at four points within southern mixed chaparral: two in areas mapped as Las Posas soils and two in areas mapped as Cieneba-Fallbrook rocky sandy loam. Upon visiting sites 1 and 4, which represented sites in areas mapped as Las Posas soils, it was evident that the soil did not have the characteristic red color and other visible attributes expected from mafic soils. There was a small patch of red soil to the north of site 1, but this area had been heavily disturbed and did not have sufficient vegetation cover to classify the vegetation type.

Each sampling point was evaluated using the CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form (Appendix M). For comparison purposes, the results were classified according to the Vegetation Classification Manual for Western San Diego County. Site 1, located in the northeast portion of the site in an area mapped as Las Posas stony fine sandy loam, was identified as Adenostoma fasciculatum – Xylococcus bicolor association. Sites 2 and 3, in the central part of the site mapped as Cieneba-Fallbrook rocky sandy loam, were identified as Adenostoma fasciculatum – Xylococcus bicolor – Ceanothus verrucosus association. Site 4, in the central portion of the site in an area mapped as Las Posas fine sandy loam, was identified as Ceanothus verrucosus association. This shows that the presence or absence of Las Posas soils was not the determining factor in the vegetation association, since the two sites on Las Posas soils were less similar to each other than they were to the sites on granitic soil.

None of the on-site chaparral vegetation met the definition of mafic southern mixed chaparral in Oberbauer (2008). Mafic chaparral is described as dominated by chamise and Cleveland sage (*Salvia clevelandii*). Three of the four sample sites supported chamise, but Cleveland sage was not observed anywhere on the project site. Chamise is not a mafic indicator species since it is also common in granitic southern mixed chaparral and other chaparral types. The other indicator species associated with mafic southern mixed chaparral are Parry's tetracoccus (*Tetracoccus dioicus*), beargrass (*Nolina interrata* and *cismontana*), Peninsular manzanita (*Arctostaphylos peninsularis*), felt-leaf monardella (*Monaredella hypoleuca* var. *lanata*), and fire reedgrass (*Calamagrostis koeleriodes*). None of these mafic indicator species were observed on site. By contrast, the on-site chaparral supports 10 of the 19 characteristic species for granitic southern mixed chaparral: chamise, Ramona ceanothus, wart-stemmed ceanothus (*Ceanothus verrucosus*), spice-bush (*Cneoridium dumosum*), toyon, southern honeysuckle (*Lonicera subspicata*), laurel sumac, spiny redberry (*Rhamnus crocea*), sugar bush, and mission manzanita. Wart-stemmed ceanothus is also a dominant species in southern maritime chaparral, but the site lacks Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), which is co-dominant with wart-stemmed ceanothus in southern maritime chaparral. Further, the site is not located within the coastal fog belt or on weathered sands, and does not support characteristic maritime species such as San Diego sea dahlia (*Coreopsis maritima*) or Torrey pine (*Pinus torreyana*). Therefore, the on-site chaparral is more correctly classified as southern mixed chaparral than southern maritime chaparral.

Finally, the vegetation composition of the on-site chaparral is substantially consistent with the composition of chaparral immediately off site to the south in the Del Dios Highlands Preserve. The following is reported in the County's Resource Management Plan (2011b) for the Del Dios Highlands Preserve: "Wart-stemmed ceanothus (*Ceanothus verrucosus*) and mission manzanita (*Xylococcus bicolor*) are co-dominant in the southern mixed chaparral on site. Other species

characteristic of southern mixed chaparral within the Preserve include Eastwood manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), chamise (*Adenostoma fasciculatum*), laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), mountain mahogany (*Cerocarpus minutiflorus*), holly-leaved cherry (*Prunus ilicifolia* ssp. *ilicifolia*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), and Ramona lilac (*Ceanothus tomentosus*). Unique for this region is also the occurrence of the rare Encinitas baccharis (*Baccharis vanessae*)." The chaparral type on Del Dios Highlands Preserve, which occurred on Cieneba-Fallbrook, San Miguel-Exchequer, and Las Posas soils, was classified as southern mixed chaparral. There was no mafic or maritime chaparral identified by the County within the Del Dios Highlands Preserve.

For the reasons detailed above, the on-site chaparral was classified and mapped according to its observed vegetation composition rather than the NRCS soil mapping, and was determined to most closely match granitic southern mixed chaparral, not mafic southern mixed chaparral or southern maritime chaparral.

Non-native Grassland

Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Annual species comprise from 50 percent to more than 90 percent of the vegetative cover, and most annuals are non-native species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. Usually, the grasses are less than 3 feet in height and form a continuous or open cover. Emergent shrubs and trees may be present but do not comprise more than 15 percent of the total cover (County 2010b). Most of the non-native grasses originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. In the study area, non-native grassland is dominated by common ripgut grass (*Bromus diandrus*) and oats (*Avena* sp.). A variety of other non-native grasses and forbs are also present. The total amount of non-native grassland reported in the Draft MSCP North County Plan area is 22,355 acres, of which, 14,841 acres are located within areas designated as PAMA (County 2009). Non-native grassland occurs throughout the northern half of the study area. Approximately 42.4 acres of non-native grassland are mapped on site, which together represent less than 1.0 percent (0.19 percent) of the total amount reported in the Draft MSCP North County Plan area.

Southern [Willow] Riparian Forest

Southern riparian forests are composed of winter-deciduous trees (such as willows [*Salix* spp.], Fremont cottonwood [*Populus fremontii*], and western sycamore (*Platanus racemosa*]) that require water near the soil surface. The canopies of individual tree species overlap so that a canopy cover of 100 percent may occur in the upper tree stratum. The southern riparian forest in the study area is dominated by willows, so it has been labeled southern [willow] riparian forest. Dominant species observed in this vegetation community in the study area include red willow (*Salix laevigata*), arroyo willow (*S. lasiolepis*), black willow (*S. gooddingii*), and Fremont cottonwood. Other species include mule fat (*Baccharis salicifolia*), cattail (*Typha* sp.), and great marsh evening-primrose (*Oenothera elata* ssp. *hookeri*). Approximately 0.71 acres of southern

willow riparian forest associated with Escondido Creek are mapped in the off-site portion of the study area.

Mule Fat Scrub

Mule fat scrub is a depauperate, shrubby, riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which could lead to a riparian woodland or forest (Holland 1986). In some environments, limited hydrology may favor the persistence of mule fat. Mule fat scrub in the study area occurs as a very small patch of mule fat along Escondido Creek. Approximately 0.01 acre of mule fat scrub associated with Escondido Creek is mapped in the off-site portion of the study area.

Coast Live Oak Woodland

Coast live oak woodland is an evergreen woodland community, dominated by coast live oak (*Quercus agrifolia*) trees that may reach a height of 35 to 80 feet. The shrub layer may consist of plant species such as toyon, Mexican elderberry (*Sambucus mexicana*), fuchsia-flowered gooseberry (*Ribes speciosum*), or laurel sumac. Other species may also be present such as poison oak (*Toxicodendron diversilobum*), monkeyflower (*Mimulus aurantiacus*), Pacific pea (*Lathyrus vestitus*), and chickweed (*Stellaria media*). This community typically occurs on north-facing slopes and in shaded ravines (Holland 1986). Coast live oak is the dominant species in this community in the study area. Approximately 0.9 acre of coast live oak woodland occurs in gullied uplands along an ephemeral drainage in the southwestern portion of the site.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the trees, limit the ability of other species to grow in the understory, and floristic diversity decreases. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its cover. Eucalyptus woodland occurs around a residence in the southwestern portion of the study area. Approximately 0.3 acre of this habitat type is mapped on site.

1.4.6 Flora

HELIX identified a total of 127 plant species in the study area, of which 42 (33 percent) are non-native species (Appendix A).

1.4.7 Fauna

A total of 97 animal species were observed or otherwise detected in the study area during the biological surveys, including 23 invertebrate, 2 reptile, 67 bird, and 5 mammal species (Appendix B).

1.4.8 Sensitive Vegetation Communities/Habitat Types

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. Table 5 of the County guidelines (County 2010a, 2010b) provides a list of habitat mitigation ratios for each vegetation community type.

Sensitive vegetation communities/habitat types mapped in the study area include Diegan coastal sage scrub (including disturbed), coastal sage-chaparral transition, southern mixed chaparral, non-native grassland, southern [willow] riparian forest, mule fat scrub, and coast live oak woodland. Non-native vegetation, disturbed habitat, urban/developed, and eucalyptus woodland do not meet the definition of sensitive.

1.4.9 Special Status Plant Species

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

Special Status Plant Species Observed

Five special status plant species were observed in the study area, as listed below in alphabetical order by common name. Each is also described below and shown on Figure 8.

Ashy spike-moss (*Selaginella cinerascens*)
Status: CNPS Rare Plant Rank 4.1; County List D (Appendix E)
Distribution: Orange and San Diego counties; northwestern Baja California, Mexico.
Habitat(s): This perennial, rhizomatous herb can be found on flat mesas in coastal sage scrub and chaparral.
Presence in the Study Area: Four patches of ashy spike-moss, ranging in size from one to 14 square feet, were found in southern mixed chaparral in the southern-central portion of the study area.

San Diego sagewort (*Artemisia palmeri*)
Status: CNPS Rare Plant Rank 4.2; County List D (Appendix E).
Distribution: Coastal San Diego County; Baja California, Mexico.
Habitat(s): This perennial deciduous shrub that may bloom from February to September can be found along stream courses, often within coastal sage scrub or southern mixed chaparral.
Presence in the Study Area: San Diego sagewort was observed in two locations in coast live oak woodland, and three were observed in southern mixed chaparral. All locations were in the southwestern portion of the study area.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)
Status: CNPS Rare Plant Rank 4.2; County List D (Appendix E).
Distribution: Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico.
Habitat(s): Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes are the preferred habitats of this perennial, rhizomatous herb that may bloom from March to June.
Presence in the Study Area: A single individual of southwestern spiny rush was observed in the study area near the Country Club Drive crossing of Escondido Creek.

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
Status: CNPS Rare Plant Rank 1B.2; County List A. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Orange, Riverside, and San Diego counties south into Baja California, Mexico.
Habitat(s): This perennial evergreen shrub that may bloom from April to June occurs on mesic north-facing slopes in southern mixed chaparral. Rugged steep drainages seem to be a preferred location for isolated individuals.
Presence in the Study Area: A total of 27 summer holly individuals occur on site, most of them in the southern portions of the study area.

Wart-stemmed ceanothus (*Ceanothus verrucosus*)
Status: CNPS Rare Plant Rank 2B.2; County List B. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Western San Diego County and adjacent Baja California, Mexico.
Habitat(s): This perennial evergreen shrub that may bloom from December to May occurs in chaparral.
Presence in the Study Area: The study area supports an estimated 23,113 wart-stemmed ceanothus. A major population of approximately 21,150 wart-stemmed ceanothus individuals occurs in the southern portions of the study area.

Special Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have potential to occur in the study area are listed in Appendix C. There are no special status plant species with a high potential to occur on site.

1.4.10 Special Status Animal Species

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

Special Status Animal Species Observed or Otherwise Detected

Thirteen special status animal (bird) species have been observed or detected in the study area. Each species is listed below in alphabetical order by common name, is described, and is shown on Figure 8.

American peregrine falcon (*Falco peregrinus anatum*)
Status: Federal Bird of Conservation Concern; State Fully Protected; County Group 1 (Appendix E).
Distribution: Rare in San Diego County year-round but more abundant near the coast and in winter.
Habitat(s): Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.
Presence in the Study Area: Two individual American peregrine falcons were observed flying over the eastern portion of the study area on a single occasion during the 2014 surveys.

Barn owl (*Tyto alba*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout much of San Diego County.
Habitat(s): Woodland habitats and open areas with trees or other structures that can offer shelter.
Presence in the Study Area: One barn owl was observed roosting in a Peruvian pepper tree (*Schinus molle*) on a single occasion during the 2014 surveys.

Coastal California Gnatcatcher (*Polioptila californica californica*)
Status: Federal Listed Threatened; State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat(s): Coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub.
Presence in the Study Area: During the protocol survey, one pair of coastal California gnatcatcher was observed moving among patches of Diegan coastal sage scrub and building a nest in an area of Diegan coastal sage scrub and southern mixed chaparral. The nest was being constructed in chamise approximately 2.5 feet off the ground. In addition, on two occasions during site visits performed outside of the breeding season, a gnatcatcher was incidentally detected by call moving through the southern mixed chaparral in the southern/central portion of the site proposed as biological open space for the project.

Great blue heron (*Ardea herodias*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout San Diego County.
Habitat(s): Wetland habitats, but can be observed foraging away from water.
Presence in the Study Area: One great blue heron was observed in Escondido Creek on a single occasion during the 2014 surveys.

Green heron (*Butorides virescens*)
Status: County Group 2 (Appendix E).
Distribution: In San Diego County, most widespread in the northern part of coastal lowlands.
Habitat(s): Small ponds in the northern part of the County or major rivers and lakes in the southern part (Unitt 2004).
Presence in the Study Area: One green heron was observed in Escondido Creek on a single occasion during the 2014 surveys.

Least Bell's vireo (*Vireo bellii pusillus*)
Status: Federal Listed Endangered; State Listed Endangered; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Observed throughout coastal southern California in the breeding season, south of Santa Barbara, but in smaller numbers in foothills and mountains.
Habitat(s): Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub.
Presence in the Study Area: A single, unpaired, male least Bell's vireo was observed in Escondido Creek, primarily using habitat immediately east of Country Club Drive, during seven of the eight site visits (Figure 8). A male and female least Bell's vireo were observed on May 21, 2014 immediately west of Country Club Drive; however, those individuals were only observed on that one occasion and were not suspected to be breeding, although suitable breeding habitat occurs. A fourth least Bell's vireo was audible on two occasions at the far western portion of the survey area. It is believed that a temporary influx of least Bell's vireo into the survey area followed the mid-May 2014 "Cocos Fire" that likely displaced birds in the surrounding area.

Northern harrier (*Circus cyaneus*)
Status: State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: In San Diego County, distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert.
Habitat(s): Open grassland and marsh
Status on site: One northern harrier was observed flying low over chaparral in the central portion of the site on a single occasion during the 2016 field work.

Red-shouldered hawk (*Buteo lineatus*)
Status: County Group 1 (Appendix E).
Distribution: In San Diego County, observed throughout coastal slope.
Habitat(s): Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.
Presence in the Study Area: A single red-shouldered hawk was observed in perch and calling near Escondido Creek on a single occasion during the 2014 surveys.

Turkey vulture (*Cathartes aura*)
Status: County Group 1 (Appendix E).
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.

Presence in the Study Area: Two turkey vultures were observed on separate occasions during the 2014 surveys soaring over coastal sage scrub and chaparral in the central and southern portions of the study area.

Western bluebird (*Sialia mexicana*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout much of San Diego County but concentrated in foothills and mountains.
Habitat(s): Open woodlands and areas where meadows or grasslands occur among groves of oak or pine.
Presence in the Study Area: Western bluebird was observed flying over non-native grassland adjacent to Country Club Drive on two occasions during the 2014 surveys.

White-tailed kite (*Elanus leucurus*)
Status: State Fully Protected; County Group 1 (Appendix E).
Distribution: Found year-round primarily within lowlands of California west of the Sierra Nevada range and southeastern deserts.
Habitat(s): Riparian woodlands and oak or sycamore groves adjacent to grassland.
Presence in the Study Area: One white-tailed kite was observed flying over the northwestern portion of the study area on a single occasion during the 2014 surveys.

Yellow-breasted chat (*Icteria virens*)
Status: State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Occurs throughout San Diego County's coastal lowlands in the breeding season.
Habitat(s): Mature riparian woodland.
Presence in the Study Area: Yellow breasted chat was observed in Escondido Creek during the 2014 surveys.

Yellow warbler (*Setophaga petechia*)
Status: Federal Bird of Conservation Concern, State Species of Special Concern; County Group 2 (Appendix E).
Distribution: Observed throughout California during the breeding season with rare sightings in winter.
Habitat(s): Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub.
Presence in the Study Area: Yellow warbler was observed in Escondido Creek during the 2014 surveys.

Special Status Animal Species with Potential to Occur

Special status animal species that were not observed but may have potential to occur in the study area are listed in Appendix D. The 20 additional special status animal species that were not observed but still are considered to have a high potential to occur in the study area are coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), Coronado skink (*Plestiodon skiltonianus interparietalis*), red diamond rattlesnake (*Crotalus ruber*), orange-throated whiptail (*Aspidoscelis*

hyperythra), California horned lark (*Eremophila alpestris actis*), Cooper's hawk (*Accipiter cooperi*), ferruginous hawk (*Buteo regalis*), grasshopper sparrow (*Ammodramus savannarum*), loggerhead shrike (*Lanius ludovicianus*), prairie falcon (*Falco mexicanus*), red-shouldered hawk (*Buteo lineatus*), sharp-shinned hawk (*Accipiter striatus*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Dulzura California pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), and southern mule deer (*Odocoileus hemionus*).

In addition, protocol Hermes copper butterfly *(Lycaena hermes)* surveys conducted in 2014 and 2017 were negative, indicating the site is not occupied by the Hermes copper. This species does not currently have any federal or State sensitivity status, but is considered a County Group 1 sensitive species. It occurs in San Diego County, south of Fallbrook to northern Baja California, Mexico, within southern mixed chaparral and coastal sage scrub with mature specimens of its larval host plant, spiny redberry (*Rhamnus crocea*). The results of Hermes copper butterfly habitat mapping are included as Figure 9. Although not occupied, the site does support a limited amount of potential Hermes copper habitat as defined by the County guidelines; however, the potential for the species to colonize the site in the future is considered low. The nearest known Hermes copper butterfly location is 1.75 miles away to the southwest. Because the site is more than one mile from a known Hermes copper location, the negative survey results are valid for a period of three years in accordance with County guidelines.

Raptor Foraging

Several raptors were observed, on occasion, during the 2014 biological surveys. On most occasions, these raptors were observed flying and soaring over non-native grassland and chaparral within the study area or perching on taller trees in stands of non-native vegetation and riparian forest. Raptors observed during surveys include turkey vulture, barn owl, red-shouldered hawk, red-tailed hawk, peregrine falcon, American kestrel, northern harrier, and white-tailed kite.

The County (2010b) defines raptor foraging habitat as, "Land that is a minimum of 5 acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." The non-native grassland in the study area is considered raptor foraging habitat based on this definition since it occupies greater than 40 acres, and it evidently supports burrows of common small mammals, namely, California ground squirrel. The use of the non-native grassland as foraging habitat for raptors observed during 2014 surveys is explained in greater detail below.

The turkey vulture is widespread through San Diego County and commonly observed soaring over rugged terrain and open areas, such as it was over the survey area during the 2014 surveys. The foraging value of the non-native grassland for turkey vulture is low considering this species is an opportunistic scavenger, feeding on carrion and other prey items that can be found over a wide variety of habitat types.

The barn owl is an uncommon resident in San Diego County. It requires open ground over which it can hunt and feeds primarily upon a variety of mice, rats, voles, pocket gophers, and ground squirrels (Zeiner et al. 1990b). Botta's pocket gopher (*Thomomys bottae)* and California ground squirrel were observed and detected in the study area, and the barn owl may forage there. Barn owls are "abundant" and "very common," respectively, in California, however (Zeiner et al. 1990a), and the species has likely benefited from the clearing of scrub and the erection of structures that accompany low-intensity development (Unitt 2004), as is evident in the local area. Clearing of scrub may benefit the pocket gopher and ground squirrel, and indeed, both of these species can be found in association with low-intensity development or other development with associated open space. They are known to damage slopes (through burrowing) and crops, other plantings, and irrigation systems through chewing and foraging for food (University of California 2014a, 2014b). Therefore, it would seem that ample prey and foraging opportunities for the barn owl occur within the study area.

The red-tailed hawk is the most widespread bird of prey in San Diego County and in the United States. The red-shouldered hawk is an uncommon resident of rural and urbanized areas of San Diego County, often found using within open woodlands in urbanized areas, such as that which exists in the immediate vicinity of the study area. Both species use any open area for foraging, despite disturbance, and will take advantage of small patches of undeveloped land, although they favor grasslands with scattered trees. Both species are known to tolerate considerable urbanization. Therefore, the non-native grassland in the study area, while used by the red-tailed hawk and red-shouldered hawk, could be utilized as foraging habitat for these two relatively common and widespread species.

The peregrine falcon is an uncommon resident of San Diego County that hunts on the wing, in flight, primarily for birds. According to the *San Diego County Bird Atlas*, the peregrine falcon typically stays near the coast during the breeding season, but extends inland during the winter (Unitt 2004). This species forages over a wide variety of habitat types for birds, and could use adjacent preserved lands. Because the species hunts on the wing over a wide variety of habitat types and primarily for birds, non-native grassland is not a habitat type that is characteristic of prime foraging habitat for this falcon. The non-native grassland in the study area, although suitable and evidently used by the peregrine falcon, is not essential to the species. American kestrel is a common and widespread falcon, well distributed across San Diego County. It eats mostly insects and other invertebrates, as well as small rodents and birds. The non-native grassland in the study area could be utilized as foraging habitat for the American kestrel.

The northern harrier is an uncommon resident of San Diego County that hunts on the wing, flying low over the ground. Prey include mostly small mammals and birds; also large insects, snakes, lizards, toads and frogs. The foraging value of the non-native grassland for northern harrier is probably low considering that this species was observed only once in all of the surveys conducted on the site. The harrier was observed in an area of chaparral. The non-native grassland in the study area could be utilized as foraging habitat for the northern harrier.

According to Unitt (2004), the white-tailed kite roosts communally, has a history of steep rises and falls in its population, and is concentrated on a single species of prey, the California vole (*Microtus californicus*). While the white-tailed kite is found in the County year-round, its



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Hermes Copper Butterfly Survey Results

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 175 Feet

Figure 9

numbers vary with those of the California vole and the shifting of those communal roosts (Unitt 2004). The California vole is a widespread and common herbivore often found in grassland and meadow habitats with friable soil (Zeiner et al. 1990a), and while the California vole was not specifically observed or otherwise detected in the study area, it is very possible that it is present. No white-tailed kite roosts (or nests) were observed in the study area, and none have been observed during HELIX's biological monitoring of Escondido Creek upstream and downstream of the study area since 2012 (trees in Escondido Creek have the highest potential to support white-tailed kite roosting and nesting in the study area and vicinity). Habitats favoring California vole (e.g., ungrazed or lightly grazed grasslands, agriculture, and grass-dominated wetlands) support more white-tailed kites, and it may be that adequate foraging habitat adjacent to nest sites is important (Moore 2000). Based on checklists submitted to eBird.org, the white-tailed kite is more common at Lake Hodges than at the Del Dios Highlands Preserve adjacent to the site. The white-tailed kite was observed in one third of the 132 checklists submitted for the Lake Hodges-Del Dios hot spot, versus one quarter of the four checklists submitted for the Del Dios Highlands Preserve hot spot. Because the kite is known to use preserved lands in the area, it is not likely to be dependent on the project site for foraging habitat, although it could utilize the site for foraging. With respect to the study area's functions and values for kites, it can be concluded that: (1) the observation of a single white-tailed kite on a single occasion in the study area signifies that the non-native grassland may not support a high prey base of California vole; (2) the non-native grassland in the study area is not evidently used as a primary foraging area and is not associated with a consistent white-tailed kite nesting site in the local area; and/or (3) the non-native grassland in the study area does not appear to be essential to local populations of the species.

1.4.11 Jurisdictional Waters and Wetlands

Waters of the U.S./State

Potential waters of the U.S. under the jurisdiction of the USACE in the study area include wetland waters of the U.S. within Escondido Creek and non-wetland waters of the U.S. within the unnamed ephemeral tributaries to Escondido Creek in the southern portion of the study area (Table 2; Figure 10). The waters of the U.S. summarized below would also represent waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. There are no isolated waters of the State subject to RWQCB jurisdiction, exclusively, pursuant to Porter-Cologne.

Table 2
WATERS OF THE U.S./STATE

USACE / RWQCB Jurisdiction	Project Site		Off-site Impact Areas	
	Area (acres)	**Length** (feet)	**Area** (acres)	**Length** (feet)
Wetland Waters of the U.S./State	--	--	0.33	237
Non-Wetland Waters of the U.S./State	0.15	4,814	0.02	50
TOTAL	**0.15**	**4,814**	**0.35**	**287**

Streambed and Riparian Habitat

Streambed and riparian habitat under the jurisdiction of the CDFW within the study area consists of mule fat scrub, southern willow riparian forest, coast live oak woodland, and unvegetated streambed as presented in Table 3 and shown on Figure 11.

Table 3
STREAMBED AND RIPARIAN HABITAT

CDFW Jurisdiction	Project Site		Off-site Impact Areas	
	Area (acres)	**Length** (feet)	**Area** (acres)	**Length** (feet)
VEGETATED STREAMBED				
Mule fat scrub	--	--	0.01	0
Southern [willow] riparian forest	--	--	0.71	237
Coast live oak woodland	0.89	515	0.01	0
UNVEGETATED STREAMBED				
Streambed	0.19	4,250	0.02	50
TOTAL	**1.08**	**4,765**	**0.75**	**287**

County Resource Protection Ordinance Wetlands

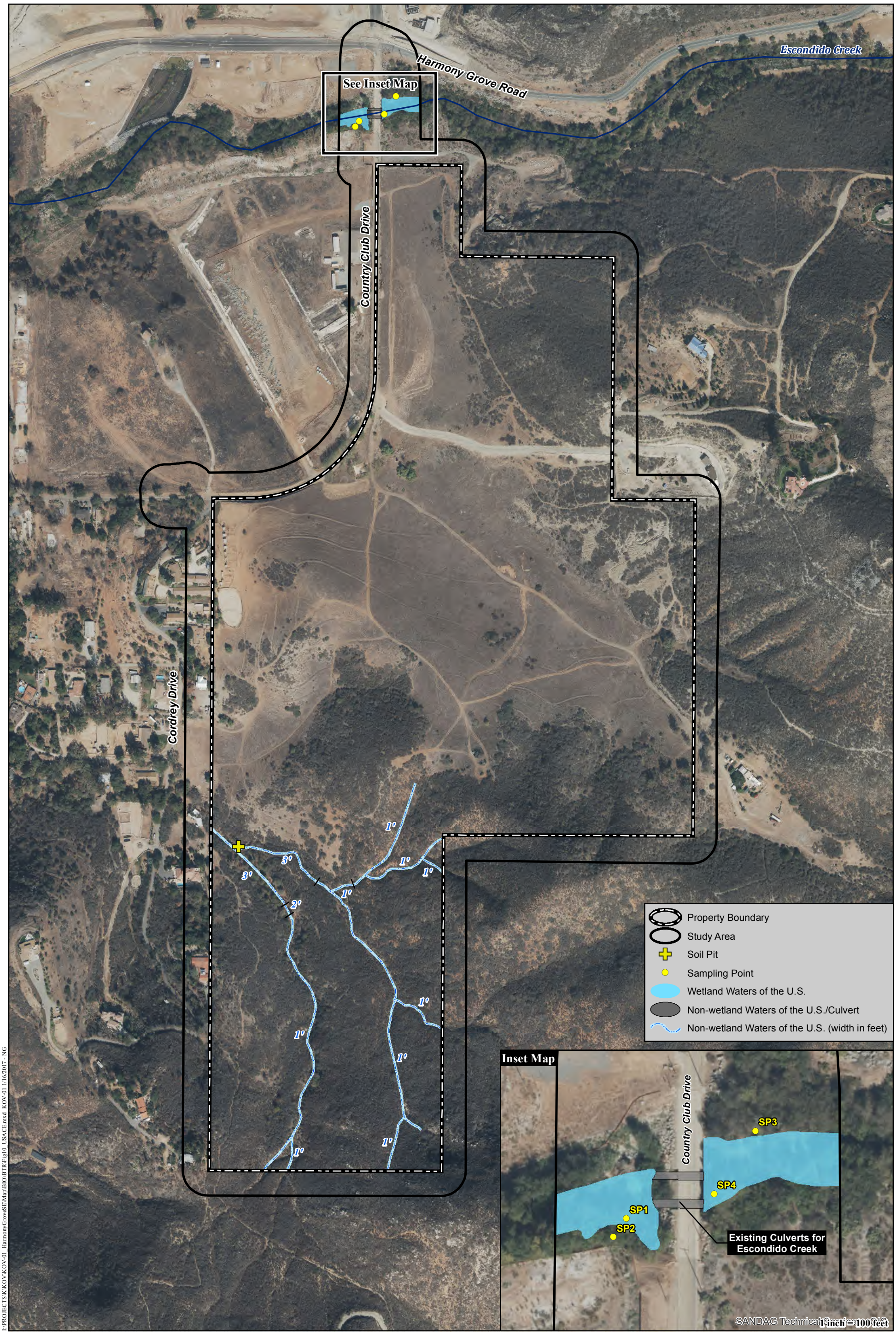
Areas meeting the criteria to be considered County RPO wetlands (County 2011) in the study area include mule fat scrub and southern willow riparian forest (Table 4; Figure 12). The unnamed ephemeral drainage features in the southern portions of the study area do not meet the criteria to be considered County RPO wetlands, as detailed below.

Table 4
RPO WETLANDS

County Jurisdiction	Project Site	Off-site Impact Areas
	Area (acres)	**Area** (acres)
RPO WETLAND		
Mule fat scrub	--	<0.01
Southern [willow] riparian forest	--	0.71
Coast live oak woodland	--	0.01
TOTAL	**--**	**0.72**

RPO wetlands are defined as lands having one or more of the following attributes:

- At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places);
- The substratum is predominantly undrained, hydric soil; or



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Waters of the U.S./State

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

0 350 Feet

Figure 10

Harmony Grove Road

See Inset Map

Country Club Drive

Escondido Creek

Cordrey Drive

7'
2'
3'
2'
1'
3'
1'
1'
1'
1'
1'

Property Boundary
Study Area
Unvegetated Streambed/Culvert
Mule Fat Scrub
Southern Willow Riparian Forest
Coast Live Oak Woodland
Streambed (width in feet)

Inset Map

Country Club Drive

Harmony Grove Road

SANDAG Technical Services GIS

1 inch = 150 feet

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CDFW Jurisdiction

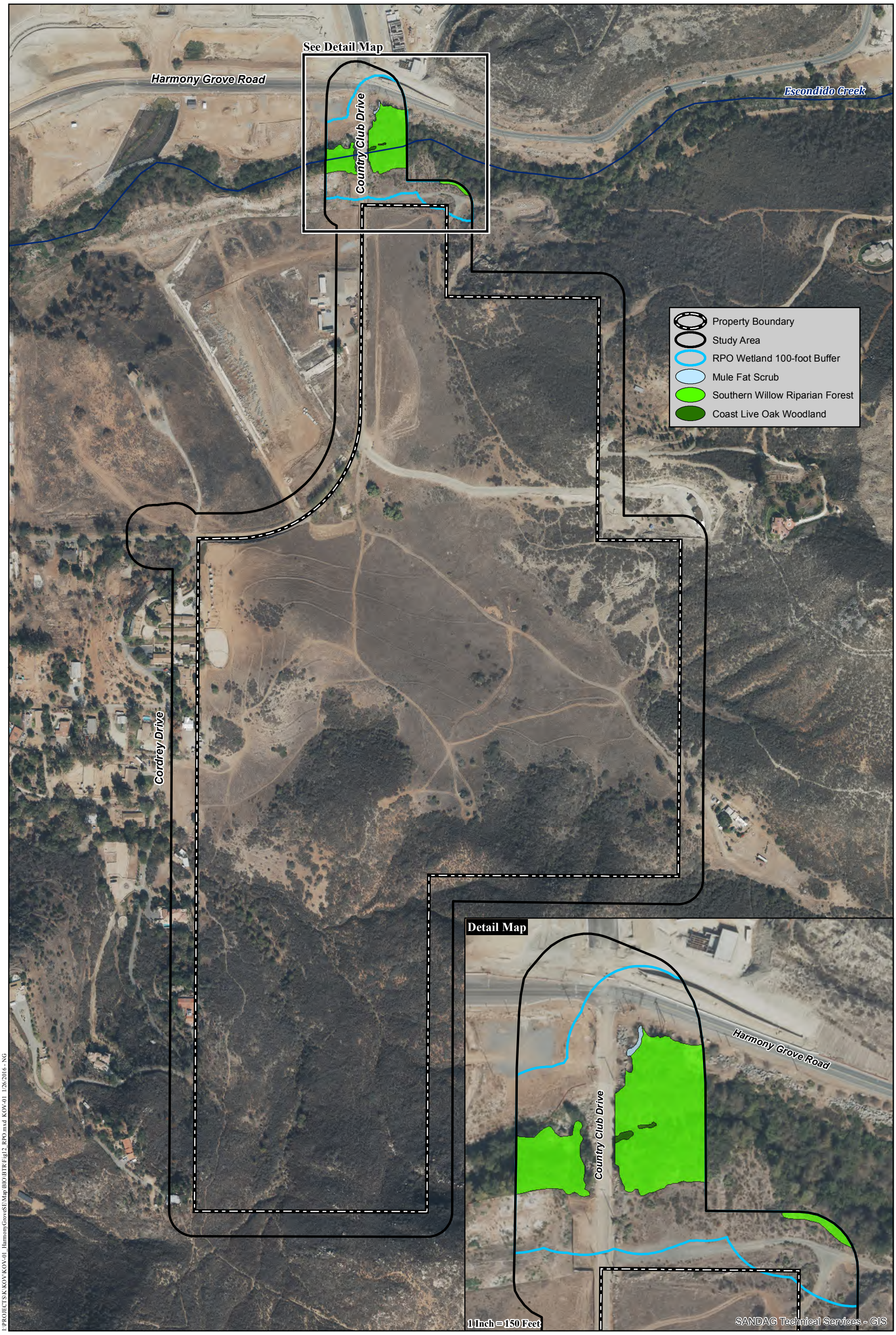
HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N

0 350 Feet

Figure 11



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RPO Wetlands

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 12

- 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.

According to the RPO, the following are not considered RPO wetlands:

- Lands which have attribute(s) specified above, solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of PDS determines that they:

    - Have negligible biological function or value as wetlands;
    - Are small and geographically isolated from other wetland systems;
    - Are not vernal pools; and
    - Do not have substantial or locally important populations of wetland dependent sensitive species.

- Lands that have been degraded by past legal land disturbance activities to the point that they meet the following criteria as determined by the Director of PDS:

    - Have negligible biological function or value as wetlands even if restored to the extent feasible; and,
    - Do not have substantial or locally important populations of wetland dependent sensitive species.

The southern portion of the study area supports several unnamed ephemeral tributaries to Escondido Creek. These drainage features drain off site and flow through several rural residential properties before discharging into a reach of Escondido Creek located further to the west of the study area. The drainages represent erosion features cut within the steep topography and upland landscape that characterizes the southern portions of the study area.

The drainage features occur within upland habitat types and do not support a predominance of hydrophytes. Where vegetation occurs, it is composed of upland trees, shrubs, and herbaceous grasses and forbs found in the chaparral and other upland habitat types that encompass the drainage features. The features do not meet this criterion in the RPO wetlands definition.

The drainage features are ephemeral and convey short duration, low volume flows. As such, the underlying soils are not inundated or saturated for sustained periods of time. The soils are sandy loams and non-hydric, including the area characterized by oak woodland, as confirmed by the soil pit evaluated on January 13, 2016 (Appendix L). The substratum is not predominantly undrained hydric soil. The features do not meet this criterion in the RPO wetlands definition.

The features are ephemeral and not perennial. The substratum is composed of non-hydric, sandy loam soil. The substratum is not predominately non-soil. The features drain off-site into rural residential properties before discharging into Escondido Creek further to the west. They do not contribute substantially to the biological functions or values of wetlands in the drainage system. As such, the drainages do not meet this criterion in the RPO wetlands definition.

1.4.12 Habitat Connectivity and Wildlife Corridors

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

Important corridors and linkages have been identified on a local and regional scale throughout the Multiple Habitat Conservation Program (MHCP) in northwestern San Diego County (covering the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista; AMEC Earth & Environmental et al. 2003) and the County MSCP (County 1998). The planning objectives of most corridors and linkages in western San Diego County include establishing a connection between the northern and southern regional populations of the coastal California gnatcatcher, in addition to facilitating movement and connectivity of habitat for large mammals and riparian bird species.

The study area occurs within lands identified as PAMA under the Draft MSCP North County Plan (Figure 4). It also occurs in the general vicinity of lands identified as Core Area, outside of Linkage Area, in the Plan. PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas and important functional linkages and movement corridors between them. Appendix G identifies the Draft MSCP North County Plan conservation goals for the Harmony Grove Core Area and summarizes how the project is consistent with those goals (County 2009).

With respect to wildlife movement in the region, conservation targets generally include conserving a contiguous riparian corridor in Escondido Creek, and conserving a large core area of upland habitat around Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Related to these are conserving access from core upland areas to the Escondido Creek corridor and conserving regional east-west gnatcatcher movement. These conservation targets are discussed in further detail below.

Escondido Creek

In the vicinity of the study area, Escondido Creek likely functions to facilitate amphibian, bird, and large mammal movement in the local area. The Creek provides habitat for both common and sensitive species. As evidenced by 2014 surveys, sensitive species such as least Bell's vireo, yellow warbler, green heron, and others use the Creek for various life cycle needs. Birds move unobstructed through the local area. Although no evidence of use was observed on the site during surveys, southern mule deer (*Odocoileus hemionus fuliginata*) and coyote (*Canis latrans*) likely

move through the local area to and from surrounding undeveloped or open space lands. The Creek provides shelter and resources for breeding and rearing young, a year-round water source and prey items for foraging, and a linear corridor of habitat for dispersal and migration.

Mule deer are generally crepuscular, but in the immediate vicinity of the project site, are likely to be more active at night due to human activity in the area. Because of their needs for forage and cover, mule deer have been reported to prefer edges over open or closed habitats; edge habitat is generally considered important to deer because of high habitat diversity within ecotones and easy access to more than one habitat type (Kremsater and Bunnell 1992). Mature chaparral stands provide essential cover and forage for mule deer during parts of the year (Wallmo et al. 1981). Mule deer summer foraging sites in California chaparral include riparian areas, seeps, springs, streams, and ponds. In fall, foraging sites include stream bottoms, ridge tops, and northern slopes. In winter, mule deer forage on south slopes and sheltered ridges (Ashcraft 1979). Therefore, with respect to the project site and immediate vicinity, mule deer would be most likely to travel, forage and seek cover at the chaparral-grassland edge, along existing trails, within the chaparral, and within the riparian habitat of Escondido Creek.

Coyote are active day and night, but are generally crepuscular, with peaks in activity at sunrise or sunset. In California, it has been reported that coyotes used habitat edges or ecotones, fuel breaks, existing roads and trails, and open chaparral more than dense, unbroken cover. In southern California where chaparral is adjacent to dense blocks of habitat, coyotes forage at night alone edges and return during the day to chaparral cover. The steep slopes and heavy cover of most chaparral communities impede coyote movements (Quinn 1990). Therefore, with respect to the project site and immediate vicinity, coyote would be most likely to travel, forage and seek cover at the chaparral-grassland edge, along existing trails, and within more-open stages of chaparral.

Within the study area itself, Escondido Creek is disturbed as a result of previous land uses, active construction for Harmony Grove Village, and the existing low-water crossing for Country Club Drive. The Creek has also experienced direct and indirect disturbances from previous agricultural uses when the old dairy farm at Harmony Grove Village was in operation, and it is currently impacted by active construction activities for the Harmony Grove Village development. Country Club Drive currently crosses the Creek perpendicularly as a two-lane road built on rip rap, culverts, and concrete over the low-flow channel. The crossing is depended upon by the residents that live to the east and west of the study area. The existing crossing represents a break in the riparian canopy and physical impediment to wildlife movement through the area.

Wildlife movement functions downstream of the study area are high as the habitat improves in overall quality and the topography steepens, although several residential properties occur that might present barriers and disturbances to wildlife movement. Upstream of the study area, approaching the City of Escondido, the Creek diminishes in quality and function. A few thousand feet upstream of the study area, the Creek becomes heavily infested with non-native vegetation (e.g., Eucalyptus trees), and beyond that farther upstream, the soft-bottomed channel terminates where Enterprise Street crosses the Creek. East of the Enterprise Street crossing, Escondido Creek flows in a concrete-lined channel through urban/developed portions of the City of Escondido from just east of Valley Center Road.

In summary, wildlife movement functions in Escondido Creek are probably highest beginning immediately upstream (east) of the study area and extending downstream (west) to Elfin Forest, with a significant barrier to movement existing within the study area at the existing low-water crossing for Country Club Drive.

Del Dios Highlands Preserve - Elfin Forest Recreational Reserve

Abutting the southern boundary of the study area is the County's Del Dios Highlands Preserve. The Preserve connects to the Elfin Forest Recreational Reserve and the San Dieguito River Park Joint Powers Authority's Coast-to-Crest Trail, which stretches from Del Mar to Julian. These areas support habitat connections and functional travel routes and wildlife corridors between the MHCP areas to the north and the Lake Hodges Segment of the South County MSCP Subarea (County 1997) to the south. Most importantly, these areas serve to facilitate regional gnatcatcher and large mammal movement south of the study area, to and from core habitat around Lake Hodges to the east, and Elfin Forest-San Elijo Hills-Rancho La Costa areas to the west.

Intact stands of scrub and chaparral habitat in the southern portions of the study area directly connect with off-site habitat in the Del Dios Highlands Preserve to the south. In essence, the on-site habitat serves as a northern extension of the larger core habitat associated with the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. This northern extension abruptly terminates on site, in the southern-central portion of the study area, where the scrub and chaparral transition into non-native grassland. The non-native grassland represents the northern terminus of the core habitat and does not significantly contribute to movement functions for large mammals in the area, including mule deer and coyote, because these species are primarily crepuscular and prefer habitat edges, existing trails, and other habitat types for movement. The grassland on the site provides no cover and relatively few resources. As such, no direct, north-south connection of core area habitat exists through the site between the Del Dios Highlands Preserve and Escondido Creek because the areas are separated by non-native grassland. The core habitat extends into the southern portion of the site and bends around the site to the east to connect with Escondido Creek, as explained below.

A constrained, north-south connection of core habitat between Del Dios Highlands Preserve and Escondido Creek exists around the site to the east and along the eastern boundary. One of the Escondido Creek Open Space properties, owned by the Escondido Creek Conservancy, abuts the study area to the north, northeast, and east. Additional undeveloped lands, rural/estate properties, and lands constrained by steep slopes and rugged terrain occur to the immediate east and southeast of the study area. The Escondido Creek Conservancy and Conservation Biology Institute identify the general area as "important for conservation" (ECC and CBI undated) to connect undeveloped lands. Scrub and chaparral in these areas provide a constrained connection of habitat between Del Dios Highlands Preserve and Escondido Creek. The connection is more constrained within the study area and along the eastern boundary due to existing residential uses, patchiness of scrub and chaparral habitat, and presence of non-native grassland. Rural residential uses abut the eastern boundary of the study area that present an existing constraint to the connection, although developments are limited to several narrow roadways and residential homes amongst the scrub and chaparral. The Draft MSCP North County Plan California Gnatcatcher Habitat Evaluation Model shows the habitat within the study area and along the eastern boundary

ranked as having no value to the gnatcatcher for nesting (County 2008b). This is consistent with the patchiness of habitat inventoried during 2014 surveys, despite the gnatcatcher pair confirmed along the eastern boundary. The scrub also supports a prevalence of chaparral constituents due to its adjacency with chaparral that has been established in the area for some time.

While the project site itself does not function as a corridor, the eastern edge of the site likely contributes to north-south wildlife movement that occurs through the general area referred to as West Ridge, which would connect known coastal California gnatcatcher occurrences north of Escondido Creek to other known occurrences south and southeast of the site within the Del Dios Highlands Preserve. There is an area of high value gnatcatcher habitat about half a mile northeast of the site (County 2008b). The high value habitat area is an isolated island preserve designated as draft PAMA within Harmony Grove Village and Rincon del Diablo Water District open space (Figure 4). The project site is separated from this area by Harmony Grove Village developments and local roadways, although a constrained and fragmented connection of scrub and chaparral habitat exists along a linear path to the general northeast, east, and southwest of the site.

A general assessment of off-site lands situated along the constrained linkage was conducted based on surveys and review of aerial imagery. The Harmony Grove Village and Rincon del Diablo Water District island preserve represents the northern limit of the constrained linkage section that was assessed (Figure 4). The West Ridge area to the east of the site represents the approximate center of the linkage. Lands to the south within Del Dios Highlands Preserve and further to the southeast toward Lake Hodges represent the southern limit of the linkage section.

The northern limit at the Harmony Grove Village and Rincon del Diablo Water District island preserve supports coastal sage scrub and coastal sage-chaparral on moderate to steep slopes, with evidence of previous disturbance. This is the area of high value to gnatcatcher based on the County Habitat Evaluation Model, although portions of the habitat appear to be disturbed and no gnatcatcher records are reported at this location. The southern tip of this area is characterized by severe slopes from previous mining activities. Moving south from the Harmony Grove Village and Rincon del Diablo Water District island preserve, the connection of habitat is broken by existing developments. Low- and poor-flying birds, such as gnatcatcher, likely have two avenues of movement at this break point as they continue south toward Escondido Creek and the Escondido Creek Conservancy open space. They could continue directly south, along lands on the north and west side of Harmony Grove Road, or they could continue directly southeast, along lands on the south and east side of Harmony Grove Road.

The avenue of movement directly south of the Harmony Grove Village and Rincon del Diablo Water District island preserve eventually leads to another island preserve within Harmony Grove Village open space, but the path is interrupted by existing graded pads, road developments, and residential developments that range 400 feet to 1,000 feet in length along the movement path. Once at the second Harmony Grove Village island preserve, the habitat is composed of coastal sage scrub and coastal sage-chaparral on moderate to steep slopes. This area is not identified as high value gnatcatcher habitat on the Habitat Evaluation Model, although gnatcatcher records are reported at this location. Moving south toward the Escondido Creek Conservancy open space, gnatcatchers cross Harmony Grove Road, which averages

approximately 30 feet in length, before entering the Escondido Creek riparian corridor and undeveloped scrub and chaparral within the Escondido Creek Conservancy open space. These areas are not identified as high value habitat and no gnatcatcher records are reported at these locations.

The movement avenue directly southeast of the Harmony Grove Village and Rincon del Diablo Water District island preserve crosses Harmony Grove Road and eventually leads to the Escondido Creek riparian corridor, with access to larger blocks of undeveloped scrub and chaparral on the south and east sides of the Creek. These areas are also not identified as high value gnatcatcher habitat and no gnatcatcher records are reported at these locations. This path is interrupted by existing roadway and abandoned industrial developments approximately 30 feet to 400 feet in length. Once across these developments, gnatcatchers can continue south and east within Escondido Creek riparian habitat or the adjacent scrub and chaparral within the Escondido Creek Conservancy open space.

Once at the Escondido Creek Conservancy open space, birds would continue south and southeast toward the West Ridge. This north-south trending movement avenue is characterized by scrub and chaparral on moderate slopes, with portions constrained by several narrow driveways and rural residences. The undeveloped areas are characterized by broken and intact stands of coastal sage scrub, coastal sage-chaparral, and mixed chaparral on moderate slopes. None of the areas are identified as high value gnatcatcher habitat and no gnatcatcher records are reported. The total width of the avenue, including the existing undeveloped habitat, driveways, and rural residences, ranges from approximately 1,500 feet to 2,500 feet across the general area east of the site. The scrub and chaparral along the eastern boundary of the site is situated along the westernmost edge of this avenue. As discussed above, the on-site coastal sage scrub in this area is considered to be of "Intermediate Value" due to it being less fragmented than other on-site scrub and due to the presence of a confirmed gnatcatcher breeding territory. Additional coastal sage scrub, coastal sage-chaparral, and mixed chaparral occur off-site to the east toward the West Ridge and along the north-south constrained linkage avenue. Properties along this avenue are either conserved within the Escondido Creek Conservancy open space, built-out to zoning designations with existing rural residences, or characterized by rugged terrain and steeper slopes, which present a significant constraint to future developments.

Once in the vicinity of the project site and areas east near the West Ridge, birds would continue to the general south, southeast, and southwest within a large and contiguous habitat block that includes the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. This represents the southern terminus of the constrained linkage. Most of the habitat is mixed chaparral with smaller pockets of coastal sage scrub and coastal sage-chaparral. None of the areas are identified as high value gnatcatcher habitat, although scattered gnatcatcher records are reported further south and southeast of the project site.

In summary, a direct, north-south connection of core habitat between Del Dios Highlands Preserve and Escondido Creek does not exist through the Project site due to the large area of non-native grassland, which serves as an exposed break in the scrub and chaparral. Areas along the eastern boundary of the site could facilitate north-south movement of large mammals to and from Escondido Creek, although the habitat is patchy and constrained by existing residential

uses. Areas along further to the east of the site are less constrained, where a more direct connection of scrub and chaparral habitat occurs along West Ridge.

1.5 APPLICABLE REGULATIONS

Biological resources in the study area are subject to regulatory review by federal, State, and local agencies. 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) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply include federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), CFG Code, and County RPO.

With respect to the proposed Project, the USFWS will be responsible for reviewing issues related to the coastal California gnatcatcher and least Bell's vireo pursuant to the FESA, migratory birds pursuant to the MBTA, Habitat Loss Permit, and regional conservation planning in light of the Draft MSCP North County Plan. The USACE will be responsible for reviewing issues related to waters of the U.S. The RWQCB will be responsible for reviewing issues related to waters of the State pursuant to the CWA. The State Porter-Cologne Water Quality Control Act would not apply as there are no isolated waters of the State in the study area. The CDFW will be responsible for reviewing issues related to vegetated and unvegetated streambeds pursuant CFG Code, nesting birds and raptors pursuant to CFG Code, Habitat Loss Permit, and regional conservation planning in light of the Draft MSCP North County Plan.

The County is the lead agency for the CEQA environmental review process in accordance with State law and local ordinances. During CEQA review, the County will be responsible for reviewing project issues per the Guidelines for Determining Significance for Biological Resources (County 2010a) and the County RPO. The County will also be responsible for reviewing the proposed Project with respect to Habitat Loss Permit, conservation planning in light of the Draft MSCP North County Plan, and consistency with biological goals and policies of the Elfin Forest – Harmony Grove Community Plan.

1.5.1 Federal Government

Federal Endangered Species Act

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

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native

habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, 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. There is no designated critical habitat in the study area. The nearest critical habitat is for the coastal California gnatcatcher, approximately 1.3 miles to the southwest.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' use of a site and impacts to 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) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

Migratory Bird Treaty Act

All migratory bird species that are native to the U.S. or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the 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. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments. CWA Section 404 permits require Water Quality Certification by the RWQCB pursuant to CWA Section 401.

1.5.2 State of California

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects

(or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

California Endangered Species Act

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

Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the State Legislature's intent to "…preserve, protect and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

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

Natural Communities Conservation Planning Act

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 CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. 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 CDFW and USFWS 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 take permits. The County does not yet have an NCCP plan adopted for North County; the MSCP North County Plan is still in draft form and has been since 2009 (County 2009).

1.5.3 County of San Diego

Habitat Loss Permit Ordinance

The Habitat Loss Permit (HLP) Ordinance was adopted in March of 1994 (County 1994) in response to both the listing of the coastal California gnatcatcher as a federal threatened species and the adoption of the NCCP Act by the State. Pursuant to the Special 4(d) Rule under the FESA, the County is authorized to issue "take permits" for the coastal California gnatcatcher (in the form of Habitat Loss Permits) in lieu of Section 7 or 10(a) permits typically required from the USFWS. Although issued by the County, the USFWS and CDFW must concur with the issuance of an HLP for it to become valid as take authorization under the FESA. The HLP Ordinance states that projects must obtain an HLP prior to the issuance of a grading permit, clearing permit, or improvement plan if the project would directly or indirectly impact any of several coastal sage scrub habitat types. The HLP Ordinance requires an HLP if coastal sage scrub or related habitat will be impacted, regardless of whether it is currently occupied by the coastal California gnatcatcher. An HLP is not required for projects within the boundaries of the MSCP that have an adopted subarea plan since take authorization is conveyed to those projects through compliance with the MSCP. HLPs are also not required for projects that have separately obtained Section 7 or 10(a) permits for take of the coastal California gnatcatcher.

Approval of an HLP is based on findings made pursuant to the HLP Ordinance. Findings need to demonstrate that a project's loss of coastal sage scrub would not exceed the County's 5 percent interim allowable loss limit. It would also have to demonstrate that the habitat loss would not preclude connectivity between areas of high habitat values or preclude or prevent the preparation of a subregional NCCP plan. Additionally, the findings must show that the habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the Southern California Coastal Sage Scrub NCCP Process Guidelines, and that the habitat loss would not appreciably reduce the likelihood of survival and recovery of listed species in the wild. Finally, the habitat loss must be incidental to otherwise lawful activities. An HLP application must be filed with the County if the Draft MSCP North County Plan has not been adopted at the time of environmental review of the proposed Project since impacts to coastal sage scrub and the coastal California gnatcatcher would occur. An HLP requires concurrence from USFWS and CDFW.

Resource Protection Ordinance

The County regulates natural resources (among other resources) as sensitive biological resources via the RPO (County 2011), the regulations of which cover wetlands, wetland buffers, sensitive plant and animal species, sensitive vegetation communities/habitat types, and habitats containing sensitive animals or plants. RPO section 86.604(a) regulates wetlands and wetland buffers as follows:

(a) Wetlands. The following permitted uses shall be allowed:

(1) Aquaculture, provided that it does not harm the natural ecosystem.

(2) Scientific research, educational or recreational uses, provided that they do not harm the natural ecosystem.

(3) Removal of diseased or invasive exotic plant species as identified and quantified in writing by a qualified biologist and approved in writing by the Director of Planning and Land Use, and removal of dead or detached plant material.

(4) Wetland creation and habitat restoration, revegetation and management projects where the primary goal is to restore or enhance biological values of the habitat, and the activities are carried out pursuant to a written management/enhancement plan approved by the Director of Planning and Land Use.

(5) Crossings of wetlands for roads, driveways or trails/pathways dedicated and improved to the limitations and standards under the County Trails Program, that are necessary to access adjacent lands, when all of the following conditions are met:

(aa) There is no feasible alternative that avoids the wetland;

(bb) The crossings are limited to the minimum number feasible;

(cc) The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible);

(dd) The least-damaging construction methods are utilized (e.g., staging areas shall be located outside of sensitive areas, work shall not be performed during the sensitive avian breeding season, noise attenuation measures shall be included and hours of operation shall be limited so as to comply with all applicable ordinances and to avoid impacts to sensitive resources);

(ee) The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development; and

(ff) There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/ enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio).

(b) Wetland Buffer Areas. In the wetland buffer areas, permitted uses shall be limited to the following uses provided that there is no overall decrease in biological values and functions of the wetland or wetland buffer:

(1) Improvements necessary to protect adjacent wetlands.

(2) All uses permitted in wetland areas.

The study area contains 1.13 acres of RPO wetlands, all of which are off site in Escondido Creek (Table 4 and Figure 12). The off-site RPO wetlands consist of mule fat scrub, southern willow riparian forest, and coast live oak woodland that support wetland conditions. Anticipated improvements to Country Club Drive over Escondido Creek would be restricted to only those necessary to provide a safe crossing and enhance the biological and hydrological functions and services of the reach. The impacts would be primarily temporary and are necessary to remove the existing low-water crossing, construct the new span bridge, stabilize the channel embankment, and restore the riverine hydrology of the reach. During high flows, the existing low-water crossing becomes breached and not possible to cross by vehicle or other means, thereby stranding local residents who rely on that crossing to access Harmony Grove Road.

The anticipated improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The new bridge would further improve biological functions of the riparian corridor and Creek, providing improved passage for wildlife and benefits to downstream water quality in comparison to existing conditions. The new bridge would further reduce the likelihood of wildlife being harmed by vehicles at the crossing. As stated in Appendix G, the Draft MSCP North County Plan identifies two goals for Escondido

Creek, both of which the project will be consistent with and provide for a superior condition compared to the existing baseline condition: (1) protect the Escondido Creek floodplain; and (2) maintain connectivity, particularly east-west, along Escondido Creek canyon by minimizing road and maintaining natural habitat (County 2009). The project has been specifically designed to avoid the Escondido Creek floodplain, with avoidance buffers of 100 feet from the edge of riparian canopy protected by an additional 100 feet of limited building zone easement, for a total setback of 200 feet. With the new span bridge and proposed restoration actions, the project would enhance the biological and hydrologic function of Escondido Creek at the Country Club Drive crossing to a condition superior to what currently exists, thereby enhancing the natural flow regime and habitat connectivity. The project further conserves east-west connectivity along Escondido Creek Canyon by maintaining natural habitat and further constraining widths beyond that which already exists. It conserves wildlife movement patterns across the southern portion of the site and within existing preserved lands and rural-zoned parcels immediately east of the site to access Escondido Creek.

In comparing different options, the replacement could be accomplished through either a new bridge or direct replacement in-place with a wider low-water crossing. Replacement in-place with a wider crossing would result in additional permanent loss of habitat and would not improve water quality, hydrology, or wildlife movement at the crossing. The bridge span represents the least environmentally damaging alternative to crossing the Creek and impacts to RPO wetland are necessary and unavoidable. Temporary impact areas would be restored and the areas would be expected to provide the equivalent or superior functions and services once the restored habitat has established. Permanent impact areas would be limited to small areas for bridge pilings and reinforced embankments, and would be compensated through on- and/or off-site establishment, re-establishment, rehabilitation, enhancement, and/or preservation of in-kind or like-functioning habitat in the region.

RPO section 86.604(f) regulates Sensitive Habitat Lands as follows:

(f) Sensitive Habitat Lands. Development, grading, grubbing, clearing or any other activity or use damaging to sensitive habitat lands shall be prohibited. The authority considering an application listed at Section 86.603(a) above may allow development when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species.

Sensitive Habitat Lands are defined by the RPO as:

- Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State CEQA Guidelines (14 Cal. Admin. Code Section 15000 *et seq*.), including the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.

    - "Unique vegetation community" refers to associations of plant species which are rare or substantially depleted. These may contain rare or endangered species, but

other species may be included because they are unusual or limited due to a number of factors, for example: (a) they are only found in the San Diego region; (b) they are a local representative of a species or association of species not generally found in San Diego County; or (c) they are outstanding examples of the community type as identified by the CDFW listing of community associations.

Sensitive Habitat Lands in the study area include lands supporting the core on-site population of wart-stemmed ceanothus in the southern portion of the study area. The reason this habitat is considered a Sensitive Habitat Land is provided below.

- Southern mixed chaparral in the southern portion of the study area supporting the core on-site population of wart-stemmed ceanothus.

    - Within the southern portion of the study area, this community supports a core population of an estimated 21,150 wart-stemmed ceanothus individuals. Also present in this area are summer holly (15 individuals), San Diego sagewort (four individuals), and ashy spike-moss (four concentrations). These areas are "unique" in that they support rare plant species and they are considered sensitive by CDFW (2010). CDFW's rarity ranking follows the NatureServe's Heritage Methodology (NatureServe 2009) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW. Southern mixed chaparral is ranked as G3 and S3. G3 is vulnerable and at moderate risk of extinction or elimination due to a restricted range, recent and widespread declines, or other factors. S3 is vulnerable due to a restricted range, recent and widespread declines, or other factors making it vulnerable to extirpation.

The remaining portions of the study area are not Sensitive Habitat Lands as they do not meet the Sensitive Habitat Lands definition. The remaining portions do not represent areas which are necessary to support a viable population of rare and endangered species in perpetuity, or which are critical to the proper functioning of a balanced natural ecosystem or which serve as a functioning wildlife corridor. The remaining portions of the study area are not unique and are not ranked by the CDFW (2010) as being sensitive or, for coast live oak woodland, are ranked G5 (secure) and S4 (apparently secure).

Although southern willow riparian forest, mule fat scrub, and coast live oak woodland occur in Escondido Creek, the habitat that occurs within the study area is not the highest quality and is disturbed from the existing low-water crossing and impacts associated with Harmony Grove Village restoration efforts. Further, no least Bell's vireo were suspected to be breeding in the habitat during 2014 presence/absence surveys.

Although a single gnatcatcher breeding pair was found in the coastal sage scrub within the study area, the habitat is patchy and fragmented. Its preservation is not vital to support a viable population of gnatcatchers in perpetuity, especially considering the abundance of core habitat

located further to the southeast around Lake Hodges, the south around Del Dios and Rancho Cielo, and the west and southwest in the Elfin Forest and Rancho La Costa area.

2.0 PROJECT EFFECTS

Direct impacts are immediate impacts resulting from permanent habitat removal. Direct impacts were quantified by overlaying the limits of project-related impacts on the biological resources map of the site. Indirect impacts are actions that are not direct removal of habitat, but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.) or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). 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.

Following County Guidelines, a total of 77.9 acres of the approximately 111-acre Project site would be considered impacted either by direct physical removal of the habitat as a result of the project, dedication of trail easement, or by further fragmenting and isolating the habitat. Some of the direct impacts would be temporary in nature; these areas would be impacted by Project grading and subsequently restored back to native habitat as a result of the Project. A total of 0.1 acre would be considered impact neutral due to location within an existing easement that would remain in place. The remaining 34.8 acres within the Project site would be placed in biological open space. A total of 4.6 acres of off-site impacts would occur as a result of anticipated improvements to Country Club Drive, including roadway widening and potential bridge construction at the existing Escondido Creek crossing. As with the Project's on-site direct impacts, some of the off-site impacts will be temporary in nature and restored back to native habitat, subject to applicable fuel modification requirements. For example, off-site impact areas that fall outside of permanent roadway (i.e., new paved areas and sidewalks), bridge (i.e., bridge piers, abutments, and bank stabilization), and required fuel modification features could be restored. This includes restoration of the temporary impact area within Escondido Creek, with the commitment to enhance and lift biological and hydrological functions and services, and provide a superior condition compared to that which currently exists. The new bridge would improve biological functions of the riparian corridor and Creek compared to the existing at grade crossing by providing improved passage for wildlife. It would further improve hydrology through the reach and provide benefits to downstream water quality. The Project also proposes several off-site utility connections, including potable water, reclaimed water, and sewer; however, these off-site facilities would be installed using narrow trenches located entirely within existing developed (paved) roadways, and as such, would have no effect on biological resources.

Figure 13 depicts the direct impact areas of the Project, including both on- and off-site impact areas where grading, fuel modification, and other physical disturbances to the land are proposed. Figure 14 depicts the direct impact areas in relation to the biological resources found within the study area. Figure 15 depicts the impacts of the Biologically Superior Alternative in relation to biological resources. Figure 16 provides a plan view and cross-section schematic of the new bridge over Escondido Creek. The proposed biological open space for the Project is depicted on Figures 14, 17, and 18. Figures 14 and 17 also depict the temporary impact areas that would be

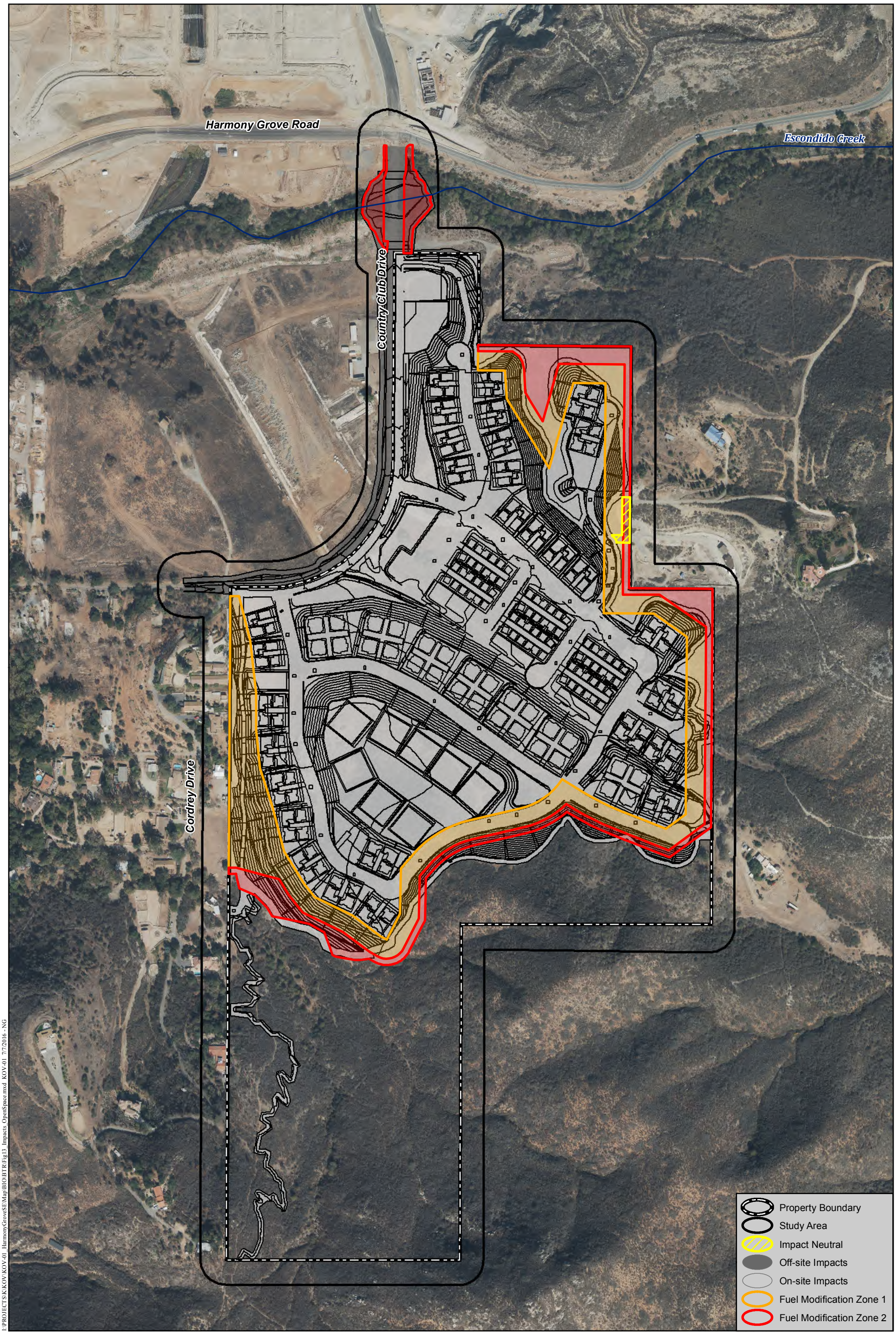
restored to Diegan coastal sage scrub and included in the biological open space with the proposed Project. In total, these restoration areas amount to approximately 1.8 acres of Diegan coastal sage scrub that will be established within the biological open space as a result of the proposed Project.

As depicted on Figure 15, the alternative would impact 64.6 acres of the site and place 46.5 acres in biological open space. There would be still be 0.4 acre of impact neutral area, and off-site impacts would be the same. Impacts to sensitive habitat types and areas occupied by sensitive species would be reduced. A wider swath of habitat along the eastern boundary of the site would also be conserved to provide additional on-site habitat for north-south wildlife movement. No on-site coastal sage scrub restoration or creation would occur as part of the Biologically Superior Alternative.

The Project has been designed to conserve high quality habitat in the southern portion of the study area that supports a core population of wart-stemmed ceanothus and directly connects to existing preserve lands and open space within the Del Dios Highlands Preserve.

As depicted on Figure 19, the Project is sited at the southern terminus of the larger Harmony Grove Village. The Project's development footprint abuts the boundary of Harmony Grove Village, such that the overall development in the local area is consolidated and the edge effect is minimized. The Project's siting of development and open space design conserves the core area and linkage functions in the region by concentrating development in the lower quality, non-native grasslands on the site, and minimizing edge effect by hugging up against Harmony Grove Village and existing developments to the west. Project development has been consolidated to reduce edge effects and concentrated in the portions of the site with the lowest, relative biological value. The proposed pad locations have been sited as far away from sensitive resources as possible. They are separated from open space and undeveloped areas by manufactured slopes, portions of which would be revegetated with native habitat, in addition to fuel modification zones, portions of which propose native habitat thinning and/or irrigation. The proposed developments will be situated at lower elevations, below the cut slopes and fuel modification areas, compared to the native habitat thinning and open space areas. Having the developments sit lower than the resources will help to prevent and minimize indirect effects of the project. Manufactured slopes and fuel modification zones are expected to provide some biological functions and values under post-project conditions, especially in buffering open space from proposed developments, preventing vehicle and pedestrian encroachment, and providing habitat for animal species known to the local area.

The proposed conservation design results in preservation of 34.8 acres of the approximately 111-acre site, which represents roughly 31 percent conservation. The design conserves the highest quality, intact chaparral habitat on the site, including southern mixed chaparral occupied by a major population of over 21,000 wart-stemmed ceanothus individuals. The habitat also supports San Diego sagewort, summer holly, and ashy spike-moss. This habitat is contiguous with the Del Dios Highlands Preserve and would expand the existing regional core area. The design also conserves several other native habitat types, including the majority of southern mixed chaparral on the site, coast live oak woodland, and several stands of Diegan coastal sage scrub. The design would conserve the existing wildlife movement functions of the site and surrounding



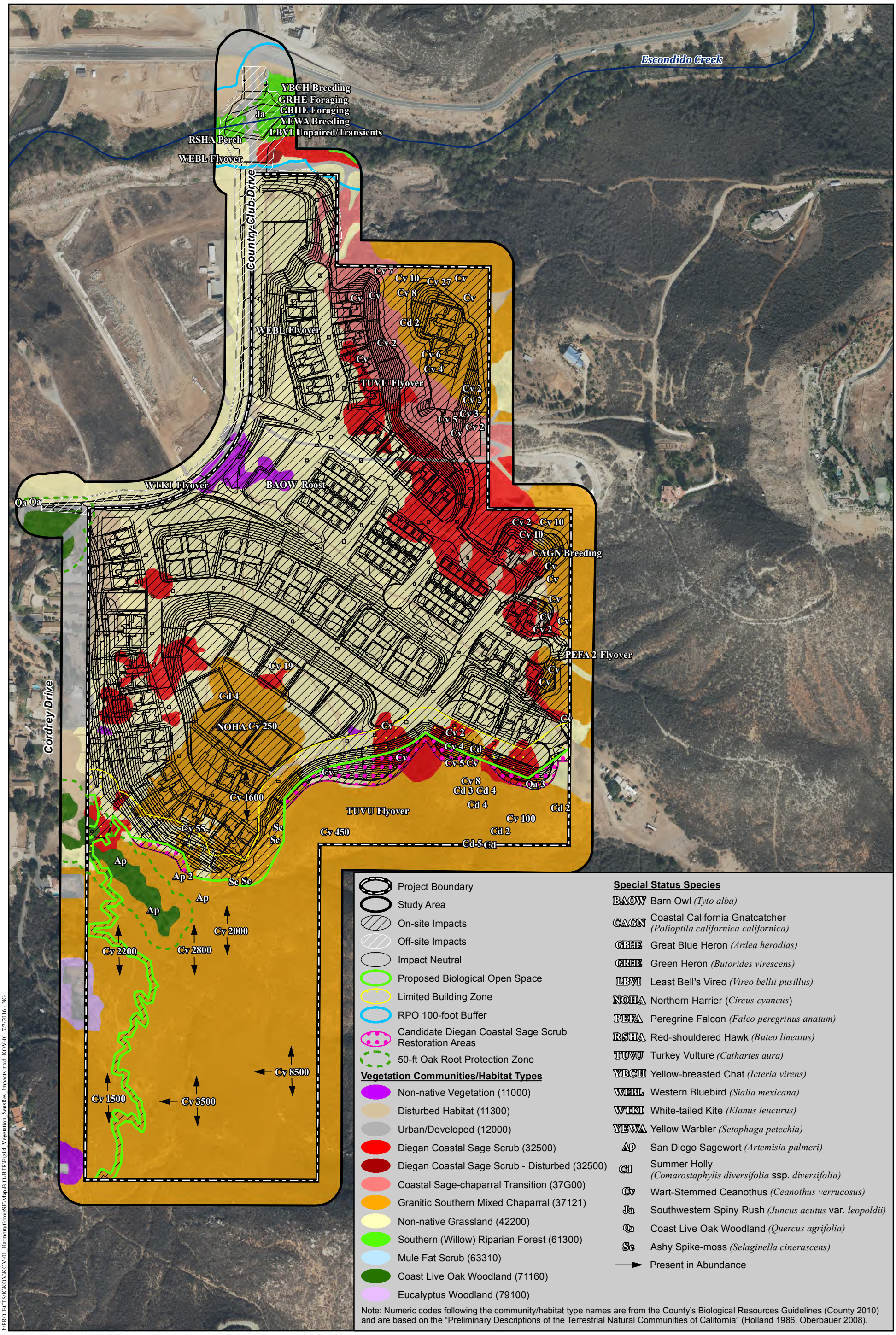
Project Impacts

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 13



Project Boundary
Study Area
On-site Impacts
Off-site Impacts
Impact Neutral
Proposed Biological Open Space
Limited Building Zone
RPO 100-foot Buffer
Candidate Diegan Coastal Sage Scrub Restoration Areas
50-ft Oak Root Protection Zone

Vegetation Communities/Habitat Types

- Non-native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Coastal Sage-chaparral Transition (37G00)
- Granitic Southern Mixed Chaparral (37121)
- Non-native Grassland (42200)
- Southern (Willow) Riparian Forest (61300)
- Mule Fat Scrub (63310)
- Coast Live Oak Woodland (71160)
- Eucalyptus Woodland (79100)

Special Status Species

- BAOW Barn Owl *(Tyto alba)*
- CAGN Coastal California Gnatcatcher *(Polioptila californica californica)*
- GBHE Great Blue Heron *(Ardea herodias)*
- GRHE Green Heron *(Butorides virescens)*
- LBVI Least Bell's Vireo *(Vireo bellii pusillus)*
- NOHA Northern Harrier (*Circus cyaneus*)
- PEFA Peregrine Falcon *(Falco peregrinus anatum)*
- RSHA Red-shouldered Hawk *(Buteo lineatus)*
- TUVU Turkey Vulture *(Cathartes aura)*
- YBCH Yellow-breasted Chat *(Icteria virens)*
- WEBL Western Bluebird *(Sialia mexicana)*
- WTKI White-tailed Kite *(Elanus leucurus)*
- YEWA Yellow Warbler *(Setophaga petechia)*
- Ap San Diego Sagewort *(Artemisia palmeri)*
- Cd Summer Holly *(Comarostaphylis diversifolia* ssp. *diversifolia)*
- Cv Wart-Stemmed Ceanothus *(Ceanothus verrucosus)*
- Ja Southwestern Spiny Rush *(Juncus acutus* var. *leopoldii)*
- Qa Coast Live Oak Woodland *(Quercus agrifolia)*
- Sc Ashy Spike-moss *(Selaginella cinerascens)*
- → Present in Abundance

Note: Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986, Oberbauer 2008).

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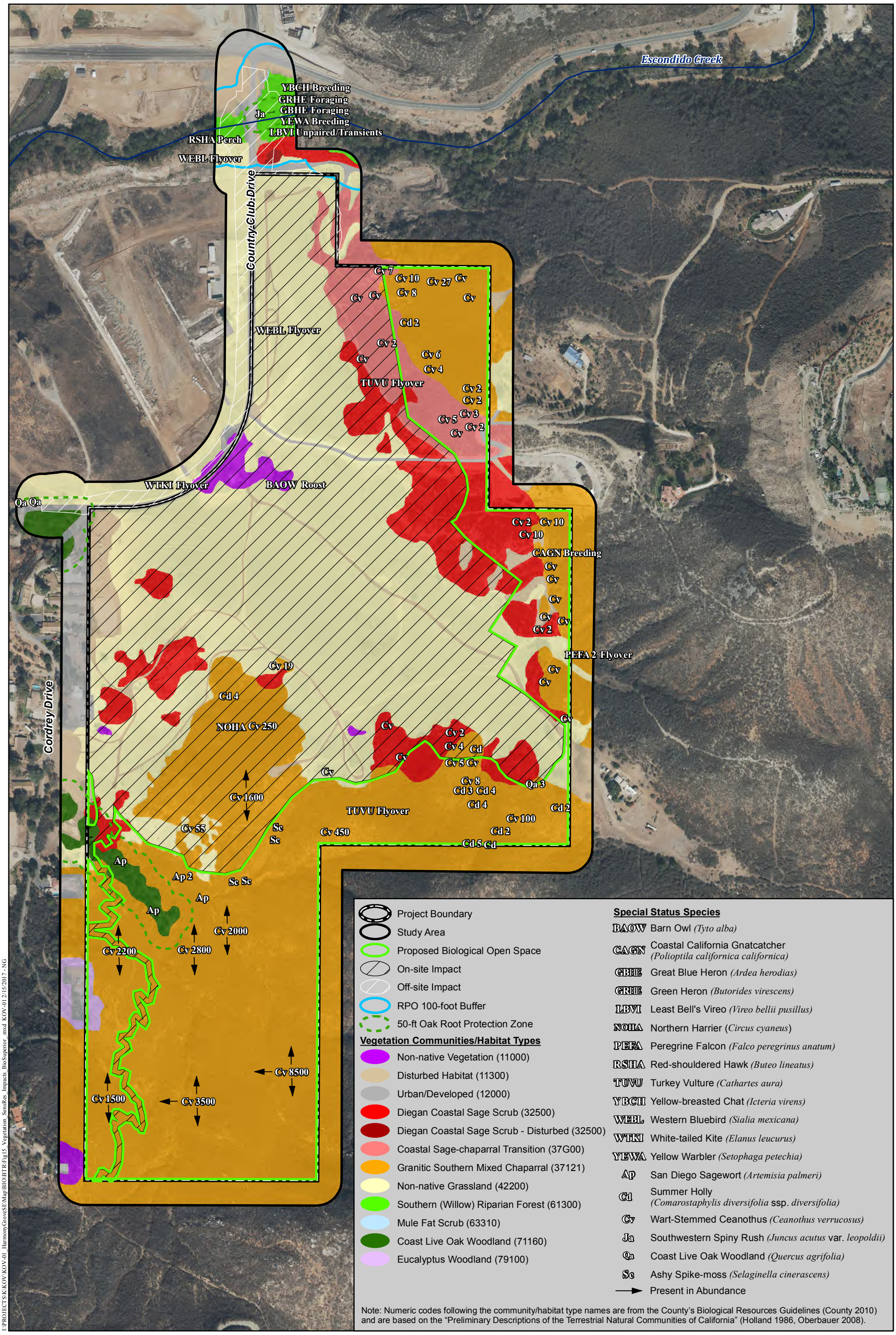
Proposed Project Vegetation and Sensitive Resources/Impacts

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 14



Project Boundary
Study Area
Proposed Biological Open Space
On-site Impact
Off-site Impact
RPO 100-foot Buffer
50-ft Oak Root Protection Zone

Vegetation Communities/Habitat Types

- Non-native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Coastal Sage-chaparral Transition (37G00)
- Granitic Southern Mixed Chaparral (37121)
- Non-native Grassland (42200)
- Southern (Willow) Riparian Forest (61300)
- Mule Fat Scrub (63310)
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- NOHA Northern Harrier (*Circus cyaneus*)
- PEFA Peregrine Falcon *(Falco peregrinus anatum)*
- RSHA Red-shouldered Hawk *(Buteo lineatus)*
- TUVU Turkey Vulture *(Cathartes aura)*
- YBCH Yellow-breasted Chat *(Icteria virens)*
- WEBL Western Bluebird *(Sialia mexicana)*
- WTKI White-tailed Kite *(Elanus leucurus)*
- YEWA Yellow Warbler *(Setophaga petechia)*
- Ap San Diego Sagewort *(Artemisia palmeri)*
- Cd Summer Holly *(Comarostaphylis diversifolia* ssp. *diversifolia)*
- Cv Wart-Stemmed Ceanothus *(Ceanothus verrucosus)*
- Ja Southwestern Spiny Rush *(Juncus acutus* var. *leopoldii)*
- Qa Coast Live Oak Woodland *(Quercus agrifolia)*
- Sc Ashy Spike-moss *(Selaginella cinerascens)*
- Present in Abundance

Note: Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986, Oberbauer 2008).

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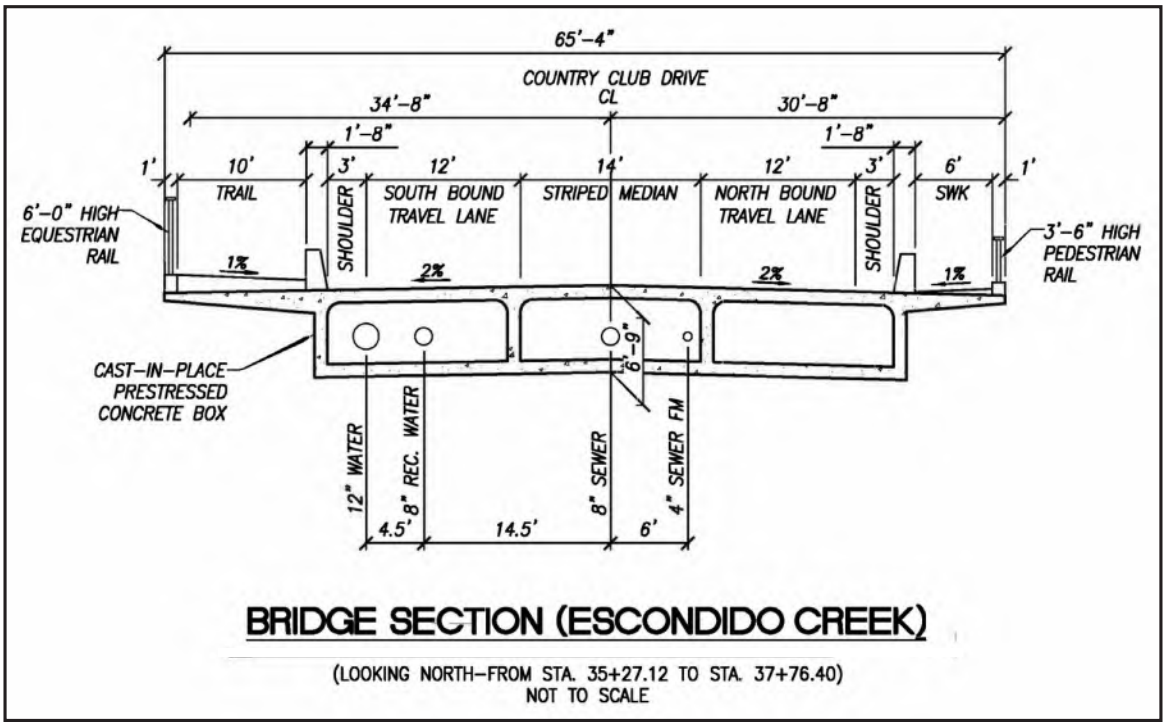
Biologically Superior Alternative Vegetation and Sensitive Resources/Impacts

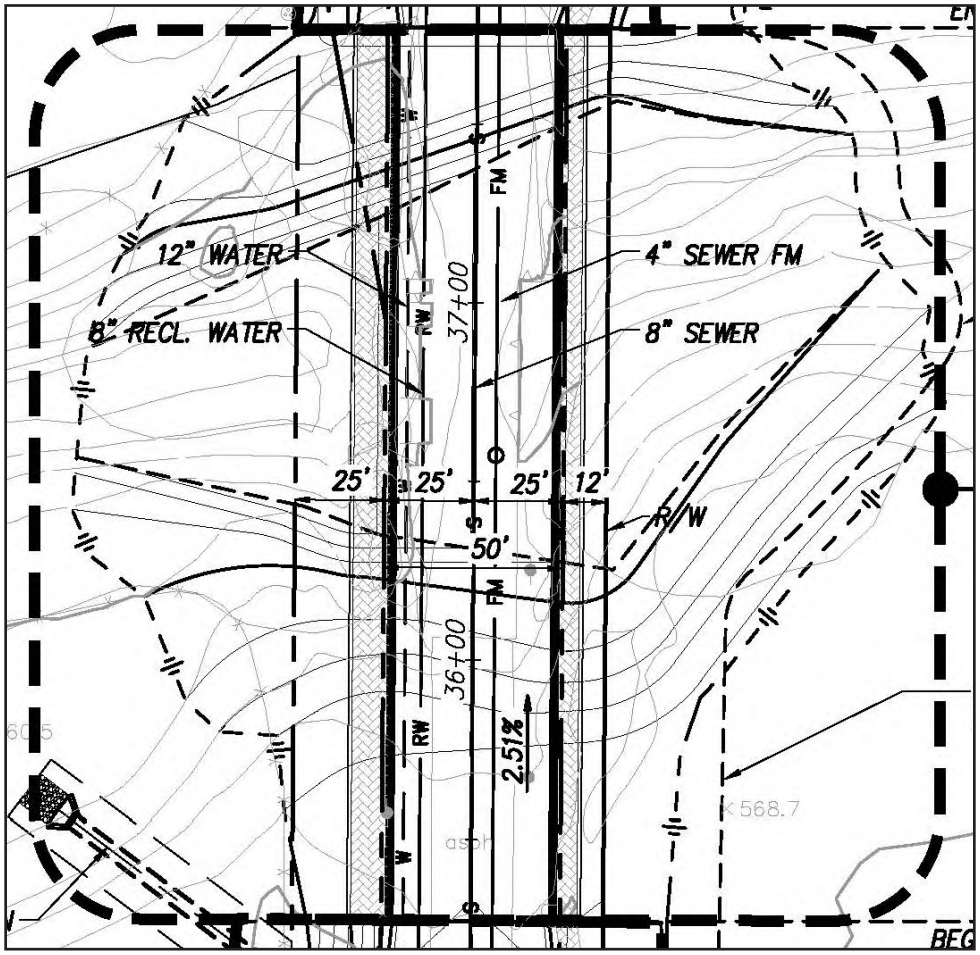
HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 15





Source: PDC 2016

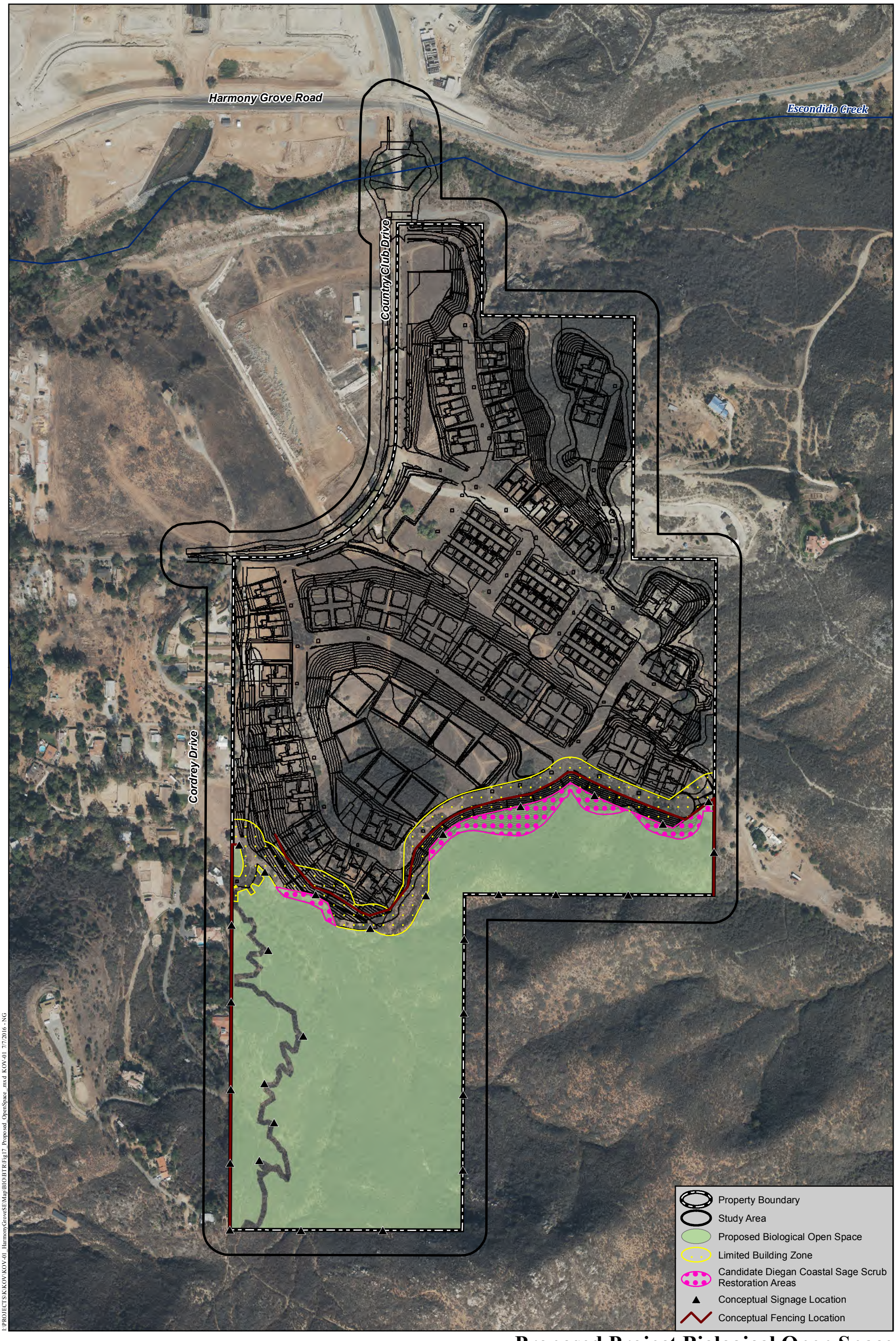
Escondido Creek Bridge Schematic

HARMONY GROVE VILLAGE SOUTH

Figure 16

HELIX Environmental Planning

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Proposed Project Biological Open Space

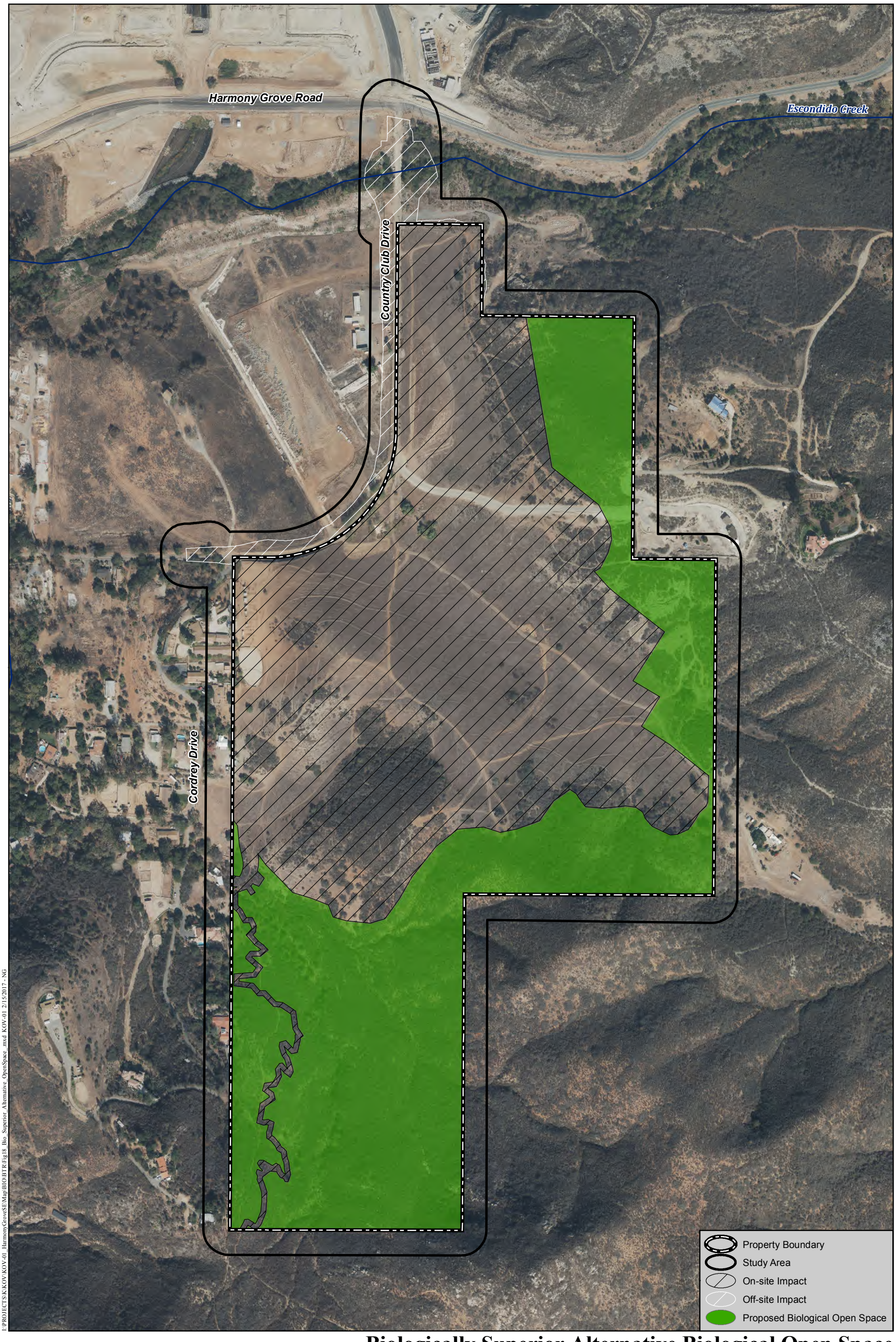
HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

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0 350 Feet

Figure 17



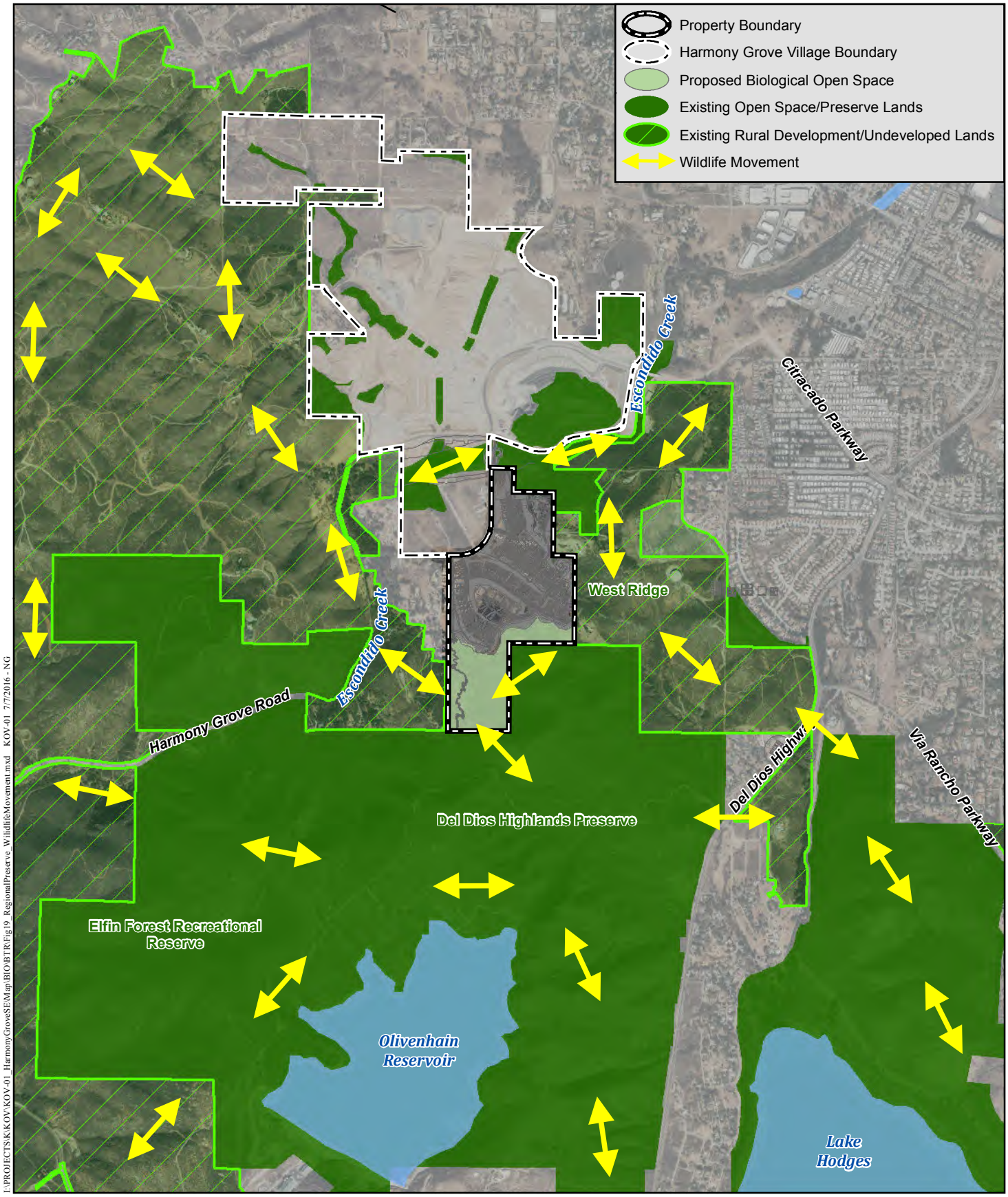
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Biologically Superior Alternative Biological Open Space

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

Figure 18



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Regional Preserve Lands/Wildlife Movement

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 19

area. Unobstructed access to the Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and surrounding core area would be maintained and enhanced through the Project's addition of contiguous open space. Wildlife would continue to have unobstructed mobility through the southern portions of the site with adequate cover and access to foraging and breeding areas. Access to Escondido Creek from areas south and southeast of the site would still be provided via undeveloped and rural lands further to the east of the site. Hydrologic functions and wildlife movement along Escondido Creek would be improved by the proposed clear-span bridge, which would provide much more space for water and aquatic and terrestrial wildlife at the crossing compared to the current at-grade crossing and culverts. With respect to the Draft MSCP North County Plan, the Project occurs within PAMA, but is consistent with the goals and objectives for the Harmony Grove Core Area, as summarized below in Section 2.2 and in Appendix G of this report.

The biologically superior alternative results in preservation of 46.5 acres, which represents roughly 46 percent conservation. In addition to conserving the highest quality, intact chaparral as described above, the alternative design would conserve the majority of the site's Diegan coastal sage scrub and coastal sage-chaparral transition. The biological open space would include the gnatcatcher pair nesting location observed in 2014 and would conserve additional habitat along the eastern boundary of the site to facilitate wildlife movement, improving access to Escondido Creek from the on-site open space and preserved areas south and southeast of the site. Unlike the proposed Project, the alternative would not restore graded slopes outside of fuel modification zones to coastal sage scrub and include them in biological open space. Instead, those graded slopes would be revegetated for erosion control and aesthetic purposes and maintained by the HOA, similar to other open space areas for the Project that are not biological open space areas.

2.1 SPECIAL STATUS SPECIES

2.1.1 Special Status Plant Species

The Project would result in impacts to the following special status plants: summer holly, a County List A species; wart-stemmed ceanothus, a County List B species; southwestern spiny rush, a County List D species; and ashy spike-moss, a County List D species. If unmitigated, the impacts on wart-stemmed ceanothus and summer holly would be considered significant. As further analyzed in Section 3.0 below, the project includes on-site preservation of both species at mitigation ratios that exceed County requirements. With the implementation of long-term management measures proposed herein, the impacts would be reduced to less than significant levels. Impacts to southwestern spiny rush and ashy spike-moss would be less than significant given that they are County List D species and the project would impact very low numbers of each species, as discussed further below.

2.1.2 Special Status Animal Species

Special Status Animals Determined to Occupy the Site (Breeding)

The Project would result in impacts to four special status animals determined to occupy and use portions of the site for breeding and/or roosting: coastal California gnatcatcher, barn owl, yellow

warbler, and yellow-breasted chat. Potential significant impacts could occur to these species if they are nesting on or in the immediate vicinity of Project impact areas. Avoidance and minimization measures are proposed to ensure no direct or indirect impacts occur to breeding individuals. Loss of occupied habitat would be fully compensated in-kind through on- and off-site preservation, as detailed in Section 3.4.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened, State species of special concern, and County Group 1 species. The Project would impact a total of 10.4 acres of Diegan coastal sage scrub, which generally occurs in a patchy and fragmented distribution in the northern half of the site. The stands in the southern-central and western portions of the site are of low quality and "Low Value" in accordance with the NCCP Conservation Guidelines and Logic Flow Chart (CDFW 1993a, 1993b). There is also a single patch of disturbed coastal sage scrub on the south side of Escondido Creek considered low quality and value due to its sparseness and species composition. The stands that occur in the northern, central, and eastern portions of the site are of moderate quality and "Intermediate Value" in accordance with the NCCP Conservation Guidelines and Logic Flow Chart due to their size, location, species composition, and function.

A coastal California gnatcatcher breeding pair was observed in 2014 within the eastern portions of the Intermediate Value coastal sage scrub in the eastern portion of the site. Although relatively small and fragmented, additional Intermediate Value stands of sage scrub in the northern, central, and eastern portions of the site also function to facilitate gnatcatcher dispersal and north-south movement through the local area. No gnatcatchers were observed using the smaller, fragmented and Low Value stands in the southern-central and western portions of the site.

Of the total Diegan coastal sage scrub impact, 9.9 acres would be permanently impacted and 0.5 acre would be temporarily impacted and restored back to coastal sage scrub as part of a 1.8-acre restoration area, resulting in a total of 2.3 acres of coastal sage scrub preserved. Approximately 4.1 acres of impacted coastal sage scrub are considered Low Value due to the small size, vegetation composition, and fragmented arrangement of the stands. These stands are generally located in the southern-central and western portions of the site. No gnatcatchers were observed or otherwise detected in these Low Value stands and their potential to support nesting gnatcatchers is considered to be low. Impacts to these Low Value stands that are not occupied by gnatcatcher would not reduce the likelihood of survival and recovery of the species. The remaining approximately 6.3 acres of coastal sage scrub that will be impacted on site are considered Intermediate Value due to their less-fragmented arrangement and proximity to the gnatcatcher breeding pair on site. These stands are generally located in the eastern and northern portion of the site. Although less fragmented than the Low Value stands, the Intermediate Value stands are still broken by an existing paved roadway that traverses the site and other pockets of disturbed areas. The largest, intact stand also occurs immediately adjacent to one of the rural residences to the east of the site.

The coastal sage scrub on site has a limited carrying capacity and ceiling for breeding gnatcatchers. The breeding pair was found in association with an active nest placed at the interface of Intermediate Value coastal sage scrub and chaparral along the eastern boundary of

the site. Considering the 6.3-acre size and overall quality of the Intermediate Value scrub, the potential for it to support additional gnatcatcher breeding territories beyond the single territory confirmed is considered low based on small patch size of suitable habitat, lack of constituent vegetative elements (i.e., strongly dominated by buckwheat, black sage, and chaparral constituents), and the fact no additional breeding pairs were observed during 2014 protocol surveys. Gnatcatchers could breed at off-site locations within 300 feet of the Project site. Impacts to breeding gnatcatchers and occupied habitat would be significant.

Gnatcatchers in the region could use other scrub- and chaparral-vegetated portions of the site and immediate vicinity for foraging, dispersal, and migration activities. Impacts to this habitat could be significant. The habitat is not vital to support a viable population of gnatcatchers in perpetuity. There is an abundance of core gnatcatcher habitat located further to the southeast around Lake Hodges, to the south around Del Dios and Rancho Cielo, and to the southwest in the Elfin Forest and Rancho La Costa area. The Project would maintain full connectivity of open space with adjacent habitat along the southern boundary, connecting with Del Dios Highlands Preserve to the south; therefore, gnatcatcher movement functions through this area would be conserved. The Project would include thinned native habitat in fuel modification zone 2 adjacent to habitat along portions of the northern and eastern boundaries, connecting with Escondido Creek Conservancy-owned lands; therefore, gnatcatcher movement functions through this area would be partially conserved and not completely removed along this path. Also along portions of the eastern boundary, the Project's fuel modification zones would connect with blocks of rural land further to the east that are largely undeveloped; therefore, these areas would continue to facilitate some level of gnatcatcher movement and provide access to Escondido Creek. Last, the Project would maintain open space connectivity with blocks of rural land along the southern portion of the western boundary, thereby conserving movement functions through that area.

Mitigation for impacts to coastal sage scrub, including both the 4.1 acres of Low Value and 6.3 acres of Intermediate Value scrub, would be provided at a 2:1 ratio and with habitat that provides equivalent or superior function and long-term conservation value compared to that which would be impacted. In addition to the 2.3 acres of coastal sage scrub to be preserved within the 34.8-acre on-site biological open space, the project will preserve a minimum of 18.5 acres of Intermediate or High Value off-site sage scrub, occupied by coastal California gnatcatcher within biological open space, to also include recordation of a biological open space easement, preparation of an RMP approved by the County and Wildlife Agencies, and long-term management by a qualified entity approved by the County and Wildlife Agencies. To the extent available, off-site preservation shall occur locally and within land designated as PAMA in the Draft North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County and Wildlife Agencies. Mitigation may also include purchase of conservation and mitigation credits at approved conservation and mitigation banks, as deemed acceptable by the County and Wildlife Agencies.

The project as a whole would therefore result in a net increase of 18.5 acres or 70 percent of coastal sage scrub preservation compared to the 10.9 acres that currently exist on site, portions of which are fragmented and of Low Value. With consideration of the on- and off-site preservation

of coastal sage scrub, the project is consistent with the HLP Ordinance because each of the required findings can be made; see analysis of guidelines 7.2A, B, D, G, and J below.

The biologically superior alternative design would preserve the observed gnatcatcher nesting location in biological open space, along with additional foraging, dispersal, and north-south movement habitat along the eastern boundary of the site. In this way, adequate space and resources would remain to support the breeding pair and provide for a wider swatch of habitat to facilitate dispersal functions and north-south movement on site. The alternative would still impact a combined 7.4 acres of mostly fragmented Diegan coastal sage scrub comprised of small, isolated stands. These fragmented stands were inspected and assessed during site visits with CDFW and the County, and determined to have limited overall function and value. Nevertheless, any impact on Diegan coastal sage scrub would be a significant impact in accordance with County guidelines. However, a total of 3.5 acres of Diegan coastal sage scrub and 1.8 acres of coastal sage-chaparral habitat would be preserved under the biologically superior alternative, which in combination with additional habitat extending off site to the east, would be adequate to support the breeding territory on the site. The alternative would also improve wildlife movement along the eastern boundary by providing biological open space up to approximately 500 feet wide, including chaparral, coastal sage scrub, and coastal sage-chaparral habitat on that side of the site. There would be a narrow gap between the southern and eastern biological open space areas; however, a gap is unavoidable in order to maintain access to an adjacent residence. There is an existing dirt road and non-native grassland in that area. The alternative open space would conserve on-site habitat available for gnatcatcher movement between Del Dios Highlands Preserve and Escondido Creek. Despite the additional preservation, the alternative would not include any on-site restoration of Diegan coastal sage scrub.

Barn Owl

Barn owl is not listed or designated as a State species of special concern, but is a County Group 2 species. A single barn owl was observed roosting in a pepper tree in the central portion of the site adjacent to Country Club Drive. This individual could use the site as a permanent roost and/or nesting site. It may also forage over the site, but the site does not provide essential foraging habitat for the species. Impacts to nesting barn owl would be significant.

Yellow Warbler and Yellow-Breasted Chat

Yellow warbler and yellow-breasted chat are non-listed, but designated as State species of special concern. Yellow-breasted chat is a County Group 1 and yellow warbler is a County Group 2 species. These species were observed consistently using riparian habitat within Escondido Creek during the 2014 least Bell's vireo protocol surveys. Based on the number of times observed and suitability of the habitat, these species are considered to nest in the reach of Escondido Creek that could be impacted by the Project. Impacts to nesting yellow warbler and yellow-breasted chat would be significant.

Special Status Animals Observed on the Site (Non-Breeding)

The Project would also result in impacts to areas that were determined to be unoccupied and not used for breeding or roosting, but evidently used for brief periods by the following four special status animals: least bell's vireo, red-shouldered hawk, green heron, and great blue heron. These species were observed on occasion foraging and/or perched in and around the Project reach of Escondido Creek.

Least Bell's Vireo

Least Bell's vireo is a federally and State endangered species and County Group 1 animal. A single, unpaired, male least Bell's vireo was observed in Escondido Creek, primarily using habitat immediately east of Country Club Drive, during seven of the eight site visits. A male and female least Bell's vireo were observed on May 21, 2014 immediately west of Country Club Drive; however, those individuals were only observed on that one occasion and were not suspected to be breeding, although suitable breeding habitat occurs. A fourth least Bell's vireo was audible on two occasions at the far western portion of the survey area. It is believed that a temporary influx of least Bell's vireo into the survey area followed the mid-May 2014 "Cocos Fire" that likely displaced birds in the surrounding area. The 2014 survey findings agree with other survey information obtained by HELIX within the Project reach of Escondido Creek during restoration and construction monitoring efforts as part of the Harmony Grove Village project. The habitat is moderately developed in the understory and marginal for breeding in its current state. Better quality habitat occurs and vireos could breed at off-site locations within 500 feet of the Project direct impact areas. Impacts to breeding vireo and suitable habitat would be significant.

Red-Shouldered Hawk

Red-shouldered hawk is not listed or designated as a State species of special concern, but is a County Group 1 species. A single red-shouldered hawk was observed perching in a tree near Escondido Creek. This species could nest at off-site locations within 500 feet of Project impact areas. It may also forage over the site, but the site does not provide the only foraging habitat in the local area for the species. Impacts to nesting red-shouldered hawk would be significant.

Green Heron and Great Blue Heron

Green heron and great blue heron are non-listed or designated as State species of special concern, but they are both County Group 2 species. These species were observed on a single occasion during the 2014 surveys in Escondido Creek immediately upstream of the existing low-water crossing for Country Club Drive. No nest or roost sites occur in the reach of Escondido Creek that could be impacted by the Project. The species are likely only using the reach as occasional foraging habitat. Potential impacts on these two species are limited to temporary loss of foraging habitat and would be less than significant.

In addition, four special status birds were observed flying over the site and immediate vicinity on separate occasions: white-tailed kite, peregrine falcon, turkey vulture, and western bluebird.

These four species were not observed breeding or perching on the site or immediate vicinity during 2014 surveys. There is no evidence from the surveys that these species are regularly using the site or immediate vicinity for anything more than soaring and moving through the local area. These functions would be conserved by the Project and impacts are considered less than significant on these species.

2.2 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

Off-site impacts would occur to mule fat scrub, southern willow riparian forest, and coast live oak woodland associated with Escondido Creek. The Project has been designed to avoid and setback at distances greater than 100 feet from this habitat; however, improvements to the existing low-water crossing for Country Club Drive over Escondido Creek are anticipated and have been an issue for the local community for some time. The off-site improvements would be restricted to only those necessary to provide a safe crossing and enhance the biological and hydrological functions and services of the reach. The impacts would be primarily temporary for equipment access and staging during bridge construction. Permanent impacts would be limited to bridge abutments, footings, bank stabilization, and fuel modification requirements. The impacts are necessary to remove the existing low-water crossing, construct the new span bridge, stabilize the channel embankment, and restore the riverine hydrology of the reach. During high flows, the existing low-water crossing becomes breached and not possible to cross by vehicle or other means, thereby standing local residents who rely on that crossing to access Harmony Grove Road. The proposed improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The bridge span represents the least environmentally damaging alternative to crossing the Creek and impacts to wetland are necessary and unavoidable. Temporary impact areas would be restored. All impact areas would be compensated through on- and/or off-site establishment, re-establishment, rehabilitation, enhancement, and/or preservation. The new bridge would further improve biological functions of the riparian corridor and Creek, providing improved passage for wildlife and benefits to downstream water quality in comparison to existing conditions.

The Project has been designed to minimize impacts on sensitive upland habitats. Impacts on sensitive uplands that would require compensatory mitigation include 10.4 acres of Diegan coastal sage scrub (including disturbed), 4.5 acres of coastal sage-chaparral transition, 15.6 acres of southern mixed chaparral, 44.2 acres of non-native grassland, 0.71 acre of southern riparian forest, less than 0.01 acre of mule fat scrub, and 0.2 acre of coast live oak woodland. An approximately 1.8-acre area within the Project impact area would be temporary in nature as it would be subject to Diegan coastal sage scrub restoration and creation.

Table 5 provides a summary of Project impacts to vegetation communities/habitat types, including sensitive habitat.

Table 5
IMPACTS TO VEGETATION COMMUNITIES/HABITAT TYPES

Vegetation Community/ Habitat Type	Existing Acres On-Site	Impact Acres[1]			
		Project Site	Off-Site	Total Impacts	Impact Neutral
Non-native vegetation (11000)	0.8	0.8	0.1	0.9	--
Disturbed habitat (11300)	3.6	3.5	0.3	3.9	--
Urban/developed (12000)	0.9	0.9	1.2	2.1	0.1
Diegan coastal sage scrub (32500)	10.9	10.3	0.1	10.4	<0.1
Diegan coastal sage scrub – disturbed (32500)	--	--	<0.1	<0.1	--
Coastal sage-chaparral transition (37G00)	4.5	4.4	0.1	4.5	0.1
Southern mixed chaparral (37121)	46.8	15.6	--	15.6	<0.1
Non-native grassland (42200)	42.4	42.2	2.0	44.2	--
Southern [willow] riparian forest (61300)	--	--	0.71	0.71	--
Mule fat scrub (63310)	--	--	<0.01	<0.01	--
Coast live oak woodland (71160)[2]	0.9	0.1	0.1	0.2	--
Eucalyptus woodland (79100)	0.3	--	--	--	--
TOTAL	**111.1**	**77.9**	**4.6**	**82.5**	**0.1**

[1] Upland communities/habitat types are rounded to the nearest 0.1 acre, while wetland communities are rounded to the nearest 0.01; totals do not reflect rounding. Impact acreages include both permanent and temporary impacts. Temporary impact areas within proposed biological open space (1.8 acres) would be restored to Diegan coastal sage scrub with the proposed Project.

[2] Includes impacts from ground disturbance within oak root zone.

The biologically superior alternative would have the same impact neutral and off-site impact values as the proposed project. On-site impacts would total 64.6 acres: 0.1 acre of coast live oak woodland, 2.7 acres of coastal sage-chaparral transition, 7.3 acres of Diegan coastal sage scrub, 3.0 acres of disturbed habitat, 8.7 acres of southern mixed chaparral, 41.1 acres of non-native grassland, 0.8 acre of non-native vegetation, and 0.8 acre of urban/developed. Thus, the alternative would impact 69.2 acres in total, compared to 82.5 acres for the proposed project.

Draft MSCP North County Plan and PAMA Discussion

An analysis was completed for Project impacts on coastal sage scrub, coastal sage-chaparral transition, and non-native grassland compared to those reported for the region in the Draft MSCP

North County Plan area. The analysis gives regional context to the Project in light of data considered for the Draft MSCP North County Plan, including data related to proposed PAMA designations and conservation targets.

Tables 6 and 7 below summarize the results of the analysis. In this analysis, Diegan coastal sage scrub and Diegan coastal sage scrub – disturbed are equivalent to coastal sage scrub; coastal sage-chaparral transition is equivalent to coastal sage scrub/chaparral; and non-native grassland is equivalent to grassland and excludes native grassland.

Table 6
HABITAT REPORTED WITHIN DRAFT MSCP NORTH COUNTY PLAN

Vegetation Community/ Habitat Type	Total Acres in Plan Area	Total Acres in PAMA	Total Percentage in PAMA	Total Expected Conservation Percentage in Plan Area	Expected Conservation Acres in PAMA	Expected Conservation Percentage in PAMA
Diegan coastal sage scrub (32500)	29,888	23,463	79%	62%	18,439	79%
Coastal sage-chaparral transition (37G00)	5,179	4,040	78%	60%	3,129	77%
Non-native grassland (42200)	22,355	14,841	66%	48%	10,817	73%

Table 7
PROJECT HABITAT COMPARISON AGAINST DRAFT MSCP NORTH COUNTY PLAN

Vegetation Community/ Habitat Type	Existing Project Acres	Existing as Percentage of Total Acres in Plan Area	Existing as Percentage of Total Acres in PAMA	Existing as Percentage of Expected Conservation Acres in Plan Area	Project Impact Acres	Impacts as Percentage of Total Acres in Plan Area	Impacts as Percentage of Total Acres in PAMA	Impacts as Percentage of Expected Conservation in Plan Area
Diegan coastal sage scrub (32500)	10.9	0.04%	0.05%	0.06%	10.4	0.03%	0.04%	0.06%
Coastal sage-chaparral transition (37G00)	4.5	0.09%	0.11%	0.14%	4.5	0.09%	0.11%	0.14%
Non-native grassland (42200)	42.4	0.19%	0.29%	0.39%	44.2	0.20%	0.30%	0.41%

In summary, Project impacts to Diegan coastal sage scrub represent:

- 0.03 percent of the total regional Diegan coastal sage scrub identified in the Draft North County MSCP Plan area;
- 0.04 percent of the total Diegan coastal sage scrub identified in areas proposed for PAMA and therefore targeted for conservation in the Draft North County MSCP Plan area; and
- 0.06 percent of the total Diegan coastal sage scrub expected to be conserved within the Draft North County MSCP Plan area.

In summary, Project impacts to coastal sage-chaparral transition represent:

- 0.09 percent of the total regional coastal sage-chaparral identified in the Draft North County MSCP Plan area;
- 0.11 percent of the total coastal sage-chaparral transition identified in areas proposed for PAMA and therefore targeted for conservation in the Draft North County MSCP Plan area; and
- 0.14 percent of the total coastal sage-chaparral transition expected to be conserved within the Draft North County MSCP Plan area.

In summary, Project impacts to non-native grassland represent:

- 0.20 percent of the total regional non-native grassland identified in the Draft North County MSCP Plan area;
- 0.30 percent of the total non-native grassland identified in areas proposed for PAMA and therefore targeted for conservation in the Draft North County MSCP Plan area; and
- 0.41 percent of the total non-native grassland expected to be conserved within the Draft North County MSCP Plan area.

As demonstrated, the Project impacts on Diegan coastal sage scrub, coastal sage-chaparral scrub, and non-native grassland are extremely small compared to the amount of existing regional habitat reported within the Draft MSCP North County Plan area, including the total expected and targeted for conservation. Considering these factors, Project impacts are less than significant when compared to the total amount of each habitat type reported as existing and targeted for conservation within proposed PAMA under the Draft North County MSCP Plan.

As evidenced by the small percentages of impact contribution, the loss of these habitat types as a result of the Project would not preclude the implementation of the Draft MSCP North County Plan. For example, it is acknowledged that non-native grassland on site contributes to raptor foraging in the PAMA; however, as included in Table 6, there are 14,841 total acres of non-native grassland reported as occurring in PAMA within the Draft MSCP North County Plan

area boundaries, of which, 10,817 acres are expected to be conserved based on conservation percentage targets. Project impacts represent less than 1.0 percent (0.30 percent) of the total non-native grassland within PAMA and less than 1.0 percent (0.41 percent) of the total expected to be conserved in the Plan area. For coastal sage scrub, the percentages are much less, as project impacts represent less than 1.0 percent (0.04 percent) of the total coastal sage scrub within PAMA and less than 1.0 percent (0.06 percent) of the total expected to be conserved in the Plan area.

With respect to local conservation targets, as summarized within Table 8 below and demonstrated in Appendix G to this report, the Project would be consistent with the conservation goals and objectives for the Harmony Grove Core Area.

Table 8
PROJECT CONSISTENCY WITH CONSERVATION GOALS
FOR THE HARMONY GROVE CORE AREA

Conservation Goal/Target Summary	Project Consistency
Goal 1 – Protect Encinitas baccharis and wart-stem lilac, particularly dense stands.	Encinitas baccharis does not occur on site. The Project would conserve 21,150 individuals and 91% of the on-site population of 23,113 wart-stemmed ceanothus within biological open space.
Goal 2 – Minimize impacts to chaparral on mafic soils supporting sensitive plant species, such as Parry's tetracoccus.	Parry's tetracoccus does not occur on site. The Project minimizes impacts and has been specifically designed to avoid and preserve on-site stands of chaparral supporting other sensitive plant species. The chaparral on site was thoroughly analyzed and determined not to have characteristics of mafic chaparral. Nevertheless, the highest quality chaparral supporting the most abundance and diversity of sensitive species will be preserved in biological open space.
Goal 3 – Protect cliff-faces utilized by sensitive species.	Cliff face habitat does not occur on site.
Goal 4 – Protect the Escondido Creek floodplain, conserve riparian and upland habitat along Escondido Creek, and maintain natural flow regimes.	The Project has been specifically designed to protect and enhance the Escondido Creek floodplain, with avoidance buffers of 100 feet from the edge of riparian canopy protected by an additional 100 feet of limited building zone easement, for a total setback of 200 feet. The Project would enhance the biological and hydrologic function of Escondido Creek at the Country Club Drive crossing to a condition superior to what currently exists.

Table 8 (cont.)
PROJECT CONSISTENCY WITH CONSERVATION GOALS FOR THE HARMONY GROVE CORE AREA

Conservation Goal/Target Summary	Project Consistency
Goal 5 – Maintain connectivity, particularly east-west, along Escondido Creek canyon. Maintain connectivity for wildlife movement of large and medium sized mammals between preserved habitats.	The Project conserves east-west connectivity along Escondido Creek canyon by maintaining natural habitat and not further constraining widths beyond that which already exists. The Project will further remove the existing low-water crossing, improve the hydrological and biological connectivity, and result in a wider corridor. The Project conserves wildlife movement patterns for large and medium sized mammals across the southern portion of the site and within the undeveloped slopes and thinned-native habitat in fuel modification zones along the eastern boundary of the site; additional wildlife movement habitat exists within the preserved lands and rural-zoned parcels immediately east of the site to access Escondido Creek.
Goal 6 – Removal of invasive, non-native species to enhance habitat quality along Escondido Creek.	The Project includes active management of on- and off-site biological open space areas and would enhance the biological and hydrologic function of Escondido Creek.
Goal 7 – Link future preserves to create a large contiguous preserve area.	The Project contributes biological open space that is contiguous with existing core preserve area for the Del Dios Highlands Preserve and Elfin Forest Recreational Area. The Project does not substantially impact existing linkages to the east that provide connection to existing preserves along Escondido Creek and within Harmony Grove Village to the north.

The Project is proposed within an undeveloped area that connects Escondido Creek with the Del Dios Highlands Preserve and Elfin Forest Recreational Area; however, the area is already constrained by existing residential uses and connectivity of habitat that is more suitable for target species occurs within lands surrounding the site, and in particular, further to the east of the site. In addition to the on-site conservation, the Project will mitigate habitat impacts in-kind and in the Elfin Forest-Harmony Grove Community Planning Area, to the extent that mitigation land required is available.

Despite the Project's small contribution and less than significant impacts at the regional level as compared against the Draft MSCP North County Plan, Project-level impacts to sensitive upland habitat would be significant and would require compensatory mitigation. Temporary and permanent impacts would be reduced to a less than significant level and fully compensated in-kind through on- and off-site preservation and restoration.

2.3 JURISDICTIONAL WETLANDS AND WATERWAYS

As mentioned above, unavoidable impacts would occur to riparian and wetland habitat in order to accommodate required roadway improvements at the Escondido Creek crossing and storm drain facilities along the eastern boundary of the site. These areas support jurisdictional waters and wetlands. The majority of the ground disturbance would be temporary for equipment access and staging during bridge construction. Permanent improvement areas would be limited to bridge abutments, footings, and bank stabilization; however, the riparian impact area is designated as Fuel Modification Zone 2 in the Fire Protection Plan, and is thus considered a permanent impact. Both temporary and permanent impacts to jurisdictional waters and wetlands would be significant and would require compensatory mitigation. Impacts would be reduced to a less than significant level and fully compensated in-kind through on- and/or off-site preservation and/or restoration. Specific restoration actions around the bridge will be addressed with the USACE, RWQCB, and CDFW during the permitting process and included to the extent feasible based on fuel modification requirements and other site-specific factors. Impacts to jurisdictional wetlands and waters would be the same for the Biologically Superior Alternative as for the Project.

Table 9 provides a summary of Project impacts to jurisdictional waters and wetlands.

Table 9
IMPACTS TO JURISDICTIONAL WETLANDS AND WATERWAYS

JURISDICTIONAL RESOURCES	IMPACTS					
	PROJECT SITE		OFF-SITE IMPROVEMENT AREAS		TOTAL	
	Acres[1]	Linear Feet	Acres[1]	Linear Feet	Acres[1]	Linear Feet
USACE/RWQCB						
Wetland Waters of the U.S./State	--	--	0.31	222	0.31	222
Non-Wetland Waters of the U.S./State	0.01	436	0.02	50	0.03	486
TOTAL	**0.01**	**436**	**0.33**	**272**	**0.34**	**708**
CDFW						
Southern [willow] riparian forest	--	--	0.71	222	0.71	222
Mule fat scrub	--	--	<0.01	0	<0.01	0
Coast live oak woodland	0.04	0	0.01	0	0.05	0
Streambed	0.02	436	0.02	50	0.04	486
TOTAL	**0.06**	**436**	**0.74**	**272**	**0.80**	**708**

Table 9 (cont.)
IMPACTS TO JURISDICTIONAL WETLANDS AND WATERWAYS

JURISDICTIONAL RESOURCES	IMPACTS					
	PROJECT SITE		OFF-SITE IMPROVEMENT AREAS		TOTAL	
	Acres[1]	Linear Feet	Acres[1]	Linear Feet	Acres[1]	Linear Feet
COUNTY RPO						
Southern [willow] riparian forest	--	--	0.71	222	0.71	222
Mule fat scrub	--	--	<0.01	0	<0.01	0
Coast live oak woodland	--	--	0.01	0	0.01	0
TOTAL	**--**	**--**	**0.72**	**222**	**0.72**	**222**

[1]Acreages are rounded to the nearest 0.01; therefore, totals reflect rounding.

2.4 WILDLIFE MOVEMENT AND NURSERY SITES

In the context of the Draft MSCP North County Plan and existing preserved land in the region, the study area occurs within lands identified as PAMA and in the vicinity of Core Area, outside of any Linkage Area. With respect to wildlife movement in the region, conservation targets generally include conserving a contiguous riparian corridor in Escondido Creek, and conserving a large core area of upland habitat around Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Related to these are conserving access from core upland areas to the Escondido Creek corridor and conserving regional movement within Core Area associated with Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Expected wildlife movement in the local area is depicted on Figure 19.

Escondido Creek

Wildlife movement functions in Escondido Creek are probably highest beginning immediately upstream (east) of the study area and extending downstream (west) to Elfin Forest, with a significant barrier to movement existing within the study area at the existing low-water crossing for Country Club Drive. Wildlife movement in the study area reach of Escondido Creek would be temporarily affected during construction. The Project would result in impacts to the study area reach of Escondido Creek, which already presents a barrier to wildlife movement along the Escondido Creek corridor. The majority of the impacts would be temporary for equipment access and staging during bridge construction. Permanent impacts would be limited to bridge abutments, footings, and bank stabilization. Birds would likely be able to move unobstructed through the reach, but mammals would have to move around work areas over the duration of construction.

During construction, there would be adequate space to move around work areas to the north of the study area, across Harmony Grove Road, and into the Harmony Grove Village biological open space and water quality facility open space areas. Wildlife would also have unobstructed access around work areas by moving along the eastern boundary of the Project site, through the open space to be conserved in the southern portions of the site, and finally to the downstream

reach of Escondido Creek further to the west of the site. As such, Project construction impacts on wildlife movement through Escondido Creek would be less than significant.

Upon build-out, the anticipated off-site improvements to the Country Club Drive crossing of Escondido Creek via a new bridge would have a beneficial effect on wildlife movement. The bridge is anticipated to be approximately 250 feet long, supported on abutments at its northern and southern extents, with two intermediate pier supports. The piers would be spaced at least 100 feet apart. This would provide the widest possible section without bridge supports in the portion of the Creek with running water and expected to facilitate large mammal movement. The slopes at the ends of the bridge would be protected by erosion-control measures, such as rock slope protection and revegetation to protect the abutments scour during storm events and restore riparian habitat. The bridge would be tall enough to accommodate wildlife crossings within the riparian zone and would also accommodate 100-year flood flows. For species such as mule deer, which have potential to move through the area, crossings should be designed to accommodate a minimum of 8 feet in height and a minimum openness ratio of 0.75 (Cavallaro et al. 2005). The design would accommodate this openness ratio to allow species such as mule deer free and clear access. Upon build-out, the bridge would allow unobstructed access through the Escondido Creek corridor where it crosses Country Club Drive. The post-Project bridge condition is anticipated to be superior for wildlife movement compared to the low-water crossing barrier which currently exists. The bridge would also improve water quality because pollutants from the road surface would not be swept directly downstream by high creek flows, and runoff from the road would be routed to treatment and detention facilities. On-site Project developments have been specifically designed to be setback in excess of 150 feet from all riparian habitat within Escondido Creek. As such, Project operation impacts on wildlife movement through Escondido Creek would be less than significant.

Del Dios Highlands Preserve - Elfin Forest Recreational Reserve

The Del Dios Highlands Preserve and Elfin Forest Recreational Reserve connect core habitat and regional wildlife movement between the MHCP areas to the north and the Lake Hodges Segment of the South County MSCP Subarea (County 1997) to the south. These areas serve to facilitate gnatcatcher and large mammal movement south of the study area, to and from core habitat around Lake Hodges to the east, and Elfin Forest-San Elijo Hills-Rancho La Costa areas to the west.

Intact stands of scrub and chaparral habitat in the southern portions of the Project site directly connect with off-site core habitat in the Del Dios Highlands Preserve to the south, and therefore, help contribute to the movement functions in the area. The non-native grassland on the site represents the northern terminus of the core habitat and does not contribute to movement functions for the core area because it provides no cover and relatively few resources for the species with potential to move through the area, such as mule deer and coyote (see Section 1.4.12). Although an east-west habitat connection is present through the southern portion of the Project site and further to the south, a north-south connection of core habitat between Del Dios Highlands Preserve and Escondido Creek does not exist through the site due to the large area of non-native grassland, which serves as an exposed break in the scrub and chaparral. Other breaks in the connection include Country Club Drive and the Harmony Grove Village equestrian center.

Wildlife, such as mule deer and coyote, are more likely to utilize edge habitat along the chaparral-grassland interface and existing trails through the chaparral for movement. A constrained, north-south connection of chaparral exists around the site to the east and along the eastern boundary. Areas along the eastern boundary of the site could facilitate north-south movement to and from Escondido Creek, but the habitat is patchy and partially constrained by existing residential uses. Areas further to the east of the site are less constrained, where a direct connection of scrub and chaparral habitat occurs along the West Ridge area (see Section 1.4.12).

During construction, there would be adequate space for birds and mammals to move around the site to access core habitat within Del Dios Highlands Preserve and Elfin Forest Recreational Reserve and to Escondido Creek. Birds would likely be able to move unobstructed through and around the site. Mammals, such as mule deer and coyote, would have to move around work areas into undeveloped lands in the on-site open space and off-site to the south, east and west. These undeveloped lands provide adequate travel routes to accommodate wildlife movement in the local area during construction. Mammals would have unobstructed access to nearby reaches of Escondido Creek and around work areas by moving along the eastern boundary of the Project site and through the open space to be conserved in the southern portions of the site. As such, Project construction impacts on wildlife movement within core habitat connecting Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and Escondido Creek would be less than significant.

The Project has been designed to avoid and conserve core habitat in the local area where wildlife are most likely to travel to get to and from Escondido Creek. As depicted on Figure 19, the Project's biological open space would be contiguous with Del Dios Highlands Preserve to the south. The connection of scrub and chaparral habitat between Del Dios Highlands Preserve and Escondido Creek would be avoided within rural/estate lots and along West Ridge to the east of the site. The on-site scrub and chaparral within biological open space and fuel modification areas of the Project is expected to retain wildlife movement functions in key areas of the site, and namely, across the southern portion and along the eastern boundary of the site. Where fuel modification would occur, only thinning of the existing native vegetation in the outermost fuel modification zone would be necessary. Areas to be thinned in fuel modification zone 2 along the eastern boundary of the site would still provide some wildlife movement function. Similarly, the east-west connection of scrub and chaparral habitat through the southern portion of the site would be conserved. The Project would also include restoration of temporary impact areas in the southern portion of the site to Diegan coastal sage scrub, providing additional function for birds, including coastal California gnatcatcher, and replacing some of the edge and ecotonal habitat that will be impacted. The restored areas would then be included in the biological open space. The trail improvements along the Elfin Forest Trail in the southern open space area are not expected to substantially impact wildlife movement since the trail is already in use by the public and would not bring people into a new area. The finished trail width would be no more than 4-6 feet wide, the surface would be native soil, and impacts would be minimized to the maximum extent practicable during trail design and construction. Project developments have been setback and buffered a minimum 100 feet from on- and off-site open space areas that function to accommodate wildlife movement in the local area. Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Project lighting adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively

placed, shielded, and directed away from such habitat. As such, Project operation impacts on wildlife movement between Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and Escondido Creek would be less than significant.

The biologically superior alternative would provide better wildlife movement between Del Dios Highlands Preserve and Escondido Creek by providing biological open space up to 500 feet wide along the eastern site boundary, including the majority of the chaparral, coastal sage scrub, and coastal sage-chaparral habitat on that side of the site. The alternative would not include restoration of graded slopes on the south side of the site.

2.5 INDIRECT IMPACTS

Potential significant indirect impacts may occur as a result of Project implementation, as described further below.

Noise

Construction-related noise from such sources as clearing, grading, and potential blasting and pile driving would be a temporary impact to wildlife. Breeding birds and mammals may temporarily or permanently leave their territories to avoid disturbances from construction activities, which could lead to reduced reproductive success and increased mortality. Potential short-term noise impacts could result from construction for the proposed Project. Noise effects would be considered significant if construction noise levels exceed a level of 60 dB L_{EQ} hourly average or ambient adjacent to sensitive bird species, including raptors.

Human Access

Increases in human activity in the area could result in degradation of open space habitat and associated indirect impacts on sensitive species through the creation of unauthorized trails and removal of vegetation. In addition, illegal dumping of lawn and garden clippings, trash, and other refuse could occur. There is currently no open space management at the site and it is subject to human access and related disturbances. The Project would include preparation and approval of a Resource Management Plan, non-wasting endowment, open space management in perpetuity, and other protective measures, such as fencing and signage. With proper implementation of open space management elements for the Project, habitat degradation and effects on sensitive species in open space areas are not expected and impacts would be less than significant.

Domestic Predators

The Project is residential in nature, so domestic predators (e.g., dogs and cats) may be introduced to the surrounding habitat. Although such introductions have potential to harm native wildlife species, the site is adjacent to existing rural residential development and is already subject to some level of disturbance and predation by domestic animals.

Exotic Plant Species

Non-native plants could colonize areas disturbed by construction and development and could potentially spread into adjacent native habitats. Many non-native plants are highly invasive and can displace native vegetation (reducing native species diversity), potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife dependent on native plant species. There is currently no open space management at the site and it is subject to disturbances from exotic plant species from nearby sources. As mentioned above, the Project would include active open space management to control non-native exotic and invasive species. Further, as required, non-native invasive plants and exotics would be strictly prohibited from the Project's landscaping. With proper implementation of open space management elements for the Project, the establishment and spread of exotic plant species would be controlled and impacts would be less than significant.

Lighting

Night lighting that extends from a developed area onto adjacent wildlife habitat can discourage nocturnal wildlife in habitat and can provide nocturnal predators with an unnatural advantage over their prey, resulting in a potentially significant impact.

3.0 SPECIAL STATUS SPECIES

3.1 GUIDELINES FOR DETERMINING 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 1 or more individuals of a species listed as federally 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.

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.

K. The project would impact occupied Hermes copper butterfly 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 for the following reasons:

A. The project would impact 1 or more individuals of a species listed as federally or state endangered or threatened.

Coastal California Gnatcatcher

The Project would impact 10.4 acres of Diegan coastal sage scrub, including Low and Intermediate Value habitat according to the NCCP Conservation Guidelines and Logic Flow Chart (CDFW 1993a, 1993b). A stand of Intermediate Value habitat to be impacted in the eastern portion of the site was determined to support a coastal California gnatcatcher breeding pair in 2014. Additional Intermediate Value stands of sage scrub in the northern, central, and eastern portions of the site also function to facilitate gnatcatcher dispersal and

north-south movement through the local area. No gnatcatchers were observed using the smaller, fragmented and Low Value stands in the southern-central and western portions of the site. The potential for gnatcatchers to breed at these locations is considered low based on small patch size and fragmentation of habitat, lack of constituent vegetative elements, and the fact no additional breeding pairs were observed during 2014 protocol surveys. Gnatcatchers could breed at off-site locations within 300 feet of the Project site. In addition, gnatcatchers would be expected to use other scrub- and chaparral-vegetated portions of the site for foraging, dispersal, and migration activities. Impacts to breeding gnatcatchers; occupied habitat; and foraging, migration and dispersal habitat would be significant.

Of the 10.4 acres of coastal sage scrub that will be impacted, approximately 4.1 acres (39 percent) is considered Low Value habitat, made of up of the smaller, fragmented patches in the southern and western portions of the Project impact area where gnatcatchers were not detected during surveys, but could be used for foraging, migration and dispersal. The remaining 6.3 acres of Intermediate Value coastal sage scrub in the eastern portion of the site was confirmed to be used for breeding by a single pair of gnatcatcher and facilitates dispersal and movement functions for the species. The largest, intact stand of impacted Intermediate Value habitat occurs immediately adjacent to one of the rural residences to the east of the site. Considering the 6.3-acre size and overall quality of the Intermediate Value scrub, the potential for it to support additional gnatcatcher breeding territories beyond the single territory confirmed is considered low. Altogether, the impacted sage scrub on site has a limited carrying capacity and ceiling for breeding gnatcatchers. Impacts to Low and Intermediate Value stands on site would not reduce the likelihood of survival and recovery of the species.

As mentioned above, the coastal sage scrub on site is expected to contribute to dispersal and migration for the species, but it is not the only habitat in the local area expected to provide those functions. Additional scrub and chaparral occur in the local area for gnatcatchers and other wildlife to disperse and migrate through. As described in Section 1.4.12, off-site coastal sage scrub in the local area is composed of fragmented stands and islands of habitat. These off-site stands and islands are situated amongst developed land and undeveloped land characterized by chaparral and riparian habitat. Based on survey results and known records for the off-site areas, the fragmented stands and islands of off-site coastal sage scrub do not support high numbers of gnatcatchers or a significant population relative to other core habitat in the Harmony Grove and Elfin Forest area. There are no large blocks of high value coastal sage scrub in the local area for which the on-site coastal sage scrub is vital to provide a connection to. As also described above, movement functions along the eastern edge of the site will be conserved within thinned native vegetation fuel modification zones, thereby conserving some functionality of the habitat and minimizing the impact. Therefore, project impacts to coastal sage scrub used for dispersal and migration would also not reduce the likelihood of survival and recovery of the species.

Mitigation for impacts to coastal sage scrub, including both the 4.1 acres of Low Value and 6.3 acres of Intermediate Value scrub, would be provided at a 2:1 ratio and with habitat that provides equivalent or superior function and long-term conservation value compared to that which would be impacted. As a regulatory requirement, the Project will obtain an HLP from

the County, which requires concurrence from the USFWS and CDFW prior to issuance. The HLP will incorporate the avoidance, minimization, and compensatory mitigation measures addressed herein and will include detailed information about the specific type(s) and location(s) for the mitigation. Avoidance and minimization measures are proposed herein to ensure that Project construction does not result in adverse direct or indirect impacts on any gnatcatcher individuals. Compensatory mitigation measures are also proposed herein to offset the loss of the gnatcatcher pair and coastal sage scrub habitat within areas identified as PAMA under the Draft MSCP North County Plan. Approximately 1.8 acres would be restored or created within temporary impact areas along the southern boundary. These 1.8 acres will be preserved, along with an additional 0.5 acre, for a total of 2.3 acres of preserved coastal sage scrub within biological open space for the Project (Figure 17). In addition to the on-site restoration, creation, and preservation of 2.3 acres, the Project proposes off-site preservation of a minimum of 18.5 acres of Intermediate or High Value coastal sage scrub through one or a combination of the following: (1) recordation of a biological open space easement, preparation of an RMP approved by the County and Wildlife Agencies, and long-term management by a qualified entity approved by the County and Wildlife Agencies; and/or (2) purchase of occupied coastal sage scrub credits from a conservation bank as approved by the County and Wildlife Agencies. To the extent available, off-site preservation shall occur locally and within land designated as PAMA in the Draft North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County and Wildlife Agencies.

The project as a whole will therefore result in a net increase of 18.5 acres or 70 percent of coastal sage scrub preservation compared to the 10.9 acres that currently exist on site, portions of which are fragmented and of Low Value. With consideration of the on- and off-site preservation of coastal sage scrub, the project is consistent with the HLP Ordinance because each of the required findings can be made; see analysis of guidelines 7.2A, B, D, G, and J below.

The alternative would impact a combined 7.4 acres of mostly fragmented Diegan coastal sage scrub habitat, but would avoid much of the Intermediate Value habitat where a coastal California gnatcatcher breeding pair was observed in 2014 and provide for a wider swatch of habitat to facilitate dispersal functions and north-south movement on site. A total of 3.5 acres of coastal sage scrub and 1.8 acres of coastal sage-chaparral habitat would be preserved, which in combination with additional habitat extending off site to the east, would be adequate to support the gnatcatcher breeding territory following project development. The observed breeding location was on the boundary between coastal sage scrub and chaparral, meaning that the southern mixed chaparral and coastal sage-chaparral transition in the immediate vicinity would likely be used by the breeding pair as well. Similar to the proposed Project, developments would be set lower than the habitat area, minimizing the potential for noise, light and invasive species to enter the open space. The open space would be separated from the homes by cut slopes that would discourage the residents from approaching the open space, which would be protected by fencing and signage. Along portions of the east side, there would also be a road separating the residential area from the open space. Therefore, the alternative would not impact the gnatcatcher breeding territory, but impacts to habitat would

still be significant. With the alternative, the graded slopes on the south side of the site would be planted for erosion control, but would not be restored to Diegan coastal sage scrub or included in biological open space.

Least Bell's Vireo

Least Bell's vireo was observed in Escondido Creek, primarily using habitat immediately east of Country Club Drive. The habitat is moderately developed in the understory and marginal for breeding in its current state. The 2014 survey findings agree with other survey information obtained by HELIX within the Project reach of Escondido Creek during restoration and construction monitoring efforts as part of the Harmony Grove Village project. The direct impact areas of the project would not be expected to support a significant population of vireos due to the small amount and low quality of the habitat being impacted. Direct impacts of the Project are anticipated to be limited to temporary loss of vireo habitat. Vireos are known to occur within other reaches of Escondido Creek, including better quality habitat located further upstream and downstream of the site. Better quality habitat occurs and vireos could breed at off-site locations within 500 feet. Direct impacts to vireo habitat and indirect impacts to nesting vireos within 500 feet of construction areas would be significant.

Avoidance and minimization measures are proposed herein to ensure that Project construction does not result in adverse direct or indirect impacts of any least Bell's vireo individuals. The Project proposes a new bridge over Escondido Creek and will include restoration and improved connectivity of riparian habitat for vireo and other species. Any additional compensatory mitigation required to offset Project impacts will include one or a combination of the following: (1) biological open space easement, RMP implementation, and long-term management of land containing occupied least Bell's vireo habitat as approved by the County; and/or (2) purchase of occupied riparian habitat credits from a mitigation bank as approved by the County. To the extent possible, mitigation will occur within PAMA and in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County.

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.

Summer Holly and Wart-Stemmed Ceanothus

The Project would impact seven individuals of summer holly, a County List A plant, and 1,963 wart-stemmed ceanothus, a County List B plant, not including the potential removal of wart-stemmed ceanothus within the 20-foot-wide trail easement. The final design of the trail improvements will avoid removing wart-stemmed ceanothus to the maximum extent practicable, in consultation with the County. Project impacts on summer holly and wart-stemmed ceanothus would be considered significant.

The County requires that species-based mitigation be provided for List A and List B plant species. Mitigation at a 2:1 or 3:1 ratio for List A species shall be provided, depending on the

sensitivity of the affected population (County 2010b). Mitigation at a minimum 1:1 ratio shall be provided for List B species (County 2010b). The Project would preserve 21 summer holly and the major population of 21,150 wart-stemmed ceanothus in on-site biological open space, to include protection within a biological open space easement, RMP implementation, and long-term management. The mitigation equates to a 3:1 mitigation ratio for summer holly and a nearly 11:1 ratio for wart-stemmed ceanothus. With the implementation of this mitigation, impacts would be less than significant.

The biologically superior alternative would impact five individuals of summer holly, and 1,845 wart-stemmed ceanothus, not including the trail easement. Impacts would be reduced, but still significant. Additional summer holly and wart-stemmed ceanothus would be conserved within biological open space, including easement, RMP, and long-term management. With the implementation of this mitigation, impacts would also be less than significant.

Red-Shouldered Hawk

A single red-shouldered hawk was observed perching in a tree near Escondido Creek during one of the biological surveys in 2014. This species is not likely to nest on site due to lack of suitable trees and woodland habitat. However, this species could nest at off-site locations within 500 feet of Project impact areas. It may also forage over the site, but the site does not provide essential foraging habitat for the species. Loss of foraging habitat and indirect impacts to nesting red-shouldered hawk within 500 feet of construction areas would be significant.

Yellow-Breasted Chat

In addition, the Project would result in the loss of potential nesting and foraging habitat for yellow-breasted chat, which is designated as State species of special concern and County Group 1 species. Based on the number of times observed and suitability of the habitat, this species has a high potential to nest in the reach of Escondido Creek that could be impacted by the Project. Impacts to nesting yellow-breasted chat would be significant.

Project impacts to other County Group 1 species are addressed above within County Guideline 3.2.A.

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.

Barn Owl

The Project could impact barn owl, which is a County Group 2 species that has the potential to use the site for roosting and/or nesting. It may also forage over the site, but the site does not provide essential foraging habitat for the species. Loss of foraging habitat and impacts to nesting barn owl would be significant.

Southwestern Spiny Rush and Ashy Spike-Moss

The Project would result in less than significant impacts to southwestern spiny rush and ashy spike-moss, both County List D plant species. Given the low number of individuals to be impacted (one spiny rush and four small concentrations of spike-moss), and that these two species are relatively common in the region, Project impacts would not impact their local long-term survival and would be less than significant.

Green Heron and Great Blue Heron

The Project would also result in less than significant impacts to green heron and great blue heron, both County Group 2 animals that have the potential to temporarily forage within Escondido Creek. The fact that these species were observed only once during the 2014 surveys suggests that the site is not an essential foraging area. The site would not be expected to support a rookery site or significant population of these two herons. Additional habitat occurs throughout Escondido Creek and other aquatic habitats in the region. Last, impacts at Escondido Creek would be largely temporary. Foraging habitat would exist under post-project conditions because the Project would restore the riparian habitat impacted at the Escondido Creek crossing. Impacts to riparian habitat that is suitable for both species will further be offset through compensatory mitigation, as acquisition, preservation, and/or purchase of mitigation bank credits, similar to that discussed above for least Bell's vireo. Therefore, the Project is not expected to affect the long-term survival of these two herons and the impacts would be reduced to less than significant with the implementation of the compensatory mitigation measures proposed herein.

Yellow Warbler

In addition, the Project would result in the loss of potential nesting and foraging habitat for yellow warbler, which is designated as State species of special concern and County Group 2 species. Based on the number of times observed and suitability of the habitat, this species has a high potential to nest in the reach of Escondido Creek that could be impacted by the Project. Impacts to nesting yellow warbler would be significant.

Impacts to riparian habitat that is suitable for this species will be offset through compensatory mitigation, as acquisition, preservation, and/or purchase of mitigation bank credits, similar to that discussed above for least Bell's vireo and heron species. Impacts would be reduced to less than significant with the implementation of the compensatory mitigation measures proposed herein.

F. The project would result in a loss of functional foraging habitat for raptors.

The Project site supports foraging habitat for raptors known to the local area, including common species such as red-tailed hawk, and sensitive species such as barn owl and white-tailed kite. Other raptors have the potential to forage over the site. The Project would result in the loss of sparse scrub and grassland habitat that provides foraging habitat for these raptors. Impacts would be significant.

Impacts to non-native grassland and sparse scrub that provides suitable foraging habitat for raptors will be offset through compensatory mitigation, as acquisition, preservation, and/or purchase of conservation bank credits. The impacts would be reduced to less than significant with the implementation of the compensatory mitigation measures proposed herein.

L. The project would impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or in the immediate vicinity of construction 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, least Bell's vireo, 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 decibels (dB) or ambient could be significantly impacted. If least Bell's vireo or tree-nesting raptors are nesting within 500 ft of the impact area, or coastal California gnatcatchers are nesting within 300 ft of the impact area, effects resulting from construction noise would be significant.

The Project would not result in significant impacts under the above guidelines for the following reasons:

D. The project would not impact arroyo toad aestivation, foraging, or breeding habitat.

The site contains no habitat suitable for the arroyo toad. The species is believed to have been extirpated from the local area. The Project reach of Escondido Creek and the unnamed ephemeral tributaries on site do not provide suitable habitat for arroyo toad.

E. The project would not impact golden eagle habitat.

The nearest known historic golden eagle nest is approximately 1.5 miles to the south of the Project site. However, there have been no recent sightings of territorial eagles at this nest location. The Project site does not contain nesting habitat and it is not within any known golden eagle territory. While there is adequate eagle foraging habitat (open non-native grassland) on site, the surrounding habitat fragmentation and the distance from known eagle territories would indicate that the site has low value for golden eagle. The surrounding area is primarily urbanized and new nesting in the vicinity is unlikely. Therefore, no impacts would occur to golden eagle or its habitat.

G. The project would not 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.

The Project site is contiguous with the Del Dios Highlands Preserve and additional open space to the general south and east. This general area is identified as a core area in North County and under the Draft MSCP North County Plan. As such, the site is part of a core wildlife area of 500 acres of wildlife habitat or more. The chaparral and scrub on and in the immediate vicinity of the site provide functioning habitat associated with the core area. This is because it supports sensitive plant species and provides habitat for breeding, foraging, dispersal and migration for birds and large mammals. The non-native grassland provides limited cover and does not support high functioning breeding habitat, but is used for foraging by wildlife species in the local area. The grassland-chaparral interface and chaparral edge areas further function to facilitate dispersal and migration for large mammals.

The project would impact a total of 82.5 acres, including temporary and permanent impacts, more than half of which is non-native grassland. The Project would contribute 34.8 acres of preserved habitat to the core area through the establishment of permanent on-site biological open space. Impacts would occur to chaparral and scrub habitat, but the Project's biological open space will conserve and restore these habitat types. The existing grassland-chaparral interface and chaparral edge areas will be impacted, but the Project will include interface and edge areas within thinned native vegetation fuel modification zones and along the boundaries of biological open space. The biological open space supports the following resources and functions: stands of coast live oak woodland, coastal sage-chaparral, Diegan coastal sage scrub, southern mixed chaparral; a major population of 21,150 wart-stemmed ceanothus; other rare plants, including San Diego sagewort, summer holly, and ashy spike-moss; and functioning foraging, dispersal and migration habitat for several special status animals. It provides adequate space and resources, and functions to facilitate bird and mammal movement through the core area, including target species for conservation in the region, such as gnatcatcher and mule deer. A biological open space easement will be placed over the on-site open space and a RMP will be implemented, to include long-term management and preservation in perpetuity. Therefore, with the establishment of the on-site open space preserve and implementation of long-term management, the project would not significantly impact the viability of a core wildlife area.

H. The project would not 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.

The Project site abuts existing preserve areas, large blocks of core habitat, and/or undeveloped lands to the general northeast, south, and east, including Escondido Creek Open Space and Del Dios Highlands Preserve. The Project proposes to place on-site habitat that connects with off-site core habitat into permanent biological open space. Potentially significant indirect impacts to sensitive species resulting from human access, domestic animals, exotic species, and lighting would be avoided through the following Project design features: (1) permanent fencing shall be installed around biological open space, which is currently unprotected, and signs precluding access shall be posted; (2) only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [Cal-IPC; 2006]); and (3) all project-related lighting would be required to adhere to

Division 9 of the San Diego County Light Pollution Code. Lighting within the proposed Project footprint adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from these areas. A biological open space easement will be placed over the on-site open space and a RMP will be implemented, to include long-term management and preservation in perpetuity. The RMP will include specific management directives for control and prevention of indirect impacts during Project operation, which will be implemented in perpetuity as part of the long-term management requirements. Therefore, no significant impact to sensitive species resulting from indirect impacts from human access, domestic animals, exotic species, or lighting would occur over the long term. Potential indirect impacts from construction noise are discussed under Guideline 3.1.L.

I. The project would not impact occupied burrowing owl habitat.

The Project site does not support occupied burrowing owl habitat, as demonstrated by the 2014 protocol-level survey negative findings. The Project would have no impact on burrowing owl.

J. The project would not impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

The Project site does not contain suitable habitat for the coastal cactus wren. This species was not observed or otherwise detected during 2014 biological surveys. The Project would have no impact on cactus wren.

K. The project would not impact occupied Hermes copper butterfly habitat.

Although the project site supports a limited amount of potential Hermes copper butterfly habitat (spiny redberry within 15 feet of buckwheat), the Project site does not support Hermes copper butterfly, as demonstrated by the 2014 and 2017 protocol-level survey negative findings. The Project would have no impact on occupied Hermes copper habitat.

3.3 CUMULATIVE IMPACT ANALYSIS

The area of consideration for cumulative impacts on biological resources was based on an approximate 3.0-mile radius from the Project site, including the foothills to the north and northeast of the site and extending south to the northern edge of Olivenhain Reservoir (Figure 20). The cumulative study area also extends slightly beyond Interstate 15 to the east and north of SR 78. The cumulative study area was chosen because it includes areas with similar biological resources as the Project site, as well as capturing the watershed for the site, including urbanized areas draining to Escondido Creek upstream and downstream of the site. It also includes the nearest Draft MSCP North County Plan PAMA areas and the Mt. Whitney/Double Peak area south to Escondido Creek. The area of consideration includes lands within a reasonable distance from the Project site that may have a biologically based connection to the site in terms of habitat connectivity and development in the region.

A total of 21 projects (including the proposed Project) were reviewed for this cumulative analysis (Table 10). Of these 21 cumulative projects, eight would result in significant or potentially significant cumulative impacts to sensitive biological resources. The remaining 13 projects either would not result in impacts to sensitive biological resources or information on impacts is not available. The Project has the potential to contribute to the cumulative impact on coastal California gnatcatcher, least Bell's vireo, and raptors (i.e., loss of foraging habitat), as discussed below.

The cumulative projects with available data would impact 106.4 acres of coastal sage scrub habitat. The loss of coastal sage scrub habitat would represent a potential cumulative impact on the coastal California gnatcatcher. This impact would be potentially significant. The proposed Project would result in impacts to 10.4 acres of coastal sage scrub, a portion of which was determined to support a breeding gnatcatcher pair. Therefore, the proposed Project would contribute to the significant cumulative impact on coastal California gnatcatcher. The biologically superior alternative would impact 7.4 acres of coastal sage scrub, which would be a lesser contribution to the significant cumulative impact on coastal California gnatcatcher.

Additional analysis is provided above in Section 2.2 of the proposed Project's impacts on coastal sage scrub compared to the much larger cumulative area of the Draft MSCP North County Plan. As summarized in Tables 6 and 7, Project impacts to Diegan coastal sage scrub represent: 0.03 percent of the total regional Diegan coastal sage scrub identified in the Draft North County MSCP Plan area; 0.04 percent of the total Diegan coastal sage scrub identified in areas proposed for PAMA and therefore targeted for conservation in the Draft North County MSCP Plan area; and 0.06 percent of the total Diegan coastal sage scrub expected to be conserved within the Draft North County MSCP Plan area. In the context of the much larger cumulative area of the Draft MSCP North County Plan, Project impacts are less than significant when compared to the total amount of each habitat type reported as existing and targeted for conservation within proposed PAMA under the Draft North County MSCP Plan.

Projects are required to implement avoidance measures so that direct, inadvertent take of gnatcatcher individuals is prevented. In addition, projects are required to compensate impacts on coastal sage scrub at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for the gnatcatcher is fully compensated. The proposed Project would implement required gnatcatcher avoidance measures and compensate the loss of coastal sage scrub habitat at a 2:1 ratio through a combination of on- and off-site preservation of occupied habitat. Because habitat loss would be compensated at this higher ratio, the proposed Project's contribution to the cumulative impact would be less than considerable and reduced to a less than significant level.

The cumulative projects would impact 7.79 acres of riparian/wetland habitat, which is the preferred habitat of the least Bell's vireo. The cumulative loss of riparian/wetland habitat would represent a significant cumulative impact on least Bell's vireo. The proposed Project would result in impacts to 0.72 acre of riparian/wetland habitat, some of which would be temporary in nature and a portion of which was determined to support least Bell's vireo, although no breeding vireo were observed. Nevertheless, vireo is a federally and State listed endangered species and the Project's contribution to the cumulative impact would be significant. As with the coastal California gnatcatcher, projects are required to implement avoidance measures so that direct,

Property Boundary

3.5-mile Buffer

County of San Diego

1. Montiel Heights/Montiel Road Townhouses
2. Harmony Grove Village
3. Valiano

City of San Marcos

4. Marketplace @ Twin Oaks
5. Citywide Channel Maintenance Programmatic Permit
6. Candera
7. University District Specific Plan
8. Kaiser Medical Office Building
9. Leigh Hanson Site
10. Campus Pointe II
11. Rancho Coronado Phase I School Site

City of Escondido

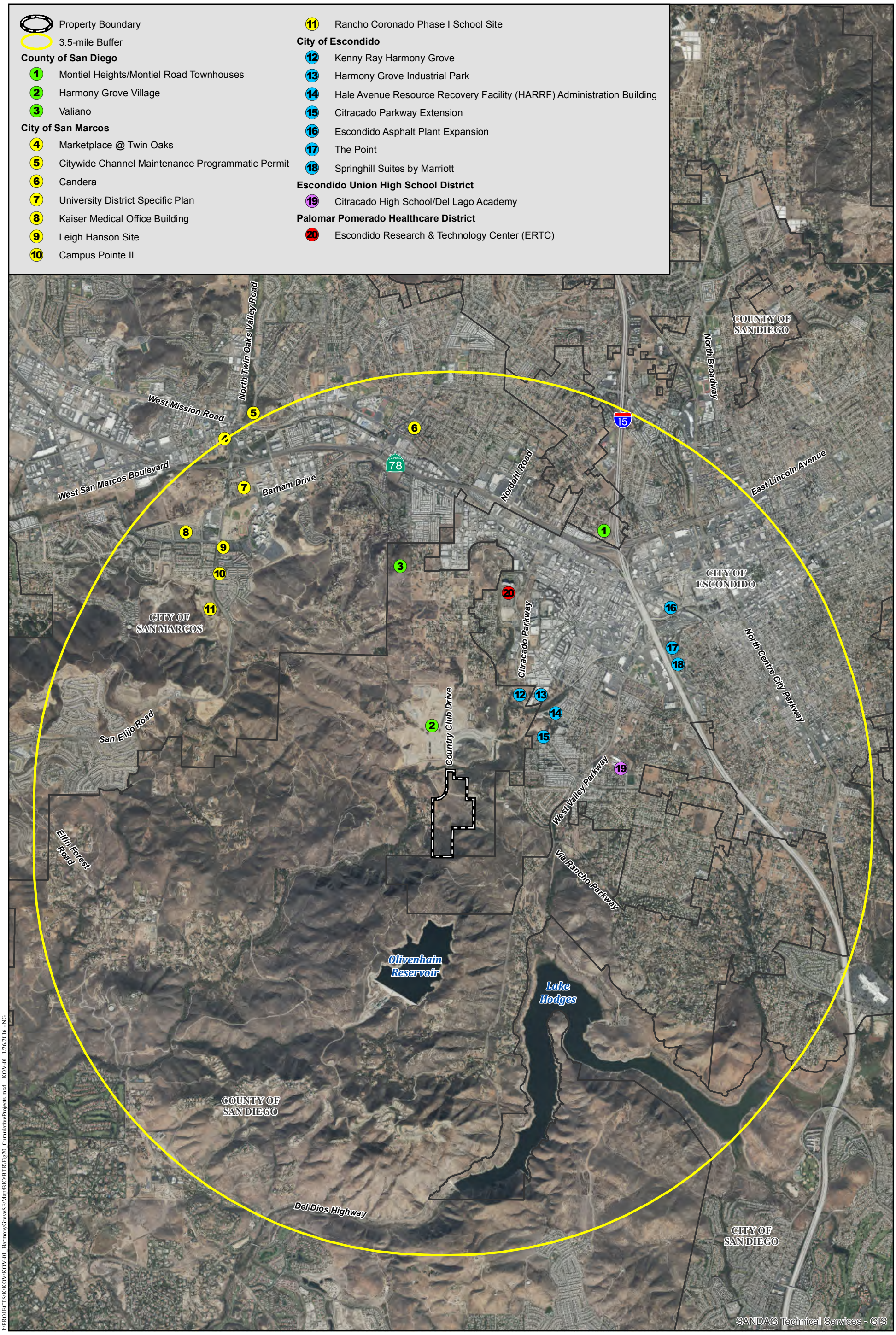
12. Kenny Ray Harmony Grove
13. Harmony Grove Industrial Park
14. Hale Avenue Resource Recovery Facility (HARRF) Administration Building
15. Citracado Parkway Extension
16. Escondido Asphalt Plant Expansion
17. The Point
18. Springhill Suites by Marriott

Escondido Union High School District

19. Citracado High School/Del Lago Academy

Palomar Pomerado Healthcare District

20. Escondido Research & Technology Center (ERTC)



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Biological Cumulative Study Area

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 4,100 Feet

Figure 20

inadvertent take of vireo is prevented. In addition, projects are required to compensate impacts on riparian/wetland habitat at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for vireo is fully compensated. The proposed Project would implement required vireo avoidance measures and compensate the loss of riparian/wetland habitat at a minimum 1:1 ratio through a combination of on- and/or off-site preservation and restoration. With the implementation of these measures, the proposed Project's contribution to the cumulative impact would be less than considerable and reduced to a less than significant level.

The cumulative projects would impact 263.0 acres of non-native grassland that potentially serves to provide raptor foraging habitat. Cumulative impacts to raptors would be significant since the cumulative projects would further reduce the amount of foraging habitat available for these species. The proposed Project would result in 44.2 acres of temporary and permanent impacts to non-native grassland that could be used by foraging raptors. Therefore, the proposed Project would contribute to significant cumulative impacts to raptors. Additional analysis is provided above in Section 2.2 of the proposed Project's impacts on non-native grassland compared to the much larger cumulative area of the Draft MSCP North County Plan. As summarized in Tables 6 and 7, Project impacts to non-native grassland represent: 0.20 percent of the total regional non-native grassland identified in the Draft North County MSCP Plan area; 0.30 percent of the total non-native grassland identified in areas proposed for PAMA and therefore targeted for conservation in the Draft North County MSCP Plan area; and 0.41 percent of the total non-native grassland expected to be conserved within the Draft North County MSCP Plan area. In the context of the much larger cumulative area of the Draft MSCP North County Plan, Project impacts are less than significant when compared to the total amount of each habitat type reported as existing and targeted for conservation within proposed PAMA under the Draft North County MSCP Plan.

In accordance with County guidelines and required mitigation ratios, the proposed Project would mitigate for these impacts at a 0.5:1 ratio through the purchase of credits and/or off-site preservation of 22.1 acres of non-native grassland/raptor foraging habitat for impacts to non-native grassland. Based on HELIX's biological survey observations, the on-site grassland does not appear to constitute essential foraging habitat for resident and migratory raptors. With the implementation of mitigation, the Project's contribution to significant cumulative impacts to raptors based on loss of non-native grassland would be less than considerable, and reduced to a less than significant level.

Impacts on sensitive habitat used by sensitive species would be mitigated through the implementation of avoidance measures and habitat based compensatory mitigation, including on-site preservation and purchase of off-site habitat. Implementation of these measures would reduce the Project's contribution to the cumulative impact to less than significant levels.

Table 10
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES

Project Number†	Project Name	Resource*									
		Riparian/ Wetland		CLOW		CSS		SMC		NNG	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
GPA 04-007 REZ 04-014 TM 5382	Montiel Heights/ Montiel Road Townhomes	0	0	0	0	0	0	0	0	0	0
SP 04-003 GPA 04-004 REZ 04-010 VTM 5365 MUP 04-012 MUP 04-013 MUP 04-014	Harmony Grove Village	3.96	6.80	5.8	17.4	37.6	68.6	3.7	1.9	37.7	18.9
--	Marketplace @ Twin Oaks	--	--	--	--	--	--	--	--	--	--
ND 12-822	Citywide Channel Maintenance Programmatic Permit	0.71	1.28	0	0	0	0	0	0	0	0
MF 1785 TSM 479 MFSCDP 10-51 R 10-146 GV 10-85 CUP 10-835 ND 10-806	Candera	--	--	--	--	--	--	--	--	--	--
MF 1392 EIR 03-39	University District Specific Plan	--	--	--	--	--	--	--	--	--	--
SCH 92011057	Kaiser Medical Office Building	--	--	--	--	--	--	--	--	--	--
--	Leigh Hanson Site	--	--	--	--	--	--	--	--	--	--
--	Campus Pointe II	--	--	--	--	--	--	--	--	--	--
MND 12-820 CUP 12-894	Rancho Coronado Phase I School Site	0.35	0.70	0	0	0.25	--	0.47	--	0	0
SUB 09-0002	Kenny Ray Harmony Grove	--	--	--	--	--	--	--	--	--	--
ER 2000-34	Harmony Grove Industrial Park	--	--	--	--	--	--	--	--	--	--

Table 10 (cont.)
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES

Project Number†	Project Name	Resource*									
		Riparian/ Wetland		CLOW		CSS		SMC		NNG	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
PHG 11-0038	Hale Avenue Resource Recovery Facility (HARRF) Administration Building	0	0	0	0	0	0	0	0	0	0
ER-2006-10	Citracado Parkway Extension	0.71	2.13	0.94	1.7	0.6	0.6	0	0	6.4	4.2
File No. 0800-40 PHG 10-0014	Escondido Asphalt Plant Expansion	0	0	0	0	0	0	0	0	0	0
2007-25-PD 2005-20-PD	The Point	0	0	0	0	0	0	0	0	0	0
2007-18-PD ER 86-43	Springhill Suites by Marriott	0	0	0	0	0	0	0	0	0	0
ADM 10-0001 SCH No. 2009081074	Citracado High School/ Del Lago Academy	0	0	0	0	8.1	8.1	0	0	18.1	--
2001-01-SPA 2005-81-SPA/DA PHG 11-0034 SCH No. 200112106	Escondido Research & Technology Center (ERTC)	1.02	3.06	1.2	3.6	48.4	96.8	0	0	102.8	62.4
SP-13-001 GPA 13-001 STP 13-003 TM 5575 REZ 13-001	Valiano	0.32	0.96	6.7	20.5	1.0	3.6	3.1	1.6	53.8	53.1
Subtotal		**7.07**	**14.93**	**14.64**	**43.2**	**96.0**	**177.7**	**7.3**	**3.5**	**218.8**	**138.6**
--	Harmony Grove Village South Project	0.72	2.13	0.2	0.6	10.4	20.8	15. 6	7.8	44.2	22.1
TOTAL		**7.79**	**17.06**	**14.84**	**43.8**	**106.4**	**198.5**	**22.9**	**11.3**	**263.0**	**160.7**

*CLOW=coast live oak woodland, CSS=coastal sage scrub, SMC=southern mixed chaparral, NNG=non-native grassland
†TM = Tentative Map; TPM = Tentative Parcel Map; MUP = Major Use Permit; ND = Negative Declaration; EIR = Environmental Impact Report; MND = Mitigated Negative Declaration; SPA = Specific Plan Amendment; SCH = State Clearinghouse; -- = Information Not Available or Not Applicable.

3.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

M-BI-1a Prior to issuance of a grading permit, the Project applicant shall preserve 34.8 acres of on-site biological open space (BOS) determined to support sensitive species and habitat functions and values contiguous with the Del Dios Highlands Preserve to the south through the establishment of a conservation easement and the preparation of a Resource Management Plan (RMP) approved by the County and Wildlife Agencies (U.S. Fish and Wildlife Service and California Department of Fish and Wildlife) to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, by a qualified entity approved by the County and Wildlife Agencies.

The 34.8-acre BOS is depicted on Figure 1-9 and Figure 2.3-5. The habitat types within the BOS are summarized within Table 11 of Appendix E. The RMP shall address the location of the mitigation sites that meet the specific mitigation requirement for the type of habitat (e.g., in-kind habitat preservation, no net loss, presence of special status species, etc.) within the Project site. The open space easement shall be owned by a conservancy, the County, or other similar, experienced entity subject to approval by the County. Funding shall be provided through a non-wasting endowment, Community Facility District or other finance mechanism approved by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County.

M-BI-1b Prior to issuance of a grading permit, mitigation for 10.4 acres of impacts to Diegan coastal sage scrub occupied by coastal California gnatcatcher shall occur at a 2:1 ratio for a total of 20.8 acres of occupied habitat through a combination of on-site preservation of 0.5 acre, on-site restoration and preservation of 1.8 acres, and off-site preservation of 18.5 acres through land acquisition and/or purchase of conservation bank credits, as specified below and approved by the County and Wildlife Agencies as part of the required HLP process.

On-site restoration shall include 1.8 acres of Diegan coastal sage scrub. The restoration shall include preparation and implementation of a restoration plan approved by the County and Wildlife Agencies, to include directives for native container planting and seeding using locally sourced material, temporary irrigation, and monitoring and maintenance for a minimum five-year period until performance standards and success criteria approved by the County and Wildlife Agencies have been met. The 1.8 acres of restored coastal sage scrub shall be placed within a BOS easement, along with the 0.5 acre of avoided coastal sage scrub, and managed in perpetuity in accordance with M-BI-1a.

An additional 18.5 acres of occupied, Intermediate Value or High Value coastal sage scrub, and/or other like-functioning habitat as approved by the County and Wildlife Agencies, shall be provided through one or a combination of the following:

- Off-site preservation of mitigation land, through the recordation of a biological open space easement, and preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. Long-term management shall be funded through a non-wasting endowment in an amount determined through preparation of a Property Assessment Record (PAR) or similar method for determining funding amount. The open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County.

- If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of occupied coastal sage scrub credits at an approved conservation bank, such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, or other bank deemed acceptable by the County and Wildlife Agencies.

To further prevent inadvertent direct impacts to coastal California gnatcatcher individuals during construction, no grading or clearing shall occur of occupied Diegan coastal sage scrub during the species' breeding season (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). To avoid take under the federal ESA, impacts to occupied habitat shall be avoided. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If, however, any gnatcatchers are observed nesting or displaying breeding/nesting behavior within the area, construction in that area shall be postponed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See also M-BI-4 for mitigation for indirect noise effects.)

M-BI-2a Prior to issuance of a grading permit, mitigation for impacts to seven summer holly and 1,963 wart-stemmed ceanothus individuals shall occur at a minimum ratio of 3:1 for summer holly and 1:1 for wart-stemmed ceanothus through the preservation of at least 21 summer holly and 1,963 wart-stemmed ceanothus within the BOS easement, (which includes preparation of an RMP and

monitoring, maintenance, management, and reporting directives) described above in M-BI-1a.

M-BI-2b Prior to issuance of a grading permit, mitigation for impacts to 44.2 acres of non-native grassland that provides suitable nesting and foraging habitat for several bird species, including raptors, shall occur at a 0.5:1 ratio through the preservation of 0.2 acre on site within the BOS easement, (which includes preparation of an RMP and monitoring, maintenance, management, and reporting directives) as required by M-BI-1a, in addition to one or a combination of the following: off-site preservation of 21.9 acres of grassland habitat and/or other like-functioning habitat through the recordation of a biological open space easement, and the preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, or northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. The proposed open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County. If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of 21.9 acres of grassland credits or like-functioning habitat at an approved conservation bank such as the Brook Forest Conservation Bank or other location deemed acceptable by the County. (See also M-BI-9 addressing breeding season avoidance.)

M-BI-2c Prior to issuance of a grading permit, mitigation for impacts to yellow-breasted chat nesting and foraging habitat, including less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest, shall be provided at a 3:1 ratio through implementation of mitigation M-BI-1c. (See also M-BI-9 addressing breeding season avoidance.)

M-BI-3a Prior to issuance of a grading permit, mitigation for loss of foraging area that could impact long-term survival of County Group 2 animals shall be provided through implementation of mitigation for impacts to 44.2 acres of non-native grassland at a 0.5:1 ratio, as described in M-BI-2b.

M-BI-3b Prior to issuance of a grading permit, mitigation for impacts to yellow warbler nesting and foraging habitat, including less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest at a 3:1 ratio, shall be provided through implementation of mitigation M-BI-1c. (See also M-BI-9 addressing breeding season avoidance.)

M-BI-3c Prior to issuance of a grading permit, mitigation for loss of raptor foraging habitat shall be provided through implementation of mitigation for impacts to 44.2 acres of non-native grassland at a 0.5:1 ratio, as described in M-BI-2b.

M-BI-4 If operation of construction dozers, excavators, rock crushers, pile drivers or cast-in-drilled-hole equipment occurs during the breeding seasons for the coastal California gnatcatcher (February 15 to August 31), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist as appropriate prior to issuance of a grading permit, to determine whether these species occur within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then operation of the following equipment shall not occur within the specified distances from an active nest during the respective breeding seasons: a dozer within 400 feet; an excavator within 350 feet; rock crusher equipment within 1,350 feet; a breaker within 500 feet; a pile driver within 2,600 feet; and cast-in-drilled holes equipment within 350 feet. All grading permits, improvement plans, and the final map shall state the same. Operation of construction dozers, excavators, rock crushers, pile drivers, cast-in-drilled-hole equipment and other noise-generating activities shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. If pre-construction surveys identify coastal California gnatcatcher, nesting raptors, or least Bell's vireo, blasting will be restricted to the non-breeding season for the identified birds (September 1 to February 14 for coastal California gnatcatcher; July 16 to January 14 for nesting raptors; and September 16 to March 14 for least Bell's vireo) or be completed using wholly chemical means.

3.5 CONCLUSION

Project implementation could result in significant impacts to County List A plants, County List B plants, County Group 1 animals, County Group 2 animals, and raptors with the potential to nest and/or forage over the site and immediate vicinity. Potential significant impacts could result from direct disturbance, loss of habitat, and noise. Implementation of mitigation measures **M-BI-1a** through **M-BI-4** would reduce impacts to less than significant.

4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

4.1 GUIDELINES FOR DETERMINING 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 Guidelines for Determining Significance [County 2010b], 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 3 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 habitats over the long term.

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 Project would result in significant impacts under the above guidelines for the following reasons:

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 Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Sensitive Wetland Habitat

If the Project is first in time relative to implementing County plans for a bridge over Escondido Creek, off-site impacts on sensitive wetland habitat types are anticipated to include less than 0.01 acre of mule fat scrub and 0.71 acre of southern willow riparian forest associated with Escondido Creek. These impacts would be significant.

The Project has been designed to avoid and setback from this habitat; however, improvements to the existing low-water crossing for Country Club Drive over Escondido Creek are anticipated to allow safe access for the Project and resolve a long-standing issue for the local community. The off-site improvements would be restricted to only those necessary to provide a safe crossing and enhance the biological and hydrological functions and services of the reach. The impacts would be primarily temporary for equipment access and staging during bridge construction. Permanent impacts would be limited to bridge abutments, footings, bank stabilization, and Fuel modification Zone 2 maintenance. The impacts are necessary to remove the existing low-water crossing, construct the new span bridge, stabilize the channel embankment, and restore the riverine hydrology of the reach. Wildlife movement along Escondido Creek would be improved by the proposed clear span bridge, which would provide much more space for water, aquatic and terrestrial animals at the crossing than the current at-grade crossing and culverts. Water quality would be improved since pollution would not wash directly into the creek. The proposed improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The bridge span represents the least environmentally damaging alternative to crossing the Creek and impacts to wetland are necessary and unavoidable. Nonetheless, unavoidable impacts would be significant.

Sensitive Upland Habitat

Impacts on sensitive uplands requiring mitigation include temporary and permanent impacts to 10.4 acres of Diegan coastal sage scrub (4.1 acres of Low Value and 6.3 acres of Intermediate Value), 4.5 acres of coastal sage-chaparral transition, 15.6 acres of southern mixed chaparral, 44.2 acres of non-native grassland, and 0.2 acre of coast live oak woodland. Impacts would be significant. An effort has been made in the design to minimize impacts to sensitive upland habitat and target development in the least sensitive areas. Project development has been sited immediately up against the larger Harmony Grove Village development to the north and northwest. It has also concentrated to reduce footprint and minimize edge effects. To offset some of the impacts to sensitive uplands, the Project proposes 34.8 acres of biological open space that will support the following resources and functions, following restoration: coast live oak woodland (0.8 acre), Diegan coastal sage scrub (2.3 acres, including the 1.8-acre restoration area), southern mixed chaparral (31.1 acres), and non-native grassland (0.2 acre); a major population of 21,150 wart-stemmed ceanothus; other rare plants, including San Diego sagewort, summer holly, and ashy spike-moss; and functioning foraging, dispersal and migration habitat for several special status animals. The open space provides adequate space and resources, and functions to facilitate

bird and mammal movement through the core area, including target species for conservation in the region, such as gnatcatcher and mule deer.

Nonetheless, unavoidable impacts to all sensitive uplands would be significant.

B. The following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; diversion of water flow; placement of fill; placement of structures; road crossing construction; placement of culverts; disturbance of the substratum; and activities that may cause an adverse change in native species composition, diversity, and abundance.

As addressed under County Guideline 4.1.A, the Project would result in off-site impacts to less than 0.01 acre of mule fat scrub and 0.71 acre of southern willow riparian forest associated with Escondido Creek. Improvements to the existing low-water crossing for Country Club Drive over Escondido Creek are considered unavoidable. The County has a request for proposals prepared for this improvement. The Project would also result in on-site impacts to 0.02 acre of natural ephemeral streambed, in addition to 0.04 acre of coast live oak woodland associated with the ephemeral streambed. Altogether, the Project would result in the following: 0.31 acre impacts to wetland waters of the U.S./State and 0.03 acre impacts to non-wetland waters of the U.S./State. subject to USACE and RWQCB jurisdiction; 0.77 acre of vegetated streambed and 0.04 acre of unvegetated streambed subject to CDFW jurisdiction; and 0.72 acre of RPO wetland subject to County jurisdiction. These impacts would be considered significant.

The Project would not result in significant impacts under the above guidelines for the following reasons:

C. The project would not draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.

No groundwater withdrawals or activities that could result in lowering of the groundwater table are proposed. No significant impact would occur.

D. The project would not 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 habitats over the long term.

The Project would not result in indirect impacts from the spread of non-native plant species. Non-native species are already prevalent throughout the Project site. As a design feature to avoid potential significant impacts from Project landscaping, only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [Cal-IPC; 2006]). No significant impact would occur.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

The Project provides minimum 100-foot buffers around wetlands and 100-foot limited building zones further protecting resources on and in the immediate vicinity of the site. Temporary encroachment into the buffer around Escondido Creek is required during construction for the anticipated removal of the existing low-water crossing, construction of the new span bridge, stabilization of the channel embankment, and restoration of riparian habitat and riverine hydrology within temporary impact areas. Construction activities within the buffer would be limited to the existing disturbed and developed areas in and around Country Club Drive. Temporary impacts within buffer areas would be restored to pre-project or superior conditions, subject to fuel modification requirements. No significant impact would occur.

4.3 CUMULATIVE IMPACT ANALYSIS

The Project would contribute to the cumulative impact on sensitive wetland and upland communities. Additional analysis is provided above in Section 2.2 of the proposed Project's impacts on coastal sage scrub, coastal sage-chaparral, and non-native grassland compared to the much larger cumulative area of the Draft MSCP North County Plan (Tables 6 and 7).

In the context of the much larger cumulative area of the Draft MSCP North County Plan, Project impacts are less than significant when compared to the total amount of each habitat type reported as existing and targeted for conservation within proposed PAMA under the Draft North County MSCP Plan. Nonetheless, the Project would mitigate project-level impacts in accordance with County, Wildlife Agency, and Regulatory Agency requirements.

Impacts to wetland/riparian habitat and sensitive upland communities would be fully mitigated in-kind at County-approved ratios through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, enhancement and/or preservation; and/or off-site purchase of credits at approved conservation and mitigation banks, such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, Brook Forest Conservation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the County, Wildlife Agencies, and Regulatory Agencies; thus providing long-term conservation value.

On- and off-site preservation shall include recordation of a biological open space easement, preparation of an RMP approved by the County and Wildlife Agencies, and long-term management by a qualified entity approved by the County and Wildlife Agencies. To the extent the land is available for mitigation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County and Wildlife Agencies.

The County approved mitigation ratios are standardized and not dependent upon the quality of habitat. Rather, the mitigation ratios recognize the regional importance of the habitat, the overall rarity of the habitat, and the number and variety of species it supports. Mitigation for habitat loss

is required to compensate for direct impacts as well as cumulative loss of habitat. Since current regulations require mitigation for wetland impacts to include establishment (i.e., creation) or re-establishment of the same habitat at a minimum 1:1 ratio, coupled with rehabilitation (i.e., restoration), enhancement, and/or preservation of habitat, there ultimately would be no contribution to cumulative loss of the resource. As the Project would be in conformance with County guidelines and mitigation ratios, the Project's contribution to cumulative impacts to sensitive vegetation communities would not be considerable and would be less than significant.

4.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

M-BI-5a Prior to issuance of a grading permit, mitigation for impacts to less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest shall occur at a 3:1 ratio as specified in M-BI-1c, above.

M-BI-5b Prior to issuance of a grading permit, mitigation for 10.4 acres of impacts to occupied Diegan coastal sage scrub shall occur at a 2:1 ratio as specified in M-BI-1a and M-BI-1b, above.

M-BI-5c Prior to issuance of a grading permit, mitigation for 4.5 acres of impacts to coastal sage-chaparral transition shall occur at a 2:1 ratio through one or a combination of the following: off-site preservation of 9.0 acres of coastal sage-chaparral scrub and/or other like-functioning habitat, through the recordation of a biological open space easement, and the preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, or northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. The open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County. If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of 9.0 acres of coastal sage-chaparral scrub credits or like-functioning habitat at an approved mitigation bank such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, Brook Forest Conservation Bank, or other location deemed acceptable by the County and Wildlife Agencies.

M-BI-5d Prior to issuance of a grading permit, mitigation for 15.6 acres of impacts to southern mixed chaparral shall occur at a 0.5:1 ratio through the preservation of a minimum 7.8 acres on site within BOS easement, (which shall include preparation and implementation of an RMP and monitoring, maintenance, management, and reporting directives), as required by M-BI-1a.

M-BI-5e Prior to issuance of a grading permit, mitigation for 44.2 acres of impacts to non-native grassland shall occur through implementation of M-BI-2b, above.

M-BI-5f Prior to issuance of a grading permit, mitigation for 0.2 acre of impacts to upland coast live oak woodland shall occur at a 3:1 ratio through the preservation of 0.6 acre on site within BOS easement, (which shall include preparation and implementation of an RMP and monitoring, maintenance, management, and reporting directives) as required by M-BI-1a.

M-BI-6a Prior to issuance of a grading permit, demonstration that regulatory permits from the USACE and RWQCB have been issued or that no such permits are required shall be provided to the County. Impacts to 0.31 acre of USACE/RWQCB-jurisdictional wetland waters of the U.S./State shall be mitigated at a 3:1 ratio as described in M-BI-1c, above, unless otherwise required by the USACE and RWQCB. Impacts to 0.03 acre of USACE/RWQCB-jurisdictional non-wetland waters of the U.S./State shall be mitigated at a 1:1 ratio through the preservation of a minimum 0.03 acre on site within BOS easement, (which shall include preparation implementation of an RMP and monitoring, maintenance, management, and reporting directives) as described in M-BI-1a, unless otherwise required by the USACE and RWQCB. If required by the USACE and/or RWQCB during regulatory permitting for the Project, alternative mitigation shall be provided through purchase of mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the USACE and RWQCB.

M-BI-6b Prior to issuance of a grading permit, demonstration that regulatory permits from CDFW have been issued or that no such permits are required shall be provided to the County. Impacts to 0.80 acre of CDFW-jurisdictional areas will be mitigated as follows. Impacts to less than 0.01 acre mule fat scrub and 0.71 acre southern riparian forest shall be mitigated at a 3:1 ratio, as described in M-BI-1c, unless otherwise required by CDFW. Impacts to 0.05 acre of CDFW-jurisdictional coast live oak woodland and 0.04 acre of CDFW-jurisdictional streambed shall be mitigated at a 1:1 ratio through the preservation of a minimum 0.05 acre of CDFW-jurisdictional coast live oak woodland and 0.04 acre of CDFW-jurisdictional streambed on site within BOS easement, (which shall include preparation of an RMP and monitoring, maintenance, management, and reporting directives) as described in M-BI-1a, unless otherwise required by CDFW. If required by CDFW during regulatory permitting for the Project, alternative mitigation shall be provided through purchase of mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by CDFW.

M-BI-6c Prior to issuance of a grading permit, impacts to 0.72 acre of RPO wetland (less than 0.01 acre mule fat scrub, 0.71 acre southern riparian forest, and 0.01 acre RPO-jurisdictional coast live oak woodland) shall be mitigated at a 3:1 ratio with at least 1:1 creation. Impacts to mule fat scrub and southern riparian forest shall be mitigated as described in M-BI-1c, above. Impacts to 0.01 acre RPO coast live

oak woodland shall be provided through purchase of establishment or re-establishment mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the County.

M-BI-7 Prior to issuance of a grading permit, impacts to 0.31 acre of federal wetlands shall be mitigated at a 3:1 ratio as described in M-BI-5a and M-BI-6a, above, unless otherwise required by USACE.

M-BI-8 Prior to issuance of a grading permit, impacts to 0.72 acre of RPO wetland shall be mitigated at a 3:1 ratio as described in M-BI-5a and M-BI-6c, above.

4.5 CONCLUSION

The Project would result in significant impacts to sensitive natural communities; however, a combination of avoidance through Project design, proposed biological open space, and mitigation measures to fully compensate the loss of habitat would reduce impacts to below a level of significance. Mitigation is proposed at ratios consistent with those required by the County, Wildlife Agencies, and Resource Agencies. With the implementation of mitigation measures **M-BI-1a**, **M-BI-1b**, **M-BI-1c**, **M-BI-2b**, and **M-BI-5a** through **M-BI-8**, impacts on sensitive natural communities would be reduced to less than significant.

5.0 JURISDICTIONAL WETLANDS AND WATERWAYS

5.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

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

5.2 ANALYSIS OF PROJECT EFFECTS

As previously stated, the Project would result in unavoidable impacts to 0.31 acre of wetland waters of the U.S. subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA. The impacts would be primarily temporary for equipment access and staging during bridge construction. Permanent impacts would be limited to bridge abutments, footings, and bank stabilization. The impacts are necessary to remove the existing low-water crossing, construct the new span bridge, stabilize the channel embankment, and restore the riverine hydrology of the reach. The proposed improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The bridge span represents the least environmentally damaging alternative to crossing the Creek and impacts to wetland are considered unavoidable. The Elfin Forest Trail crossings on the western edge of the project site will be designed to avoid impacting waters of the U.S. Impacts to 0.31 acre of USACE-jurisdictional wetland shall be mitigated at a 3:1 ratio as described in **M-BI-6a**.

5.3 CUMULATIVE IMPACT ANALYSIS

The Project's impacts to 0.31 acre of federally protected wetlands, while significant at the project level, would be fully mitigated through on- and/or off-site establishment, re-establishment, rehabilitation, enhancement and/or preservation. With a required 1:1 creation ratio, the Project would result in no net loss of the resource in the region, thus no cumulatively significant impact would occur.

5.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No additional mitigation is required.

5.5 CONCLUSION

The Project would result in significant impacts to federally protected wetlands. Mitigation measures are proposed to fully compensate the loss and reduce impacts to below a level of significance. Mitigation is proposed at ratios consistent with those required by the County and Resource Agencies. With the implementation of mitigation measure **M-BI-6a**, impacts on federally protected wetlands would be less than significant. Notification for securing necessary wetland permits prior to issuance of a grading permit is a regulatory requirement. Anticipated wetland permits include a CWA Section 404 permit from the USACE, CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Waste Discharge requirements from the RWQCB, and CFG Code Section 1602 Streambed Alteration Agreement from CDFW. Final mitigation requirements would be determined through consultation with the USACE, RWQCB, and CDFW.

6.0 WILDLIFE MOVEMENT AND NURSERY SITES

6.1 GUIDELINES FOR DETERMINING 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 proven 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 Project would not result in significant impacts under the above guidelines for the following reasons:

A. The project would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

The Project would impede wildlife access to on- and off-site areas that may be used for foraging, breeding, or obtaining water; however, as evidenced by biological surveys and an assessment of potential wildlife movement functions in the local area, the areas do not support critical populations of animal species and the Project would not impede access to areas necessary for reproduction. Impacts would be less than significant.

Existing wildlife movement functions on and in the vicinity of the site are discussed in detail within Section 1.4.12 of this report. Figure 19 depicts expected wildlife movement patterns in the local area based primarily on a general assessment of habitat connectivity, topography, and the bird and large mammal species expected to move through the area. The study area occurs within lands identified as PAMA and in the vicinity of core area, outside of any linkage area. With respect to wildlife movement in the region, conservation targets generally include conserving a contiguous riparian corridor in Escondido Creek, and conserving a large core area of upland habitat around Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Related to these are conserving regional movement within core area associated with Del Dios Highlands Preserve and Elfin Forest Recreational Reserve, and conserving access to the Escondido Creek corridor from the core area.

Access along the reach of Escondido Creek that occurs at the Country Club Drive crossing would be temporarily interrupted during construction; however, there would be adequate space to move around work areas to the north across Harmony Grove Road and into the Harmony Grove Village open space areas. Wildlife would also have unobstructed access around work areas by moving through rural/estate lots to the east of the Project site, through the open space to be conserved in the southern portions of the site, and finally to the downstream reach of Escondido Creek further to the west of the site. Replacement of the existing Country Club Drive low-water crossing with a new bridge would have a beneficial effect on wildlife access and movement within the reach of Escondido Creek. The bridge is

anticipated to be approximately 250 feet long, supported on abutments at its northern and southern extents, with two intermediate pier supports. The piers would be spaced at least 100 feet apart to facilitate movement and access to key resources. The bridge would be tall enough to accommodate wildlife crossings within the riparian zone and would also accommodate 100-year flood flows. The design would accommodate a minimum openness ratio of 0.75 to allow species such as mule deer and coyote free and clear access. The design would further widen the corridor at the located where it is currently pinched and constrained from the low-water crossing. The post-Project bridge condition is anticipated to be superior for wildlife access compared to the low-water crossing barrier which currently exists.

There would be adequate space for birds to move around the site to access core habitat within Del Dios Highlands Preserve and Elfin Forest Recreational Reserve, and to and from Escondido Creek and Harmony Grove Village open space. Birds would be able to move unobstructed through the Project's open space (both biological open space and other open space areas proposed by the Project) and the undeveloped lands around the site. Although a single pair was confirmed on site during 2014 surveys, the habitat is not vital to support a viable population of gnatcatchers in perpetuity. The closest known gnatcatcher occurrences to the site are within the Harmony Grove Village open space, approximately 600 feet northeast of the site across Harmony Grove Road, where HELIX confirmed two gnatcatchers during construction monitoring efforts in 2014. With two gnatcatchers present and limited available habitat, the Harmony Grove Village open space does not support a critical population of gnatcatchers. The Project would not impede the ability for gnatcatchers to disperse to and from the Harmony Grove Village open space. There is an abundance of core gnatcatcher habitat located further to the southeast around Lake Hodges, to the south around Del Dios and Rancho Cielo, and to the southwest in the Elfin Forest and Rancho La Costa area. The Project would maintain full connectivity of open space with adjacent habitat along the southern boundary, connecting with Del Dios Highlands Preserve to the south; therefore, gnatcatcher movement functions through this area would be conserved. The Project would further maintain partial connectivity of thinned native vegetation with adjacent preserved habitat along portions of the northern and eastern boundaries, connecting with Escondido Creek Conservancy-owned lands. Therefore, gnatcatcher movement functions through this area would also be conserved. The Project abuts large blocks of rural land further to the east that are largely undeveloped. Habitat within these properties to the east is not preserved from activities like landscaping and agriculture, but is also not expected to be developed with additional homes in the future based on zoning, density, and steep slope restrictions. Therefore, these areas would continue to facilitate gnatcatcher movement and provide access to Escondido Creek. Last, the Project would maintain open space connectivity with large blocks of rural land along the southern portion of the western boundary, thereby conserving movement functions through that area.

Mammals with potential to move through the area, such as mule deer and coyote (see Section 1.4.12), would have unobstructed access to the Project's biological open space and undeveloped lands to the south, east and west. These undeveloped lands provide adequate travel routes to accommodate wildlife movement in the local area during construction and once the Project is built. Mammals would have unobstructed access around the site to Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Access to Escondido Creek

is already partially constrained by four rural residential properties east of the site; however, the Project proposes no developments in those areas and would not further constrain undeveloped lands in those areas. Further, as described above, habitat within the properties to the east is not expected to be developed in the future based on zoning, density, and steep slope restrictions. Mammals would still be able to move through the fuel modification zone along the eastern boundary of the Project site and through the open space to be conserved in the southern portions of the site.

The Project has been designed to avoid and conserve core habitat in the local area where wildlife are most likely to travel to get to and from Escondido Creek. As depicted on Figure 19, the Project is sited at the southern terminus of the larger Harmony Grove Village and the Project's biological open space would be contiguous with the Del Dios Highlands Preserve to the south; and undeveloped lands, rural/estate properties, and lands constrained by steep slopes and rugged terrain to the east and west. Although not included in biological open space, undeveloped areas included in the Project's fuel modification zones (irrigated zone 1, thinned native zone 2) will abut the Escondido Creek Open Space to the north, conserving contiguity and functionality of habitat in that area.

The Project's development footprint abuts the boundary of Harmony Grove Village, such that the overall development in the local area is consolidated and the edge effect is minimized. The construction of the Harmony Grove Village development limits wildlife connectivity to the north and west of the Project site. The Project's siting of development and open space design conserves the core area and linkage functions in the region by concentrating development in the lower quality, non-native grasslands on the site, and minimizing edge effect by hugging up against Harmony Grove Village and existing residential uses to the west. Project development has been consolidated to reduce edge effects and concentrated in the portions of the site with the lowest, relative biological value. The proposed pad locations have been sited as far away from sensitive resources as possible. They are separated from open space and undeveloped areas by manufactured slopes, portions of which would be restored with Diegan coastal sage scrub, in addition to fuel modification zones, portions of which propose native habitat thinning and/or irrigation. Manufactured slopes and fuel modification zones are expected to provide some biological functions and values under post-project conditions, especially in buffering open space from proposed developments, preventing vehicle and pedestrian encroachment, and providing habitat for animal species known to the local area.

The connection of scrub and chaparral habitat between Del Dios Highlands Preserve and Escondido Creek would be conserved through habitat areas on rural/estate lots along West Ridge to the east of the site. Similarly, the east-west connection of scrub and chaparral habitat through the southern portion of the site would be conserved, including the restoration of graded slopes outside of the required fuel modification zone with Diegan coastal sage scrub. On-site Project developments will sit below graded cut slopes and below avoided and thinned native habitat within fuel modification zones. As such, potential indirect impacts from lighting, noise, and other operation-related disturbances will be minimized due to shielding lines of sight and attenuation provided by the topography of the land. Wildlife would be able to move through habitat that is situated higher and set back from the proposed

developments, which is expected to have less of an impact on movement functions. The on-site developments have also been specifically designed to be setback in excess of 200 feet with a 100-foot RPO wetland buffer from riparian habitat within Escondido Creek and in excess of 100 feet from upland habitat within open space. Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Project lighting adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from such habitat.

In conclusion, Project impacts on wildlife movement and access to resources within Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and Escondido Creek would be less than significant.

With the biologically superior alternative, open space connectivity on the south side of the site would be substantially the same, except that graded slopes outside of the required fuel modification zone would be revegetated and maintained as a landscaped slope instead of being restored to Diegan coastal sage scrub and maintained as biological open space. The alternative would improve wildlife movement along the eastern boundary by providing biological open space up to 500 feet wide, including chaparral, coastal sage scrub, and coastal sage-chaparral habitat on that side of the site. There would be a narrow gap between the southern and eastern biological open space areas; however, a gap is unavoidable in order to maintain access to an adjacent residence. There is an existing dirt road and non-native grassland in that area. The vegetated slopes on the east side of the project site provide daytime cover for mammals and foraging habitat for gnatcatchers, making them more useful for wildlife movement than the grassland in the middle of the site. By preserving those slopes in biological open space, the alternative would enhance gnatcatcher movement between Del Dios Highlands Preserve and Escondido Creek, relative to the proposed Project.

B. The project would not substantially interfere with connectivity between blocks of habitat and would not potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

As addressed above, the Project would not substantially interfere with connectivity between Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and Escondido Creek. The Project would contribute 34.8 acres of biological open space preserve to the existing Del Dios Highlands Preserve and Elfin Forest Recreational Reserve core habitat block, thereby enhancing habitat connectivity in those areas. The Project would introduce new development to the site, and therefore, new barriers; however, the impediments would not substantially interfere with access to Escondido Creek due to the fact they would occur primarily on non-native grassland and alternate access would be available to the east of the site. The Project's development footprint abuts the boundary of Harmony Grove Village, such that the overall development in the local area is consolidated and the edge effect is minimized. The Project minimizes edge effect by hugging up against Harmony Grove Village and existing residential uses to the west. It further concentrates development in the lower quality, non-native grassland on the site, which does not provide optimal cover and resources for wildlife moving through the area. Impacts would be less than significant.

C. The project would not create artificial wildlife corridors that do not follow natural movement patterns.

The Project does not create an artificial corridor for birds and movement functions would continue on the Project site and local area under post-Project conditions. Adequate scrub and chaparral habitat would remain to the south and east of the site and in the southern portions of the site once the Project is built. Thinned native habitat within fuel modification zone 2 would also exist along the eastern boundary providing some functionality for wildlife movement. Similarly, the Project would not create an artificial corridor for mammals. As address above, the Project would introduce new barriers on the Project site itself, but the impediments would not substantially interfere with access due to alternate travel routes in the local area for the mammals expected to occur in the area, such as mule deer and coyote (see Section 1.4.12). Adequate space and connectivity of habitat would remain in the local area, as depicted on Figure 19. Local and regional movement functions would continue further to the east of the site, as well as further to the south and in the southern portions of the site. Impacts along the Escondido Creek corridor would be short-term and temporary during construction only, except for ongoing fuel modification zone maintenance for fire safety. The improvements in this area would not create an artificial corridor, but instead, would widen the corridor and enhance the corridor functions. On-site Project developments are setback and buffered a minimum 200 feet with a 100-foot RPO wetland buffer from riparian and wetland habitat within Escondido Creek, and 100 feet from biological open space and other undeveloped upland habitat on and adjacent to the site. Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code and would not adversely affect wildlife movement. In conclusion, although site development would introduce a new impediment to local wildlife movement, the effects would not be substantially adverse and no artificial corridors would be created. Impacts would be less than significant.

D. The project would not increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

A wildlife corridor is identified along Escondido Creek. Project noise is not anticipated to adversely impact sensitive species at this location during Project operations, as the closest facility would be the water treatment facility (surrounded by a 6-foot wall) and intervening space. Additionally, development has been setback and buffered on-site BOS, and adjacent undeveloped lands. All Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Project lighting adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from such habitat. Additionally, developments have been setback and buffered from Escondido Creek, on-site biological open space, and adjacent undeveloped lands. No significant impact to wildlife corridors or linkages resulting from lighting or noise would occur.

E. The project maintains an adequate width for an existing wildlife corridor or linkage and would not 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, or placement of barriers in the movement path.

The Project maintains adequate widths and would not further constrain existing corridors and linkages in the local area. Impacts along the Escondido Creek corridor would be short-term and temporary during construction only, except for ongoing fuel modification zone maintenance for fire safety. The improvements in this area would widen the corridor and enhance the corridor functions by removing existing impediments. On-site Project developments are setback and buffered a minimum 200 feet with a 100-foot RPO wetland buffer from Escondido Creek, and 100 feet from biological open space and other undeveloped upland habitat on and adjacent to the site. The linkage of scrub and chaparral habitat between Del Dios Highlands Preserve and Escondido Creek would be conserved along the eastern boundary of the site and further to the east. As depicted on Figure 19, a minimum width of 1,000 feet would be maintained within the linear arrangement of existing rural and undeveloped lands to the east of the site. These lands generally follow a ridgeline characterized by coastal sage scrub and chaparral that links the Del Dios Highlands Preserve to Escondido Creek. Slope steepness in this area would be expected to preclude future development, but is not too steep to accommodate wildlife movement along the north-south linear path of habitat, particularly for gnatcatcher and large mammals. Although the Project would result in removal of some scrub and chaparral that is connected to habitat to the east, a continuous strip of fuel modification zone would be maintained along the entirety of the eastern boundary, all of which would be vegetated with native species. Habitat that links the Project site to Del Dios Highlands Preserve and Elfin Forest Recreational Area further to the south would also be conserved. The Project would contribute 34.8 acres of biological open space preserve to the existing Del Dios Highlands Preserve and Elfin Forest Recreational Reserve core habitat block, thereby enhancing habitat connectivity, widening the linkage, and conserving wildlife movement functions in those areas. Therefore, although the Project would reduce corridor width by removing native vegetation on the east side of the Project, the Project maintains adequate widths of at least 1,000 feet and would not further constrain an already narrow corridor. Impacts would be less than significant.

The alternative would improve corridor function relative to the proposed Project by preserving vegetated slopes on the east side of the site that could be used by gnatcatchers and mammals to move between Del Dios Highlands and Escondido Creek. Preserving those slopes gives wildlife the option to move either west or east around the homes to the east of the site. The corridor would be about 1,200 feet wide at the narrowest point, versus 1,000 feet with the proposed Project.

F. The project maintains adequate visual continuity (i.e., long lines-of-site) within wildlife corridors and linkage.

The Project would not impair visual continuity within corridors or linkages in the local area. Figure 19 depicts expected wildlife movement patterns in the local area. Considering

topography and vegetative cover along travel routes, wildlife potentially moving through the local area would likely access the site from three key points of entry: (1) from Escondido Creek Open Space along the northeastern boundary of the site; (2) from the West Ridge area along the eastern and southeastern boundary; and (3) from the Del Dios Highlands Preserve along the extreme southern boundary. Wildlife moving from the north (from Escondido Creek and Escondido Creek Conservancy lands) would still have lines-of-sight to scrub and chaparral around the northeastern corner and along the eastern boundary of the site. They would also have lines-of-sight to additional habitat located further to the northeast and east of the site. These areas would lead them to the existing rural and undeveloped lands to the east of the site. These lands follow a scrub- and chaparral-vegetated ridgeline with optimal high points that provide birds and mammals long lines-of-site. Wildlife moving from the southeast (from West Ridge) would have visual continuity up to the saddle and existing rural residence immediately southeast of the site. Once at the saddle, lines-of-sight would be conserved to the north along the eastern boundary of the site and to the west into the biological open space in the southern portions of the site. East-west lines-of-site would be maintained within the biological open space in the southern portions of the site, then south into the Del Dios Highlands Preserve. North-south lines-of-sight from the saddle would be maintained along the eastern boundary of the site within thinned native habitat, and further to the east along the ridgeline. Wildlife moving from the south (from Del Dios Highlands Preserve) would continue to have an unobstructed view. The lines-of-sight from the southern portions of the site to Escondido Creek are already impeded by rolling topography. With the proposed biological open space, wildlife would be able to follow existing topography, including gullied land and shallow slopes, in and out of the open space and to and from visual high spots. Lines-of-sight would be maintained around the northern perimeter of the biological open space in the southern portions of the site to allow unobstructed east-west views. As such, the Project would not impair visual continuity within corridors or linkages in the local area and impacts would be less than significant.

6.3 CUMULATIVE IMPACT ANALYSIS

The cumulative projects are located in existing urbanized areas of San Marcos, Escondido, and unincorporated County, or located on the fringes of urbanization. A cumulative impact on wildlife movement has already occurred in the local area. Primary wildlife use areas are located in the Mt. Whitney area, along Escondido Creek, and within the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. The Project's contribution is not considerable given the development and open space design. The Project's siting of development and open space design conserves the core area and linkage functions in the region by concentrating development in the lower quality, non-native grasslands on the site, and minimizing edge effect by hugging up against Harmony Grove Village and existing residential uses to the west. Project development has been consolidated to reduce edge effects and concentrated in the portions of the site with the lowest, relative biological value. The proposed pad locations have been sited as far away from sensitive resources as possible. They are separated from open space and undeveloped areas by manufactured slopes, portions of which would be restored with native habitat, in addition to fuel modification zones, portions of which propose native habitat thinning and/or irrigation. Manufactured slopes and fuel modification zones in open space are expected to provide some biological functions and values under post-Project conditions, especially in buffering open space

from proposed developments, preventing vehicle and pedestrian encroachment, and providing habitat for animal species known to the local area. Further, the Project would contribute 34.8 acres of biological open space preserve to the existing Del Dios Highlands Preserve and Elfin Forest Recreational Reserve core habitat block, thereby enhancing habitat connectivity, widening the linkage, and conserving wildlife movement functions in those areas. The Project's biological open space would be contiguous with the Del Dios Highlands Preserve to the south; and undeveloped lands, rural/estate properties, and lands constrained by steep slopes and rugged terrain to the east and west. With the Project's proposed biological open space, restoration, incorporation of design features, and implementation of mitigation measures at the specified ratios, the contribution of the Project to the cumulative impact on wildlife movement would not be considerable and would be less than significant.

6.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No additional mitigation measures are required.

6.5 CONCLUSION

With the Project's proposed biological open space, incorporation of design features, and implementation of the measures listed above, impacts would be less than significant and no additional mitigation measures are required.

7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

7.1 GUIDELINES FOR DETERMINING 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 HCP, NCCP plan, or other approved local, regional or state HCP?

Any of the following conditions would be considered significant if:

A. For lands outside of the MSCP, the project would impact Diegan coastal sage scrub vegetation in excess of the County's 5 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 HCP, Resource Management Plan (RMP), Special Area Management Plan, Watershed Plan, or similar regional planning effort.

F. For lands within the MSCP, the project would not minimize impacts to BRCA, as defined in the BMO (County 2010c).

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 (MBTA).

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

7.2 ANALYSIS OF PROJECT EFFECTS

The Project would result in significant impacts under the above guidelines for the following reason:

C. The project would impact wetlands outlined in the RPO.

Unavoidable off-site impacts would occur to 0.72 acre RPO wetlands at the Country Club Drive low-water crossing over Escondido Creek. The anticipated improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The crossing is allowed by the RPO because the following conditions are met:

(aa) There is no feasible alternative that avoids the wetland;

In order to reach Harmony Grove Road to the north or west of the site, any access road would have to cross Escondido Creek. To the south are preserved lands that cannot be crossed, and access to the east is blocked by steep hills and private homes. Therefore, there is no feasible alternative that avoids the wetland.

(bb) The crossings are limited to the minimum number feasible;

The project includes only one crossing, in the location of the existing crossing.

(cc) The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible);

The proposed crossing is a span bridge designed to minimize impacts to sensitive species and prevent barriers to wildlife movement. The improvements would be restricted to only those necessary to provide a safe crossing and enhance the biological and hydrological functions and services of the reach. The impacts would be primarily temporary for equipment access and staging during bridge construction. Permanent impacts would be limited to bridge abutments, footings, bank stabilization, and Fuel Modification Zone 2 thinning requirements.

(dd) The least-damaging construction methods are utilized (e.g., staging areas shall be located outside of sensitive areas, work shall not be performed during the sensitive avian breeding season, noise attenuation measures shall be included and hours of operation shall be limited so as to comply with all applicable ordinances and to avoid impacts to sensitive resources);

Staging areas shall be located outside of sensitive areas to the extent possible, breeding season restrictions shall be included in the conditions of approval, noise attenuation measures shall be used as needed, and hours of operation shall comply with all applicable ordinances.

(ee) The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development;

The crossing will serve several adjoining properties. During high flows, the existing low-water crossing becomes breached and not possible to cross by vehicle or other means, thereby stranding local residents who rely on that crossing to access Harmony Grove Road.

(ff) There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/ enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio).

Temporary impact areas would be restored subject to Fuel Modification Zone requirements. Loss of habitat would be compensated in accordance with mitigation measures **M-BI-1c, M-BI-5a, M-BI-6a, M-BI-6b** and **M-BI-6c**.

K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

Implementation of the project could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. These impacts would be significant.

The Project would not result in significant impacts under the above guidelines for the following reasons:

A. The project would not impact Diegan coastal sage scrub vegetation outside of the MSCP in excess of the County's 5 percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The Project would impact 10.4 acres of Diegan coastal sage scrub outside of adopted MSCP areas. As of February 9, 2013, the approved Diegan coastal sage scrub losses for the entire unincorporated County outside the MSCP boundaries total 1,187.52 acres. The total loss allowed under the 5 percent guideline is 2,953.30 acres. After including the loss of 10.4 acres from the project, the cumulative loss of 1,197.92 acres would not be in excess of the County's 5 percent habitat loss threshold. No impact would occur.

B. The project would not 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.

The Project would occur within areas identified as PAMA under the Draft MSCP North County Plan; however, Project implementation would not preclude or prevent finalizing and adoption of this Plan. The project will result in preservation of 34.8 acres of on-site open space and 51.5 acres of off-site open space, for a total of 86.3 acres of open space preserve located in PAMA.

Conserving habitat blocks within and maintaining unobstructed access between the Del Dios Highlands Preserve, Elfin Forest Recreational Reserve, and Escondido Creek corridor are key targets for the Draft MSCP North County Plan. The Project would contribute biological open space immediately adjacent to the Del Dios Highlands Preserve-Elfin Forest Recreational Reserve habitat block and would not have a substantial adverse impact on Escondido Creek or access to the Creek corridor.

As depicted on Figures 4 and 14, the Project would abut Harmony Grove Village, which is currently under construction. The Project's conservation design is consistent with the targets for the region. The Project contributes 34.8 acres of preserved land to the Del Dios Highlands Preserve-Elfin Forest Recreational Reserve habitat block, including 1.8 acres of temporary impacts restored to Diegan coastal sage scrub. This contribution would expand regional live-in habitat placed in preservation and conserve east-west movement functions across the

southern portions of the Project site, from West Ridge over to Escondido Creek. Further, the design would not prevent north-south access to Escondido Creek, as alternative travel routes and a regional corridor exists further to the east of the site. Therefore, the Project would not conflict with the conservation goals and objectives of the Draft North County Plan for the local area.

An analysis was completed for Project impacts on coastal sage scrub, coastal sage-chaparral transition, and non-native grassland compared to those reported for the region in the Draft MSCP North County Plan area, including data related to proposed PAMA designations and conservation targets. Tables 6 and 7 in Section 2.2 summarize the results of the analysis. The analysis demonstrates that Project impacts on Diegan coastal sage scrub, coastal sage-chaparral scrub, and non-native grassland are extremely small compared to the amount of existing regional habitat reported within the Draft MSCP North County Plan area, including the total expected and targeted for conservation within PAMA.

As evidenced by the small percentages of impact contribution, the loss of these habitat types as a result of the Project would not preclude the implementation of the Draft MSCP North County Plan. For example, it is acknowledged that non-native grassland on site contributes to raptor foraging in the PAMA; however, as included in Table 6, there are 14,841 total acres of non-native grassland reported as occurring in PAMA within the Draft MSCP North County Plan area boundaries, of which, 10,817 acres are expected to be conserved based on conservation percentage targets. Project impacts represent less than 1.0 percent (0.30 percent) of the total non-native grassland within PAMA and less than 1.0 percent (0.41 percent) of the total expected to be conserved in the Plan area. For coastal sage scrub, the percentages are much less, as project impacts represent less than 1.0 percent (0.04 percent) of the total coastal sage scrub within PAMA and less than 1.0 percent (0.06 percent) of the total expected to be conserved in the Plan area.

With respect to local preserve design configuration, the grassland located within PAMA on the site is not occupied by sensitive species, is not essential to facilitate wildlife movement in the local area, and although it does function as foraging habitat for raptors, it does not represent the only available foraging habitat in the local area. As discussed in other section of this report and depicted on Figure 19, wildlife will still have access to and from Escondido Creek and core habitat within the Del Dios Highlands Preserve and Elfin Forest Recreational Area. Target species, such as gnatcatcher and mule deer, will still be able to migrate and disperse through the local area. The Project site does not serve as the only area of movement to and from these areas and would not preclude wildlife from accessing key resources in the local area. The Project proposes on-site biological open space preservation and off-site preservation of habitat with equivalent or superior functions and values compared to that which will be lost by the Project.

With respect to local conservation targets, as summarized within Table 8 and demonstrated in Appendix G to this report, the Project would be consistent with the conservation goals and objectives for the Harmony Grove Core Area, based on the draft circulated for public review in 2009.

The majority of Project impacts are restricted to non-native grassland that had been previously disturbed and subject to incompatible lands uses for many years. This grassland is identified as PAMA and high value habitat under the Draft North County Plan; however, it does not support key habitat or target species for the Draft North County Plan, as demonstrated by biological surveys for the Project. The grassland provides open undeveloped land adjacent to the Escondido Creek corridor; however, it does not support critical populations of species or provide an abundance of food, shelter, or other biological resources, as evidenced by the results of the biological surveys. The grassland lacks an abundance of cover and landscape features (e.g., ridgelines, gullied land, linear stands of vegetation, drainage features, etc.) typically associated with wildlife travel routes and movement corridors. The grassland provides available space for animals commonly occurring in the region and foraging habitat for raptors. Impacts to grassland, which constitute the majority of PAMA on the Project site, would not preclude or prevent approval and adoption of the Draft North County Plan.

One of the key targets for the Draft North County Plan and preserve assemblage for PAMA is gnatcatcher. The Project site supports Diegan coastal sage scrub of both Low and Intermediate Value within PAMA; however, the site is not vital to support a viable population of gnatcatchers in perpetuity, considering only a single breeding pair was found on site. It should be also be acknowledged that the Draft MSCP North County Plan California Gnatcatcher Habitat Evaluation Model ranks the site as having no value to the species for nesting (County 2008b). Portions of the site may facilitate gnatcatcher movement in the local area, but those portions are not critical and alternative dispersal habitat within PAMA is located to the east of the site. Impacts to coastal sage scrub, which constitute PAMA on the Project site, would not jeopardize the gnatcatcher or preclude or prevent approval and adoption of the Draft North County Plan.

The viability of off-site conserved lands as habitat and movement corridors for wildlife, including the Harmony Grove Village open space, Escondido Creek Conservancy open space, and Del Dios Highlands Preserve, would not be adversely affected by the Project. Off-site conserved lands within the Harmony Grove Village and Escondido Creek Conservancy open space are part of a constrained linkage of open space areas in the local area that do not extend across the Project site. Scrub and chaparral habitat situated at the eastern boundary of the Project site occur along the western edge of a portion of this linkage. Additional habitat occurs further to the east that facilitates wildlife movement along the constrained linkage. The project includes design features that will maintain some wildlife movement functions along the eastern boundary and minimize the impact on coastal sage scrub and gnatcatcher. The project would further enhance riparian corridor habitat connectivity and wildlife functions at the Escondido Creek crossing. Last, the project would preserve additional off-site habitat in the subregional NCCP area that will be occupied by gnatcatcher and much larger in size and of equivalent or superior quality, function, and value compared to that being impacted by the project. Therefore, the project will not preclude or prevent the preparation of the subregional NCCP.

D. The project would minimize and mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

The Project would impact 10.4 acres of coastal sage scrub habitat, out of 10.9 existing. As described below, the overall impacts on coastal sage scrub would be minimized through a combination of design features, on-site restoration, and preservation. The impacts would be further mitigated through additional off-site preservation of higher quality habitat with equivalent or superior function and greater long-term conservation value compared to that which would be impacted.

Section 4.3 of the NCCP Guidelines (CDFW 1993a) states, in part: "Project design must be consistent with the Conservation Guidelines and with any guidelines adopted by the subregion and concurred with by the CDFG and USFWS and must, to the maximum extent practicable, minimize habitat loss." The project design does not minimize habitat loss to the maximum extent practicable. However, impacts are allowable according to the Southern California Coastal Sage Scrub NCCP Conservation Guidelines (CDFW 1993b), which establish the criteria for determining a site's potential value for conservation as follows:

1. *Is natural vegetation present?*

   Yes.

2. *Is coastal sage scrub present?*

   Yes.

3. *Is coastal sage scrub the most dense in the subregion?*

   No. The coastal sage scrub on the site is in relatively small patches surrounded by other habitat types. There is a large area of very high value gnatcatcher habitat about two miles to the southwest of the site (County 2008b).

4. *Is the land close to high value district?*

   Yes. Although it is small, there is an area of high value gnatcatcher habitat about half a mile northeast of the site (County 2008b). There is no direct connection to this habitat from the project site. The site is separated from this area by single family residential uses, although a constrained and fragmented connection of habitat exists.

5. *Is the land located in a corridor between higher value districts?*

   Yes. While the project site itself does not function as a corridor, the eastern edge of the site likely contributes to north-south wildlife movement that occurs along the West Ridge, which would connect known gnatcatcher records north of Escondido Creek to those from Del Dios Highlands Preserve and further to the south, southeast, and southwest.

6. *Does the land support high density of target species? Does land support significant populations of highly endemic species or rare sub-habitat types?*

   No. Although it does not support a high density of any one species, the site supports one breeding pair of coastal California gnatcatchers. Other sensitive species identified on the site are: ashy spike-moss (*Selaginella cinerascens*), San Diego sagewort (*Artemisia palmeri*), southwestern spiny rush (*Juncus acutus* var. *leopoldii*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), wart-stemmed ceanothus (*Ceanothus verrucosus*), American peregrine falcon (*Falco peregrinus anatum*), barn owl (*Tyto alba*), coastal California gnatcatcher, great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), least Bell's vireo, northern harrier (*Circus cyaneus*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), western bluebird (*Sialia mexicana*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*). The site supports a large population of wart-stemmed ceanothus (23,113 plants); however, 21,150 (92%) would be conserved within the on-site open space.

   Based on the NCCP Logic Flow Chart, the quality of habitat supported on the project site is defined as being of "Low Value" and "Intermediate Value.," although the County's Habitat Evaluation shows the Project site ranked as having no value to the species for nesting (County 2008b). According to the Conservation Guidelines, sites of low and intermediate value can be impacted on a case by case basis with appropriate mitigation.

   Of the 10.4 acres of coastal sage scrub that will be impacted, approximately 4.1 acres (39 percent) is made of up smaller, Low Value fragmented patches in the southern and western portions of the Project impact area where gnatcatchers were not detected during surveys, but could be used for foraging, migration and dispersal. These 4.1 acres would be considered to have Low Value using the criteria for the NCCP Logic Flow Chart because of their fragmented nature and small patch size, and their low function and value for sensitive species. The remaining 6.3 acres of coastal sage scrub in the eastern portion of the site would be considered to have Intermediate Value, given the habitat was confirmed to be used for breeding by gnatcatcher and is characterized by large, intact stands. As mentioned above, according to the Conservation Guidelines, the habitat can be impacted on a case by case basis with appropriate mitigation.

   Impacts to on-site coastal sage scrub will be minimized through a combination of design features, on-site restoration, and preservation. The impacts would be further mitigated through additional off-site preservation. As stated above, some of the impacted habitat would occur within thinned native vegetation fuel modification zones, thereby conserving some functionality of the habitat and minimizing the impact. The Project would further utilize native scrub species in the landscape palette to the extent allowed to meet fire and landscape requirements, thereby replacing some additional functionality on site and minimizing the impact. Additional areas within the Project temporary impact footprint would be restored to coastal sage scrub and placed within biological open space, thereby replacing some of the habitat loss and minimizing the overall impact to the habitat on

site. Last, the Project would preserve additional off-site habitat that will be occupied by gnatcatcher and much larger in size and of equivalent or superior quality, function, and value compared to that being impacted by the Project.

The loss of 10.4 acres of coastal sage scrub on site would be mitigated at a 2:1 ratio in accordance with Section 4.3 of the NCCP Guidelines and offset by preserving additional habitat in the region. As a regulatory requirement, the Project will obtain an HLP from the County, which requires concurrence from the Wildlife Agencies prior to issuance. The HLP will incorporate the avoidance, minimization, and compensatory mitigation measures addressed herein and will include detailed information about the specific type(s) and location(s) for the mitigation. Compensatory mitigation measures are proposed herein to offset the loss of the coastal sage scrub habitat. Approximately 1.8 acres would be restored or created within temporary impact areas along the southern boundary. These 1.8 acres will be preserved, along with an additional 0.5 acre, for a total of 2.3 acres of preserved coastal sage scrub within biological open space for the Project (Figure 17). In addition to the on-site restoration, creation, and preservation of 2.3 acres, the Project proposes one or a combination of the following for an additional 18.5 acres of coastal sage scrub preservation in the region: (1) biological open space easement, RMP implementation, and long-term management of land containing occupied coastal sage scrub as approved by the County and Wildlife Agencies; and/or (2) purchase of occupied coastal sage scrub credits from a conservation bank as approved by the County and Wildlife Agencies. To the extent possible, mitigation will occur within High Value or Intermediate Value lands using the NCCP Conservation Guidelines located in PAMA and in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion, or other location deemed acceptable by the County and Wildlife Agencies.

The project as a whole will therefore result in a net increase of 18.5 acres or 70 percent of coastal sage scrub preservation compared to the 10.9 acres that currently exist on site, portions of which are fragmented and of Low Value.

The Biologically Superior Alternative would impact 7.4 acres of coastal sage scrub and preserve 3.5 acres of coastal sage scrub in biological open space, but would not include coastal sage scrub restoration. The alternative minimizes habitat loss to the maximum extent practicable by avoiding the coastal sage scrub on the eastern side of the project site where the gnatcatcher pair was observed breeding. The coastal sage scrub to be preserved on the east side includes the largest contiguous stand of gnatcatcher habitat on site, while the coastal sage scrub to the south and west occurs in smaller patches, largely surrounded by non-native grassland. Several patches of coastal sage scrub also occur near the center of the site that will be impacted. However, the impacted patches were inspected and assessed during a site visit by CDFW and the County, and determined to be of relatively low function and value. The alternative would mitigate for habitat loss at a 2:1 ratio. Thus the alternative would also minimize and mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines, and impacts would also be less than significant.

E. The project does not conform to goals and requirements outlined in any applicable HCP, Resource Management Plan (RMP), Special Area Management Plan, Watershed Plan, or similar regional planning effort.

No adopted HCP, RMP, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the Project. As such, the project would not conflict with and adopted plans. No impact would occur.

F. For lands within the MSCP, the project would not minimize impacts to BRCA, as defined in the BMO (County 2010c).

The Project does not occur within an adopted MSCP planning area and the BMO does not apply. No impact would occur.

G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The Project would not preclude connectivity between high habitat value areas. The Project abuts existing residential developments to the east and west, and will abut equestrian park elements of Harmony Grove Village once constructed. The southern portions of the site facilitate east-west wildlife movement and the eastern boundary of the site facilitates north-south movement. Wildlife also moves east-west within the Escondido Creek corridor in the northern portion of the site. The existing residential uses and construction of the Harmony Grove Village development limits wildlife connectivity to the north, east, and west. The Project would conserve 34.8 acres of land in the southern portion of the site in biological open space easement, thus continuing to allow for wildlife to access the Project site from the south, east, and west. The Project further includes landscaped slopes and thinned-native habitat within the fuel modification zones along the eastern boundary of the site, thereby conserving some north-south movement functions.

High value areas are identified by the County's Habitat Evaluation Model (County 2008a) to the north, east, and west of the site, in addition to portions of the site itself. A contiguous swath of high value designation generally runs east-west across the central portion of the site. This swath connects directly to lands designated as high value within Harmony Grove Village development footprint immediately west of the Project site. The Project would disrupt connectivity along this high value swath; however, the land within the Harmony Grove Village footprint to the west should not be afforded high value designation given the development plans and zoning restrictions on the land that are attached to the Harmony Grove Village Specific Plan. The high value off site to the west is slated for an equestrian center under the Harmony Grove Village Specific Plan and there are no plans for placing the land within a biological open space easement. In addition, the land is characterized by non-native grassland that burned during the Cocos Fire. The current biological functions and values in the lands off site to the west are expected to be limited and do not justify high value habitat designation.

While the project site itself does not function as a corridor, the eastern edge of the site likely supports north-south wildlife movement that occurs along the West Ridge, which would connect the gnatcatcher pairs north of Escondido Creek to Del Dios Highlands Preserve. There is an area of high value gnatcatcher habitat about half a mile northeast of the site (County 2008b). There is no direct connection to this habitat from the project site. The site is separated from this area by residential uses, although a constrained and fragmented connection of habitat exists. Movement function along the eastern edge of the site will be conserved within thinned native vegetation fuel modification zones, thereby conserving some functionality of the habitat and minimizing the impact. Gnatcatchers and other wildlife will still be able to move unobstructed further to the east of the site near the West Ridge area.

Impacts to on-site coastal sage scrub will be minimized through a combination of design features, on-site restoration and preservation, and off-site preservation. As stated above, some of the impacted habitat will occur within thinned native vegetation fuel modification zones, thereby conserving some functionality of the habitat and minimizing the impact. The Project will further utilize native coastal sage scrub species in the landscape palette to the extent allowed to meet fire and landscape requirements, thereby replacing some additional functionality on site and minimizing the impact. Additional areas within the Project temporary impact footprint will be restored to coastal sage scrub and placed within biological open space, thereby replacing some of the habitat loss and minimizing the overall impact to the habitat on site. Last, the Project will preserve additional off-site habitat that will be much larger in size and of equivalent or superior quality, function, and value to the region.

The Project does not preclude movement of gnatcatchers or other wildlife between high value areas including Del Dios Highlands Preserve and Escondido Creek, as discussed in detail in Section 6.2. As such, the Project would not preclude connectivity between high habitat value areas in the region.

H. The project does not maintain existing movement corridors and/or habitat linkages, as defined by the BMO.

The Project does not occur within an adopted MSCP planning area and the BMO does not apply. No impact would occur.

I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

The Project does not occur within an adopted MSCP planning area and protection of MSCP narrow endemics does not apply. No impact would occur.

J. The project would reduce the likelihood of survival and recovery of listed species in the wild.

As addressed within Section 3.0, the Project could impact one breeding pair of coastal California gnatcatchers. There is also a potential for impacts to least Bell's vireo to breed in the riparian habitat at the Escondido Creek crossing. The Project site is used by a variety of

wildlife species and, with the exception of wart-stemmed ceanothus, does not support core or critical populations of any special status species. The site generally contains large contiguous stands of chaparral, patchy stands of coastal sage scrub, non-native grassland, and sections of oak and willow riparian areas. Although a single gnatcatcher breeding pair will be impacted, impacts to 10.4 acres of coastal sage scrub will not reduce the likelihood of survival and recovery of the species. Of the 10.4 acres of coastal sage scrub that would be impacted, approximately 4.1 acres are considered Low Value due to the small size, vegetation composition, and fragmented arrangement of the stands. No gnatcatchers were observed or otherwise detected in these Low Value stands and their potential to support nesting gnatcatchers is considered to be low. Impacts to these Low Value stands that are not occupied by gnatcatcher would not reduce the likelihood of survival and recovery of the species. The remaining approximately 6.3 acres of coastal sage scrub on site are considered Intermediate Value due to their less-fragmented arrangement and proximity to the gnatcatcher breeding pair on site. Although less fragmented than the Low Value stands, the Intermediate Value stands are still broken by an existing paved roadway that traverses the site and other pockets of disturbed areas. The largest, intact stand also occurs immediately adjacent to one of the rural residences to the east of the site. Considering the 6.3-acre size and overall quality of the Intermediate Value coastal sage scrub, the potential for it to support additional gnatcatcher breeding territories beyond the single territory confirmed is considered low. The coastal sage scrub on site has a limited carrying capacity and ceiling for breeding gnatcatchers. Impacts to these Intermediate Value stands would also not reduce the likelihood of survival and recovery of the species.

The coastal sage scrub on site is expected to contribute to dispersal and migration for the species, but it is not the only habitat in the local area expected to provide those functions. Additional scrub and chaparral occur in the local area for gnatcatchers and other wildlife to disperse and migrate through. As described above, off-site coastal sage scrub in the local area is composed of fragmented stands and islands of coastal sage scrub. These off-site stands and islands are situated amongst developed land and undeveloped land characterized by chaparral and riparian habitat. Based on survey results and known records for the off-site areas, the fragmented stands and islands of off-site coastal sage scrub do not support high numbers of gnatcatchers or a significant population relative to other core habitat in the Harmony Grove and Elfin Forest area. There are no large blocks of high value coastal sage scrub in the local area for which the on-site coastal sage scrub is vital to provide a connection to. As also described above, movement functions along the eastern edge of the site will be conserved within thinned native vegetation fuel modification zones, thereby conserving some functionality of the habitat and minimizing the impact. Therefore, project impacts to coastal sage scrub used for dispersal and migration would also not reduce the likelihood of survival and recovery of the species.

The project will conserve on-site coastal sage scrub and chaparral habitat to facilitate gnatcatcher movement through the local area and preserve a minimum of 18.5 acres of off-site coastal sage scrub with superior habitat connectivity and long-term viability for the species. Escondido Creek and avoidance buffers will be preserved and enhanced through removing barriers to movement and restoring habitat, providing superior habitat for least Bell's vireo and other riparian species. The wetland impacts would be mitigated within the

same watershed as feasible through required agency permits. Habitat impacts would be mitigated off- site in the North County MSCP subarea. Mitigation for impacts to coastal sage scrub, including both the 4.1 acres of Low Value and 6.3 acres of Intermediate Value coastal sage scrub, is being provided at a 2:1 ratio in accordance with Mitigation Measure Bio-1B. Off-site coastal sage scrub mitigation to be provided will be occupied by gnatcatcher, of Intermediate or High Value, and/or other like-functioning habitat as approved by the County and Wildlife Agencies. Off-site preservation of mitigation land would include the recordation of a biological open space easement and preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, the off-site mitigation would occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area or elsewhere in the northern coastal foothills ecoregion. The ultimate location must be approved by the County and Wildlife Agencies. Long-term management of the preserved land would be funded through a non-wasting endowment in an amount determined through preparation of a Property Assessment Record (PAR) or similar method for determining funding amount. The open space easement would be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County. If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project would include purchase of occupied coastal sage scrub credits at an approved conservation bank, such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, or other bank deemed acceptable by the County and Wildlife Agencies. Therefore, the habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild.

The Biologically Superior Alternative would be expected to support one breeding pair of coastal California gnatcatchers following build-out. Like the Project, the Alternative would not reduce the likelihood of survival or recovery for either species, and impacts would be less than significant.

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

The nearest known historic golden eagle nest is approximately 1.5 miles to the south of the Project site. However, there have been no recent sightings of territorial eagles at this nest location. The Project site does not contain nesting habitat and it is not within any known golden eagle territory. While there is adequate eagle foraging habitat (open non-native grassland) on site, the surrounding habitat fragmentation and the distance from known eagle territories would indicate that the site has low value for golden eagle. The surrounding area is primarily urbanized and new nesting in the vicinity is unlikely. Therefore, no impacts would occur to golden eagle or its habitat.

7.3 CUMULATIVE IMPACT ANALYSIS

The cumulative projects would be required to conform to County Guidelines 7.1.A through 7.1.L and provide mitigation as appropriate. Mitigation is proposed to reduce the project-level impacts on migratory birds. Conformance or mitigation, as appropriate, would be required for the Project and for the other cumulative projects in order to obtain a recommendation for approval, thus no cumulative impacts would occur.

7.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

M-BI-9 No grubbing, clearing, or grading shall occur during the general avian breeding season (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If grubbing, clearing, or grading would occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged.

7.5 CONCLUSION

Implementation of the Project would result in potentially significant impacts to breeding migratory birds. Implementation of mitigation measure **M-BI-9**, which proposes avoiding clearing of vegetation during the bird breeding season, would reduce these impacts to below a level of significance. Implementation of **M-BI-1b, M-BI-1c**, and **M-BI-4** would further reduce impacts on nesting birds to less than significant.

8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Implementation of the project would result in significant impacts to special status animal species, sensitive natural communities, and local policies, all of which would be reduced to less than significant by implementation of the proposed mitigation measures. Table 11 provides a summary of project impacts and mitigation pertaining to sensitive natural communities. Table 12 provides a summary of the proposed mitigation measures.

Table 11
SUMMARY OF VEGETATION COMMUNITIES, IMPACT, AND MITIGATION FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Vegetation Community/Habitat	Total Existing	Total Impacts	Impact Neutral	Mitigation			
				Ratio	Required	Preserved On Site	Provided Off Site
Non-native vegetation (11000)	0.8	0.9	--	--	--	--	--
Disturbed habitat (11300)	3.6	3.9	--	--	--	<0.1	--
Urban/developed (12000)	0.9	2.1	0.1	--	--	<0.1	--
Diegan Coastal Sage Scrub (32500)	10.9	10.4	<0.1	2:1	20.8	2.3[1]	18.5
Coastal sage-chaparral transition (37G00)	4.5	4.5	0.1	2:1	9.0	--	9.0
Southern mixed chaparral (37121)	46.8	15.6	<0.1	0.5:1	7.8	31.1	--
Non-native Grassland (42200)	42.4	44.2	--	0.5:1	22.1	0.2	21.9
Southern willow riparian forest (61300)	-	0.71	--	3:1	2.13	--	2.13
Mule fat scrub (63310)	-	<0.01	--	3:1	0.01	--	0.01
Coast live oak woodland (71160)	0.9	0.2[2]	--	3:1	0.6	0.8	--
Eucalyptus Woodland (79100)	0.3	--	--	--	--	0.3	--
TOTAL	**111.1**	**82.5**	**0.1**	--	**62.44**	**34.8**	**51.54**

* Vegetation categories and numerical codes are from Oberbauer (2005)

1 The preservation total of 2.3 acres of Diegan coastal sage scrub includes 1.8 acres of restoration. The 1.8-acre area to be temporarily impacted and restored to Diegan coastal sage scrub includes 0.5 acre of Diegan coastal sage scrub, less than 0.1 acre of disturbed habitat, 0.6 acre of southern mixed chaparral, and 0.6 acre of non-native grassland.

2 Includes impacts from ground disturbance within oak root zone.

Table 12
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
M-BI-1a Prior to issuance of a grading permit, the Project applicant shall preserve 34.8 acres of on-site biological open space (BOS) determined to support sensitive species and habitat functions and values contiguous with the Del Dios Highlands Preserve to the south through the establishment of a conservation easement and the preparation of a Resource Management Plan (RMP) approved by the County and Wildlife Agencies (U.S. Fish and Wildlife Service and California Department of Fish and Wildlife) to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, by a qualified entity approved by the County and Wildlife Agencies. The 34.8-acre BOS is depicted on Figure 1-9 and Figure 2.3-5. The habitat types within the BOS are summarized within Table 11 of Appendix E. The RMP shall address the location of the mitigation sites that meet the specific mitigation requirement for the type of habitat (e.g., in-kind habitat preservation, no net loss, presence of special status species, etc.) within the Project site. The open space easement shall be owned by a conservancy, the County, or other similar, experienced entity subject to approval by the County. Funding shall be provided through a non-wasting endowment, Community Facility District or other finance mechanism approved by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County.	Less than significant	3.1 A 3.1 B 3.1 L 4.2 A 7.2 K

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-1b Prior to issuance of a grading permit, mitigation for 10.4 acres of impacts to Diegan coastal sage scrub occupied by coastal California gnatcatcher shall occur at a 2:1 ratio for a total of 20.8 acres of occupied habitat through a combination of on-site preservation of 0.5 acre, on-site restoration and preservation of 1.8 acres, and off-site preservation of 18.5 acres through land acquisition and/or purchase of conservation bank credits, as specified below and approved by the County and Wildlife Agencies as part of the required HLP process. On-site restoration shall include 1.8 acres of Diegan coastal sage scrub. The restoration shall include preparation and implementation of a restoration plan approved by the County and Wildlife Agencies, to include directives for native container planting and seeding using locally sourced material, temporary irrigation, and monitoring and maintenance for a minimum five-year period until performance standards and success criteria approved by the County and Wildlife Agencies have been met. The 1.8 acres of restored coastal sage scrub shall be placed within a BOS easement, along with the 0.5 acre of avoided coastal sage scrub, and managed in perpetuity in accordance with M-BI-1a. An additional 18.5 acres of occupied, Intermediate Value or High Value coastal sage scrub, and/or other like-functioning habitat as approved by the County and Wildlife Agencies, shall be provided through one or a combination of the following: • Off-site preservation of mitigation land, through the recordation of a biological open space easement, and preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. Long-term management shall be funded through a non-wasting endowment in an amount determined through preparation of a Property Assessment Record (PAR) or	Less than significant	3.1 A 3.1 B 3.1 L 4.2 A 7.2 K

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-1b (cont.) similar method for determining funding amount. The open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County. • If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of occupied coastal sage scrub credits at an approved conservation bank, such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, or other bank deemed acceptable by the County and Wildlife Agencies. To further prevent inadvertent direct impacts to coastal California gnatcatcher individuals during construction, no grading or clearing shall occur of occupied Diegan coastal sage scrub during the species' breeding season (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). To avoid take under the federal ESA, impacts to occupied habitat shall be avoided. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If, however, any gnatcatchers are observed nesting or displaying breeding/nesting behavior within the area, construction in that area shall be postponed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See also M-BI-4 for mitigation for indirect noise effects.)		
M-BI-1c Prior to issuance of a grading permit, mitigation for impacts to less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest suitable for least Bell's vireo shall occur at a 3:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment,	Less than significant	3.1 A 3.1 B 3.1 L 4.2 A 7.2 K

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-1c (cont.) rehabilitation, enhancement and preservation of riparian habitat and/or other like-functioning habitat; and/or off-site purchase of riparian habitat mitigation and/or other like-functioning habitat at an approved mitigation bank in the local area, such as the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the County and Regulatory Agencies (USACE, RWQCB, and CDFW), as applicable. The establishment/creation or re-establishment component must be at least 1:1, while the remaining 2:1 can be restoration and enhancement. To further prevent inadvertent direct impacts to least Bell's vireo individuals during construction, no grading or clearing shall occur within riparian habitat during the breeding season of the least Bell's vireo (March 15 – September 15). All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur during the breeding season for the least Bell's vireo, a pre-construction survey shall be conducted to determine whether vireos occur within the impact area(s). To avoid take under the federal and California ESAs, impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If, however, any vireos are observed nesting or displaying breeding/nesting behavior within that area, construction shall be postponed until all nesting (or breeding/nesting behavior) has ceased or until after September 15. (See also M-BI-4 for mitigation for indirect noise effects.)		
M-BI-2a Prior to issuance of a grading permit, mitigation for impacts to seven summer holly and 1,963 wart-stemmed ceanothus individuals shall occur at a minimum ratio of 3:1 for summer holly and 1:1 for wart-stemmed ceanothus through the preservation of at least 21 summer holly and 1,963 wart-stemmed ceanothus within the BOS easement, (which includes preparation of an RMP and monitoring, maintenance, management, and reporting directives) described above in M-BI-1a.	Less than significant	3.1 A 3.1 B

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-2b Prior to issuance of a grading permit, mitigation for impacts to 44.2 acres of non-native grassland that provides suitable nesting and foraging habitat for several bird species, including raptors, shall occur at a 0.5:1 ratio through the preservation of 0.2 acre on site within the BOS easement, (which includes preparation of an RMP and monitoring, maintenance, management, and reporting directives) as required by M-BI-1a, in addition to one or a combination of the following: off-site preservation of 21.9 acres of grassland habitat and/or other like-functioning habitat through the recordation of a biological open space easement, and the preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, or northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. The proposed open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County. If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of 21.9 acres of grassland credits or like-functioning habitat at an approved conservation bank such as the Brook Forest Conservation Bank or other location deemed acceptable by the County. (See also M-BI-9 addressing breeding season avoidance.)	Less than significant	3.1 A 3.1 B 3.1 L 4.2 A 4.2 B 7.2 K
M-BI-2c Prior to issuance of a grading permit, mitigation for impacts to yellow-breasted chat nesting and foraging habitat, including less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest, shall be provided at a 3:1 ratio through implementation of mitigation M-BI-1c. (See also M-BI-9 addressing breeding season avoidance.)	Less than significant	3.1 B 3.1 C

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-3a Prior to issuance of a grading permit, mitigation for loss of foraging area that could impact long-term survival of County Group 2 animals shall be provided through implementation of mitigation for impacts to 44.2 acres of non-native grassland at a 0.5:1 ratio, as described in M-BI-2b.	Less than significant	3.1 B 3.1 C 3.1 F
M-BI-3b Prior to issuance of a grading permit, mitigation for impacts to yellow warbler nesting and foraging habitat, including less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest at a 3:1 ratio, shall be provided through implementation of mitigation M-BI-1c. (See also M-BI-9 addressing breeding season avoidance.)	Less than significant	3.1 B 3.1 C
M-BI-3c Prior to issuance of a grading permit, mitigation for loss of raptor foraging habitat shall be provided through implementation of mitigation for impacts to 44.2 acres of non-native grassland at a 0.5:1 ratio, as described in M-BI-2b.	Less than significant	3.1 B 3.1 C 3.1 F
M-BI-4 If operation of construction dozers, excavators, rock crushers, pile drivers or cast-in-drilled-hole equipment occurs during the breeding seasons for the coastal California gnatcatcher (February 15 to August 31), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist as appropriate to determine whether these species occur within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then operation of the following equipment shall not occur within the specified distances from an active nest during the respective breeding seasons: a dozer within 400 feet; an excavator within 350 feet; rock crusher equipment within 1,350 feet; a breaker within 500 feet; a pile driver within 2,600 feet; and cast-in-drilled holes equipment within 350 feet. All grading permits, improvement plans, and the final map shall state the same. Construction shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of	Less than significant	3.1 A 3.1 B 7.2 K

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-4 (cont.) equipment to ensure that noise levels are reduced to below 60 dBA or ambient. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. If pre-construction surveys identify coastal California gnatcatcher, nesting raptors, or least Bell's vireo, blasting will be restricted to the non-breeding season for the identified birds (September 1 to February 14 for coastal California gnatcatcher; July 16 to January 14 for nesting raptors; and September 16 to March 14 for least Bell's vireo) or be completed using wholly chemical means.		
M-BI-5a Prior to issuance of a grading permit, mitigation for impacts to less than 0.01 acre of mule fat scrub and 0.71 acre of southern riparian forest shall occur at a 3:1 ratio as specified in M-BI-1c, above.	Less than significant	4.2 A 4.2 B
M-BI-5b Prior to issuance of a grading permit, mitigation for 10.4 acres of impacts to occupied Diegan coastal sage scrub shall occur at a 2:1 ratio as specified in M-BI-1a and M-BI-1b, above.	Less than significant	4.2 A
M-BI-5c Prior to issuance of a grading permit, mitigation for 4.5 acres of impacts to coastal sage-chaparral transition shall occur at a 2:1 ratio through one or a combination of the following: off-site preservation of 9.0 acres of coastal sage-chaparral scrub and/or other like-functioning habitat, through the recordation of a biological open space easement, and the preparation of an RMP to address long-term monitoring, maintenance, management, and reporting directives, in perpetuity, approved by the County and Wildlife Agencies. To the extent the land is available for preservation, off-site mitigation shall occur within land designated as PAMA in the Draft MSCP North County Plan and located in the Elfin Forest-Harmony Grove Planning Area, or northern coastal foothills ecoregion. The location shall be deemed acceptable by the County and Wildlife Agencies. The open space easement shall be owned by a conservancy, the County or other similar, experienced entity subject to approval by the County. Should a regional entity to manage biological open space be formed, the natural habitat areas within the Project site could be dedicated to that entity and managed as part of an overall preserve system for northern San Diego County.	Less than significant	4.2 A

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-5c (cont.) If demonstrated to the satisfaction of the County and Wildlife Agencies that off-site preservation of mitigation land is not feasible to fulfill all or a portion of mitigation obligations, then the Project shall include purchase of 9.0 acres of coastal sage-chaparral scrub credits or like-functioning habitat at an approved mitigation bank such as the Red Mountain Conservation Bank, Buena Creek Conservation Bank, Brook Forest Conservation Bank, or other location deemed acceptable by the County and Wildlife Agencies.		
M-BI-5d Prior to issuance of a grading permit, mitigation for 15.6 acres of impacts to southern mixed chaparral shall occur at a 0.5:1 ratio through the preservation of a minimum 7.8 acres on site within BOS easement, (which shall include preparation and implementation of an RMP and monitoring, maintenance, management, and reporting directives), as required by M-BI-1a.	Less than significant	4.2 A
M-BI-5e Prior to issuance of a grading permit, mitigation for 44.2 acres of impacts to non-native grassland shall occur through implementation of M-BI-2b, above.	Less than significant	4.2 A
M-BI-5f Prior to issuance of a grading permit, mitigation for 0.2 acre of impacts to upland coast live oak woodland shall occur at a 3:1 ratio through the preservation of 0.6 acre on site within BOS easement, (which shall include preparation and implementation of an RMP and monitoring, maintenance, management, and reporting directives) as required by M-BI-1a.	Less than significant	4.2 A
M-BI-6a Prior to issuance of a grading permit, demonstration that regulatory permits from the USACE and RWQCB have been issued or that no such permits are required shall be provided to the County. Impacts to 0.31 acre of USACE/RWQCB-jurisdictional wetland waters of the U.S./State shall be mitigated at a 3:1 ratio as described in M-BI-1c, above, unless otherwise required by the USACE and RWQCB. Impacts to 0.03 acre of USACE/RWQCB-jurisdictional non-wetland waters of the U.S./State shall be mitigated at a 1:1 ratio through the preservation of a minimum 0.03 acre on site within BOS easement, (which shall include preparation implementation of an RMP and monitoring, maintenance, management, and	Less than significant	4.2 A 4.2 B

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-6a (cont.) reporting directives) as described in M-BI-1a, unless otherwise required by the USACE and RWQCB. If required by the USACE and/or RWQCB during regulatory permitting for the Project, alternative mitigation shall be provided through purchase of mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the USACE and RWQCB.		
M-BI-6b Prior to issuance of a grading permit, demonstration that regulatory permits from CDFW have been issued or that no such permits are required shall be provided to the County. Impacts to 0.80 acre of CDFW-jurisdictional areas will be mitigated as follows. Impacts to less than 0.01 acre mule fat scrub and 0.71 acre southern riparian forest shall be mitigated at a 3:1 ratio, as described in M-BI-1c, unless otherwise required by CDFW. Impacts to 0.05 acre of CDFW-jurisdictional coast live oak woodland and 0.04 acre of CDFW-jurisdictional streambed shall be mitigated at a 1:1 ratio through the preservation of a minimum 0.05 acre of CDFW-jurisdictional coast live oak woodland and 0.04 acre of CDFW-jurisdictional streambed on site within BOS easement, (which shall include preparation of an RMP and monitoring, maintenance, management, and reporting directives) as described in M-BI-1a, unless otherwise required by CDFW. If required by CDFW during regulatory permitting for the Project, alternative mitigation shall be provided through purchase of mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by CDFW.	Less than significant	4.2 A 4.2 B
M-BI-6c Prior to issuance of a grading permit, impacts to 0.72 acre of RPO wetland (less than 0.01 acre mule fat scrub, 0.71 acre southern riparian forest, and 0.01 acre RPO-jurisdictional coast live oak woodland) shall be mitigated at a 3:1 ratio with at least 1:1 creation. Impacts to mule fat scrub and southern riparian forest shall be mitigated as described in M-BI-1c, above. Impacts to 0.01 acre RPO coast live oak woodland shall be provided through purchase of establishment or re-establishment mitigation credits at the Brook Forest Mitigation Bank, San Luis Rey Mitigation Bank, or other location deemed acceptable by the County.	Less than significant	4.2 A 4.2 B 7.2 C

Table 12 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES FOR THE HARMONY GROVE VILLAGE SOUTH PROJECT

Proposed Mitigation	Level Of Significance After Mitigation	Guideline Number
M-BI-7 Prior to issuance of a grading permit, impacts to 0.31 acre of federal wetlands shall be mitigated at a 3:1 ratio as described in M-BI-5a and M-BI-6a, above, unless otherwise required by USACE.	Less than significant	4.2 A 4.2 B
M-BI-8 Prior to issuance of a grading permit, impacts to 0.72 acre of RPO wetland shall be mitigated at a 3:1 ratio as described in M-BI-5a and M-BI-6c, above.	Less than significant	4.2 A 4.2 B 7.2 C
M-BI-9 No grubbing, clearing, or grading shall occur during the general avian breeding season (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If grubbing, clearing, or grading would occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged.	Less than significant	7.2 K

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Appendix A

Plant Species Observed

Appendix A
PLANT SPECIES OBSERVED – HARMONY GROVE VILLAGE SOUTH

FAMILY	SCIENTIFC NAME	COMMON NAME	HABITAT**
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	SWRF
	*Agave americana**	American century plant	NNV
	Chlorogalum parviflorum	soap plant	GSMC
	Hesperoyucca whipplei	chaparral yucca	DCSS
Anacardiaceae	*Malosma laurina*	laurel sumac	NGG, DCSS, CSCS, GSMC
	Rhus integrifolia	lemonade berry	DCSS
	Rhus ovata	sugar bush	DCSS, GSMC
	*Schinus molle**	Peruvian pepper tree	NNV
	Toxicodendron diversilobum	poison-oak	CSCS, GSMC, CLOW
Apiaceae	*Apium graveolens**	celery	SWRF
	*Conium maculatum**	poison hemlock	SWRF
	*Foeniculum vulgare**	sweet fennel	NNG, DCSS, CSCS
	Sanicula arguta	sharp toothed sanicle	CSCS
	Sanicula crassicaulis	gamble weed	DCSS, GSMC
Apocynaceae	*Asclepias fascicularis*	narrow leaf milkweed	SWRF
	*Vinca major**	periwinkle	NNV
Asphodelaceae	*Asphodelus fistulosus**	onionweed	DH
Asteraceae	*Acourtia microcephala*	sacapellote	GSMC
	Ambrosia psilostachya	ragweed	NNG
	Artemisia californica	coastal sagebrush	DCSS, CSCS
	Artemisia douglasiana	mugwort	SWRF
	Artemisia palmeri†	Palmer sagewort	CLOW
	Baccharis pilularis	coyote brush	DCSS, CSCS
	Baccharis salicifolia	mule fat	MFS, SWRF
	Baccharis sarothroides	broom baccharis	DCSS
	*Carduus pycnocephalus**	Italian thistle	NNG
	*Centaurea melitensis**	tocalote	NNG, GSMC
	Corethrogyne filaginifolia	sand aster	NNG, DCSS, CSCS
	Deinanadra fasciculata	tarweed	CSCS
	Encelia californica	bush sunflower	NNG
	Erigeron canadensis	horseweed	SWRF
	Erigeron coulteri	Coulter's fleabane	SWRF
	Eriophyllum confertiflorum	golden yarrow	GSMC, CLOW
	Hazardia squarrosa	sawtooth goldenbush	DCSS, CSCS, GSMC, CLOW

Appendix A (cont.)
PLANT SPECIES OBSERVED – HARMONY GROVE VILLAGE SOUTH

FAMILY	SCIENTIFC NAME	COMMON NAME	HABITAT**
Asteraceae	*Hedypnois cretica**	crete weed	NNG
	Helianthus gracilentus	slender sunflower	NNG, DCSS, CSCS
	Heterotheca grandiflora	telegraph weed	NNG
	Isocoma menziesii	San Diego goldenbush	NNG, CSCS
	Pseudognaphalium californicum	California everlasting	NNG, DCSS
	*Silybum marianum**	milk thistle	NNG, CSCS
	*Sonchus asper**	spiny sowthistle	SWRF
Boraginaceae	*Eucrypta chrysanthemifolia*	spotted eucrypta	SMC
Brassicaceae	*Brassica nigra**	black mustard	SWRF
	*Hirschfeldia incana**	short-pod mustard	DCSS
	Nasturtium officinale	watercress	SWRF
	*Raphanus sativus**	wild radish	NNG
	Sisymbrium sp.*	mustard	NNG
Cactaceae	*Opuntia ficus-indica**	mission cactus	NNG
	Opuntia sp.	cactus	GSMC
Caprifoliaceae	*Lonicera subspicata*	southern honeysuckle	DCSS, CSCS, GSMC
Chenopodiaceae	*Chenopodium californicum*	California goosefoot	NNG
	Salicornia bigelovii	Biglow's pickleweed	GSMC
Cistaceae	*Helianthemum scoparium*	peak rush-rose	GSMC
Convolvulaceae	*Calystegia macrostegia*	island morning glory	DCSS
	Convolvulus sp.	bindweed	GSMC
Cucurbitaceae	*Marah macrocarpus*	wild cucumber	DCSS, CSCS
Datiscaceae	*Datisca glomerata*	Durango root	SWRF
Ericaceae	*Comarostaphylis diversifolia* ssp. *diversifolia*†	summer holly	GSMC
	Xylococcus bicolor	mission manzanita	NNG, CSCS, GSMC
Euphorbiaceae	*Croton setigerus*	dove weed	NNG
Fabaceae	*Acmispon glaber*	deer weed	DCSS
	*Melilotus indicus**	indian sweetclover	NNG
	*Vicia villosa**	hairy vetch	NNG
Fagaceae	*Quercus agrifolia*	coast live oak	DCSS, CSCS, GSMC, CLOW
	Quercus berberidifolia	inland scrub oak	GSMC
Gentianaceae	*Zeltnera venusta*	canchalagua	NNG, GSMC

Appendix A (cont.)
PLANT SPECIES OBSERVED – HARMONY GROVE VILLAGE SOUTH

FAMILY	SCIENTIFC NAME	COMMON NAME	HABITAT**
Geraniaceae	*Erodium botrys**	broad leaf filaree	NNG
	*Erodium cicutarium**	red stemmed filaree	NNG
	*Geranium dissectum**	wild geranium	NNG
Grossulariaceae	*Ribes speciosum*	fuchsia flowered gooseberry	CSCS
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	NNG
Juncaceae	*Juncus acutus*†	spiny rush	SWRF
Lamiaceae	*Marrubium vulgare**	horehound	DCSS
	Salvia apiana	white sage	DCSS
	Salvia mellifera	black sage	DCSS, CSCS, GSMC
	Stachys sp.	hedge nettle	GSMC
Malvaceae	*Malva parviflora**	cheeseweed	NNG
Montiaceae	*Claytonia parviflora*	miner's lettuce	GSMC
Myrsinaceae	*Anagallis arvensis**	scarlet pimpernel	DCSS
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	NNG, GSMC
Nyctaginaceae	*Mirabilis laevis*	wishbone bush	GSMC
Oleaceae	*Olea europaea**	olive	NNG
Onagraceae	*Oenothera elata* ssp. *hookeri*	Hooker's evening primrose	SWF
Paeoniaceae	*Paeonia californi*a	California peony	CSCS
Papaveraceae	*Eschscholzia californica*	California poppy	NNG
Phrymaceae	*Mimulus aurantiacus*	bush monkeyflower	CSCS, GSMC, CLOW
Plantaginaceae	*Keckiella antirrhinoides*	snapdragon penstemon	GSMC
	*Plantago lanceolata**	english plantain	NNG
	*Plantago major**	common plaintain	SWRF
Platanaceae	*Platanus racemosa*	western sycamore	SWRF
Poaceae	*Arundo donax**	giant reed	SWRF
	Avena sp.*	oat	NNG, DCSS, NNV
	*Brachypodium distachyon**	false brome	NNG
	Bromus carinatus	California brome	NNG
	*Bromus diandrus**	ripgut brome	NNG, DCSS, CSCS, CLOW, NNV
	*Bromus hordeaceus**	soft chess	DCSS
	Bromus madritensis ssp. r*ubens**	red foxtail	NNG, NNV
	Distichlis spicata	salt grass	NNG
	*Festuca perennis**	rye grass	NNG
	*Hordeum murinum**	smooth barley	NNG
	*Pennisetum setaceum**	fountain grass	NNG

Appendix A (cont.)
PLANT SPECIES OBSERVED – HARMONY GROVE VILLAGE SOUTH

FAMILY	SCIENTIFC NAME	COMMON NAME	HABITAT**
Poaceae	*Poa annua**	annual bluegrass	SWRF
	Stipa lepida	foothill needlegrass	NNG
	*Stipa miliacea**	smilo grass	SWRF
Polygonaceae	*Eriogonum fasciculatum*	flat-top buckwheat	NNG, DCSS, CSCS
	*Rumex crispus**	curly dock	NNG
Ranunculaceae	*Thalictrum fendleri*	Fendler's meadow rue	CLOW, GSMC
Rhamnaceae	*Ceanothus tomentosus*	Ramona lilac	GSMC
	Ceanothus verrucosus†	wart-stem ceanothus	DCSS, CSCS, GSMC
	Rhamnus crocea	spiny redberry	DCSS, CSCS, GSMC
	Rhamnus ilicifolia	hollyleaf redberry	GSMC
Rosaceae	*Adenstoma fasciculatum*	chamise	CSCS, GSMC
	Cercocarpus betuloides	mountain mahogany	NNG, GSMC
	Heteromeles arbutifolia	toyon	NNG, CSCS, GSMC, CLOW
	Prunus ilicifolia	holly leaf cherry	CLOW
Rubiaceae	*Gallium aparine*	common bedstraw	SWRF
Rutaceae	*Cneoridium dumosum*	spice-bush	GSMC
Salicaceae	*Salix laevigata*	red willow	SWRF
	Salix lasiolepis	arroyo willow	SWRF
Selaginellaceae	*Selaginella cinerascens*†	ashy spike moss	GSMC
Simaroubaceae	*Ailanthus altissima**	tree of heaven	NNV
Solanaceae	*Solanum parishii*	parish nightshade	GSMC
Themidaceae	*Bloomeria crocea*	common goldenstar	NNG
	Dichelostemma capitatum	blue dicks	NNG
Typhaceae	*Typha* sp.	cat-tail	SWRF
Urticaceae	*Urtica dioica*	stinging nettle	SWRF
	*Urtica urens**	dwarf nettle	NNG

*Non-native Species
**MFS=Mule fat scrub; SWRF=southern willow riparian forest; CLOW=coast live oak woodland; DCSS=Diegan coastal sage scrub; CSCS=coastal sage-chaparral scrub; GSMC=Granitic southern mixed chaparral; NNG=non-native grassland; EW=eucalyptus woodland; NNV=non-native vegetation; DH=disturbed habitat

†Special Status Species

Appendix B

Animal Species Observed or Detected

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED – HARMONY GROVE VILLAGE SOUTH

TAXON		SCIENTIFC NAME	COMMON NAME
INVERTEBRATES			
Order	Family		
Hymenoptera	Apidae	*Apis* sp.	honey bee
	Pompilidae	*Pepsis* sp.	tarantula hawk
Lepidoptera	Hesperiidae	*Erynnis funeralis*	funereal duskywing
		Pyrgus communis	common checkered-skipper
	Lycaenidae	*Euphilotes enoptes*	dotted blue
		Icaricia acmon acmon	acmon blue
		Leptotes marina	marine blue
		Strymon melinus	gray hairstreak
		Junonia coenia	common buckeye
	Nymphalidae	*Vanessa annabella*	west coast lady
		Vanessa atalanta	red admiral
	Papilionidae	*Papilio eurymedon*	pale swallowtail
		Papilio rutulus	western tiger swallowtail
		Papilio zelicaon	anise swallowtail
	Pieridae	*Anthocharis sara sara*	Pacific Sara orangetip
		Colias harfordii	Harford’s sulphur
		Phoebis sennae	cloudless sulphur
		Pieris rapae	cabbage white
		Pontia protodice	checkered white
		Pontia sisymbrii	spring white
	Riodinidae	*Apodemia mormo virgulti*	Behr's metalmark
	Theclinae	*Satyrium tetra*	mountain mahogany hairstreak
Odonata	Libellulidae	*Libellula saturata*	flame skimmer

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – HARMONY GROVE VILLAGE SOUTH

TAXON		SCIENTIFC NAME	COMMON NAME
VERTEBRATES			
Reptiles			
Order	Family		
Cryptodira	Emydidae	unidentified turtle	turtle
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
Birds			
Order	Family		
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
		Buteo lineatus†	red-shouldered hawk
		Circus cyaneus†	northern harrier
		Elanus leucurus†	white-tailed kite
	Cathartidae	*Cathartes aura†*	turkey vulture
Anseriformes	Anatidae	*Anas platyrhynchos*	mallard
Apodiformes	Apodidae	*Aeronautes saxatalis*	white-throated swift
	Trochilidae	*Calypte anna*	Anna's hummingbird
		Calypte costae	Costa's hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferus*	killdeer
Columbiformes	Columbidae	*Zenaida macroura*	mourning dove
Falconiformes	Falconidae	*Falco peregrinus†*	peregrine falcon
		Falco sparverius	American kestrel
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Cardinalidae	*Passerina amoena*	lazuli bunting
		Passerina caerulea	blue grosbeak
		Pheucticus melanocephalus	black-headed grosbeak
	Corvidae	*Aphelocoma californica*	California scrub-jay
		Corvus brachyrhynchos	American crow
		Corvus corax	common raven
		Melospiza melodia	song sparrow

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – HARMONY GROVE VILLAGE SOUTH

TAXON		SCIENTIFC NAME	COMMON NAME
VERTEBRATES (cont.)			
Birds (cont.)			
Passeriformes (cont.)	Emberizidae	*Melozone crissalis*	California towhee
		Passerculus sandwichensis	savannah sparrow
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Fringillidae	*Haemorhous mexicanus*	house finch
		Spinus psaltria	lesser goldfinch
	Hirundinidae	*Petrochelidon pyrrhonota*	cliff swallow
		Stelgidopteryx serripennis	northern rough-winged swallow
	Icteridae	*Icterus cucullatus*	hooded oriole
		Molothrus ater	brown-headed cowbird
		Sturnella neglecta	western meadowlark
	Mimidae	*Mimus polyglottos*	northern mockingbird
		Toxostoma redivivum	California thrasher
	Parulidae	*Cardellina pusilla*	Wilson's warbler
		Geothlypis trichas	common yellowthroat
		Icteria virens†	yellow-breasted chat
		Oreothlypis celata	orange-crowned warbler
		Setophaga coronata	yellow-rumped warbler
		Setophaga occidentalis	hermit warbler
		Setophaga petechia†	yellow warbler
	Polioptilidae	*Polioptila caerulea*	blue-gray gnatcatcher
	Ptilogonatidae	*Phainopepla nitens*	phainopepla
	Regulidae	*Regulus calendula*	ruby-crowned kinglet
	Sturnidae	*Sturnus vulgaris*	European starling
	Sylviidae	*Chamaea fasciata*	wrentit
		Polioptila californica californica†	coastal California gnatcatcher

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – HARMONY GROVE VILLAGE SOUTH

TAXON		SCIENTIFC NAME	COMMON NAME
VERTEBRATES (cont.)			
Birds (cont.)			
Passeriformes (cont.)	Troglodytidae	*Salpinctes obsoletus*	rock wren
		Thryomanes bewickii	Bewick's wren
		Troglodytes aedon	house wren
	Turdidae	*Catharus ustulatus*	Swainson's thrush
		Sialia mexicana†	western bluebird
	Tyrannidae	*Empidonax difficilis*	Pacific-slope flycatcher
		Myiarchus cinerascens	ash-throated flycatcher
		Sayornis nigricans	black phoebe
		Sayornis saya	Say's phoebe
		Tyrannus verticalis	western kingbird
		Tyrannus vociferans	Cassin's kingbird
	Vireonidae	*Vireo bellii pusillus*†	least Bell's vireo
Pelecaniformes	Ardeidae	*Ardea alba*	great egret
		Ardea herodias†	great blue heron
		Butorides virescens†	green heron
Piciformes	Picidae	*Colaptes auratus*	northern flicker
		Melanerpes formicivorus	acorn woodpecker
		Picoides nuttallii	Nuttall's woodpecker
Strigiformes	Tytonidae	*Tyto alba*†	barn owl
Mammals			
Order	Family		
Carnivora	Canidae	*Canis latrans*	coyote
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Perissodactyla	Equidae	*Equus ferus caballus*	horse
Rodentia	Muridae	*Neotoma* sp.	woodrat
	Sciuridae	*Spermophilus beecheyi*	California ground squirrel

†Special Status Species

Appendix C

Sensitive Plant Species with Potential to Occur

Appendix C
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Ashy spike-moss	*Selaginella cinerascens*	--/--[1] CNPS 4.1[2] County List D[3]	Prostrate herb. Occurs in rocky, open areas in sage scrub and chaparral. Elevation range 0-1000 ft. No flowering period, as it is not a flowering plant. Above-ground all year.	**Present**. Four patches of ashy spike-moss, ranging in size from approximately 1 to 14 square feet, were found in granitic southern mixed chaparral in the central portion of the study area.
Blue streamwort	*Stemodia durantifolia*	--/-- CNPS 2B.1 County List B	Small herb. Occurs in wet sandy areas along small creeks and is an obligate wetland plant. Elevation range 500-3000 ft. Flowering period Jan – Dec.	**None**. No suitable sandy banks occur in the drainages on the site.
California adder's-tongue fern	*Ophioglossum californicum*	--/-- CNPS 4.2 County List D	Small herb. Occurs in grassy, open areas near vernal pools and occasionally in dry, stony areas. Elevation range 0-1000 ft. No flowering season, as it is not a flowering plant. Above-ground Jan – Jun.	**Low**. Soils and habitat on the site are suitable, but not consistent with prime habitat (vernal pools). Species would have been observable during the April 2014 survey if present.
California adolphia	*Adolphia californica*	--/-- CNPS 2B.1 County List B	Occurs on clay soils in dry canyons and washes in coastal sage scrub and chaparral. Flowering period December – May.	**Very Low**. Clay soils not present on site. This conspicuous perennial would have been observable during the 2014 rare plant surveys if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Cooper's rein orchid	*Piperia cooperi*	--/-- CNPS 4.2 County List D	Small herb. Occurs in vernally moist areas and in shallow soils adjacent to water courses. Elevation range 0-3000 ft. Flowering period Mar – Jun.	**None**. No suitable moist stream-side habitat occurs in the drainage on the site.
Del Mar manzanita	*Arctostaphylos glandulosa* ssp. *crassifolia*	FE/-- CNPS 1B.1 County List A	Occurs in coastal San Diego County in maritime chaparral on sandy soils. Flowering period December – June.	**Very low.** Maritime chaparral not present on site. This conspicuous perennial shrub would have been observable during the 2014 rare plant surveys if present.
Encinitas baccharis	*Baccharis vanessae*	FT/SE CNPS 1B.1 County List A	Occurs in southern maritime and southern mixed chaparrals. Flowering period August – November.	~~**Moderate**~~**Low.** Suitable chaparral habitat occurs on site; however, this conspicuous perennial shrub would have been observable during the 2014 rare plant surveys if present.
Engelmann oak	*Quercus engelmannii*	--/-- CNPS 4.2 County List D	Large tree. Occurs in oak woodland and mixed chaparral, and occasionally in grassy savannah. Elevation range 500+ ft. Flowering period Mar – Jun, but identifiable year-round by leaves and acorns.	**None**. Tree species that would have been observed if present during site surveys.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Felt-leaved monardella	*Monardella hypoleuca* ssp. *lanata*	--/-- CNPS 1B.2 County List A	Perennial herb. Typically occurs in the understory of mature stands of chamise in xeric situations. Elevation: 300-1575 m Flowering period June – August.	**Moderate**. Suitable habitat occurs on site. The site is below the species known elevation range and species was not observed during the 2014 rare plant survey.
Golden-rayed pentachaeta	*Pentachaeta aurea* ssp. *aurea*	--/-- CNPS 4.2 County List D	Small annual herb. Occurs in mesic grasslands, woodlands, conifer forests, and sage scrub. Elevation range 0+ ft. Flowers Mar – July.	~~**High**~~**Low**. Soils and habitat on the site are suitable; however, species would have been observable during the April 2014 survey if present. Species was not observed in rare plant surveys on Del Dios Highlands Preserve, Harmony Grove Village, or Valiano.
Graceful tarplant	*Holocarpha virgata* ssp. *elongata*	--/-- CNPS 4.2 County List D	Medium annual herb. Occurs in grasslands on coastal mesas and in the foothills. Elevation range 0-3000 ft. Flowering period May – Nov.	~~**High**~~**Low**. Soils and habitat on the site are suitable. Species would have been observable during the August and November 2014 surveys if present. HELIX observed this species on other sites in 2014.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Hammitt's clay-cress	*Sibaropsis hammittii*	--/-- CNPS 1B.2 County List A	Chaparral (openings) and valley and foothill grassland supported by clay. Elevation range 2,362-3,494 ft. Flowering period Mar – Apr	~~**Absent**~~**None.** Clay soils are absent from the site. The site is well below the species' known elevation range. Known from only five occurrences, one in Wildomar and four on Viejas Mountain.
Nuttall's scrub oak	*Quercus dumosa*	--/-- CNPS 1B.1 County Group A	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Found between 50-3000 feet in elevation. Blooming period February through August. Perennial evergreen shrub.	**Low.** Species would have been observed if present.
Orcutt's brodiaea	*Brodiaea orcuttii*	--/-- CNPS 1B.1 County List A	Small herb. Occurs only on clay soils in vernally moist environments, usually near vernal pools but occasionally near streams. Elevation range 0-5000 ft. Flowering period May – Jul.	**Very Low**. No suitable clay soils or vernally moist habitat occur on the site.
Palmer's goldenbush	*Ericameria palmeri* ssp. *palmeri*	--/-- CNPS 1B.1 County List B	Large shrub. Occurs in coastal drainages, mesic chaparral, and occasionally in coastal sage scrub. Elevation range 0-1500 ft. Flowering period Sep – Nov.	**Low**. Soils and habitat on the site are suitable; however, no *Ericameria* shrubs observed during 2014 surveys.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Palmer's grapplinghook	*Harpagonella palmeri*	--/-- CNPS 4.2 County List D	Mat-forming herb. Occurs on clay soils in grasslands and coastal sage scrub. Elevation range 0-3000 ft. Flowering period Mar – May.	**Very Low**. No suitable clay soils occur on the site. Species would have been observable during the April 2014 survey if present.
Parry's tetracoccus	*Tetracoccus dioicus*	--/-- CNPS 1B.2 County List A	A robust shrub that occurs in chamise chaparral with a preference for Las Posas soils. Habitat conditions are typically quite xeric with only limited annual growth. Flowering period April – May.	~~**Moderate**~~**Low**. Suitable habitat is present on site; however, t~~.~~ ~~T~~his conspicuous perennial shrub would have been observed during surveys if present.
Rainbow manzanita	*Arctostaphylos rainbowensis*	--/-- CNPS 1B.1 County List A	Southern mixed chaparral in Fallbrook, Pala, and southern Riverside County is preferred habitat. Flowering period December – March.	~~**Moderate**~~**Low.** Suitable habitat occurs on site; however, the site is outside of the species' known range. This conspicuous perennial shrub would have been observable during the 2014 rare plant surveys if present.
Ramona horkelia	*Horkelia truncate*	--/-- CNPS 1B.3 County List A	Chaparral and cismontane woodland supported by clay and gabbroic soils. Elevation limits 1312-4265 ft. Flowering period May - Jun	~~**Absent**~~**Low.** Suitable habitat is present; however, the site is well below the species' known elevation range. This perennial herb was not observed during 2014 surveys.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Robinson's peppergrass	*Lepidium virginicum* var. *robinsonii*	--/-- CNPS 4.3 County List A	Medium annual herb. Occurs in openings in chaparral and coastal sage scrub. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. Elevation range 0-5000 ft. Flowering period Jan – Jul.	~~High~~**Low**. Habitats on the site are suitable and this species was observed in one location on the adjacent Del Dios Highlands Preserve; however, species would have been observable during the April 2014 survey if present. The Consortium of California Herbaria has three records of this species from May 2014 from Camp Pendleton and CalPhotos has photos of this plant from March 2014 in Los Penasquitos Canyon and April 2014 in Sycamore Canyon; therefore, April 2014 was an acceptable time to survey for this species.
Rush-like bristleweed	*Xanthisma junceum*	--/-- CNPS 4.3 County List D	Medium perennial herb. Occurs in xeric chaparral and coastal sage scrub, on exposed, rocky substrates. Elevation range 500-4000 ft. Flowering period Jun – Jan.	~~High~~**Low**. Habitats on the site are suitable; however, this perennial species would have been observable during the August and September 2014 surveys if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
San Diego ambrosia	*Ambrosia pumila*	FE/-- CNPS 1B.1 County List A	Small herb. Generally found along creeks or seasonal drainages along the periphery of willow riparian areas, primarily on sandy loam or clay soils. Elevation range 650-2000 ft. Flowering period Apr – Oct.	**Low**. Suitable soils and habitat occur along Escondido Creek; however, this species is very rare and known from fewer than 20 locations. Species would have been observable during the April and August 2014 surveys if present.
San Diego barrel cactus	*Ferocactus viridescens*	--/-- CNPS 2B.1 County List B	Optimal habitat for this cactus appears to be Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Flowering period May – June.	~~**Moderate**~~**Low.** Suitable habitat present on site. Succulent perennial visible all year; species would have been observed if present.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE/SE CNPS 1B.1 County List A	Occurs in vernal pools or mima mound areas with vernally moist conditions that are not present on site. Flowering period Apr – Jun.	**Very low.** Occurs in vernal pools or mima mound areas with vernally moist conditions that are not present on site. Species would have been observable during the April 2014 survey if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
San Diego County needle grass	*Stipa diegoensis*	--/-- CNPS 4.2 County List D	Tall bunchgrass. Occurs in chaparral – sage scrub ecotone, usually in fine, silty loam soil. Elevation range 0-3000 ft. Flowering period Feb – Jun.	**Low**. Soils and habitats on the site are suitable. No areas of native grassland were observed during surveys in 2014. Species would have been observable during the April 2014 survey if present.
San Diego goldenstar	*Bloomeria clevelandii*	--/-- CNPS 1B.1 County List A	Small herb. Occurs on clay soils in grasslands and coastal sage scrub. Elevation range 0-2000 ft. Flowering period Apr – May.	**Low**. No suitable clay soils occur on the site. Species would have been observable during the April 2014 survey if present.
San Diego marsh-elder	*Iva hayesiana*	--/-- CNPS 2B.2 County List B	Occurs along stream courses. Shrub identifiable all year. Flowering period April – October.	**Low.** Species would have been observed during the 2014 rare plant surveys if present.
San Diego sagewort	*Artemisia palmeri*	--/-- CNPS 4.2 County List D	Medium shrub. Occurs along streams in coastal sage scrub and chaparral. Elevation range 0-3000 ft. Flowering period May – Sep, but identifiable year-round by leaves.	**Present**. ~~One~~ Two San Diego sagewort ~~was~~ were observed in coast live oak woodland, and two San Diego sagewort were observed in mafic southern mixed chaparral. Both locations were in the western portion of the study area.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
San Diego sunflower	*Bahiopsis laciniata*	--/-- CNPS 4.2 County List D	Medium shrub. Occurs in coastal sage scrub, often at high density. Elevation range 0-3000 ft. Flowering period Feb – Aug, but identifiable year-round by leaves.	**Low.** Species would have been observed if present.
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT/SE CNPS 1B.1 County List A	Small herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Elevation range 0-3000 ft. Flowering period Apr – Jun.	**Very low**. Suitable clay soils do not occur on the site. Species would have been observable during the April 2014 survey if present.
Summer holly	*Comarostaphylis diversifolia* ssp. *diversifolia*	--/-- CNPS 1B.2 County List A	Occurs in chaparral. Large shrub visible all year. Flowering period April – June.	**Present.** Four individuals were observed in the central portion of the study area within Mafic southern mixed chaparral. An additional ~~16~~ 18 individuals were observed in the central-eastern and northeastern corners of the study area within Mafic and Granitic southern mixed chaparral.
Southern tarplant	*Centromadia parryi* ssp. *australis*	--/-- CNPS 1B.1 County List A	Annual herb. Occurs in seasonally moist (saline) grasslands. Mesic areas in valley and foothill grasslands, alkaline locales, and peripheral salt marsh are utilized. Flowering period May – November.	**Very low.** Potential habitats not present on site. Species would have been observable during the August and November 2014 surveys if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Small-flowered morning glory	*Convolvus simulans*	--/-- CNPS 4.2 County List D	Chaparral (openings), coastal scrub, valley and foothill grassland supported by clay soils and at serpentinite seeps. Flowering period Mar – Jul.	~~**Absent**~~**None.** Suitable soils are absent from the site. Species would have been observable during the April 2014 survey if present.
Smooth tarplant	*Centromadia pungens* ssp. *laevis*	--/-- CNPS 1B.1 County List A	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland at alkaline sites and coastal valley bottoms. Flowering period Apr – Sep.	~~**Absent.**~~**None.** Alkaline conditions were not apparent at the site during surveys. Species would have been observable during the April 2014 survey if present.
Spiny rush	*Juncus acutus* ssp. *leopoldii*	--/-- CNPS 4.2 County List D	Large clump-forming graminoid. Occurs in moist, saline or alkaline soils in coastal salt marshes and riparian alkaline marshes. Elevation range 0-3000 ft. Flowering period May – Jun, but identifiable year-round by leaves and growth habit.	**Present**. One individual of southwestern spiny rush was observed in the study area near the Country Club Drive crossing of Escondido Creek.
Spreading navarretia	*Navarretia fossalis*	--/-- CNPS 1B.1 County List A	Small herb. Occurs in vernal pools, playas, freshwater marshes, and chenopod scrub. Elevation range 200-3000 ft. Flowering period Apr – Jun.	**Very Low**. Suitable habitat does not occur on the site. Species would have been observable during the April 2014 survey if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Sticky dudleya	*Dudleya viscida*	--/-- CNPS 1B.2 County List A	Perennial herb. Grows predominantly on very steep north-facing slopes in shady, mesic conditions. Flowering period May – June.	**Very low.** Potential habitat not present on site. All known occurrences are located to the west and northwest of the project site.
Thread-leaved brodiaea	*Brodiaea filifolia*	FT/SE CNPS 1B.1 County List A	Occurs in coastal sage scrub, cismontane woodlands, grassland, and vernal pools with clay soils. Flowering period March to June.	**Very Low.** No clay soils or vernal pools occur on site. Species would have been observable during the April 2014 survey if present.
Variegated dudleya	*Dudleya variegata*	--/-- CNPS 1B.2 County List A	Small herb. Occurs on clay soils near vernal pools, and on metavolcanic rocky soils in open coastal sage scrub, chaparral, and grasslands. Elevation range 0-3500 ft. Flowering period Apr – Jun.	**None**. No suitable vernal pool habitat. This conspicuous species would have been observable during the April 2014 survey if present.
Wart stemmed ceanothus	*Ceanothus verrucosus*	--/-- CNPS 2B.2 County List B	Occurs in chaparral. Flowering period December – May.	**Present.** Numerous individuals were recorded throughout the study in Diegan coastal sage scrub, coastal sage-chaparral scrub, non-native grassland, mafic southern mixed chaparral, and granitic southern mixed chaparral.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR – HARMONY GROVE SOUTH

Common Name	Species Name	Status	Habit, Ecology and Life History	Potential to Occur
Western dichondra	*Dichondra occidentalis*	--/-- CNPS 4.2 County List D	Mat-forming herb. Occurs on sandy banks in coastal sage scrub, chaparral, and oak woodland, often after fire. Elevation range 0-2000 ft. Flowering period Mar – Jul.	**Moderate**. Suitable habitat is present on the site. Species would have been observable during the April 2014 survey if present.

[1]Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

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

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

Appendix D

Sensitive Animal Species with Potential to Occur

Appendix D
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Insects				
Hermes copper	*Lycaena hermes*	FC/--[1] County Group 1[2]	Southern mixed chaparral and coastal sage scrub at western edge of Laguna mountains. Requires host plant redberry (*Rhamnus crocea*) in close proximity to California buckwheat (*Eriogonum fasciculatum*) or other nectar sources.	**Very Low**. Suitable host plant associations occur on the site. The nearest and most recent observation of the species is from Elfin Forest in 2002, but that area was burned in 2007, and the status of the population is unknown (USFWS 2011). Two other nearby reported populations, San Marcos Creek/Questhaven Road and Lake Hodges, are both presumed extirpated (USFWS 2011). Protocol surveys conducted in 2014 were negative.
Monarch butterfly	*Danaus plexippus*	--/-- County Group 2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* spp.).	**Low**. Suitable roosting habitat and larval host plant species do not occur on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Insects				
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE/-- County Group 1	Occurs in seasonally astatic pools, which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	**None**. No suitable habitat occurs on site.
Reptiles and Amphibians				
Arroyo toad	*Anaxyrus californicus*	FE/SSC County Group 1	Requires rivers with sandy banks, willows, cottonwoods, and sycamores. Breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months.	**None**. No suitable sandy or loose, gravelly stream bank habitats occur within the study area.
California red-legged frog	*Rana draytoni*	FT/SSC County Group 1	Found in dense, shrubby riparian vegetation with deep, slow-moving water. Readily displaced by introduced aquatic predators, including bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp).	**None**. No suitable riparian habitat or deep, slow-moving water occur within the study area. Bullfrogs and crayfish have been observed along Escondido Creek.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Reptiles and Amphibians (cont.)				
Coast horned lizard	*Phrynosoma blainvillii*	--/SSC County Group 1	Occurs in coastal sage scrub, chaparral, open oak woodlands, and open coniferous forests. Important habitat components include basking sites, adequate scrub cover, areas of loose soil, and an abundance of harvester ants (*Pogonomyrmex* sp.), a primary prey item.	**High**. Suitable habitat occurs on the site.
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	--/SSC County Group 2	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	**High**. Suitable brushy habitat occurs on the site.
Coastal rosy boa	*Charina trivirgata*	--/-- County Group 2	Occurs among rocky outcrops in coastal sage scrub, chaparral, and desert scrub.	**Moderate**. Suitable habitat occurs on the site.
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	--/-- County Group 2	Open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	**High**. Suitable open habitat occurs on the site.
Coronado skink	*Plestiodon skiltonianus interparietalis*	--/SSC County Group 2	Occurs in grasslands, coastal sage scrub, and open chaparral where there is abundant leaf litter or low herbaceous growth.	**High**. Suitable grassland habitat occurs on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Reptiles and Amphibians (cont.)				
Red diamond rattlesnake	*Crotalus ruber*	--/SSC County Group 2	Found in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**High**. Suitable habitat and prey occur on the site.
Orange-throated whiptail	*Aspidoscelis hyperythra*	--/SSC County Group 2	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.).	**High**. Suitable coastal sage scrub habitat occurs on the site.
San Diego banded gecko	*Coleonyx variegatus abbottii*	--/-- County Group 1	Chaparral and coastal sage scrub in areas with rock outcrops.	**Moderate**. Suitable coastal sage scrub habitat occurs on the site.
San Diego ringneck snake	*Diadophis punctatus similis*	--/-- County Group 2	Generally occurs in moist habitats such as oak woodlands and canyon bottoms, but is also sometimes encountered in grassland, chaparral, and coastal sage scrub; generally restricted to leaf litter and rarely crosses open areas.	**Low**. Secondary habitats including grassland and coastal sage scrub occur on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Reptiles and Amphibians (cont.)				
Silvery legless lizard	*Anniella pulchra pulchra*	--/SSC County Group 2	Areas with loose soil, particularly in sand dunes and or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, and desert scrub.	**Very low**. Suitable leaf litter habitats occur on site are limited.
Two-striped garter snake	*Thamnophis hammondii*	---/SSC County Group 1	Typical habitat is along permanent and intermittent streams bounded by dense riparian vegetation; also found associated with vernal pools and stock ponds.	**Very low.** Riparian habitat found off site along Escondido Creek provides limited habitat for species.
Western pond turtle	*Emys marmorata*	--/SSC County Group 1	Almost entirely aquatic; occurs in ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Low**. Suitable aquatic habitat occurs to the north of the site along Escondido Creek; however, the habitat is of low quality.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Reptiles and Amphibians (cont.)				
Western spadefoot	*Spea hammondii*	--/SSC County Group 2	Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; requires temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp.).	**Low**. Suitable habitat found on site is limited. Bullfrogs and crayfish occur off site along Escondido Creek.
Birds				
American peregrine falcon	*Falco peregrinus anatum*	BCC/FP County Group 1	Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.	**Present.** Two individual falcons were observed flying over the eastern portion of the study area.
Barn owl	*Tyto alba*	--/--County Group 2	Require large areas of open land over which to hunt. Marsh, grasslands, or mixed agricultural fields. For nesting and roosting they need cavities in trees or man-made structures such as barns or silos.	**Present.** Single individual observed perched in a Peruvian pepper tree (*Schinus molle*) along the site's western boundary during general biological surveys.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Bell's sage sparrow	*Amphispiza belli belli*	BCC/WL County Group 1	Occurs in sunny, dry stands of coastal sage scrub or chaparral.	**Moderate**. Suitable coastal sage scrub habitat occurs on the site.
Burrowing owl	*Athene cunicularia*	BCC/SSC County Group 1	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow. All records of burrowing owl in northwestern San Diego County are prior to 1997 (Unitt 2004).	**Moderate**. Suitable grassland habitat and abundant small mammal prey occur on the site. Protocol surveys conducted in 2014 were negative.
California gull	*Larus californicus*	--/WL County Group 2	Breeds on islands in lakes or rivers. Forages along lakes, bogs, farm fields, lawns, pastures, sagebrush, garbage dumps, feedlots, parking lots, ocean beaches, and open ocean.	**None**. No suitable aquatic habitat occurs on the site.
California horned lark	*Eremophila alpestris actis*	--/WL County Group 2	Found on sandy beaches and in agricultural fields, grassland, and open areas.	**High.** Suitable grassland habitat present on site.
Coastal cactus wren	*Campylorhynchus brunneicapillus sandiegonensis*	BCC/SSC County Group 1	Occurs in coastal sage scrub with large cacti for nesting.	**Very low.** No suitable habitat occurs on site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC County Group 1	Occurs in coastal sage scrub with California sagebrush (*Artemesia californcia*) as a dominated or co-dominant below 2,500 feet.	**Present**. One pair of gnatcatcher was observed moving among patches of Diegan coastal sage scrub and building a nest in an area of Diegan coastal sage scrub and granitic southern mixed chaparral during the 2014 protocol surveys. The nest was being constructed in chamise (*Adenstoma fasciculatum*) approximately 2.5 feet off the ground.
Cooper's hawk	*Accipiter cooperi*	--/WL County Group 1	Tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas such as scrublands or fields.	**High**. Suitable breeding habitat occurs off site. The site provides potential foraging habitat.
Ferruginous hawk	*Buteo regalis*	BCC/WL County Group 1	In San Diego County occurs only in winter. Found in open country, primarily prairies, plain and badlands, breeding in trees near streams or on steep slopes, sometimes on mounds in open desert.	**High**. Suitable open grassland habitat occurs on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Golden eagle	*Aquila chrysaetos*	BCC, BGEPA/ WL, Fully Protected County Group 1	Typical foraging habitat includes grassy and open, shrubby habitats. Generally nests on remote cliffs; requires areas of solitude at a distance from human habitation.	**Low**. No suitable nesting habitat occurs on the site. The site does not contain mountain areas or large trees for nesting. The site is surrounded by rural development on all sides not preferred by this species.
Grasshopper sparrow	*Ammodramus savannarum*	--/SSC County Group 1	Typical habitat is dense grasslands that have little or no shrub cover.	**High**. Suitable grassland habitat occurs on the site.
Great blue heron	*Ardea herodias*	--/-- County Group 2	Wetland habitats, but can be observed foraging away from water.	**Present**. One individual was observed within the study area within Escondido Creek.
Green heron	*Butorides virescens*	--/-- County Group 2	Found around wooded ponds, marshes, rivers, reservoirs, and estuaries.	**Present.** One individual was observed within the study area within Escondido Creek.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Least Bell's Vireo	*Vireo bellii pusillus*	FE/ CE County Group 1	Summer resident of Southern California. Inhabits riparian woodland and is most frequent in areas that combine an understory of dense, young willows or mule fat with a canopy of tall willows.	**Present.** Single, unpaired male detected within the study area along Escondido Creek, primarily using habitat immediately east of Country Club Drive during protocol surveys conducted in 2014. A male and female least Bell's vireo were observed on May 21, 2014 immediately west of Country Club Drive; however, those individuals were only observed on that one occasion and were confirmed to be unassociated with a breeding territory. A fourth least Bell's vireo was audible on two occasions at the far western portion of the survey area. It is believed that a temporary influx of least Bell's vireo into the survey area followed the mid-May 2014 "Cocos Fire" that likely displaced birds in the surrounding area.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Loggerhead shrike	*Lanius ludovicianus*	BCC/SSC County Group 1	Typical habitat includes open habitats including grasslands, shrublands, and ruderal areas with adequate perching locations.	**High**. Suitable grassland habitat occurs on the site.
Long-eared owl	*Asio otus*	--/SSC County Group 1	In San Diego County is a rare resident in shady oak woodlands and broad riparian forests. Ideal habitat includes a closed canopy near open habitats for foraging and a supply of abandoned raptor or corvid nests or debris platforms for nesting (Unitt 2004).	**Low**. Oak woodland and riparian forest habitat occur off site with grassland habitats occurring on the site. Oak woodland and riparian forest habitats are small size.
Merlin	*Falco columbarius*	--/-- County Group 2	Occurs along seacoasts, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country. In San Diego County occurs in small numbers and only in winter.	**Moderate.** Suitable foraging and winter habitat found on site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Northern harrier	*Circus cyaneus*	--/SSC County Group 1	Within San Diego County, distribution is primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. Typical habitat consists of open grassland and marsh.	~~**High**~~**Present**. One female northern harrier was observed flying low over chaparral in the central part of the site.~~Suitable grassland habitat present on site~~.
Prairie falcon	*Falco mexicanus*	BCC/WL County Group 1	Inhabits dry, open terrain, either level or hilly. Nests on cliffs or bluffs and forages over open desert scrub or grassland.	**High**. Suitable dry, open habitat occurs on the site. Suitable nesting habitat absent from the site.
Red-shouldered hawk	*Buteo lineatus*	--/-- County Group 1	Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.	**High**. Suitable riparian habitat occurs off site within Escondido Creek.
Sharp-shinned hawk	*Accipiter striatus*	--/WL County Group 1	Usually observed in areas with tall trees or other vegetative cover but can be observed in a variety of habitats. In San Diego County occurs in small numbers and only in winter.	**High**. Suitable habitat present in surrounding area. Suitable foraging habitat occurs on site.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	--/WL County Group 1	Occurs in coastal sage scrub and sparse mixed chaparral on rocky hillsides and in canyons; also found in open sage scrub/grassy areas of successional growth.	**High**. Suitable coastal sage scrub habitat occurs on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
Southwestern willow flycatcher	*Empidonax trailii extimus*	FE/SE County Group 1	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. One of the most important characteristics of the habitat appears to be the presence of dense vegetation, usually throughout all vegetation layers present. Almost all breeding habitats are within close proximity of water or very saturated soil.	**Very low.** Very little potential habitat to the north of site within Escondido Creek and is unlikely to support this species.
Turkey vulture	*Cathartes aura*	--/-- County Group 2	Species occurs throughout much of San Diego County with the exception of extreme coastal San Diego where development is heaviest. Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.	**Present**. Two turkey vultures were observed soaring over chaparral and Diego coastal sage scrub in the central and northern portions of the study area.
Western bluebird	*Sialia mexicana*	--/-- County Group 2	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge of burned areas. Prefers open forest habitats. Nests in cavities in trees and snags, or between bark and trunk. Uses nest boxes.	**Present**. One individual was observed in non-native grassland land adjacent to Country Club Drive along the site's western boundary.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Birds (cont.)				
White-faced ibis	*Plegadus chihi*	--/WL County Group 1	Occurs in large marshes, with nesting colony hidden in inaccessible reedbed or willow-covered area.	**Very low.** Potential habitat absent from the site.
White-tailed kite	*Elanus leucurus*	--/FP County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland.	**Present**. Single individual observed foraging over the site. Suitable nesting habitat occurs within the surrounding area.
Yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC, BCC/SE County Group 1	Generally occurs along larger river systems, where it nests in riparian forest dominated by willows and cottonwoods.	**None**. Riparian habitat to the north of the site not suitable for this species.
Yellow-breasted chat	*Ictera virens*	--/SSC County Group 1	Prefers mature riparian woodlands.	**Present**. Single individual observed along Escondido Creek.
Yellow warbler	*Setophaga brewsteri*	--/SSC County Group 2	Found along riparian woodlands.	**Present**. One individual was observed along Escondido Creek.
Mammals				
American badger	*Taxidea taxus*	--/SSC County Group 2	Uncommon resident in California that occurs in herbaceous, shrub, and open stages of most habitats with dry, friable soils (Zeiner et al. 1990).	**Low**. Suitable open grassland habitat occurs on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
Big free-tailed bat	*Nyctinomops macrotis*	--/SSC County Group 2	A rare species in California (Zeiner et al. 1990). Prefers rugged, rocky canyons. Often forages over water. Roosts in crevices in high cliffs or rock outcrops.	**Low**. Suitable cliff habitat for roosting does not occur on the site.
California leaf-nosed bat	*Macrotus californicus*	--/SSC County Group 2	Prefers rocky, rugged terrain; roosts by day in caves, abandoned mines, and tunnels. Forages over nearby flats and washes.	**Very low.** Potential habitat not present on site.
Dulzura California pocket mouse	*Chaetodipus californicus femoralis*	--/SSC County Group 2	Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Associated with grass-chaparral edges	**High**. Suitable grassland and coastal sage scrub habitat occurs on the site.
Fringed myotis	*Myotis thysanodes*	--/-- County Group 2	Occurs in a wide variety of habitats, but optimal habitats are oak and juniper forests and desert scrub. Roosts in caves, mines, buildings, and crevices. Forages in open habitats, streams, lakes, and ponds; requires water.	**Very low.** Potential roosting habitat not present on site.
Long-eared myotis	*Myotis evotis*	--/-- County Group 2	Found in brush, woodland, and forest habitats, but coniferous woodlands and forests seem to be preferred. Roosts in rock crevices, buildings, under bark, and in snags. Feeds along habitat edges, in open habitat, and over water.	**Low.** No suitable roosting habitat occurs. This species prefers habitats absent from this site. Marginal foraging habitat exists; however, this species is not likely to forage over this site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
Long-legged myotis	*Myotis volans*	--/-- County Group 2	Feeds over water and over open habitats using denser woodland and forests for reproduction. Drinks regularly. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves.	**Very low.** Potential roosting habitat not present on site.
Mountain lion	*Felis concolor*	--/-- County Group 2	Requires extensive areas of riparian vegetation and brushy stages of various habitats with interspersed irregular terrain, rocky outcrops, and tree/brush edges. Main prey is mule deer.	**Low**. No suitable cliff, ledge, or extensive riparian habitat occurs on the site. Also, the immediate area, though rural, is developed. Transient individuals possible, given the regional setting and proximity of large tracts of open space to the south.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	--/SSC County Group 2	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**High**. Suitable coastal sage scrub and weedy habitats occur on the site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
Pallid bat	*Antrozous pallidus*	--/SSC County Group 2	Locally common species of low elevations in California. Rocky, mountainous areas and near water; also found over more open, sparsely vegetated grasslands, and prefers foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks.	**Low**. Grasslands occur on the site, but the site is not mountainous.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	--/SSC County Group 2	Semiarid desert lands. Day-roosts in caves, crevices in cliffs, and under the roof tiles of buildings. Uses a variety of arid habitats in southern California: pine-juniper woodlands, desert scrub, palm oases, desert wash, desert riparian, etc. Prefers rocky areas with high cliffs.	**None**. Suitable desert habitats do not occur on the site.
Ringtail	*Bassariscus astutus*	--/-- County Group 2	Various riparian habitats and in brush stands of moist forest and shrub habitats at low to middle elevations. Less common in wooded areas with hollow trees, sometimes around buildings.	**Low**. Riparian habitat to the north of site is of small size. Transient individuals possible due to more extensive habitat off-site.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	--/SSC County Group 2	Found primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High**. Suitable coastal sage scrub and grassland habitats occur on the site.
San Diego desert woodrat	*Neotoma lepida intermedia*	--/SSC County Group 2	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**High**. Suitable coastal sage scrub habitat occurs on the site.
Small-footed myotis	*Myotis ciliolabrum*	--/-- County Group 2	Occurs in arid, upland habitats near water. Prefers open stands in forests and woodlands as well as brushy habitats. Feeds over and drinks from streams, ponds, springs, and stock tanks.	**Moderate**. Suitable brushy upland habitat occurs on the site; open water is present off site along Escondido Creek.
Southern grasshopper mouse	*Onychomys torridus ramona*	--/SSC County Group 2	Desert habitat is preferred, but it also occurs in coastal scrub and mixed chaparral. It is uncommon in valley foothill and montane riparian habitats.	**Low**. No suitable desert scrub habitat occurs on the site; however coastal scrub and mixed chaparral is present.
Southern mule deer	*Odocoileus hemionus*	--/-- County Group 2	Mule deer occupy to some extent almost all types of habitat within their range but, in general, they seem to prefer the more arid, open situations	**High**. Suitable open habitat occurs on the site, and the rural setting is appropriate for this species.

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
Spotted bat	*Euderma maculatum*	--/SSC County Group 2	Prefers sites with adequate roosting habitat (i.e., cliffs); feeds over water and along washes. Rare in California (Zeiner, et al. 1990).	**None**. No suitable mountainous terrain occurs on the site.
Stephens' kangaroo rat	*Dipodomys stephensi*	FE/ST County Group 1	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	**Low.** Suitable habitat is present; however, the site does not occur within the species' known range.
Townsend's western big-eared bat	*Corynorhinus townsendii*	--/SSC County Group 2	Most abundant in mesic habitats. Considered uncommon in California (Zeiner, et al. 1990). Drinks water and requires caves, mines, tunnels, buildings, or other man-made structures for roosting.	**Low**. Limited suitable roosting habitat found on site.
Western mastiff bat	*Eumops perotis californicus*	--/SSC County Group 2	Suitable habitat consists of extensive open areas with abundant roost locations (crevices in cliff faces, high buildings, trees, tunnels).	**Low**. Limited suitable roosting habitat found on site.
Western red bat	*Lasiurus blossevillii*	--/-- County Group 2	Riparian areas dominated by cottonwoods, oaks, sycamores, and walnuts.	**Low**. Riparian habitat located off site dominated by willows (*Salix* spp.).

Appendix D (cont.)
SPECIAL STATUS ANIMAL SPECIES POTENTIAL TO OCCUR – HARMONY GROVE VILLAGE SOUTH

Common Name	Species Name	Status	Habitat Associations	Potential to Occur
Mammals (cont.)				
Western yellow bat	*Lasiurus xanthinus*	--/SSC	Found in wooded areas and desert scrub, particularly in palm trees. Rare visitor to San Diego County (Bats of San Diego County 2012).	**None**. No suitable cliff or rocky canyon habitat occurs on the site.
Yuma myotis	*Myotis yumanensis*	--/-- County Group 2	Open forests and woodland are optimal habitat. Closely tied to bodies of water for foraging and drinking. Roosts in buildings, mines, crevices, caves, and under bridges.	**Low**. No bodies of water present on site.

[1]Listing codes are as follows: FE = Federally Endangered; FT = Federally Threatened; FC= Federal Candidate species; BCC = Birds of Conservation Concern; SE = State of California Endangered; FP = State of California Fully Protected; WL = State of California Wait-Listed; SSC = State of California Species of Special Concern.

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

Appendix E

Explanation of Status Codes for Plant and Animal Species

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

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

California Department of Fish and Wildlife (CDFW)

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

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

County of San Diego

Plant sensitivity:

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

Animal sensitivity:

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

OTHER CODES AND ABBREVIATIONS

USFWS Bald and Golden Eagle Protection Act (BGEPA)

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

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

USFWS Birds of Conservation Concern (BCC)

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

Appendix E (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

OTHER CODES AND ABBREVIATIONS (cont.)

California Native Plant Society (CNPS) Ranks

Ranks

1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

1B Plants Rare, Threatened, or Endangered in California and Elsewhere

2A Plants Presumed Extirpated in California, But Common Elsewhere

2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 Plants About Which More Information is Needed

4 Plants of Limited Distribution

Threat Ranks

0.1 Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)

0.2 Moderately threatened in California (20 to 80 percent occurrences threatened / moderate degree and immediacy of threat)

0.3 Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

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

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

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Appendix F

Site Photographs



Photo 1: View of existing low-water crossing for Country Club Drive over Escondido Creek in northern portion of the study area, facing south. A new bridge is proposed at this location that will remove the existing low-water crossing, improve wildlife movement functions, and restore riverine hydrology.



Photo 2: Downstream view at existing low-water crossing for Country Club Drive over Escondido Creek in northern portion of the study area, facing west.



Photo 3: Upstream view at existing low-water crossing for Country Club Drive over Escondido Creek in northern portion of the study area, facing east.



Photo 4: Overview of northern portion of the study area, facing north. Non-native grassland, typical of the majority of the study area, is depicted in foreground. Escondido Creek and active construction for Harmony Grove Village is depicted in background.



Photo 5: Overview of northern half of the study area, facing north.



Photo 6: View of Diegan coastal sage scrub and coastal sage-chaparral scrub in eastern portion of the study area, facing east.
Private road and adjacent residence to the east are also depicted.



Photo 7: View of Diegan coastal sage scrub in eastern portion of the study area, facing southeast. An active gnatcatcher nest was confirmed in the center mid-ground of the photo, at the scrub-chaparral interface.



Photo 8: Overview of southeastern portion of the study area, facing south.



Photo 9: Overview of central portions of the study area, facing west. Diegan coastal sage scrub is depicted in foreground, non-native grassland in mid-ground, and chaparral in background.



Photo 10: Overview of western portions of the study area, facing southwest. Old home site is depicted, along with non-native grassland and non-native vegetation.



Photo 11: Overview of southwestern portions of the study area, facing southwest. Sparse coastal sage scrub and chaparral to be impacted is depicted in the foreground. Intact chaparral and oak woodland to be placed in biological open space is depicted in the background.



Photo 12: View of coast live oak woodland to be placed in biological open space in southwestern portion of the study area, facing southwest.



Photo 13: Overview of habitat to be placed in biological open space in southern half of the study area, facing north. Photo taken from Harmony Grove Overlook in Del Dios Highlands Preserve. The project's biological open space preserve will connect with the Del Dios Highlands Preserve.

Appendix G

Summary of Consistency with 2009 Draft MSCP North County Plan Goals for Harmony Grove Core Area

Harmony Grove Village South

Summary of Consistency with 2009 Draft MSCP North County Plan

Analysis against Conservation Goals/Targets Identified for Harmony Grove Core Area	
Conservation Goal/Target	**Project Consistency**
Goal 1 – Protect the following sensitive species: Encinitas baccharis, including different genders to ensuring reproductive capability; Wart-stem lilac, particularly dense stands.	No Encinitas baccharis occurs on site. The project would conserve 21,150 (91%) of the on-site population of 23,113 wart-stemmed ceanothus within 35.0 acres of biological open space.
Goal 2 – Minimize impacts to the following sensitive habitats: Chaparral on mafic soils supporting sensitive plant species, such as Parry's tetracoccus.	The project minimizes impacts and has been specifically designed to avoid and preserve on-site stands of chaparral supporting wart-stem ceanothus, summer holly, and San Diego sagewort. Parry's tetracoccus does not occur on site. Las Posas soils are reported as occurring according to USDA soil survey data; however, the vegetation observed in these areas is not indicative of mafic chaparral, as described in section
Goal 3 – Protect cliff-faces utilized by sensitive species, such as raptors, swallows, and bats.	No cliff face habitat occurs on site.
Goal 4 – Protect the Escondido Creek floodplain. Conserve riparian and upland habitat along Escondido Creek for water quality and sensitive species such as: Southwestern pond turtles and least Bell's vireo. Maintain natural flow regimes to maintain functionality of the San Elijo Lagoon.	The project has been specifically designed to avoid the Escondido Creek floodplain, with avoidance buffers of 100 feet from the edge of riparian canopy protected by an additional 100 feet of limited building zone easement, for a total setback of 200 feet. The project would enhance the biological and hydrologic function of Escondido Creek at the Country Club Drive crossing to a condition superior to what currently exists.
Goal 5 – Maintain connectivity, particularly east-west, along Escondido Creek canyon by minimizing road and maintaining natural habitat. This corridor should span the canyon, rim to rim, as much as possible. Maintain connectivity through natural and agricultural lands for wildlife movement of large and medium sized mammals between preserved habitats.	The project conserves east-west connectivity along Escondido Creek Canyon by maintaining natural habitat and further constraining widths beyond that which already exists. The project conserves wildlife movement patterns across the southern portion of the site and within existing preserved lands and rural-zoned parcels immediately east of the site to access Escondido Creek.
Goal 6 – Removal of invasive, non-native species (e.g., Tamarix, Arundo, brown-headed cowbirds, crayfish, bull frogs, etc.), particularly to enhance habitat quality along Escondido Creek.	The project includes active management of biological open space areas and would enhance the biological and hydrologic function of Escondido Creek.
Goal 7 – Link future preserves to create a large contiguous preserve area.	The project contributes biological open space that is contiguous with existing core preserve area for the Del Dios Highlands Preserve and Elfin Forest Recreational Area. The project does not impact existing linkages to the east that provide connection to existing preserves along Escondido Creek and within Harmony Grove Village to the north.

Appendix H

Least Bell's Vireo Survey Report

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La Mesa, CA 91942
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August 27, 2014 KOV-01

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

Subject: 2014 Least Bell's Vireo (*Vireo bellii pusillis*) Survey Report for the Harmony Grove Parcels, San Diego County, California.

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Harmony Grove Parcels, herein referred to as the property, comprised of Assessor's Parcel Numbers 235-011-06, 238-021-08, -09, and -10. This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 111-acre property is located within an unincorporated portion of San Diego County near the community of Harmony Grove, just west of Interstate 15, and southeast of Country Club Drive (Figure 1). The property is situated in Section 31 of Township 12 South, Range 2 West on the Rancho Santa Fe U.S. Geological Survey 7.5-minute quadrangle map (Figure 2). The property is currently being evaluated for development and conservation opportunities.

METHODS

The survey consisted of eight site visits conducted by qualified HELIX biologists Tara Baxter (with Jenna Hartsook as a supervised individual), Stacy Nigro, and Laura Moreton, between April 25, 2014, and July 14, 2014 (Table 2). The survey area consisted of approximately 5.6 acres of suitable LBVI habitat associated within a short section of Escondido Creek that occurs

within 500 feet of potential development planned within the property (Figure 3). The survey area is generally characterized by southern willow riparian forest habitat.

Table 2
SURVEY INFORMATION

DATE	BIOLOGIST	TIME (start/stop)	APPROXIMATE ACRES (ac) COVERED/ SURVEY RATE	Weather Conditions (start/stop)
04/25/13	Tara Baxter	0830/1100	5.6 ac/2.2 ac per hr	60ºF, wind 3-5 mph, 100% clouds 68ºF, wind 3-5 mph, 25% clouds
05/06/13	Stacy Nigro	0840/0955	5.6 ac/4.5 ac per hr	65ºF, wind 3-6 mph, 50 % clouds 69ºF, wind 2-8 mph, 50 % clouds
05/21/13	Tara Baxter and Jenna Hartsook*	0815/1045	5.6 ac/2.2 ac per hr	63°F, wind 3-5 mph, 20% clouds 70°F, wind 2-4 mph, 20% clouds
06/02/13	Stacy Nigro	0820/0955	5.6 ac/3.7 ac per hr	76°F, wind 0-2 mph, 30% clouds 80°F, wind 0-2 mph, 30% clouds
06/12/13	Tara Baxter	0815/1015	5.6 ac/2.8 ac per hr	67°F, wind 3-5 mph, 0% clouds 75°F, wind 2-4 mph, 0% clouds
06/23/13	Tara Baxter	0800/1015	5.6 ac/2.5 ac per hr	64°F, wind 0-2 mph, 90% clouds 73°F, wind 1-3mph, 0% clouds
07/02/13	Laura Moreton	0715/0920	5.6 ac/2.8 ac per hr	67°F, wind 0-1 mph, 100% clouds 70°F, wind 0-1 mph, 89% clouds
07/14/13	Tara Baxter	0740/1000	5.6 ac/2.5 ac per hr	68°F, wind 0-2 mph, 100% clouds 74°F, wind 0-2 mph, 95% clouds

*Supervised individual

The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by LBVI.

VEGETATION COMMUNITY DESCRIPTIONS

Two vegetation communities or land use types have been identified within the survey area along Escondido Creek that provide suitable habitat for LBVI: southern willow riparian forest and coastal live oak woodland. These vegetation communities are described below.

Southern Willow Riparian Forest

Southern willow riparian forest is an open to dense riparian community that is dominated by willow species (*Salix* spp.). Willows require moist, bare mineral soil for germination and establishment. This community occurs along large stream courses where there is an abundant supply of water at or near the surface for most of the year. Though southern willow riparian woodland and forest may not differ in floristic composition from some riparian scrub communities, it does so in physiognomy. The absence of large, frequent disturbances, usually in the form of floods, allows the component tree species to attain a sizable height.

SURVEY RESULTS

Up to four LBVI individuals were observed or detected at three locations within the survey area during the year 2014 surveys (Figure 3). A single, unpaired male was observed primarily using habitat immediately east of Country Club Drive during all of the surveys, except for the last survey on July 14, 2014. On May 21, 2014, a male and female LBVI were observed immediately west of Country Club Drive; however, these individuals were only observed on a single occasion and were confirmed to not be associated with a breeding territory within the survey area. The female LBVI was not observed during any other survey. A potential fourth LBVI was audible at the far western portion of the survey area. This individual was observed a second time, singing in the same area, on June 23, 2014. Although not conclusively determined, it is believed that this individual could have been another unpaired male or the same unpaired male observed consistently during the survey effort.

No LBVI breeding sign or activity was observed within the survey area during any of the surveys. The temporary influx of LBVI into the survey area beginning on the May 21, 2014 survey followed the 2014 "Cocos Fire" that devastated portions of the Harmony Grove area. This wildfire event likely displaced birds in the surrounding area.

In addition to LBVI, several yellow warblers (*Dendroica petechia*; YEWA) were observed during the survey effort. YEWA is not federally listed, but is a California state species of special concern (SSC) and San Diego County sensitive animal. YEWA were observed during all eight surveys. Yellow-breasted chats (*Icteria virens*; YBCH), also not federally listed, but a SSC and San Diego County sensitive animal, were observed within the survey area during four of the eight surveys. Last, brown-headed cowbird (*Molothus ater*; BHCO), a nest parasite of the LBVI, was observed during six of the eight surveys (Table 3; Figure 3).

Table 3 SURVEY RESULTS				
DATE	**Number of LBVI Observations**	**Number of BHCO Observations**	**Number of YEWA Observations**	**Number of YBCH Observations**
04/25/13	1	0	<5	0
05/06/13	1	0	<5	1
05/21/13	3	5	>5	1
06/02/13	2	2	2	2
06/12/13	1	>5	>5	1
06/23/13	2	>5	>5	0
07/02/13	1	0	1	0
07/14/13	0	<10	<5	0

CERTIFICATION

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

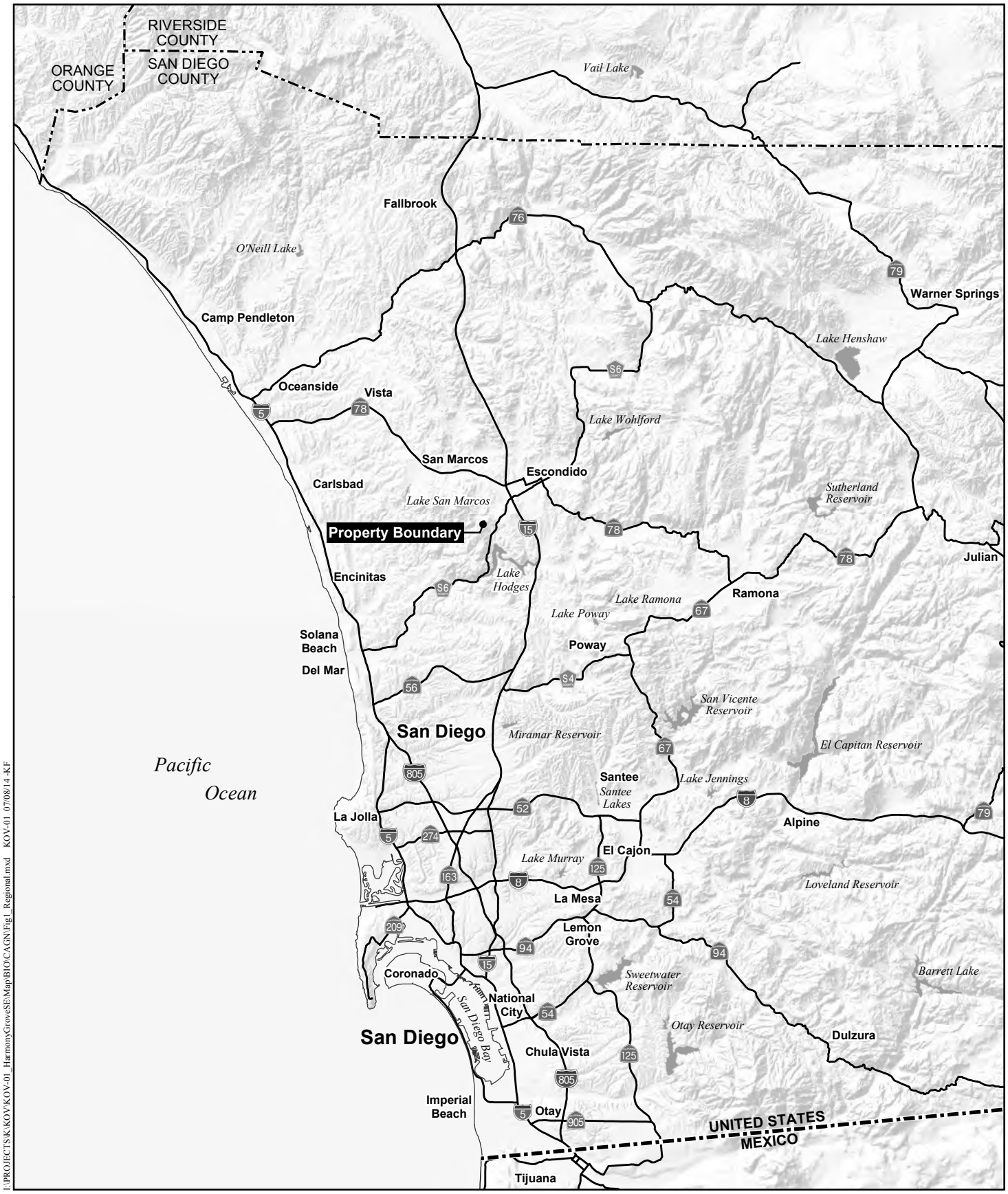
Sincerely,

Tara Baxter
Biologist

Stacy Nigro
Biologist

Laura Moreton
Biologist

Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Location Map
Figure 3 Least Bell's Vireo Survey Area and Avian Locations
Attachment A Animal Species Observed or Detected



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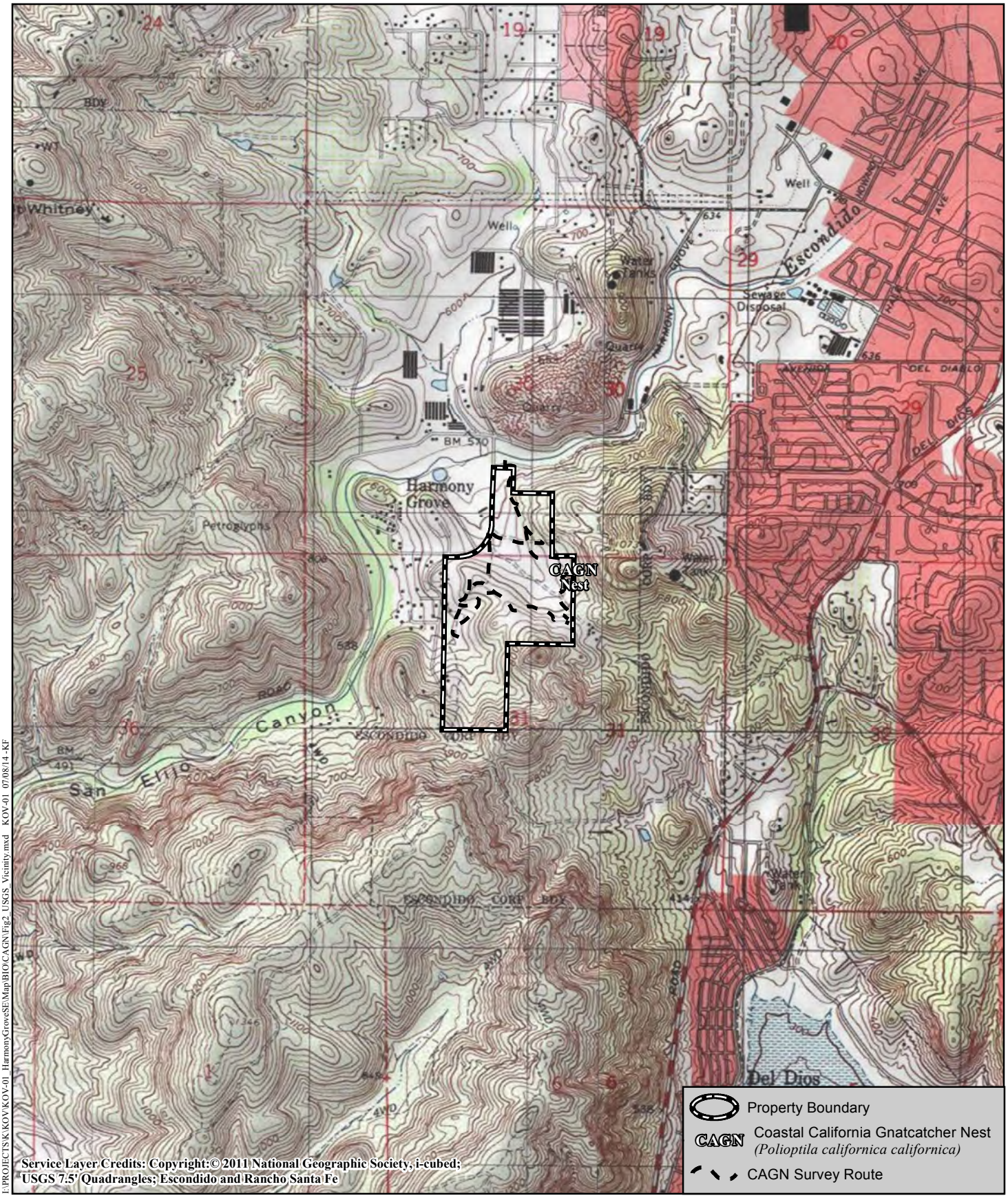
Regional Location Map

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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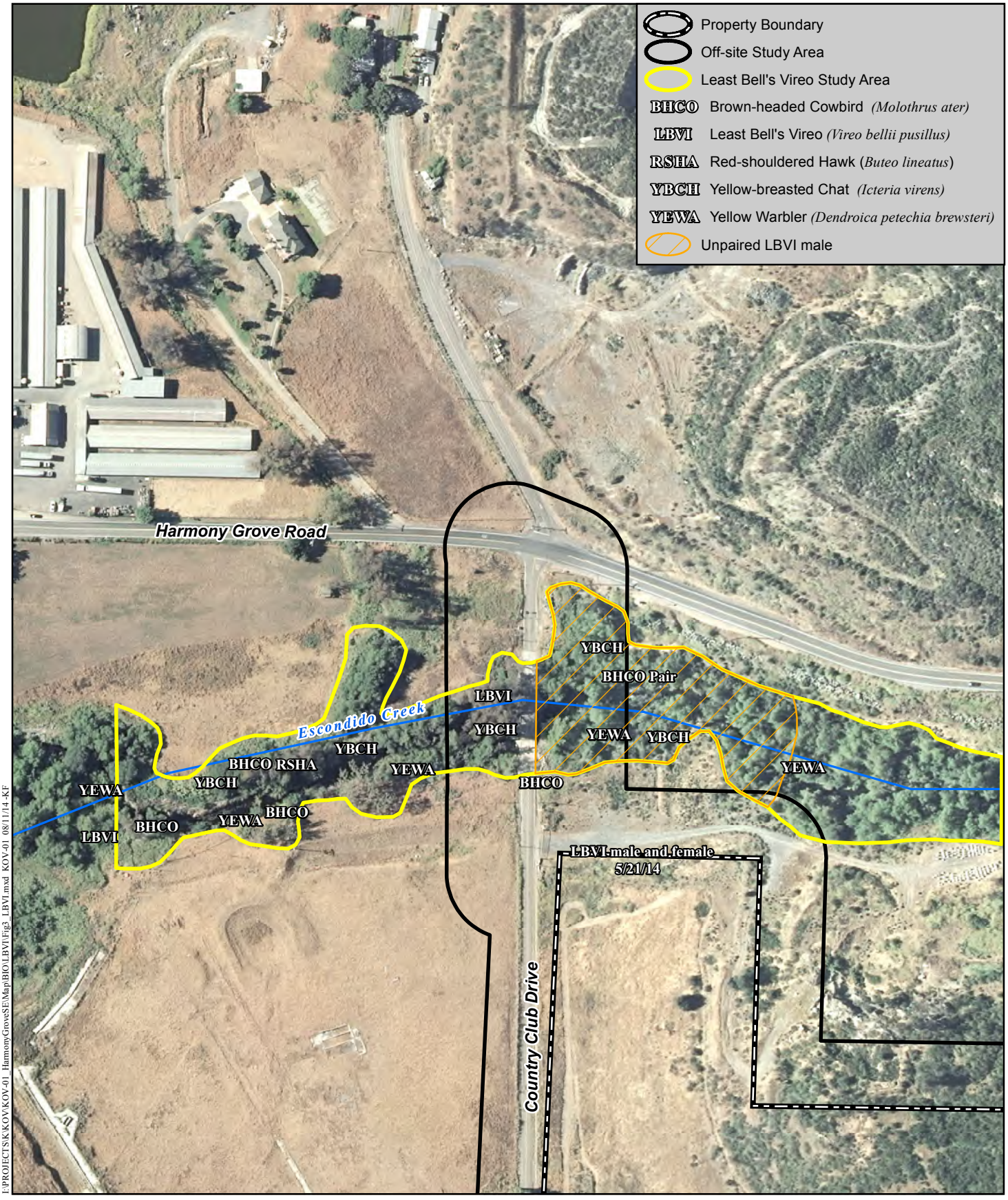
Project Vicinity Map

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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Least Bell's Vireo Survey Area and Avian Locations

SE OF HARMONY GROVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3

Attachment A
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		SCIENTIFC NAME	COMMON NAME
INVERTEBRATES			
Order	Family		
Hymenoptera	Apiidae	*Apis mellifera mellifera*	honeybee
	Pompilidae	*Pepsis* sp.	tarantula hawk
Lepidoptera	Papilionidae	*Papilio eurymedon*	pale swallowtail
		Papilio rutulus	western tiger swallowtail
VERTEBRATES			
Reptiles			
Order	Family		
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
Birds			
Order	Family		
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
Anseriformes	Anatidae	*Anas platyrhynchos*	mallard
Apodiformes	Apodidae	*Aeronautes saxatalis*	white-throated swift
	Trochilidae	*Calypte anna*	Anna's Hummingbird
		Calypte costae	Costa’s hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferous*	killdeer
Columbiformes	Columbidae	*Zenaida macroura*	mourning Dove
Falconiformes	Accipitridae	*Buteo jamaicensis*	red-tailed Hawk
		Buteo lineatus†	red-shouldered Hawk
Galliformes	Odontophoridae	*Callipepla californica*	California quail

Attachment A
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		SCIENTIFC NAME	COMMON NAME
VERTEBRATES (cont.)			
Birds (cont.)			
Order	Family		
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Cardinalidae	*Pheucticus melanocephalus*	black-headed Grosbeak
	Corvidae	*Aphelocoma californica*	western Scrub-Jay
		Corvus brachyrhynchos	American crow
		Corvus corvax	common raven
	Emberizidae	*Melospiza melodia*	song sparrow
		Passerculus sandwichensis	savannah sparrow
		Pipilo crissalis	California towhee
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Fringillidae	*Carduelis psaltria*	lesser goldfinch
		Carpodacus mexicanus	house finch
	Hiruninidae	*Petrochelidon pyrrhonota*	cliff swallow
		Stelgidopteryx serripennis	northern rough-winged swallow
	Icteridae	*Molothrus ater*	brown-headed cowbird
	Mimidae	*Mimus polyglottos*	northern mockingbird
		Toxostoma redivivum	California thrasher
	Parulidae	*Geothlypis trichas*	common yellowthroat
		Icteria virens†	yellow-breasted chat
		Setophaga petechia†	yellow warbler
		Vermivora celata	orange-crowned warbler
	Ptilogonatidae	*Phainopepla nitens*	phainopepla
	Sturnidae	*Sturnus vulgaris*	European starling
	Timaliidae	*Chamaea fasciata*	wrentit
	Troglodytidae	*Thryomanes bewickii*	bewick’s wren
		Troglodytes aedon	house wren
	Turdidae	*Sialia mexicana*	western bluebird
	Tyrannidae	*Empidonax difficilis*	pacific-slope flycatcher

Attachment A
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		**SCIENTIFC NAME**	**COMMON NAME**
VERTEBRATES (cont.)			
Birds (cont.)			
Order	Family		
		Myiarchus cinerascens	ash-throated flycatcher
		Sayornis nigricans	black phoebe
		Sayornis saya	say's phoebe
		Tyrannus vociferans	Cassin's kingbird
	Vireonidae	*Vireo bellii pusillis*†	least Bell's vireo
Pelecaniformes	Ardeidae	*Ardea alba*	great egret
Piciformes	Picidae	*Picoides nuttallii*	Nuttall's Woodpecker
Mammals			
Order	Family		
Carnivora	Canidae	*Canis latrans clepticus*	coyote
Rodentia	Sciuridae	*Spermophilus beecheyi nudipes*	California ground squirrel
Lagomorpha	Leporidae	*Sylvilagus audubonii*	cottontail

†Sensitive Species

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Appendix I

Burrowing Owl Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
Suite 200
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

August 11, 2014 KOV-01

Mr. David Kovach
RCS Harmony Partners, LLC
2305 Historic Decatur Road, Suite 100
San Diego, California 92106

Subject: Year 2014 Burrowing Owl (*Athene cunicularia*) Protocol Survey Report for the Harmony Grove Village South Project, San Diego County, California.

Dear Mr. Kovach:

This letter presents the results of 2014 protocol-level surveys for the burrowing owl (*Athene cunicularia*; BUOW) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Harmony Grove Village South Project (project) located in the unincorporated community of Harmony Grove, San Diego County, California. The purpose of this report is to document the presence or absence of BUOW and BUOW sign on and within 500 feet of anticipated impact areas of the project.

LOCATION AND SITE DESCRIPTION

The survey was conducted on an approximately 111-acre property, herein referred to as the project site or site, located within the unincorporated community of Harmony Grove, just west of Interstate 15, and southeast of Country Club Drive in northern San Diego County, California (Figure 1). The site is situated in Section 31 of Township 12 South, Range 2 West on the Rancho Santa Fe U.S. Geological Survey 7.5-minute quadrangle map (Figure 2). The site is currently being evaluated for development and conservation opportunities.

Vegetation communities or land use types identified within the project site and immediate vicinity include: Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, granitic southern mixed chaparral, mafic southern mixed chaparral, mule fat scrub, southern willow riparian forest, coastal live oak woodland, eucalyptus woodland, non-native vegetation, non-native grassland, disturbed habitat, and developed land (Figure 3).

Suitable habitat for BUOW on site is restricted to the some of the more open stands of coastal sage scrub, non-native grassland, non-native vegetation, and disturbed habitat.

METHODS

HELIX biologists Tara Baxter, Benjamin Rosenbaum, Jesse Miller, and Jenna Hartsook conducted a total of four focused BUOW protocol surveys, in teams of two, within the project site and areas within approximately 500 feet containing suitable habitat and where access was granted. Table 1 below summarizes the survey conditions.

Table 1
BURROWING OWL SURVEY INFORMATION

SURVEY	DATE	BIOLOGISTS	TIME	WEATHER CONDITIONS	
				Start	Stop
1	04/09/14	T. Baxter B. Rosenbaum	0615/1000	43° F, wind 0-2 mph, 10% cloud cover	77° F, wind 0-2 mph, 25% cloud cover
2	05/14/14	T. Baxter B. Rosenbaum	0715/1000	82° F, wind 1-3 mph, 0% cloud cover	92° F, wind, 5-15 mph, 0% cloud cover
3	06/05/14	J. Miller B. Rosenbaum	0615/0815	41° F, wind 0-3 mph, 100% cloud cover	63° F, wind, 0-3 mph, 0% cloud cover
4	07/03/14	T. Baxter J. Hartsook	0645/1000	61° F, wind 1-3 mph, 100% cloud cover	77° F, wind 1-3 mph, 0% cloud cover

The surveys were conducted following guidelines detailed within the 2012 Staff Report on Burrowing Owl Mitigation prepared by the California Department of Fish and Wildlife (CDFW; CDFG 2012). Biologists slowly walked meandering transects in areas of suitable habitat, closely examining any fence posts, rocks, or other possible perching locations as well as mammal burrows (especially those of California ground squirrel [*Spermophilus beecheyi*]). Burrows potentially suitable for use by BUOW were checked for signs of recent owl occupation which include pellets (e.g., regurgitated fur, bones, and insect parts), white wash (excrement), and feathers. In addition, man-made structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement were checked carefully for owl sign.

The survey was conducted in areas with short, sparse vegetation exhibiting low shrub cover, flat to gently sloping topography, and well-drained soils. Habitats surveyed included non-native grassland, disturbed habitat, non-native vegetation, and portions of native scrub communities with sparse shrubs. A 500-ft buffer surrounding the site was included in the area surveyed as it supports potential foraging and nesting habitat for BUOW adjacent to the site. Pursuant to CDFW's Staff Report on Burrowing Owl Mitigation, surveys are recommended whenever BUOW habitat or sign is encountered on or adjacent (within 150 meters [approximately 500 ft]) to a project site.

All survey visits took place in daylight hours, beginning either immediately before or immediately after sunrise, and spanned a 4-month period within the BUOW breeding season. Surveys were conducted during periods when visibility was not limited by fog, and surveys were not conducted during periods of high winds or rain. Areas of dense, impenetrable vegetation were not surveyed because they were determined to not be suitable for BUOW. Areas within the 500-foot buffer that had access restrictions, such as by property boundaries and fencing, were surveyed from as close of a distance as possible and aided with the use of binoculars.

The CDFW's California Natural Diversity Database (CNDDB; CDFW 2013) was queried for records of BUOW within 2.0 miles of the project site. This query produced no records. The closest record occurs east of Interstate 15, approximately 3.0 miles from the site. The area is currently developed and BUOW has very likely been extirpated. A list of all animal species observed or detected during the survey is provided in Attachment A. Representative photos of the BUOW survey area are included as Attachment B.

RESULTS

No BUOW or sign of BUOW such as pellets or whitewash, were observed within the survey area. A total of 23 burrows potentially suitable for use by BUOW were observed (Figures 3), however no BUOW sign was present at these locations or elsewhere in the survey area. BUOW is presumed to be absent from the site.

Please contact me or Karl Osmundson at 619-462-1515 if you have any questions.

Sincerely,



Tara Baxter
Biologist

Enclosures:

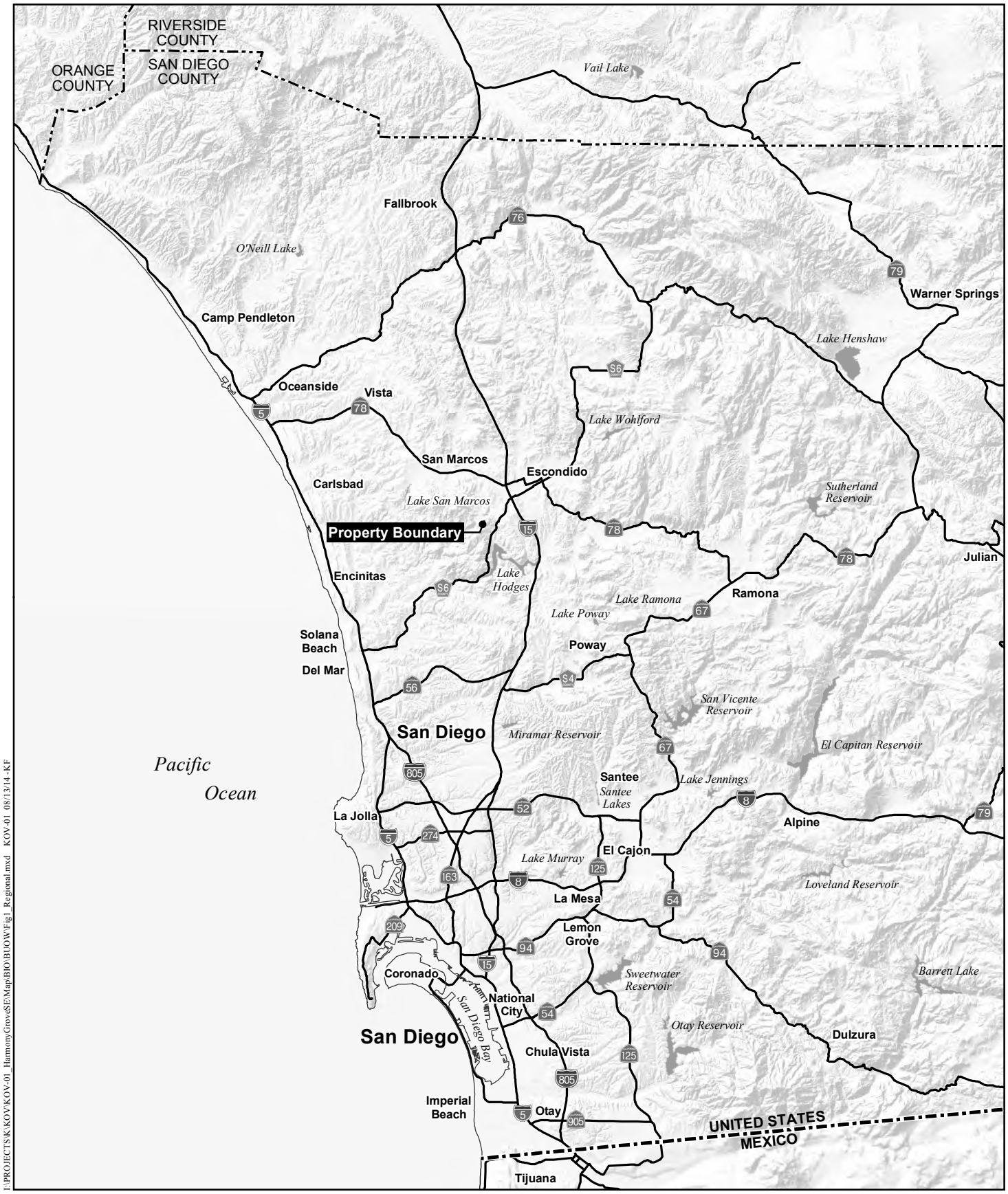
Figure 1 Regional Location Map
Figure 2 Project Vicinity Map
Figure 3 Vegetation and BUOW Potential BUOW Locations
Attachment A Animal Species Observed or Detected
Attachment B Representative Site Photos

REFERENCES

California Burrowing Owl Consortium (COBC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. March 7.

California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB). 2013. Accessed November 5. RareFind Database Program. http://www.dfg.ca.gov/biogeodata/cnddb.



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Regional Location Map

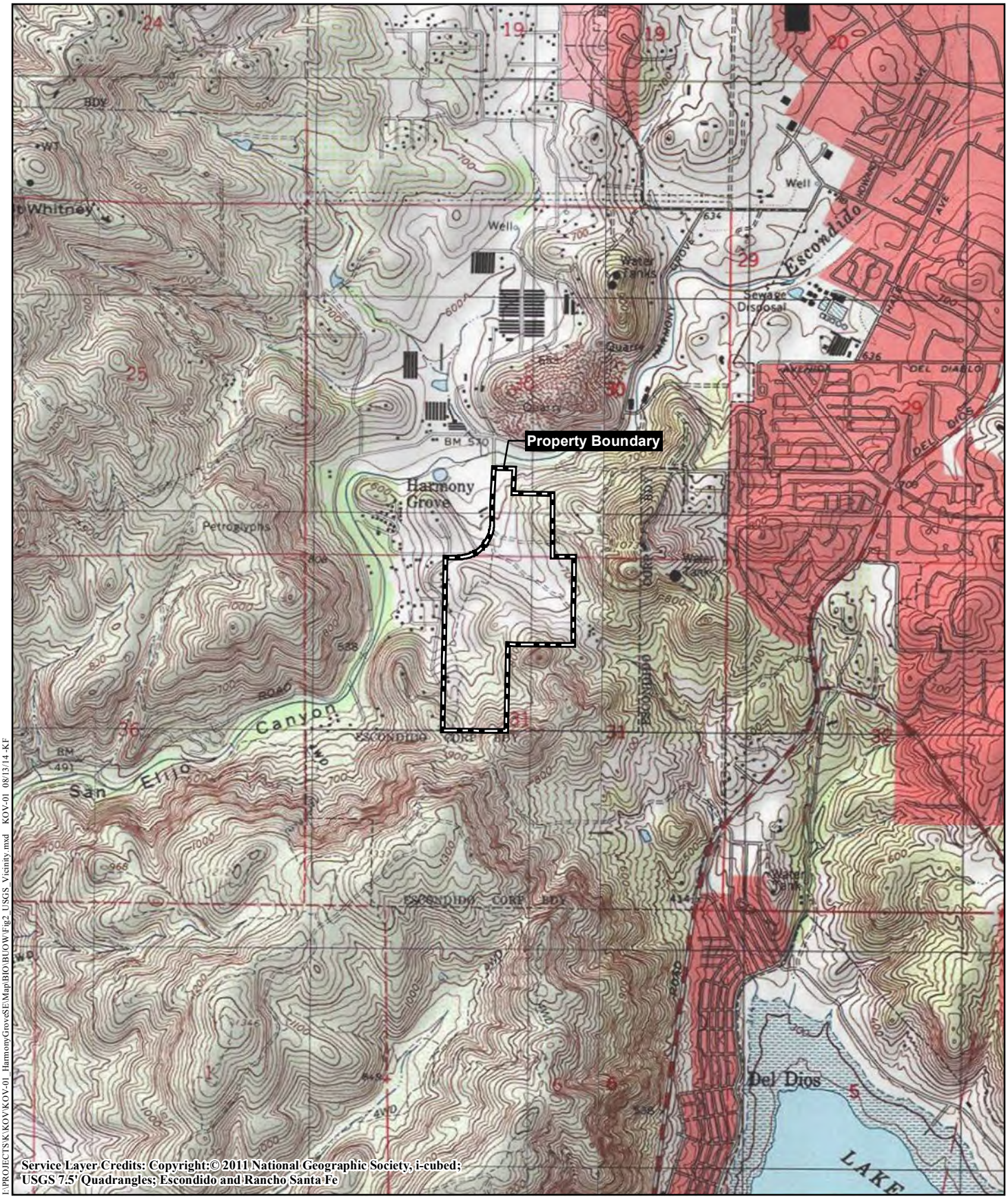
SE OF HARMONY GROVE

HELIX Environmental Planning

N

0 8 Miles

Figure 1



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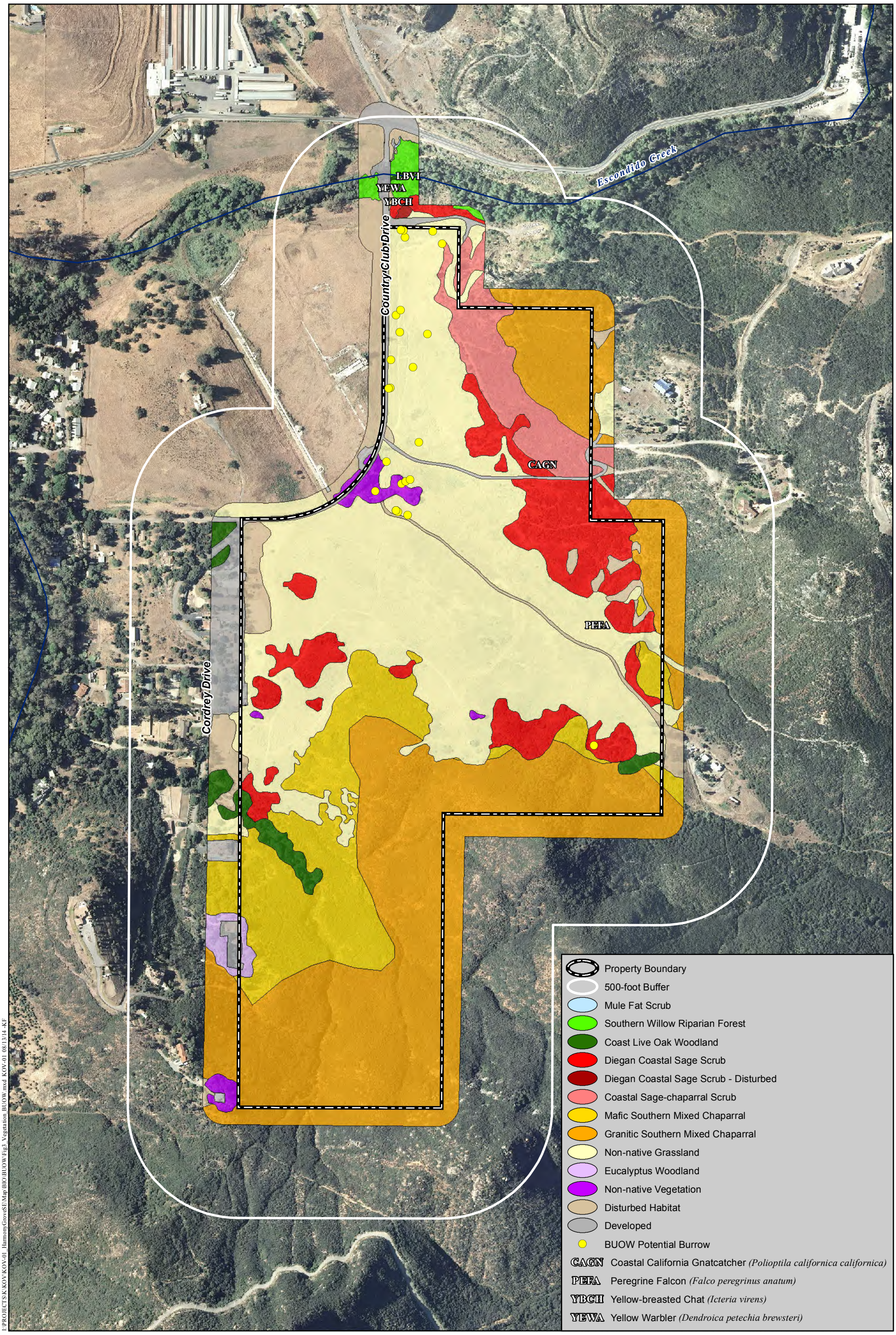
Project Vicinity Map

SE OF HARMONY GROVE

HELIX Environmental Planning

0 2,000 Feet

Figure 2



Vegetation and BUOW Potential Burrow Locations

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 400 Feet

Figure 3

Attachment A
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		SCIENTIFC NAME	COMMON NAME
VERTEBRATES			
Reptiles			
Order	Family		
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
Birds			
Order	Family		
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
Anseriformes	Anatidae	*Anas platyrhynchos*	mallard
Apodiformes	Apodidae	*Aeronautes saxatalis*	white-throated swift
	Trochilidae	*Calypte anna*	Anna's Hummingbird
Columbiformes	Columbidae	*Zenaida macroura*	mourning dove
Falconiformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
	Falconidae	*Falco peregrinus*†	peregrine falcon
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Cardinalidae	*Pheucticus melanocephalus*	black-headed grosbeak
	Corvidae	*Aphelocoma californica*	western scrub-jay
		Corvus brachyrhynchos	American crow
		Corvus corvax	common raven
	Emberizidae	*Melospiza melodia*	song sparrow
		Pipilo crissalis	California towhee
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Fringillidae	*Carduelis psaltria*	lesser goldfinch
		Carpodacus mexicanus	house finch
	Hiruninidae	*Petrochelidon pyrrhonota*	cliff swallow

Attachment A (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		**SCIENTIFC NAME**	**COMMON NAME**
VERTEBRATES (cont.)			
Birds (cont.)			
Order	Family		
Passeriformes (cont.)	Icteridae	*Icterus cucullatus*	hooded oriole
		Molothrus ater	brown-headed cowbird
		Sturnella neglecta	western meadowlark
	Mimidae	*Mimus polyglottos*	northern mockingbird
	Parulidae	*Cardellina pusilla*	Wilson's warbler
		Icteria virens†	yellow-breasted chat
		Setophaga coronate	yellow-rumped warbler
		Setophaga petechia†	yellow warbler
	Polioptilidae	*Polioptila caerulea*	blue-gray gnatcatcher
		Polioptila californica californica†	coastal California gnatcatcher
	Ptilogonatidae	*Phainopepla nitens*	phainopepla
	Sturnidae	*Sturnus vulgaris*	European starling
	Timaliidae	*Chamaea fasciata*	wrentit
	Troglodytidae	*Thryomanes bewickii*	bewick's wren
		Troglodytes aedon	house wren
	Turdidae	*Sialia mexicana*	western bluebird
	Tyrannidae	*Myiarchus cinerascens*	ash-throated flycatcher
		Sayornis nigricans	black phoebe
		Sayornis saya	Say's phoebe
		Tyrannus vociferans	Cassin's kingbird
	Vireonidae	*Vireo bellii pusillis*†	least Bell's vireo
Pelecaniformes	Ardeidae	*Ardea herodias*	great blue heron
Piciformes	Picidae	*Melanerpes formicivorus*	acorn woodpecker
		Picoides nuttallii	Nuttall's Woodpecker

Attachment A (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED
HARMONY GROVE PARCELS

TAXON		**SCIENTIFC NAME**	**COMMON NAME**
VERTEBRATES (cont.)			
Mammals			
Order	Family		
Rodentia	Sciuridae	*Spermophilus beecheyi nudipes*	California ground squirrel
Lagomorpha	Leporidae	*Sylvilagus audubonii*	cottontail

†Sensitive Species

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Photo 1. The project site, facing east.

Photo 2. The project site, facing northeast.





Photo 3. The project site, facing northwest.



Photo 4. The project site, facing south.

Photo 5. The project site, facing southeast.





Photo 6. The project site, facing west.

Appendix J

California Gnatcatcher Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
Suite 200
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

July 7, 2014 KOV-01

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

Subject: 2014 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the Harmony Grove Parcels, San Diego County, California.

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey of the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Harmony Grove Parcels, herein referred to as the property, comprised of Assessor's Parcel Numbers 235-011-06, 238-021-08, -09, and -10. This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE778195.

PROJECT LOCATION

The approximately 111-acre property is located within an unincorporated portion of San Diego County near the community of Harmony Grove, just west of Interstate 15, and southeast of Country Club Drive (Figure 1). The property is situated in Section 31 of Township 12 South, Range 2 West on the Rancho Santa Fe U.S. Geological Survey 7.5-minute quadrangle map (Figure 2). The property is currently being evaluated for development and conservation opportunities.

METHODS

The survey consisted of three visits that were performed by HELIX biologist Erica Harris (TE 778195) in accordance with the current (1997) USFWS protocol. The CAGN survey area encompassed approximately 17.4 acres of potential CAGN habitat, including Diegan coastal

sage scrub, Diegan coastal sage scrub-disturbed, and coastal sage-chaparral scrub (Figure 3). Table 1 details the survey dates, times and conditions.

Table 1
GNATCATCHER SURVEY INFORMATION

Survey Date	Biologist(s)	Start/Stop Times	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions
5/13/14	Erica Harris	0620/0845	17.4 ac/ 0.12 ac/hr	55°F, wind, 2-5 mph, 0% cloud cover 76°F, wind, 3-12 mph, 0% cloud cover
5/20/14	Erica Harris Tara Baxter*	0645/1100	17.4 ac/ 0.07 ac/hr	59°F, wind, 1-3 mph, 90% cloud cover 64°F, wind, 2-4 mph, 80% cloud cover
5/29/14	Erica Harris	0635/0900	17.4 ac/ 0.12 ac/hr	63°F, wind, 0-1 mph, 100% cloud cover 68°F, wind, 1-3 mph, 0% cloud cover

*Supervised individual

The surveys were conducted by walking along the edges of, as well as within, suitable CAGN habitat. The survey route was arranged to ensure complete survey coverage of all habitat with potential for occupancy by CAGN. All surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If a gnatcather was detected before playing recorded vocalizations, the recordings were not played. Once CAGNs were initially detected in an area, use of playback was discontinued. The approximate survey route followed is depicted on Figure 3.

VEGETATION COMMUNITIES

Thirteen vegetation communities or land use types have been identified within the property and immediate vicinity: Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, granitic southern mixed chaparral, mafic southern mixed chaparral, mule fat scrub, southern willow riparian forest, coastal live oak woodland, eucalyptus woodland, non-native vegetation, non-native grassland, disturbed habitat, and developed land (Figure 3). These vegetation communities are described below.

Diegan Coastal Sage Scrub (including disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum*

fasciculatum ssp. *fasciculatum*), laurel sumac (*Malosma laurina)*, and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native annual species.

Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities including California sagebrush, California buckwheat, laurel sumac, chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus dumosa*), and ceanothus (*Ceanothus* spp.). This community varies in species composition but always contains coastal sage and chaparral species.

Granitic Southern Mixed Chaparral

Granitic southern mixed chaparral is found on granitic soils and is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense often nearly impenetrable stands with poorly developed understories. Depending upon relative proximity to the coast, granitic southern mixed chaparral is dominated by chamise, mission manzanita (*Xylococcus bicolor*), coast white lilac (*Ceanothus verrucosus*), Ramona lilac (*Ceanothus tomentosus*), white-stem wild-lilac (*Ceanothus leucodermis*), big-berry manzanita (*Arctostaphylos glauca*), and scrub oak.

Mafic Southern Mixed Chaparral

Mafic southern mixed chaparral is found on mafic or metavolcanic soils. This chaparral community is dominated by chamise and Cleveland sage (*Salvia clevelandii*). It occupies relatively xeric exposures on south, west, or east aspects on gabbro soil (Oberbauer 2008).

Mule Fat Scrub

Mule fat scrub is a stunted, shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*) and interspersed with small willows (*Salix* spp.). This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This community may be maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest (Holland 1986). In other places, the limited hydrology may be unsuitable for anything more mesic than mule fat scrub.

Southern Willow Riparian Forest

Southern willow riparian forest is an open to dense riparian community that is dominated by willow species (*Salix* spp.). Willows require moist, bare mineral soil for germination and establishment. This community occurs along large stream courses where there is an abundant

supply of water at or near the surface for most of the year. Though southern willow riparian woodland may not differ in floristic composition from some riparian scrub communities, it does so in physiognomy. The absence of large, frequent disturbances, usually in the form of floods, allows the component tree species to attain a sizable height.

Coastal Live Oak Woodland

Coast live oak woodland is an open to dense evergreen woodland or forest community, dominated by coast live oak (*Quercus agrifolia*), that may reach a height of 35 to 80 feet. The shrub layer consists of toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), spreading snowberry (*Symphoricarpus mollis*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*). This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986). Coast live oak woodland can be further described as either open or dense.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the tall trees, limit the ability of other species to grow in the understory, and floristic diversity decreases. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its range.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* spp.], peppertree [*Schinus* spp.]), many of which are also used in landscaping.

Non-native Grassland

Non-native grassland typically supports a sparse to dense cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Most of the annual, introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These grasslands are common throughout San Diego County.

Disturbed Habitat

Disturbed habitat includes land that has little or no habitat value because it has been cleared of vegetation for agricultural purposes or contains heavily compacted soils following disturbance such as grading.

Developed

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained.

RESULTS

One pair of CAGN was detected during the three surveys within the central eastern portion of the property (Figure 3). The pair was observed building a nest during the second survey visit at the transition between Diegan coastal sage scrub and granitic southern mixed chaparral. The nest was being constructed in an approximately 4-foot-tall chamise approximately 2.5 feet off the ground. No other CAGN were detected during the surveys.

CERTIFICATION

I certify that the information in this survey report and enclosed exhibit fully and accurately represent my work.

Sincerely,

Erica Harris
Biologist

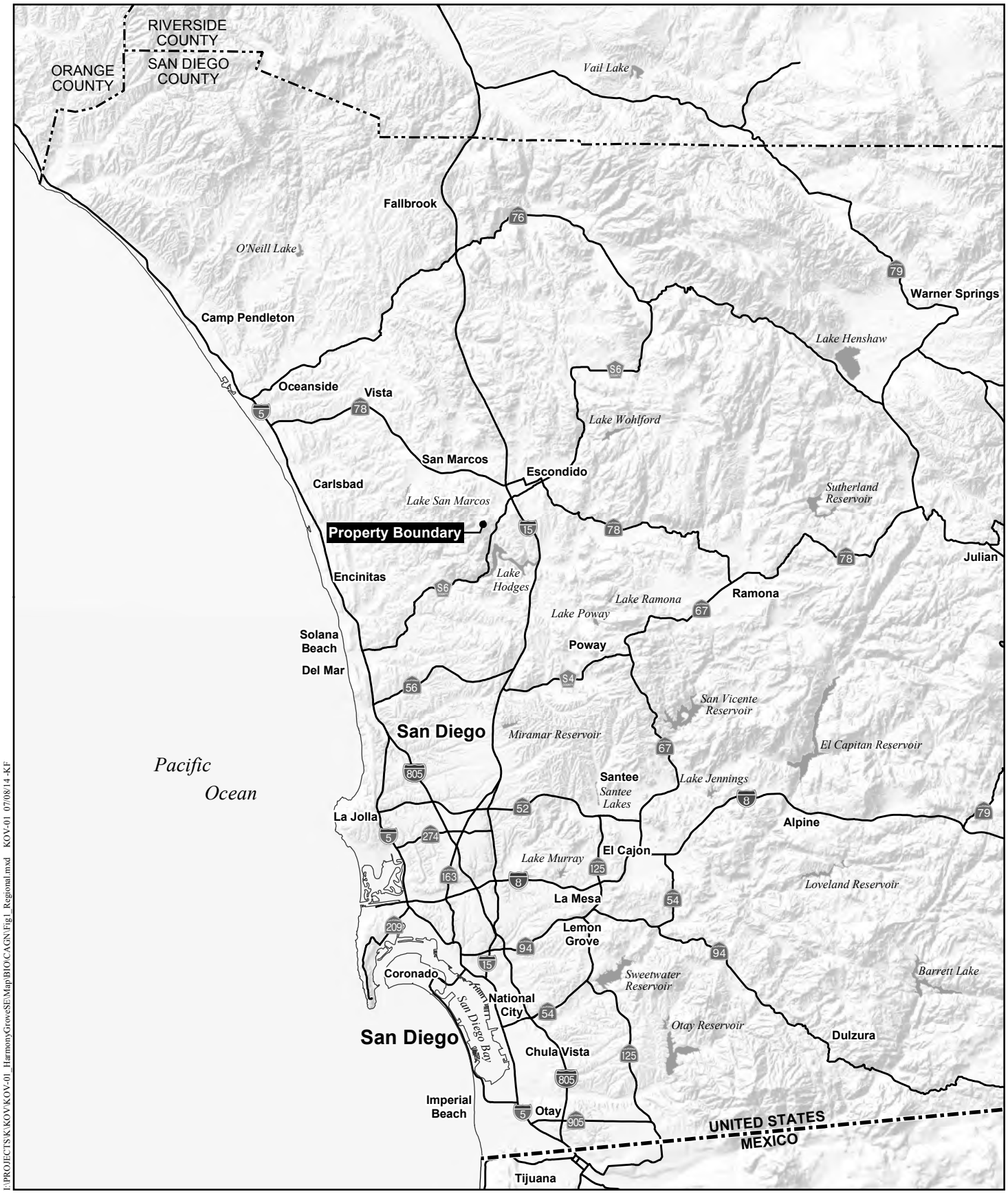
Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Vicinity Map
Figure 3 Vegetation and CAGN Locations

REFERENCES

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, 156 pp.

Oberbauer, Thomas. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.

United States Fish and Wildlife Service. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.



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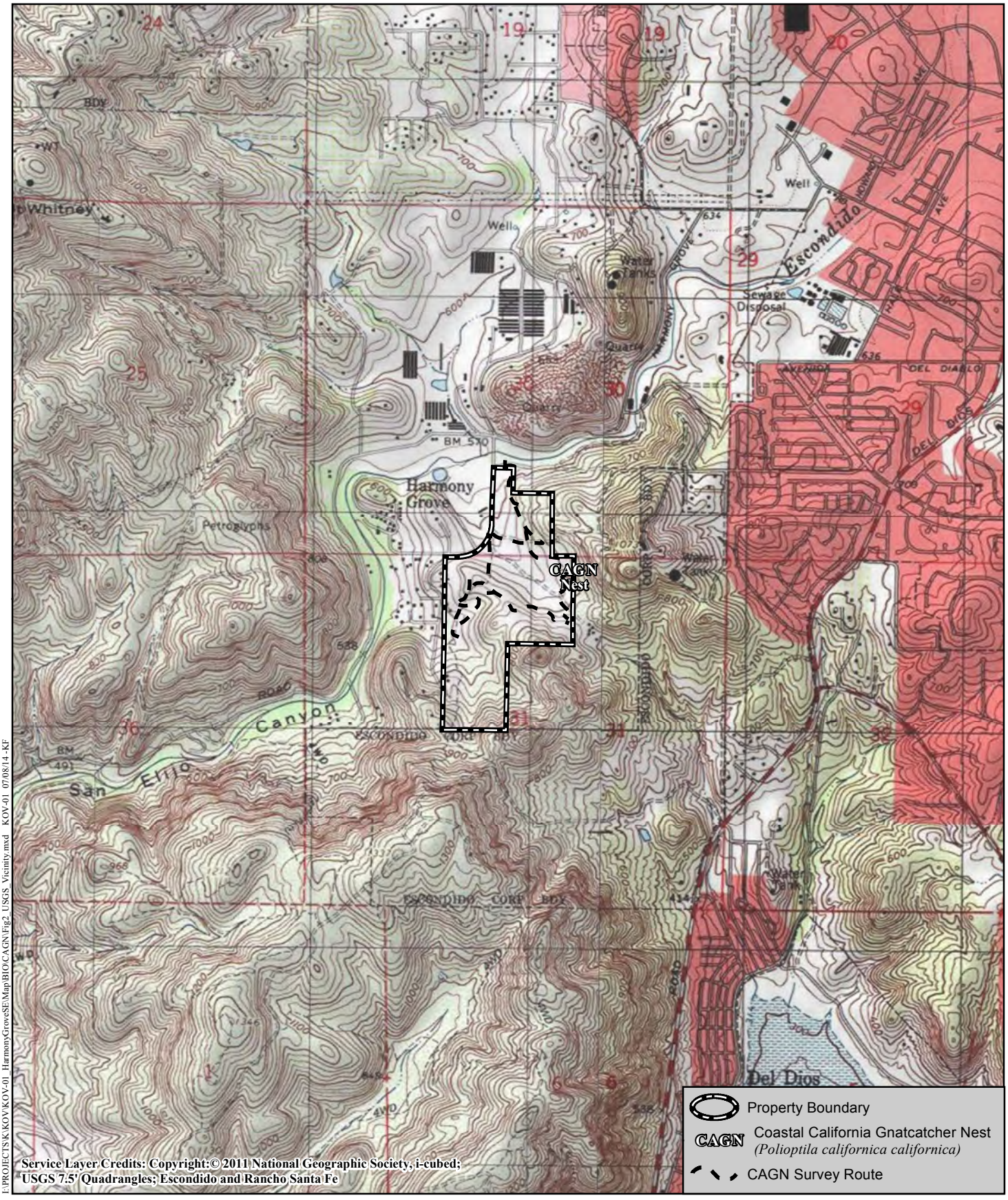
Regional Location Map

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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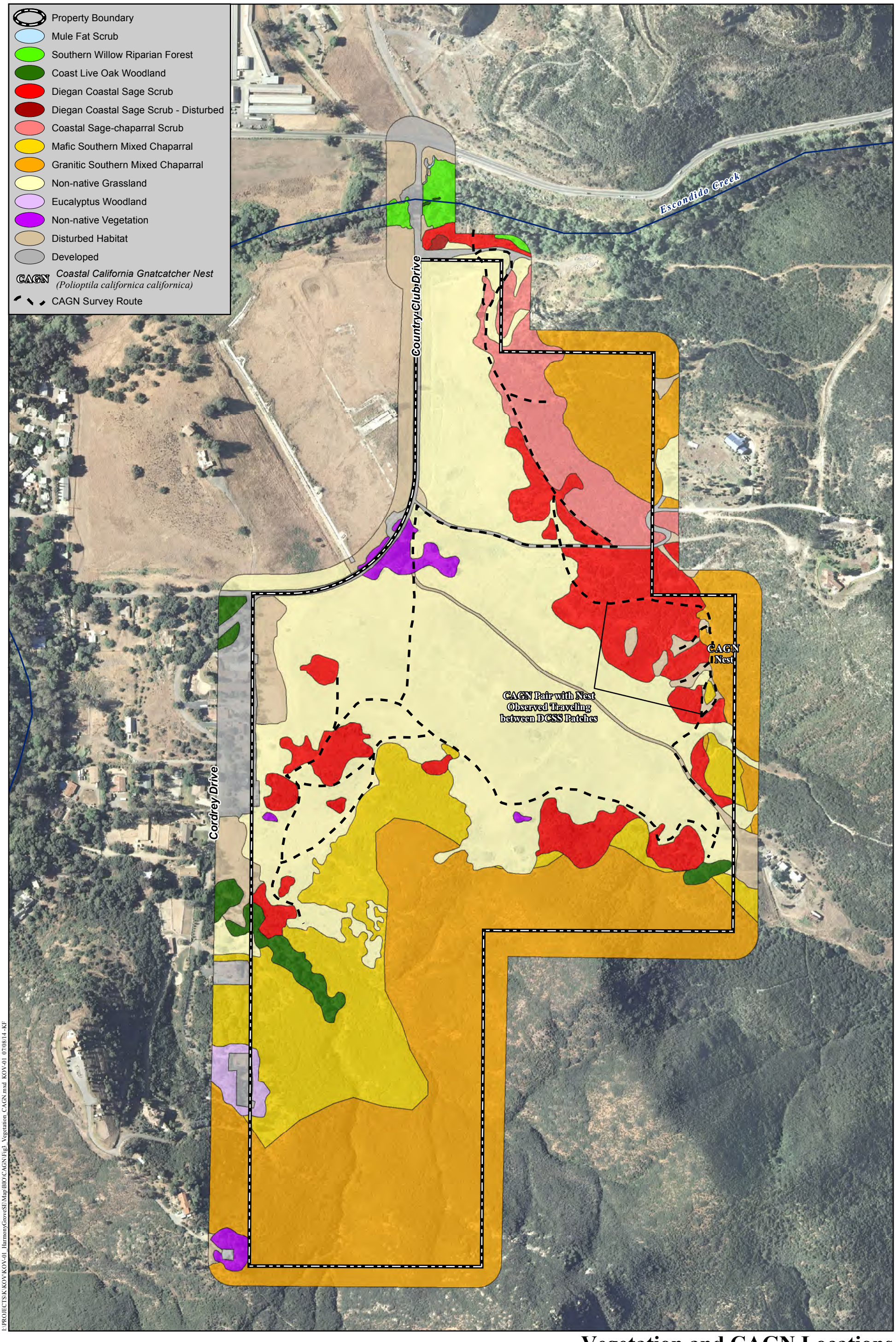
Project Vicinity Map

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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Vegetation and CAGN Locations

SE OF HARMONY GROVE

HELIX Environmental Planning

N 0 350 Feet

Figure 3

Appendix K

Jurisdictional Delineation Report

HELIX
Environmental Planning

Harmony Grove Village South Project

Jurisdictional Delineation Report

PDS2015-SP-15-002, PDS2015-GPA-15-002,
PDS2015-TM-5600, PDS2015-REZ-15-003,
PDS2015-ER-15-08-006,
PDS2015-MUP-15-008

August 5, 2014

W. Larry Sward
Principal Biologist

Prepared for:
Comstock Homes/Kovach Communities

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

Harmony Grove Village South Project
Jurisdictional Delineation Report

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I. INTRODUCTION

This report presents the results of a formal jurisdictional delineation performed by HELIX Environmental Planning, Inc. (HELIX) for the Harmony Grove Village South Project (project) located in an unincorporated portion of San Diego County, California. The delineation was conducted within an approximately 114-acre study area to identify and map existing wetland and water resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 USC 1344) and the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code. The information provided in this report is necessary to evaluate potential project impacts to jurisdictional resources and determine potential permit requirements for the project. This report presents HELIX's best effort to quantify the extent of potential USACE and CDFW jurisdictional resources within the study area using the current regulations, written policies, and guidance from regulatory agencies. The potential jurisdictional boundaries suggested herein are subject to verification by the USACE and CDFW.

A. PROJECT LOCATION AND DESCRIPTION

The study area includes the approximately 111-acre Harmony Grove property (project site or site) and an approximately 3-acre off-site area north of the property where Country Club Drive crosses Escondido Creek. On a regional scale, the study area is located approximately 10.5 (aerial) miles inland from the Pacific Ocean, north of Olivenhain Reservoir, south of State Route (SR-) 78, and west of Interstate (I-) 15 and the City of Escondido (Figure 1). Specifically, the study area is located immediately south of Harmony Grove Road near the address of 2609 Harmony Grove Road in San Diego County, California (Figure 2). The study area is depicted within the U.S. Geological Survey (USGS) Rancho Santa Fe, California 7.5 minute quadrangle map, Township 12 South, Range 2 West (Figure 3).

The project generally proposes residential development and conservation of open space. The purpose of the project is to create a residential village that complements existing elements of the community and surrounding open space.

II. METHODS

Prior to beginning fieldwork, aerial photographs (1"=200' scale), topographic maps (1"=200' scale), and National Wetland Inventory (NWI) maps were reviewed to assist in determining the location of potential jurisdictional areas in the study area. HELIX biologists Larry Sward and Ben Rosenbaum conducted a site visit on March 14, 2014 to perform the formal jurisdictional delineation. A vegetation map was prepared as part of the survey and was used as an aid in mapping jurisdictional areas. Data were collected in areas that were suspected to support potential jurisdictional resources. Sampling points were taken within representative uplands and wetlands, and mapping of drainage features was performed in the field based on the ordinary high water mark (OHWM) and surface indications of hydrology.

The USACE wetland boundaries were determined using the three criteria (vegetation, hydrology, and soils) established for wetland delineations, as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and since updated in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). The USACE non-wetland boundaries were further determined using methods suggested by the USACE in A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (USACE 2008b).

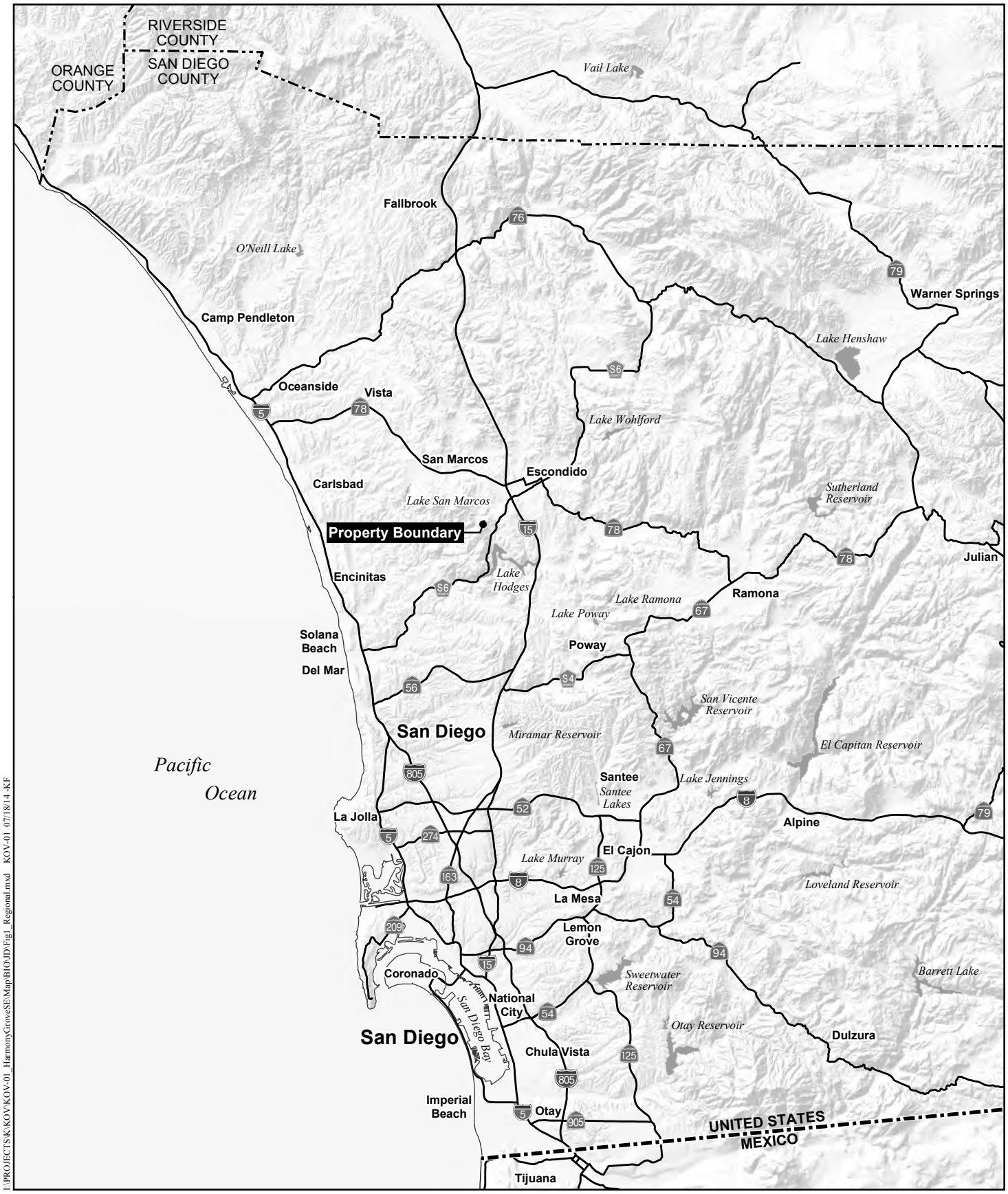
The results presented here are also discussed in light of court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County [SWANCC] v. USACE), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007), USACE and Environmental Protection Agency (EPA; 2007), and EPA and USACE (2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are relatively permanent water bodies (RPWs), which have year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation must be conducted to determine whether the non-RPW is jurisdictional. An overview of USACE wetlands and jurisdictional waters of the U.S. definitions is presented in Appendix A.

Plants were identified according to Baldwin et al. (2012); Calflora (2014) was used to augment common names. Wetland affiliations of plant species follow the National Wetland Plant List (Lichvar, et al. 2014). Vegetation was mapped using a community-based system (Holland 1986).

Soils information (Figure 4) was taken from the Natural Resource Conservation Services' (NRCS) Web Soil Survey (2014a). Soil samples were evaluated for hydric soil indicators. Soil chromas were identified according to Munsell's Soil Color Charts (Kollmorgen 1994).

Each sampling point was inspected for primary (i.e., inundation, saturation, water marks, drift lines, sediment deposits, and drainage patterns in wetlands) and secondary (e.g., oxidized root channels, water-stained leaves, and FAC-neutral test) wetland hydrology indicators. 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 or soils criterion was not met. Jurisdictional limits for these areas were defined by the OHWM, which is defined in 33 CFR Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also has been used for this delineation.

The 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.



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Regional Location Map

HARMONY GROVE

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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Project Vicinity Map (Aerial Photograph)

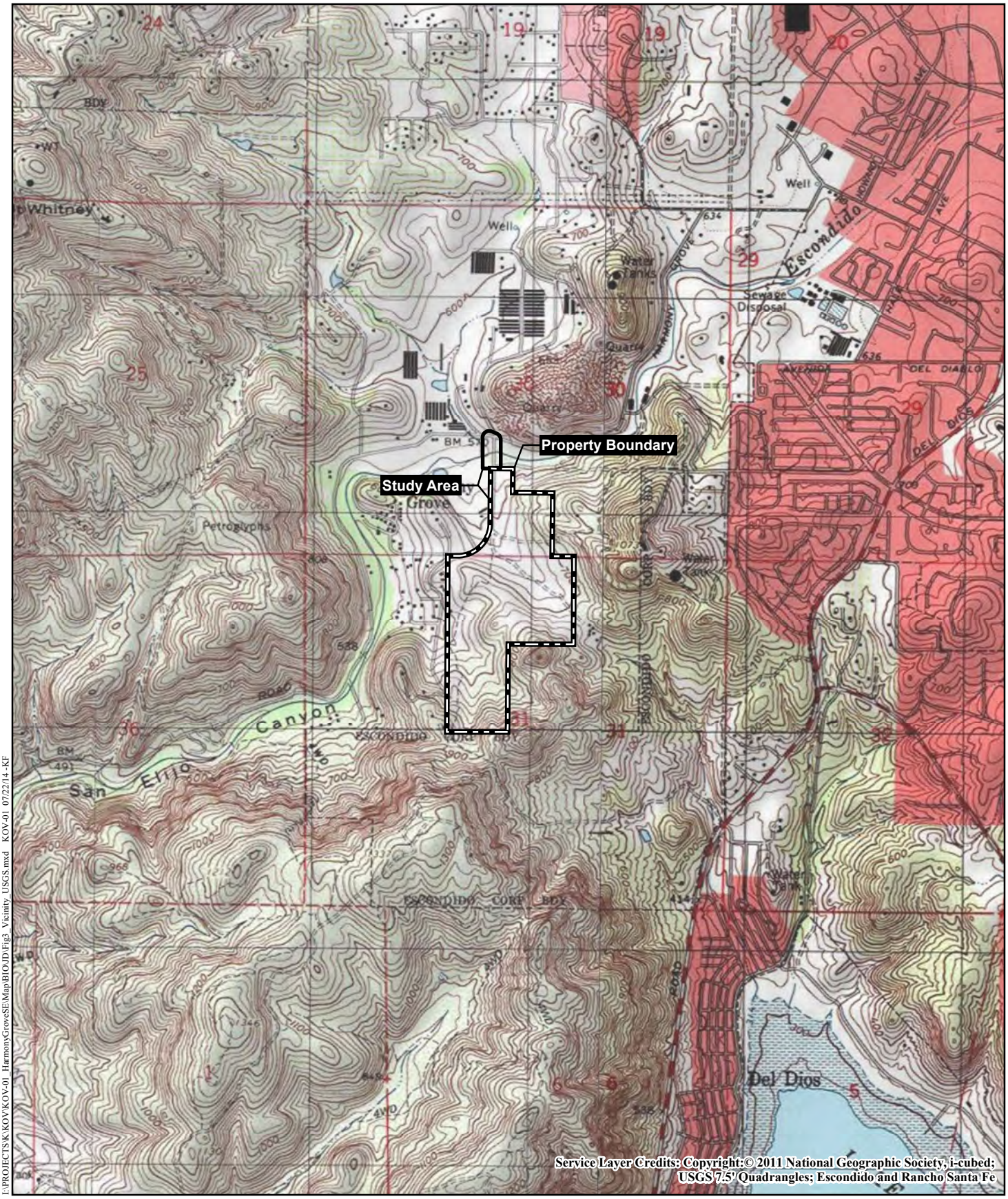
HARMONY GROVE

HELIX Environmental Planning

N

0 2,000 Feet

Figure 2



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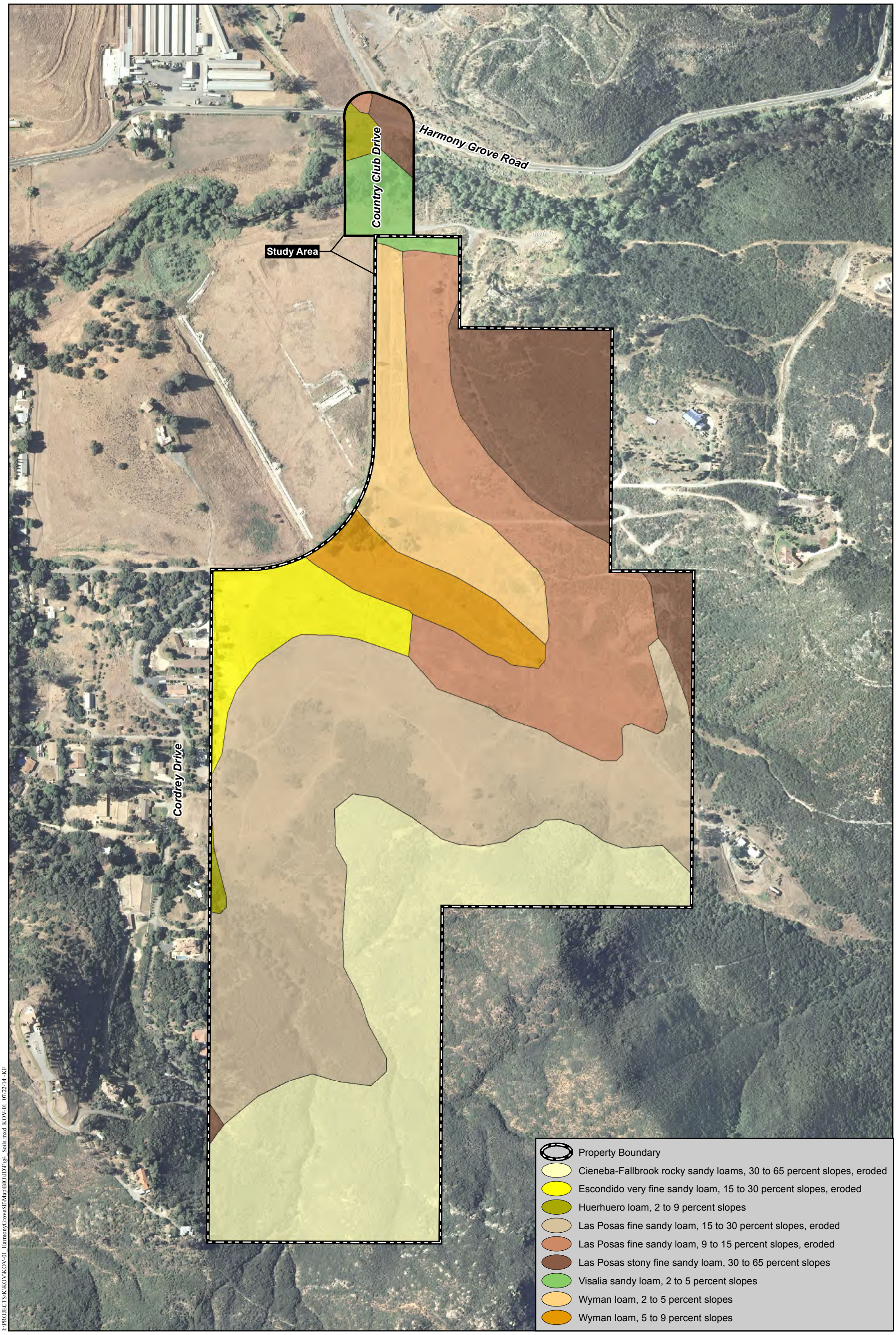
Project Vicinity Map (USGS Topography)

HARMONY GROVE

HELIX Environmental Planning

N 0 2,000 Feet

Figure 3



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Soils

HARMONY GROVE

HELIX Environmental Planning

N 0 350 Feet

Figure 4

This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). Definitions of CDFW jurisdictional areas are presented in Appendix B.

Four sampling points were taken within the study area during the delineation. Standard data forms are included as Appendix C. Photos were taken of the sampling points and are included as Appendix D.

III. RESULTS

A. SITE DESCRIPTION

Elevations in the study area range from approximately 982 feet above mean sea level (amsl) to 562 feet amsl. Elevation generally increases from north to south across the site. The tributaries identified on site drain into the Escondido Creek. The lands surrounding the study area are primarily rural with some housing to the west, north and east of the project site. Active construction for the Harmony Grove Village was underway to the north of the site.

As depicted on Figure 4, there are 9 soil types mapped within the study area (NRCS 2014a). Those soils types covering the most area included Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded; Escondido very fine sandy loam, 15 to 30 percent slopes, eroded; Las Posas fine sandy loam, 15 to 30 percent slopes, eroded; Las Posas fine sandy loam, 9 to 15 percent slopes, eroded; Las Posas stony fine sandy loam, 30 to 65 percent slopes; Wyman loam 2 to 5 percent slopes; and Wyman loam, 5 to 9 percent slopes. Less common in the study area were Huerhuero loam, 2 to 9 percent slopes and Visalia sandy loam, 2 to 5 percent slopes. None of the named soils mapped in the study area is listed as hydric; however, there are unnamed inclusions in these soil types that may be hydric based on landscape position and hydrology (NRCS 2014b).

National Wetlands Inventory (NWI) data (Figure 5) indicate 4 wetland types within the study area: freshwater emergent wetland, freshwater forested/shrub wetland, riverine, and other (Figure 5; USFWS 2014). This delineation generally agrees with the NWI except for the isolated patch of freshwater emergent wetland and other isolated wetland in the study area; no evidence of wetlands was identified at these locations during the delineation.

The study area supports 13 vegetation communities/land cover types (Table 1; Figure 6). Three of these are potentially jurisdictional: mulefat scrub, southern willow riparian forest, and coast live oak woodland. The remaining communities are non-jurisdictional uplands. A description of each of these vegetation/land cover types is provided below.

Table 1 VEGETATION COMMUNITIES/LAND COVER TYPES		
VEGETATION COMMUNITY/ LAND COVER TYPE	**EXISTING ACREAGE**	
	On site	**Off site**
Developed Land	1.2	1.1
Disturbed Habitat	2.4	1.1
Non-native Vegetation	0.8	--
Eucalyptus Woodland	0.3	--
Non-native Grassland	43.6	0.1
Granitic Southern Mixed Chaparral	32.3	--
Mafic Southern Mixed Chaparral	14.1	--
Coastal Sage-Chaparral Scrub	4.5	--
Diegan Coastal Sage Scrub - Disturbed	--	0.1
Diegan Coastal Sage Scrub	10.9	0.2
Coast Live Oak Woodland	1.2	0.01
Southern Willow Riparian Forest	--	0.9
Mule Fat Scrub	--	0.01
TOTAL	**111.1**	**3.4**

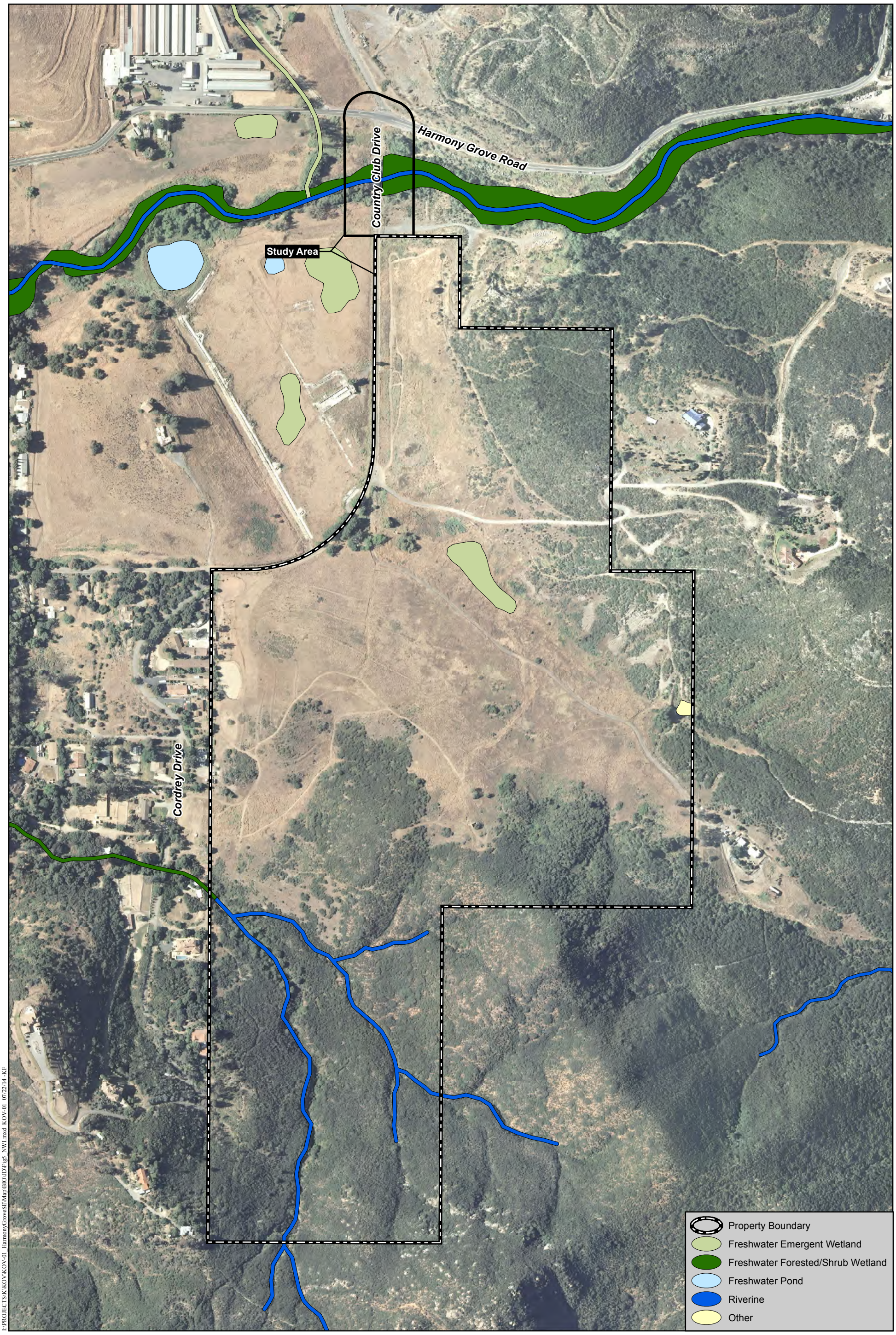
Developed Land. Developed land includes areas that have been covered by structures, pavement, irrigated landscaping, or hardscape to the extent that they no longer support any native or naturalized vegetation. Approximately 2.3 acres of developed land are mapped within the study area (approximately 1.2 acres within the property and 1.1 acres off site).

Disturbed Habitat. Disturbed habitat includes unvegetated or areas vegetated by non-native forbs. Approximately 3.5 acres of disturbed habitat are mapped within the study area (approximately 2.4 acres within the property and 1.1 acres off site).

Non-native Vegetation. Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. Approximately 0.8 acre of non-native vegetation is mapped within the study area, entirely within the property.

Eucalyptus Woodland. Eucalyptus woodland is dominated by eucalyptus (Eucalyptus sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the tall trees, limit the ability of other species to grow in the understory, and floristic diversity decreases. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its range. Eucalyptus woodland covers approximately 0.3 acre of the study area (entirely within the property).

Non-native Grassland. Non-native grassland typically supports a sparse to dense cover of annual grasses, often associated with numerous species of showy flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Most of



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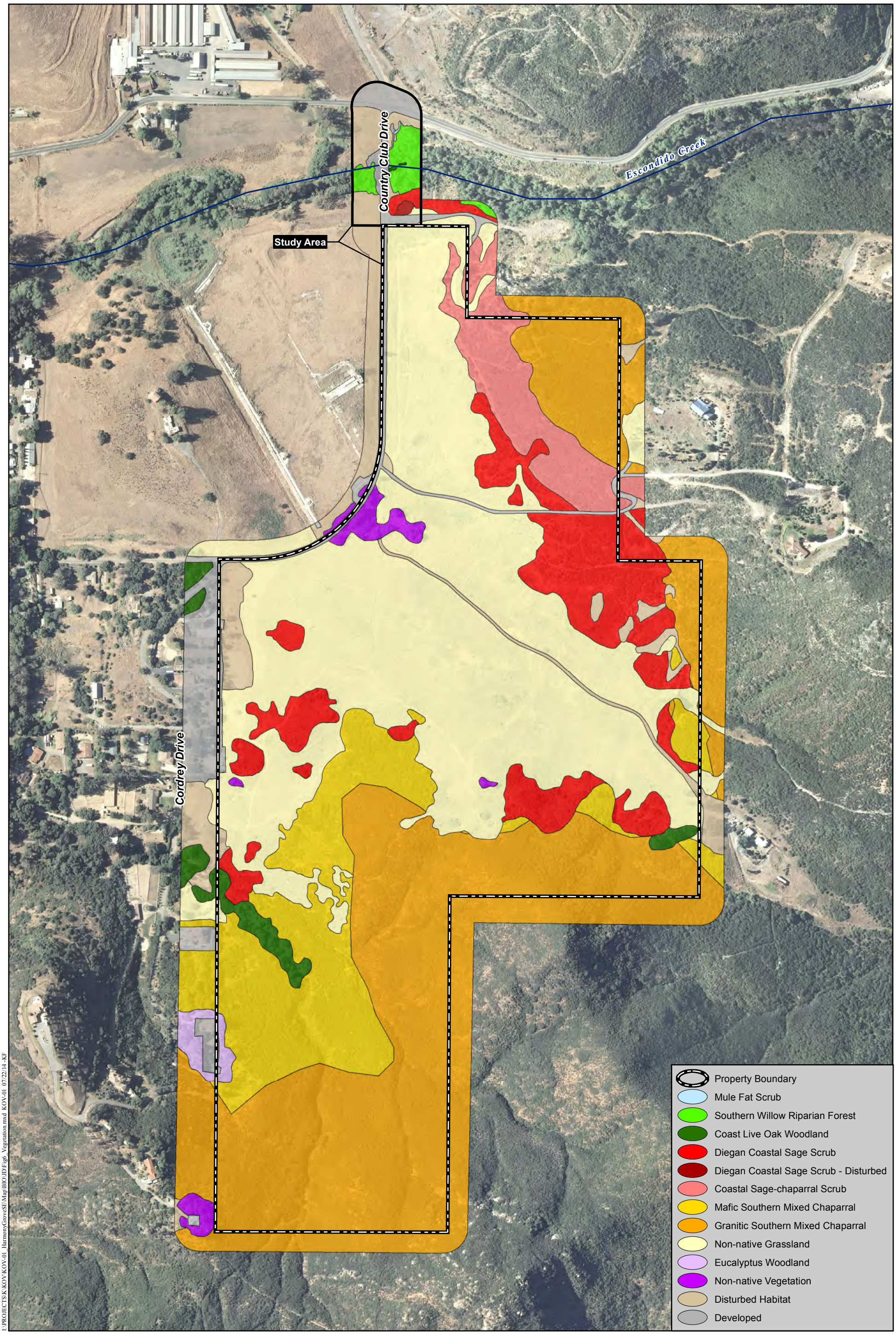
National Wetlands Inventory

HARMONY GROVE

HELIX Environmental Planning

0 350 Feet

Figure 5



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Vegetation

HARMONY GROVE

HELIX Environmental Planning

N 0 350 Feet

Figure 6

the annual, introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These grasslands are common throughout San Diego County. Within the study area, this vegetation community was dominated by common ripgut grass (Bromus diandrus) and oats (Avena sp.). A variety of other non-native grasses and forbs were present. Approximately 43.6 acres of non-native grassland occur within the study area (approximately 43.6 acres within the property and 0.05 acre off site).

Granitic Southern Mixed Chaparral. Granitic southern mixed chaparral is found on granitic soils and is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense, often nearly impenetrable, stands with poorly developed understories. Depending upon relative proximity to the coast, granitic southern mixed chaparral is dominated by chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), wart-stemmed ceanothus (*Ceanothus verrucosus*), Ramona lilac (*Ceanothus tomentosus*), white-stem wild-lilac (*Ceanothus leucodermis*), big-berry manzanita (*Arctostaphylos glauca*), and scrub oak (*Quercus dumosa*). Dominant species in this vegetation community within the study area include black sage (*Salvia mellifera*) and mountain mahogany (*Cercocarpus betuloides*). Other shrubs present included Ramona lilac, mission manzanita, sugar bush (*Rhus ovata*), toyon (*Heteromeles arbutifolia*), chamise, spiny redberry (*Rhamnus crocea*), scrub oak (*Quercus berberidifolia*), coast live oak (*Quercus agrifolia*), saw-toothed goldenbush (*Hazardia squarrosa* var. *grindelioides*), bushrue (*Cneoridium dumosum*), and San Diego honeysuckle (*Lonicera subspicata* var. *denudata*). Approximately 32.3 acres of granitic southern mixed chaparral occur within the study area, entirely within the property.

Mafic Southern Mixed Chaparral. Mafic southern mixed chaparral is found on mafic or metavolcanic soils. This chaparral community is dominated by chamise and Cleveland sage (*Salvia clevelandii*). It occupies relatively xeric exposures on south, west, or east aspects on gabbro soil (Oberbauer 2008). Within the study area, mafic southern mixed chaparral was dominated by wart-stemmed ceanothus. Other shrubs present included Ramona lilac, mission manzanita, sugar bush, holly-leaf redberry (*Rhamnus ilicifolia*), toyon, laurel sumac (*Malosma laurina*), chamise, and black sage. Approximately 14.1 acres of mafic southern mixed chaparral occur within the study area, entirely within the property.

Coastal Sage-Chaparral Scrub. Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac, chamise, scrub oak, and ceanothus (*Ceanothus* spp.). This community varies in species composition but always contains coastal sage and chaparral species. Dominant plant species in the coastal sage-chaparral scrub vegetation community within the study area include California buckwheat, black sage, California sagebrush, San Diego honeysuckle, and chamise. Approximately 4.5 acres of coastal sage-chaparral scrub occur within the study area, entirely within the property.

Diegan Coastal Sage Scrub (Including Disturbed). Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush, California buckwheat, laurel sumac, and black sage. Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native annual species. Dominant species in this vegetation community within the study area include California buckwheat and black sage. Approximately 11.0 acres of Diegan coastal sage scrub occur within the study area (approximately 10.9 acres within the property and 0.2 acre off site). Additionally, approximately 0.1 acre of disturbed Diegan coastal sage scrub occurs off site.

Coast Live Oak Woodland. Coast live oak woodland is an open to dense evergreen woodland or forest community, dominated by coast live oak that may reach a height of 35 to 80 feet. The shrub layer consists of toyon, Mexican elderberry (*Sambucus mexicana*), spreading snowberry (*Symphoricarpus mollis*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*). This community occurs along the coastal foothills of the Peninsular Ranges; typically, on north-facing slopes and shaded ravines (Holland 1986). Coast live oak woodland can be further described as either open (72261) or dense (72262). The differences between the coast live oak woodland and coast live oak forest (81310) are physiognomic rather than compositional. Approximately 1.16 acres of coast live oak woodland occur within the study area (approximately 1.15 acres within the property and 0.01 acre off site).

Southern Willow Riparian Forest. Southern riparian forests are composed of winter-deciduous trees that require water near the soil surface. Willow (*Salix* spp.), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*.), and western sycamore (*Platanus racemosa*) form a dense medium height forest in moist canyons and drainage bottoms. Associated understory species include mule fat (*Baccharis salicifolia*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*). In riparian forests, the canopies of individual tree species overlap so that a canopy cover of 100 percent may occur in the upper tree stratum. Dominant species observed in the riparian forest habitat within the study area include red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), and Fremont cottonwood. Some of the plant species present within this community are arroyo willow, red willow, mule fat, cattails (*Typha* sp.), great marsh evening-primrose (*Oenothera elata* ssp. *hookeri*), and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*). Approximately 0.88 acre of southern riparian forest occurs within the off-site portion of the study area.

Mule Fat Scrub. Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest (Holland 1986). In some

environments, limited hydrology may favor the persistence of mule fat. In the study area, this community was dominated by mule fat. Approximately 0.01 acre of mule fat scrub occurs within the off-site portion of the study area.

Twenty plant species were observed in the sampling points (Table 2). The wetland rating for the observed species ranged from usually occurring in wetlands (FACW) to almost always occurring in uplands (UPL).

Table 2
PLANT SPECIES OBSERVED WITHIN SAMPLING POINTS

FAMILY	SPECIES	COMMON NAME	INDICATOR STATUS†
Asteraceae	*Artemisia douglasiana*	mugwort	FAC
	Baccharis salicifolia	mule fat	FAC
	Erigeron coulteri	Coulter's daisy	FACW
	*Sonchus asper**	prickly sow-thistle	FAC
Apiaceae	*Conium maculatum**	poison hemlock	FACW
	*Apium graveolens**	celery	FACW[ɣ]
Brassicaceae	*Brassica nigra**	black mustard	UPL
	Nasturtium officinale [*Rorippa nasturtium-aquaticum*]*	water cress	OBL
Datiscaceae	*Datisca glomerata*	durango root	FACW
Myrtaceae	*Eucalyptus camaldulensis**	red gum	FAC
Onagraceae	*Oenothera elata* ssp. *hookeri*	great marsh evening-primrose	FACW
Poaceae	*Arundo donax**	giant reed	FACW
	*Bromus diandrus**	common ripgut grass	UPL
	*Poa annua**	annual bluegrass	FACU
	*Stipa millacea**	Smilo grass	UPL
Plantaginaceae	*Plantago major**	common plantain	FAC
Platanaceae	*Platanus racemosa*	Western sycamore	FAC
Rubiaceae	*Galium aparine*	common bedstraw	FACU
Salicaceae	*Salix laevigata*	red willow	FACW
	Salix lasiolepis	arroyo willow	FACW

†OBL=obligate wetland species, FACW=facultative wetland species, FAC=facultative species, FACU=facultative upland species, UPL=obligate upland species, Also see Appendix A.
*Non-native species
[ɣ]Not listed in national wetland plant list (Lichvar 2014). Considered to be FACW by report author.

B. SAMPLING POINTS

Four wetland delineation points were sampled within the study area (Figure 7). A summary of these samples is provided below.

Sampling Point 1. This sampling point was taken on the first terrace above the unvegetated low-flow channel, along Escondido Creek west of Country Club Drive. The southern riparian forest at this location was dominated by 4 wetland plants, thus meeting the dominance test for wetland vegetation. The soil did not exhibit any of the hydric soil indicators, but is a candidate for a problematic hydric soil (i.e., sandy soils). Wetland hydrology was indicated by 2 primary and 2 secondary wetland hydrology indicators. The presence of wetland vegetation and hydrology at this location fulfills the requirements for concluding the soil at the sampling point is a problematic wetland soil. Therefore, this terrace was determined to support wetland waters of the U.S. It also supports waters of the State.

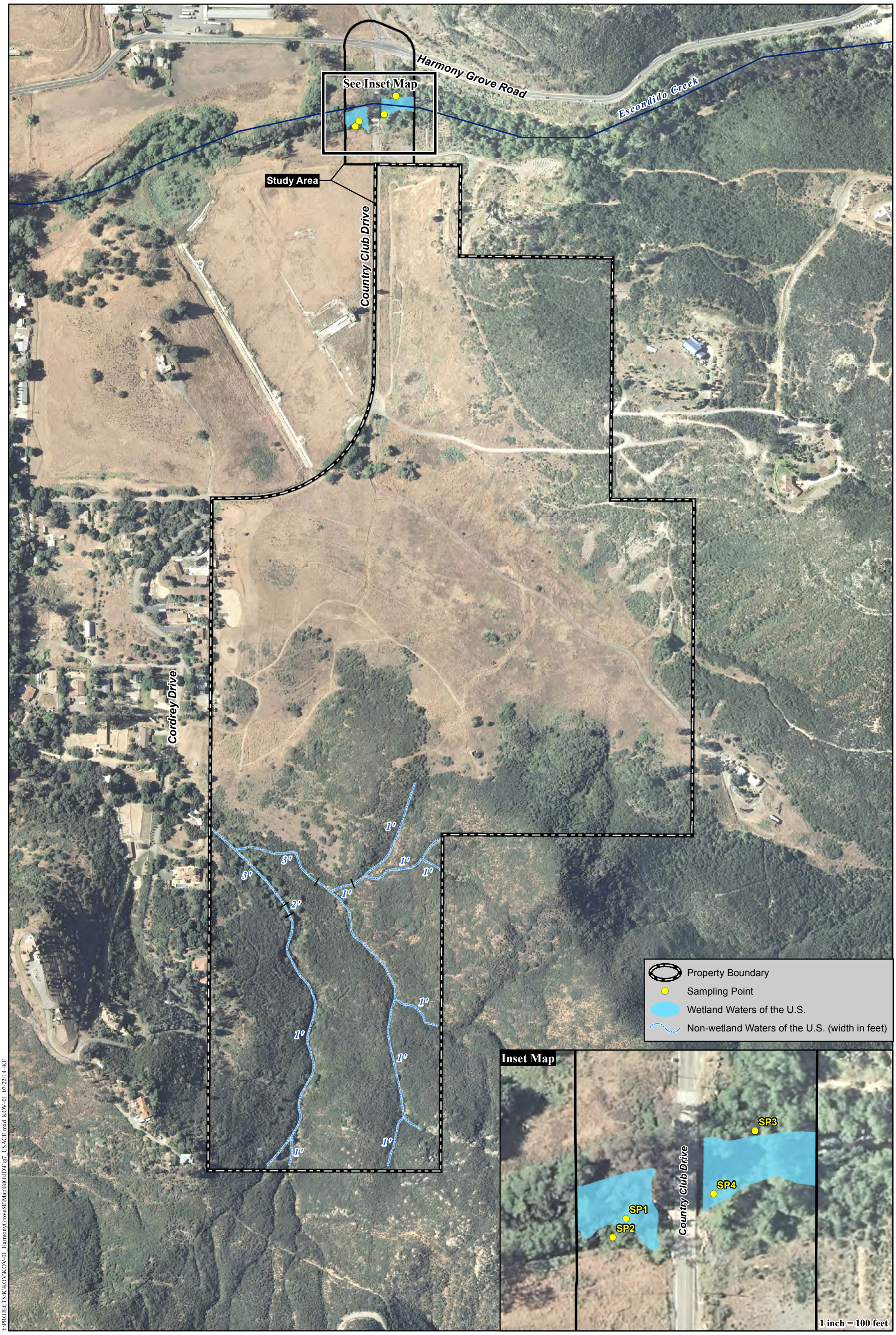
Sampling Point 2. This sampling point was located at the upper edge of the southern riparian forest, near to and approximately 6 feet above Sampling Point 1. The dominant species at this location was a wetland species, which met the dominance test for wetland vegetation. The soil did not meet any of the hydric soil indicators, but is a candidate for a problematic hydric soil (i.e., sandy soils). Wetland hydrology was indicated by two secondary wetland hydrology indicators, which were the FAC-neutral test and drift deposits (riverine). The presence of wetland vegetation and hydrology at this location fulfills the requirements for concluding the soil at the sampling point is a problematic wetland soil. Given the landscape position of this sampling point, which is high enough above the low-flow channel to preclude it from being inundated long enough to satisfy the definition of a wetland soil, it is not regarded as a wetland. It is further located well outside of the ordinary high water mark for Escondido Creek. Therefore, the sampling point was determined to not support waters of the U.S. It is, however, contained within areas identified as waters of the state.

Sampling Point 3. This sampling point was located east of Country Club Drive, approximately 5 feet above the water present in Escondido Creek and approximately 3 feet above the Country Club Drive. The southern riparian forest at this location was dominated by 3 wetland species, thus meeting the dominance test for wetland vegetation. The soil did not exhibit any hydric soil indicators and, with only 1 secondary wetland hydrology indicator, there were insufficient indicators of wetland hydrology. This location is not waters of the U.S., but is considered waters of the state.

Sampling Point 4. This sampling point was located east of Country Club Drive in southern riparian forest. This location was on the first terrace above the open water in Escondido Creek, but below the elevation of Country Club Drive. Two of three dominant species present were wetland plants, thus meeting the dominance test for wetland vegetation. No hydric soil indicators were present, but due to saturation present in the upper 12 inches of the soil profile, it appears to meet the National Technical Committee on Hydric Soil's definition for a wetland soil. Wetland hydrology was indicated by 1 primary and 2 secondary wetland hydrology indicators. This terrace was determined to support wetland waters of the U.S. and waters of the state.

C. JURISDICTIONAL AREAS SUMMARY

Jurisdictional areas within the study area consist of both wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the USACE (Figure 7), in addition to both vegetated and unvegetated streambed habitat subject to the regulatory jurisdiction of the CDFW (Figure 8).



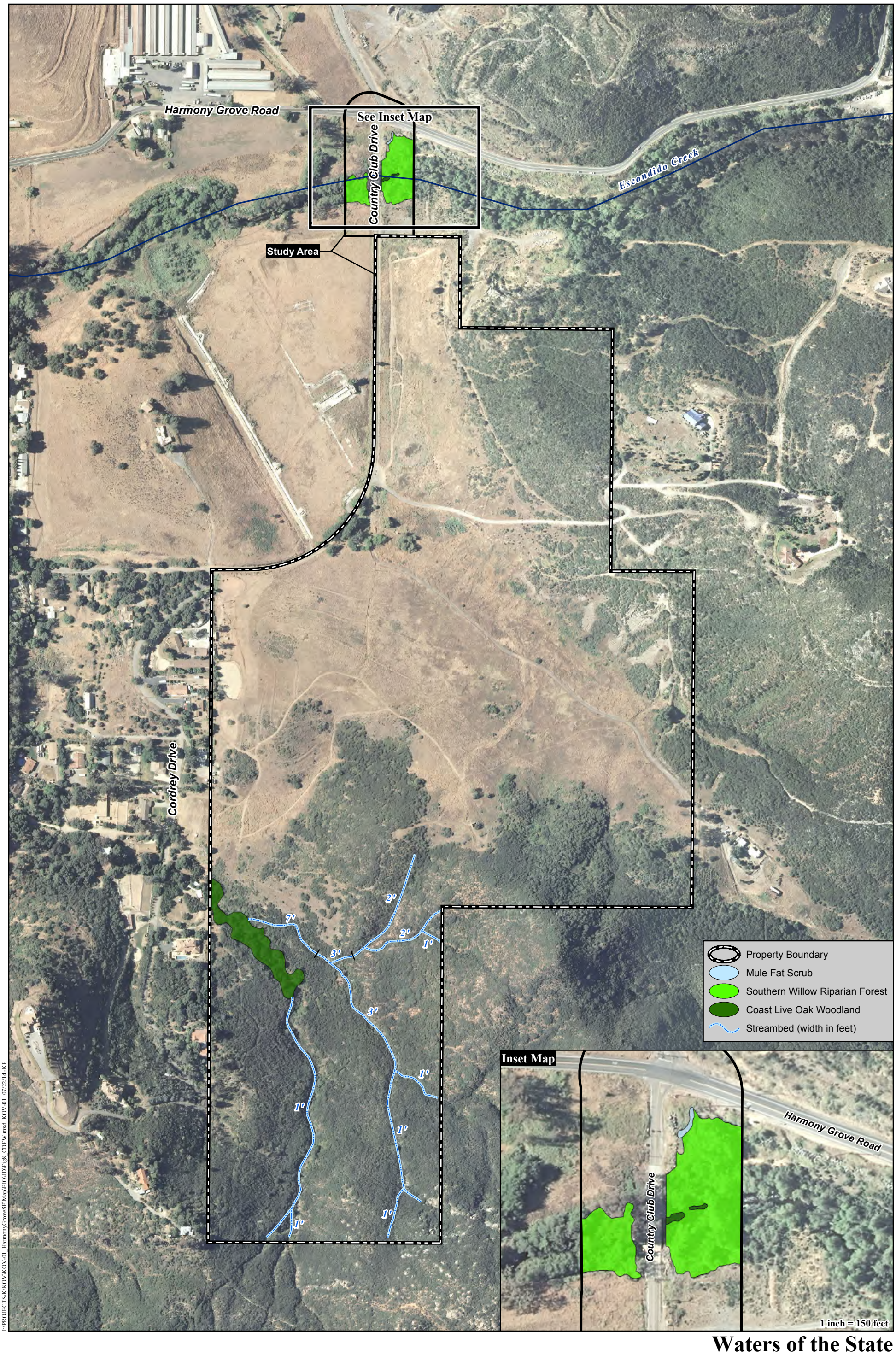
Waters of the U.S.

HARMONY GROVE

HELIX Environmental Planning

N 0 350 Feet

Figure 7



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Waters of the State

HARMONY GROVE

HELIX Environmental Planning

N 0 350 Feet

Figure 8

On-site potentially jurisdictional resources occur in unnamed streambeds within the southern portion of the study area. Off-site potential USACE and CDFW jurisdictional areas are associated along Escondido Creek. A summary of the potential USACE and CDFW jurisdictional areas is provided below.

1. Potential USACE Jurisdiction

Potential waters of the U.S. subject to permitting under Section 404 of the Clean Water Act within the study area include 0.31 acre of wetland and 0.15 acre of non-wetland, for a total of 0.46 acre (Table 3; Figure 7). The overall length of potential jurisdictional areas along Escondido Creek and in unnamed streambeds is 4,920 feet.

Table 3
WATERS OF THE U.S.

USACE JURISDICTION	On site		Off site	
	AREA (acres)	**LENGTH** (feet)	**AREA** (acres)	**LENGTH** (feet)
WETLAND				
Southern Willow Riparian Forest	--	--	0.30	220
Coast Live Oak Woodland	--	--	0.01	0
NON-WETLAND				
Waters of the U.S.	0.15	4,700	--	--
TOTAL	**0.15**	**4,700**	**0.31**	**220**

*Occurs parallel to other wetlands; no length reported here to avoid double counting length.

Potential wetland waters of the U.S. consist of southern willow riparian forest (approximately 0.30 acre) and coast live oak woodland (approximately 0.01 acre), off site along Escondido Creek. Potential non-wetland waters of the U.S. consist of unnamed streambeds in the southern portion of the property (on site; approximately 0.15 acre).

2. Potential CDFW Jurisdiction

Potential waters of the state subject to regulation under Section 1600 et seq. of the California Fish and Game Code consist of 0.01 acre of mule fat scrub, 0.88 acre of southern willow riparian forest, 0.91 acre of coast live oak woodland, and 0.19 acre of unvegetated streambed (Table 4; Figure 8). Approximately 0.90 acre of vegetated waters of the state and 0.19 acre of unvegetated streambed occur on site. Approximately 0.90 acre of vegetated waters of the state occurs off site.

Table 4 WATERS OF THE STATE				
CDFW JURISDICTION	**On site**		**Off site**	
	AREA (acres)	**LENGTH** (feet)	**AREA** (acres)	**LENGTH** (feet)
VEGETATED STREAMBED				
Mule Fat Scrub	--	--	0.01	0
Southern Willow Riparian Forest	--	--	0.88	220
Coast Live Oak Woodland	0.90	522	0.01	0
UNVEGETATED STREAMBED				
Streambed	0.19	4,130	--	--
TOTAL	**1.09**	**4,652**	**0.90**	**220**

*Occurs parallel to other wetlands; no length reported here to avoid double counting length.

IV. CONCLUSION

A. FEDERAL PERMITTING

The proposed project could potentially impact waters of the U.S. associated with Escondido Creek if road improvements are required along Country Club Drive. Temporary and permanent fills and discharges (impacts) to jurisdictional areas are regulated by USACE under Section 404 of the Clean Water Act (33 USC 401 et seq.; 33 USC 1344; USC 1413; and Department of Defense, Department of the Army, Corps of Engineers 33 CFR Part 323). Impacts would require a Clean Water Act Section 404 permit from the Los Angeles District USACE. Based on the existing acreage of potential USACE jurisdiction, impacts would be covered under Nationwide Permit (NWP) 29 for Residential Developments, although a waiver would be required from the USACE if the impacts exceed 300 linear feet. Notification to the USACE through the preparation of a Pre-Construction Notification (PCN) requesting authorization under NWP 29 would be required.

B. STATE PERMITTING

The proposed project could potentially impact waters of the State associated with Escondido Creek if road improvements are required along Country Club Drive. A Clean Water Act Section 401 Water Quality Certification administered by the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) also must be issued prior to any 404 Permit. The USACE jurisdictional areas addressed in this report would also be subject to 401 Certification by the RWQCB. Submittal of Request for Water Quality Certification to the San Diego RWQCB is expected to be required prior to project activities. Applicants are allowed to submit this request prior to certification of the CEQA document; however, the RWQCB will not issue a 401 Certification until a certified CEQA document is provided. There are no isolated waters or wetlands under RWQCB jurisdiction within the study area that would be subject to the State Porter-Cologne Water Quality Control Act only.

The CDFW regulates temporary and permanent alterations or impacts to streambeds or lakes under California Fish and Game Code 1602. The CDFW requires a Streambed Alteration Agreement (SAA) for projects that will divert or obstruct the natural flow of water; change the bed, channel, or bank of any stream; or use any material from a streambed. The SAA is a contract between the applicant and CDFW stating what activities can occur in the riparian zone and stream course (California Association of Resource Conservation Districts 2002). Notification of Lake or Streambed Alteration is expected to be required to the South Coast Region CDFW. Applicants are allowed to submit a SAA application prior to certification of the CEQA document; however, CDFW will not issue a 1602 permit until a certified CEQA document is provided.

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Appendix A

FEDERAL JURISDICTIONAL INFORMATION

Appendix A
FEDERAL JURISDICTIONAL INFORMATION

Wetlands and "Waters of the U.S." Definitions

Wetlands. The U.S. Army Corps of Engineers (USACE; Federal Register 1982) and the Environmental Protection Agency (Federal Register 1980) jointly define wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987).

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

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

Non-tidal Waters of the U.S. The limits of jurisdiction in non-tidal waters: In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or when adjacent wetlands are present, the jurisdiction extends to the limit of the adjacent wetlands.

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

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

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

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

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

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

Pursuant to the USACE Instructional Guidebook (USACE and EPA 2007), the significant nexus evaluation will cover the subject reach of the stream (upstream and downstream) as well as its adjacent wetlands (Illustrations 2 through 6, USACE and EPA 2007). The evaluation will include the flow characteristics, annual precipitation, ability to provide habitat for aquatic species, ability to retain floodwaters and filter pollutants, proximity of the subject reach to a TNW, drainage area, and the watershed.

Wetland Criteria

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

Vegetation

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

The wetland indicator status (obligate upland, facultative upland, facultative, facultative wetland, obligate wetland, or no indicator status) of the dominant plant species of all vegetative layers is determined. Species considered to be hydrophytic include the classifications of facultative, facultative wetland, and obligate wetland as defined in the current list of wetland plants of the Arid Southwest (Lichvar, et. al. 2014; Table A-1). The percent of dominant wetland plant species is calculated. The hydrophytic vegetation criterion is considered to be met if it meets the "Dominance Test," "Prevalence Index," or the vegetation has morphological adaptations for prolonged inundation.

Table A-1
DEFINITIONS OF PLANT INDICATOR CATEGORIES

INDICATOR CATEGORIES	ABBREVIATION	QUALITATIVE DESCRIPTION
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands but may occur in wetlands
Upland	UPL	Almost never occur in wetlands

Hydrology

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

Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least 5 percent of the growing season during a normal rainfall year (approximately 18 days for most of low-lying southern California). Hydrology criteria are evaluated based on the characteristics listed below (USACE 2008). Where positive indicators of wetland hydrology are present, the limit of the OHWM (or the limit of adjacent wetlands) is noted and mapped. Evidence of wetland hydrology is met by the presence of a single primary indicator or two secondary indicators.

Primary

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

Secondary

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

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

Soils

The USACE and Environmental Protection Agency, in their administration of Section 404 of the Clean Water Act, rely on the National Technical Committee for Hydric Soils (NTCHS) for a definition of hydric soils. According to the NTCHS "A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." (Federal Register 1994)

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

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

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

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

Non-wetland Waters of the U.S.

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

USGS Mapping

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

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

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Appendix B

STATE JURISDICTIONAL INFORMATION

Appendix B
STATE JURISDICTIONAL INFORMATION

California Department of Fish and Wildlife Regulations

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

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

Once the notification package is deemed to be complete, the Department will determine whether the applicant will need a Lake or Streambed Alteration Agreement (SAA) for the activity, which will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an SAA is required, the Department will conduct an on-site inspection, if necessary, and submit a draft SAA that will include measures to protect fish and wildlife resources while conducting the project. If the applicant is applying for a regular SAA (less than five years), the Department will submit a draft SAA within 60 calendar days after notification is deemed complete. The 60-day time period does not apply to notifications for long-term SAAs (greater than 5 years).

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

After the Department receives the signed draft SAA, the Department will make it final by signing the SAA; however, the Department will not sign the SAA until it both receives the notification fee and ensures that the SAA complies with the California Environmental Quality

Act (Public Resources Code Section 21000 et seq.). After the applicant receives the final agreement, the applicant may begin the project the agreement covers, provided that the applicant has obtained any other necessary federal, state and/or local authorizations.

Water Resource Control Board Regulations

Section 401 Water Quality Certification

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

Porter-Cologne Water Quality Control Act

The State Water Resource Control Board (SWRCB) and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code (SWRCB 2008). The California Water Code is the State's version of the Federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.

REFERENCES

California Association of Resource Conservation Districts. 2002. Guide to Watershed Project Permitting for the State of California. Available at URL: http://www.carcd.org/permitting/pguide.pdf.

California Department of Fish and Wildlife (CDFW). Fish and Game Code Sections 1600 through 1616.

Date unknown. Streambed/Lake Alteration Notification Guidelines.

Appendix C

SAMPLING POINT DATA SHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Harmony Grove Village South City/County: Unincorp. San Diego County Sampling Date: 14 MAR 2014

Applicant/Owner: Comstock Homes/Kovach Communities State: CA Sampling Point: SP1

Investigator(s): L.Sward, B.Rosenbaum Section, Township, Range: Sect30&31, T12S, R2W RanchoSanteFe CA

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): LRR-C Lat: 33.0989 Long: -117.1308 Datum: NAD83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

SP1 located on first vegetated terrace along low flow channel. Wetland waters of the U.S. confirmed present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25x40)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	15	Y	FACW
2. Salix laevigata	25	Y	FACW
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20x20)			
1. Baccharis salicifolia	12	Y	FAC
2. Salix lasiolepis	30	Y	FACW
3.			
4.			
5.			
	42	= Total Cover	
Herb Stratum (Plot size: 10x10)			
1. Oenothera hookeri	1	N	
2. Conium maculatum	+	N	
3. Eriogonum coulteri	1	N	
4.			
5.			
6.			
7.			
8.			
	2+	= Total Cover	
Woody Vine Stratum (Plot size: 15x15)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 16 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 70	x 2 = 140
FAC species 12	x 3 = 36
FACU species _____	x 4 = _____
UPL species 2	x 5 = 10
Column Totals: 84 (A)	186 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Southern riparian forest habitat type. Hydrophytic vegetation present.

SOIL

Sampling Point: SP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR2.5/2	100					sand	coarse
5-8	10YR3/N	100					sandy lm	
8-18	10YR3/N	60					sandy lm	
8-18	2.5/N	40					sandy lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Problem area for sandy soils. Hydric soil present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✓ No ___ Depth (inches): 17

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 9

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Wetland hydrology present. FAC-Neutral Test = 3:0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Harmony Grove Village South City/County: Unincorp. San Diego County Sampling Date: 14 MAR 2014

Applicant/Owner: Comstock Homes/Kovach Communities State: CA Sampling Point: SP2

Investigator(s): L.Sward, B.Rosenbaum Section, Township, Range: Sect30&31, T12S, R2W RanchoSanteFe CA

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 3-5

Subregion (LRR): LRR-C Lat: 33.0989 Long: -117.1308 Datum: NAD83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

SP2 located at outside edge of riparian canopy approximately 5 feet upslope of SP1 and low-flow channel. Waters of the U.S. confirmed absent.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25x40)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	2	N	FACW
2. Platanus racemosa	2	N	FACW
3.			
4.			
	4 = Total Cover		
Sapling/Shrub Stratum (Plot size: 20x30)			
1. Baccharis salicifolia	5	N	FAC
2. Salix lasiolepis	55	Y	FACW
3. Artemisia douglasiana	+		
4.			
5.			
	60+ = Total Cover		
Herb Stratum (Plot size: 15x15)			
1. Galium sp.	1	N	
2. Conium maculatum	+	N	
3. Bromus diandrus	2	N	
4.			
5.			
6.			
7.			
8.			
	3+ = Total Cover		
Woody Vine Stratum (Plot size: 15x15)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 33 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 59	x 2 = 118
FAC species 5	x 3 = 15
FACU species _____	x 4 = _____
UPL species 3	x 5 = 15
Column Totals: 67 (A)	148 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Southern riparian forest habitat type. Hydrophytic vegetation present.

SOIL

Sampling Point: SP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR2.5/1.5	100					lmy sand	
8-18	10YR3/3	100					sandy lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Hydric soil not present. Potential problem area, but not based on landscape position. Not likely to be inundated long enough to establish hydric conditions.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks:

Wetland hydrology present. FAC-Neutral Test = 1:0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Harmony Grove Village South City/County: Unincorp. San Diego County Sampling Date: 14 MAR 2014

Applicant/Owner: Comstock Homes/Kovach Communities State: CA Sampling Point: SP3

Investigator(s): L.Sward, B.Rosenbaum Section, Township, Range: Sect30&31, T12S, R2W RanchoSanteFe CA

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 3-5

Subregion (LRR): LRR-C Lat: 33.0992 Long: -117.1303 Datum: NAD83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes NWI classification: PFOC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

SP3 located approximately 5 feet upslope of wet low-flow channel and 3 feet upslope of existing road. Waters of the U.S. confirmed absent.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20x40)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata	35	Y	FACW
2. Eucalyptus sp.	5	N	FAC
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20x20)			
1. Baccharis salicifolia	40	Y	FAC
2. Salix lasiolepis	10	Y	FACW
3. Arundo donax	+		
4.			
5.			
	50+	= Total Cover	
Herb Stratum (Plot size: 10x10)			
1. Sonchus asper	3	N	
2. Conium maculatum	+	N	
3. Brassica nigra	+	N	
4.			
5.			
6.			
7.			
8.			
	3+	= Total Cover	
Woody Vine Stratum (Plot size: 15x15)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 7 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 45	x 2 =	90
FAC species 45	x 3 =	135
FACU species	x 4 =	
UPL species 3	x 5 =	15
Column Totals: 93 (A)		240 (B)

Prevalence Index = B/A = 2.58

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Southern riparian forest habitat type. Hydrophytic vegetation present.

SOIL

Sampling Point: SP3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2	100					sandy lm	
10-18	7.5YR3/3	100					sandy cl	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✓

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

Remarks:

Wetland hydrology not present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Harmony Grove Village South City/County: Unincorp. San Diego County Sampling Date: 14 MAR 2014

Applicant/Owner: Comstock Homes/Kovach Communities State: CA Sampling Point: SP4

Investigator(s): L.Sward, B.Rosenbaum Section, Township, Range: Sect30&31, T12S, R2W RanchoSanteFe CA

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1-2

Subregion (LRR): LRR-C Lat: 33.099 Long: -117.1304 Datum: NAD83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes NWI classification: PFOC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

SP4 located immediately adjacent to wet low-flow channel and immediately upstream of existing road crossing. Waters of the U.S. confirmed absent.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20x40)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata	5	Y	FACW
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20x20)			
1. Salix lasiolepis	40	Y	FACW
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 10x10)			
1. Plantago major	1	N	
2. Conium maculatum	1	N	
3. Datisca glomerata	2	N	
4. Galium aparine	15	Y	FACU
5. Rorippa nasturtium-aquaticum	1	N	
6. Stipa milacea	2	N	
7. Poa annua	1	N	
8. Apium graveolens	1	N	
	24	= Total Cover	
Woody Vine Stratum (Plot size: 15x15)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 31 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species 40	x 2 = 80
FAC species	x 3 =
FACU species 15	x 4 = 60
UPL species	x 5 =
Column Totals: 55 (A)	140 (B)

Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Southern riparian forest habitat type. Hydrophytic vegetation present.

SOIL

Sampling Point: SP4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5Y3/2	100					loam	
7-13	7.5Y2.5/1	60	7.5Y3/4	40	C	M	sandy lm	
13-18	10Y2.5/N	100					sandy lm	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Hydric soil present. Meets National Technical Committee for Hydric Soils criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 10

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks:

Wetland hydrology present. FAC-Neutral Test = 2:1.

Appendix D

SAMPLING POINT PHOTOS



Sampling Point 1. This sampling point was taken on the first terrace above the unvegetated low-flow channel, along Escondido Creek west of Country Club Drive. The southern riparian forest at this location met the dominance test for wetland vegetation. The soil did not exhibit any of the hydric soil indicators, but is a candidate for a problematic hydric soil (i.e., sandy soils). Wetland hydrology was indicated by 2 primary and 2 secondary wetland hydrology indicators. The presence of wetland vegetation and hydrology at this location fulfills the requirements for concluding the soil at the sampling point is a problematic wetland soil. Therefore, this terrace is a wetland waters of the U.S. It is also a waters of the state.

Sampling Point 2. This sampling point was located at the upper edge of the southern riparian forest. The vegetaton at this location met the dominance test for wetland vegetation. The soil did not meet any of the hydric soil indicators, but is a candidate for a problematic hydric soil (i.e., sandy soils). Wetland hydrology was indicated by two secondary wetland hydrology indicators. The presence of wetland vegetation and hydrology at this location fulfills the requirements for concluding the soil at the sampling point is a problematic wetland soil. Given the landscape position of this sampling point, however, which is high enough above the low flow channel to preclude it from being inundated long enough to satisfy the definition of a wetland soil, it is not regarded as a wetland. It is, however, considered a waters of the state.



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Sampling Point 3. This sampling point was located east of Country Club Drive, and approximately 5 feet above the water present in Escondido Creek. This location is also approximately 3 feet above the Country Club Drive. The southern riparian forest at this location met the dominance test for wetland vegetation. The soil did not exhibit any hydric soil indicators and, with only 1 secondary wetland hydrology indicator, there were insufficient indicators of wetland hydrology. This location is not regarded as a waters of the U.S., but is considered a waters of the state.

Sampling Point 4. This sampling point was located east of Country Club Drive in southern riparian forest. This location was on the first terrace above the open water in Escondido Creek, but below the elevation of Country Club Drive. The vegetation met the dominance test for wetland vegetation. No hydric soil indicators were present, but due to saturation present in the upper 12 inches of the soil profile, it appears to meet the National Technical Committee on Hydric Soil's definition for a wetland soil. Wetland hydrology was indicated by 1 primary and 2 secondary wetland hydrology indicators. This terrace is a wetland waters of the U.S. It is also a waters of the state.



Appendix L

Coast Live Oak Woodland Soil Pit Data Sheet

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Harmony Grove Village South City/County: unincorp. San Diego County Sampling Date: Jan. 13, 2016

Applicant/Owner: Comstock homes / Kovach communities State: CA Sampling Point: CLOW

Investigator(s): Larry Sward and Beth Ehsan Section, Township, Range: _____

Landform (hillslope, terrace, etc.): streambed Local relief (concave, convex, none): concave Slope (%): 1%

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** _____
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks:

soil pit only

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus agrifolia		X	
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Keckiella cordifolia		X	
2. Artemisia palmeri		X	
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** _____

Remarks:

coast live oak woodland

SOIL

Sampling Point: CLOW

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 3/2	95					sand	coarse
	10 YR 2/1	5						
7-10	10 YR 3/1	80	7.5 YR 3/4	20			SaL	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Value/chroma of redox too dark for F3

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

Appendix M

Chaparral Vegetation Assessment Data Sheets

CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised February 27, 2014)

For Office Use
Final database #:

Final vegetation type: Alliance _____
Association _____

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION

Stand ID: 1 **Date:** 1/13/16

Name of recorder: Larry Sward
Other surveyors: Beth Ehsan

GPS name: XH 2 **Datum: NAD83 or** _____ For Relevé: **Bearing°,** left axis at SW point____ of **Long / Short** side

UTME _____ **UTMN** _____ **Zone: 10 / 11** (circle one) **Error: ±**_____ **ft / m / pdop**

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____
at NE corner of plot and record projected UTMs: UTME _____ UTMN _____

Elevation: ft / m **Camera Name/Photograph #'s:** Beth's iPhone / site 1 pic 1 - 4

Stand Size (acres): <1, 1-5, >5 | **Plot Size** (m^2): 10 / 100 / 400 / 1000 | **Plot Shape** 50 x 50 (ft) m **or Circle Radius** ____ ft / m

Exposure, Actual °: W NE (NW) SE SW Flat Variable All | **Steepness, Actual °:** _____ 0° 1-5° (5-25°) > 25

Topography: Macro: top (upper) mid lower bottom | **Micro:** convex (flat) concave undulating

Geology code: GABB **Soil Texture code:** Si CL | (Upland) or Wetland/Riparian (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)
H20: Ø **BA Stems:** 2 **Litter:** 88 **Bedrock:** 0 **Boulder:** 1 **Stone:** 5 **Cobble:** 4 **Gravel:** Ø **Fines:** 1 **=100%**

% Current year bioturbation Ø **Past bioturbation present?** Yes / (No) | **% Hoof punch** Ø

Fire evidence: Yes / (No) (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Stand appears to be relatively mature.
No anthropogenic disturbance or fire evidence.

Disturbance code / Intensity (L,M,H): N/A /___ ___/___ ___/___ ___/___ ___/___ ___/___ **"Other"** _____ /___

II. HABITAT AND VEGETATION DESCRIPTION

Tree DBH : T1 (<1" dbh), **T2** (1-6" dbh), **T3** (6-11" dbh), **T4** (11-24" dbh), **T5** (>24" dbh), **T6** multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), **S2** young (<1% dead), **S3** mature (1-25% dead), **S4** decadent (>25% dead)

Herb: H1 (<12" plant ht.), **H2** (>12" ht.) **Desert Riparian Tree/Shrub: 1** (<2ft. stem ht.), **2** (2-10ft. ht.), **3** (10-20ft. ht.), **4** (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), **2** (1.5-6" diam.), **3** (>6" diam.) **% NonVasc cover:** 3 **% Vasc Veg cover:** 90

% Cover: Conifer tree / Hardwood tree: Ø /____ **Regenerating Tree:** Ø **Shrub:** 80 **Herbaceous:** 10

Height Class: Conifer tree / Hardwood tree: Ø /____ **Regenerating Tree:** Ø **Shrub:** 04 **Herbaceous:** 01

Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m

Species, Stratum, and % cover. Stratum categories: T=Tree, S = Shrub, H= Herb, E = SEedling, A = SApling, N= Non-vascular.
% cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, 75%.

Strata	Species	% cover	C	Strata	Species	% cover	C
S	Cercocarpus betuloides	10		H	Eriophyllum confertiflorum	3	
S	Xylococcus bicolor	5		H	unknown grass seedlings	2	
S	Adenostoma fasciculatum	30		H	Solanum sp.	3	
S	Comarostaphylis diversifolia	2		H	Eucrypta chrysanthemifolia	2	
S	Hazardia squarrosa	1					
S	Heteromeles arbutifolia	2					
S	Salvia mellifera	30					

Unusual species: _____

III. INTERPRETATION OF STAND

Field-assessed vegetation alliance name: _____

Field-assessed association name (optional): _____

Adjacent alliances/direction: _____/_____, _____/_____

Confidence in alliance identification: L M H **Explain:** _____

Phenology (E,P,L): **Herb Shrub Tree** **Other identification or mapping information:**

CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised February 27, 2014)

For Office Use
Final database #:

Final vegetation type: Alliance _____
Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION

Stand ID: 2 **Date:** 1/13/16 **Name of recorder:** Larry Sward
Other surveyors: Beth Ehsan

GPS name: XH2 **Datum: NAD83 or** _____ For Relevé: **Bearing°**, left axis at SW point_____ of **Long / Short** side

UTME _____ **UTMN** _____ **Zone: 10 / 11** (circle one) **Error: ±**_____ **ft / m / pdop**

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____
@ SE Corner and record projected UTMs: UTME _____ UTMN _____

Elevation: ft / m **Camera Name/Photograph #'s:** Beth's iPhone / site 2 pic 1 - 4

Stand Size (acres): **<1, 1-5, >5** | **Plot Size** (m^2): **10 / 100 / 400 / 1000** | **Plot Shape** 50 x 50 (ft) m **or Circle Radius** ___ ft / m

Exposure, Actual °: W **NE NW SE SW Flat Variable All** | **Steepness, Actual °:** _____ **0° 1-5° (5-25°) > 25**

Topography: Macro: top (upper) mid lower bottom | **Micro: convex (flat) concave undulating**
Geology code: IGTu **Soil Texture code:** SaL | (Upland) or **Wetland/Riparian** (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)
H20: Ø **BA Stems:** 2 **Litter:** 56 **Bedrock:** Ø **Boulder:** 2 **Stone:** 5 **Cobble:** 10 **Gravel:** 15 **Fines:** 10 **=100%**

% Current year bioturbation Ø **Past bioturbation present? Yes / (No)** | **% Hoof punch** Ø
Fire evidence: (Yes) / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Burnt snags protruding above live shrub canopy

Disturbance code / Intensity (L,M,H): 19 / L ___/___ ___/___ ___/___ ___/___ **"Other"** _____/___

II. HABITAT AND VEGETATION DESCRIPTION

Tree DBH : T1 (<1" dbh), **T2** (1-6" dbh), **T3** (6-11" dbh), **T4** (11-24" dbh), **T5** (>24" dbh), **T6** multi-layered (T3 or T4 layer under T5, >60% cover)
Shrub: S1 seedling (<3 yr. old), **S2** young (<1% dead), **S3** mature (1-25% dead), **S4** decadent (>25% dead)
Herb: H1 (<12" plant ht.), **H2** (>12" ht.) **Desert Riparian Tree/Shrub: 1** (<2ft. stem ht.), **2** (2-10ft. ht.), **3** (10-20ft. ht.), **4** (>20ft. ht.)
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), **2** (1.5-6" diam.), **3** (>6" diam.) **% NonVasc cover:** 2 **% Vasc Veg cover:** 75
% Cover: Conifer tree / Hardwood tree: ___/___ **Regenerating Tree:** ___ **Shrub:** 74 **Herbaceous:** 1
Height Class: Conifer tree / Hardwood tree: ___/___ **Regenerating Tree:** ___ **Shrub:** 03 **Herbaceous:** 01
Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m

Species, Stratum, and % cover. Stratum categories: T=Tree, S = Shrub, H= Herb, E = SEedling, A = SApling, N= Non-vascular.
% cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, 75%.

Strata	Species	% cover	C	Strata	Species	% cover	C
S	Adenostoma fasciculatum	27		H	Chlorogalum parviflorum	1	
S	Ceanothus verrucosus	33					
S	Xylococcus bicolor	4					
S	Malosma laurina	10					

Unusual species: _____

III. INTERPRETATION OF STAND

Field-assessed vegetation alliance name: _____
Field-assessed association name (optional): _____
Adjacent alliances/direction: _____/_____, _____/_____
Confidence in alliance identification: L M H Explain: _____
Phenology (E.P.L): **Herb Shrub Tree** **Other identification or mapping information:**

CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised February 27, 2014)

For Office Use
Final database #:

Final vegetation type: Alliance _____
Association _____

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION

Stand ID: 3 **Date:** 1/13/16 **Name of recorder:** Larry Sward **Other surveyors:** Beth Ehsan

GPS name: XH2 **Datum: NAD83 or** _____ For Relevé: **Bearing°**, left axis at SW point_____ of **Long / Short** side

UTME _____ **UTMN** _____ **Zone: 10 / 11** (circle one) **Error: ±**_____ **ft / m / pdop**

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____
@NE corner and record projected UTMs: UTME _____ UTMN _____

Elevation: _____ ft / m **Camera Name/Photograph #'s:** Beth's iPhone / site 3 pic 1-5

Stand Size (acres): <1, 1-5, >5 | **Plot Size** (m^2): **10 / 100 / 400 / 1000** | **Plot Shape** 50 x 50 (ft) m **or Circle Radius** _____ ft / m

Exposure, Actual °: W **NE NW SE SW Flat Variable All** | **Steepness, Actual °:** _____ **0° 1-5° (5-25°) > 25**

Topography: Macro: top upper mid (lower) bottom | **Micro: convex (flat) concave undulating**

Geology code: IGTU **Soil Texture code:** Si CL | (Upland) or **Wetland/Riparian** (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H20: Ø **BA Stems:** 2 **Litter:** 61 **Bedrock:** Ø **Boulder:** Ø **Stone:** Ø **Cobble:** 2 **Gravel:** 5 **Fines:** 30 **=100%**

% Current year bioturbation Ø **Past bioturbation present? Yes / (No)** | **% Hoof punch** Ø

Fire evidence: (Yes) / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: A few remnant burnt stumps

Disturbance code / Intensity (L,M,H): N/A ___/___ ___/___ ___/___ ___/___ **"Other"** _____/___

II. HABITAT AND VEGETATION DESCRIPTION

Tree DBH : T1 (<1" dbh), **T2** (1-6" dbh), **T3** (6-11" dbh), **T4** (11-24" dbh), **T5** (>24" dbh), **T6** multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), **S2** young (<1% dead), **S3** mature (1-25% dead), **S4** decadent (>25% dead)

Herb: H1 (<12" plant ht.), **H2** (>12" ht.) **Desert Riparian Tree/Shrub: 1** (<2ft. stem ht.), **2** (2-10ft. ht.), **3** (10-20ft. ht.), **4** (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), **2** (1.5-6" diam.), **3** (>6" diam.) **% NonVasc cover:** 2 **% Vasc Veg cover:** 77

% Cover: Conifer tree / Hardwood tree: ____/____ **Regenerating Tree:** ____ **Shrub:** 75 **Herbaceous:** 2

Height Class: Conifer tree / Hardwood tree: ____/____ **Regenerating Tree:** ____ **Shrub:** 04 **Herbaceous:** ____

Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m

Species, Stratum, and % cover. Stratum categories: T=Tree, S = Shrub, H= Herb, E = SEedling, A = SApling, N= Non-vascular.
% cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, 75%.

Strata	Species	% cover	C	Strata	Species	% cover	C
S	Ceanothus verrucosus	40		H	Eriophyllum confertiflorum	1	
S	Malosma laurina	15		H	grass seedlings	1	
S	Xylococcus bicolor	3					
S	Heteromeles arbutifolia	4					
S	Salvia mellifera	7					
S	Adenostoma fasciculatum	5					
S	Hazardia squarrosa	1					

Unusual species: _____

III. INTERPRETATION OF STAND

Field-assessed vegetation alliance name: _____

Field-assessed association name (optional): _____

Adjacent alliances/direction: _____/_____, _____/_____

Confidence in alliance identification: L M H Explain: _____

Phenology (E,P,L): **Herb Shrub Tree** **Other identification or mapping information:**

CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised February 27, 2014)

For Office Use
Final database #:

Final vegetation type: Alliance _____
Association _____

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION

Stand ID: 4 **Date:** 1/13/16 **Name of recorder:** Larry Sward **Other surveyors:** Beth Ehsan

GPS name: XH2 **Datum: NAD83 or** _____ For Relevé: **Bearing°**, left axis at SW point____ of **Long / Short** side

UTME _____ **UTMN** _____ **Zone: 10 / 11** (circle one) **Error: ±**_____ **ft / m / pdop**

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____
@NE Corner and record projected UTMs: UTME _____ UTMN _____

Elevation: ft / m **Camera Name/Photograph #'s:** Beth's iPhone / site 4 pic 1-4

Stand Size (acres): <1, 1-5, >5 | **Plot Size** (m^2): 10 / 100 / 400 / 1000 | **Plot Shape** 50 x 50 (ft) m **or Circle Radius** ___ ft / m

Exposure, Actual °: _____ NE (NW) SE SW Flat Variable All | **Steepness, Actual °:** _____ 0° 1-5° (5-25°) > 25

Topography: Macro: top upper mid (lower) bottom | **Micro:** convex (flat) concave undulating

Geology code: GABB **Soil Texture code:** SiL | (Upland) or **Wetland/Riparian** (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H20: Ø **BA Stems:** 2 **Litter:** 75 **Bedrock:** Ø **Boulder:** Ø **Stone:** 1 **Cobble:** 2 **Gravel:** 5 **Fines:** 15 **=100%**

% Current year bioturbation Ø **Past bioturbation present?** Yes / (No) | **% Hoof punch** Ø

Fire evidence: (Yes) / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Fire evidence was low burned stumps. Herbaceous component highest on NE side adjacent to agriculture

Disturbance code / Intensity (L,M,H): 03 / L ___/___ ___/___ ___/___ ___/___ **"Other"** _____/___

II. HABITAT AND VEGETATION DESCRIPTION

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Desert Palm/Joshua Tree: 1 (<1.5" base diameter), **2** (1.5-6" diam.), **3** (>6" diam.) **% NonVasc cover:** 3 **% Vasc Veg cover:** 90

% Cover: **Conifer tree / Hardwood tree:** ____/____ **Regenerating Tree:** ____ **Shrub:** 85 **Herbaceous:** 5

Height Class: **Conifer tree / Hardwood tree:** ____/____ **Regenerating Tree:** ____ **Shrub:** 04 **Herbaceous:** 01

Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m

Species, Stratum, and % cover. Stratum categories: T=Tree, S = Shrub, H= Herb, E = SEedling, A = SApling, N= Non-vascular.
% cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, 75%.

Strata	Species	% cover	C	Strata	Species	% cover	C
S	Ceanothus verrucosus	48		H	Eriophyllum confertiflorum	1	
S	Malosma laurina	15		H	Stellaria media	1	
S	Heteromeles arbutifolia	10		H	Pseudognaphalium bioletti	+	
S	Xylococcus bicolor	2		H	Pentagramma triangularis	1	
S	Salvia mellifera	10		H	grass seedlings	2	
				H	Encrypta chrysanthemifolia	+	

Unusual species: _____

III. INTERPRETATION OF STAND

Field-assessed vegetation alliance name: _____

Field-assessed association name (optional): _____

Adjacent alliances/direction: _____/_____, _____/_____

Confidence in alliance identification: L M H **Explain:** _____

Phenology (E,P,L): Herb Shrub Tree **Other identification or mapping information:**